

The Canadian Neonatal Network™

Le Réseau Néonatal Canadien™



# ABSTRACTOR'S MANUAL

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# Introduction

## Chapter 1: Introduction & Background

### What is the Canadian Neonatal Network™?

The Canadian Neonatal Network (CNN) is a group of multi-disciplinary Canadian researchers who collaborate on research issues relating to neonatal care. The Network was founded in 1995 by Shoo Lee, MBBS, FRCPC, PhD and now includes members from 33 hospitals and 17 universities across Canada. The Network maintains a standardized neonatal intensive care unit (NICU) database and provides a unique opportunity for researchers to participate in collaborative projects on a national and international scale. Health care professionals, health services researchers and health administrators participate actively in clinical and epidemiological outcomes, health services, health policy and informatics research aimed at improving the efficacy and efficiency of neonatal care. Research results are published in Network reports and in peer-reviewed journals.

### Mission Statement of CNN

“To be a network of Canadian researchers who conduct leading multi-disciplinary, collaborative research dedicated to the improvement of neonatal-prenatal health and health care in Canada and internationally”.

### Specific Goals

- 1) Establish a national network of multi-disciplinary Canadian researchers interested in neonatal-perinatal research
- 2) Establish and maintain a truly national neonatal-perinatal database and provide the infrastructure to facilitate collaborative research
- 3) Longitudinally study outcomes and variation in medical care that increases costs but does not improve outcomes. This is important because NICU care is one of the largest components of child health expenditures and exhibits large variations in mortality, morbidity and costs
- 4) Develop innovative research methods that can lead to improvement in health and quality of healthcare

### Database

- 1) Core Database: The Network maintains a core Network database. Institutional representatives and the Steering Committee decide policy concerning content and use of the database.
- 2) Project Database: Research projects may request utilization of the Network data acquisition system to collect project related data. Such requests will be approved by the Steering Committee. Access to such data will be limited to members of the research project. Expenses relating to such data acquisition will be the responsibility of the project researchers concerned.

### Neonatal Intensive Care

Newborn intensive care is a rapidly evolving area of medicine in which advancing technology and new treatment techniques have proven very effective in improving infant outcomes. There is constant innovation and introduction of new treatments, equipment and procedures. Despite this rapid progress, there remains a significant mortality and complication rate, particularly for extremely premature infants. It has become evident that there are marked differences in outcome between different Neonatal Intensive Care Units (NICUs). Furthermore, neonatal care is extremely costly, amounting to thousands of dollars spent for each day in the NICU. Due to wide variations in care outcomes, and to the extremely high cost of care it is crucial that both established and novel medical treatments for newborn infants be analyzed for effectiveness and cost-efficiency.

## Evaluating Practices

The effectiveness of many individual treatments (respirators, drugs, formulas, etc.) has been proven in clinical trials. However, when used in combinations, on different populations, or by less skilled clinicians, the effectiveness of these treatments in actual practice may vary. These variations in effectiveness or quality of care may be responsible for the observed variations in outcomes. If true, this presents an important opportunity to improve care, by identifying ineffective care practices.

One method for identifying the most effective practices is to compare the outcomes of patients who undergo different treatment strategies. This approach depends on comparing equivalent patients. For example, if two NICUs use different treatment strategies on babies with the same medical condition, but some babies started out sicker than others, there is no way to accurately assess whether the treatments were used effectively, and which of the treatments was most effective. To permit fair comparisons, it is essential to have an objective way to measure severity of illness.

## Chapter 2: Data Collection

### Data Collection

Data collection is conducted by either medical chart review or prospectively collecting in real-time. Data collection should occur at the bedside both to maximize the amount of information obtainable (that is, having the ability to clarify confusing or incomplete chart entries by asking attending clinicians), and to save the time involved in tracking down medical records once the patient has left the hospital. In addition, the data collected will be entered directly into computers. Direct data collection combines the steps of data collection and data entry into one task, saving time and reducing the risk of human error in obtaining the data. The requirements for the CNN application are as follows:

1) Software requirements:

- a. Windows XP SP2 or later (Windows 2000 is not supported)
- b. Access 2000/2003 or higher
- c. .NET Framework 3.5 SP1 (Freely downloadable software at <http://tinyurl.com/5m4j75>).

2) Hardware Requirements:

- a. CPU speed of 2.0 Ghz or higher (Pentium 4, Core2Duo or AMD similar class CPU)
- b. 512 MB Memory (1GB recommended)
- c. Screen Resolution of 1024 x 768

### Which Babies to Abstract

Abstractors are responsible for abstracting every eligible admission to the NICU. Intrauterine deaths or stillbirths are not included.

**Eligible babies are babies who stay in the NICU for at least 24 hours OR who die/are transferred to another level 2 or 3 facility within 24 hours and all delivery room deaths of infants  $\geq$ 22 weeks gestational age.** Once a baby has been admitted to your NICU, you will have ultimate responsibility for the data collection on that baby, regardless of outcomes or transfers.

### Admission Tracking

Abstractors should check NICU admission log books and delivery room records daily for new admissions. It is crucial that every eligible baby be abstracted. In order to not miss eligible babies it is best to stay current in your abstraction. It is important to stay on top of your abstracting because:

- 1) If something is unclear or confusing, you can ask the NICU staff questions and they are likely to know the information. If you wait too long after the baby's discharge, they may not have accurate recall of the needed information.
- 2) Tracking down medical records once the baby leaves the unit can be time consuming and difficult. It also runs the risk that records may be lost. You may try to arrange with your Institutional Representative to have your NICU staff hold charts of discharged babies for an extra day thus giving you the opportunity to obtain the discharge data before chart removal. If this is arranged, you should check for charts of discharged babies first thing each day to minimize the delay in chart removal.

## Chapter 3: Error Checking

### Computer data checks

The computer program has several error checking systems in place. At a primary level, the program performs error checks during data entry, to help ensure accurate data capture. For instance, there are checks for “reasonableness”. For example, if you entered ‘66:66’ as a value for time, the computer will generate an immediate error message prompting you that this is not a valid entry, and will require you to change this value before proceeding. At a secondary level, once you have completed an entire patient file and wish to submit your data a final error check (validation) will be run. A third error check occurs after your data has been submitted to the Coordinating Centre (CC), in which you may be contacted by the CNN Coordinator to confirm any unusual entries. If you enter something unusual, please write an explanation in the “comments” section to save the time of rechecking the chart. If you receive an error message that is not selfexplanatory, contact the CC for advice.

### Abstractor checks

Some data items are not easily checked by the computer. It is crucial that everything you enter into your computer makes sense to you. If it doesn’t, please ask questions of the NICU staff to protect the data integrity. In addition, please read through each data screen before closing it to make sure you have filled in all the information correctly.

### Abstractor Organization

It is important for data abstractors to be organized to help alleviate errors and missed or overlooked data. In order for the CC to determine the difference between missing data that is unavailable from the chart versus data that may simply have been overlooked by the abstractor it is crucial that the abstractor enter appropriate values. When applicable, the “unknown” option should be selected or box should be left blank (is no “unknown” option) when the information is not directly noted or cannot be inferred from information anywhere in the patient’s complete chart. Abstractors are also advised to keep a separate excel file to keep track of which patient records are complete (following discharge) and which records are still missing information and need to be followed up on. The excel file can also be a way to record which infants have had name changes in order to avoid confusion or duplicate entries. Please note that when babies are transferred to other hospitals it is the responsibility of the first hospital’s data abstractor to provide the UI to subsequent hospital’s data abstractor in a timely fashion (within 3 weeks of transfer to a subsequent facility) so that information on a patient can be linked appropriately. In the Help menu there is a link to the CNN website where you will be able to find list of abstractors and site investigators and their contact details. If you need to talk to the CNN Coordinator or Database Programmer for computer related issues, their contact details are also provided on the CNN website.

### Customizability of the CNN Application

The CNN application allows users to select from various settings in order to personalize the application environment. To access the settings dialogue window, go to the Tools menu on the upper border of the application and select “Settings...”. Here you can customize the Patient Chart, the Search settings, the default Inborn and Outborn Hospital and the database file location. The Patient Chart customization allows you to change the colors of the Patient Chart grid and to personalize the vertical highlight bar. You can customize default search settings by selecting Date to reflect either Date of Admission or Date of Entry Creation, customize how far back to search, and the status of the cases that will be retrieved. By default, the database file location is the application installation folder, which you may choose to change depending on your local organizational needs. You can restore default settings on all tabs by clicking on the “Clear All” button at the bottom of the Settings window.

## Chapter 4: Confidentiality and Professionalism

### Confidentiality

There are several levels of confidentiality that must be maintained. Firstly, the data in the computer represents personal information about patients. To maintain full confidentiality, the computer will encode all information from the medical chart that identifies the patient before it is transmitted to the Coordinating Centre (CC). The CC will be able to identify patients by their CNN Case ID number, but only the Data Abstractor at individual sites will be able to match that number to a specific patient. Secondly, please ensure that the Research Ethics Board of your institute has approved the CNN data collection. Feel free, however, to answer any questions parents or clinicians may have about the general purpose of the data collection.

For data confidentiality and accountability each abstractor will be issued a USER ID and password, only known to them to log in to the application. Every record created or updated using a given USER ID will be marked in the backend database with that USER ID and the created/updated date. This audit trail information can be used for security purposes as well as for improving CNN data entry and data quality.

Please also note that the mother's personal health number will only be kept on your local datasets and will not be transferred to the CNN Coordinating Centre upon upload.

### Professionalism

It is important that you maintain a professional image while working in the NICU. This includes making sure you are not disruptive of parents visiting their sick babies, of clinicians caring for the babies, or of any other NICU routines. Your dress should be professional and your appearance neat at all times you are working, even when working evening or weekend hours. In addition, please try to keep your voice low and your behaviour calm so as not to disturb any sensitive babies.

### NICU Staff Interactions

The NICU staff are often very busy caring for the babies. They are also an excellent resource for information on specific babies or specific medical terminology. In your interactions with the staff, it is important to ask the bedside nurses before using the medical chart, to keep the chart in the immediate area and to make sure the nurses know where to locate the chart if they need it. In addition, be sure that your presence is not interfering with the nurses' care of patients.

# Chapter 5: CNN Application

## Overview of new CNN user interface

CNN Application - MSH - [Admission]
File Reports Tools Help

New Case New Readmission

Save

Search Date  
 Past 2 Weeks  
 Past Month  
 Past 3 Months  
 Specific Date Range  
 From: 2024 Feb 07 To: 2024 Feb 07  
 Case Status: All Cases  
 Hosp. Record No.:  
 Patient UI:  
 Case Type: All Case Types

**Search Results (1 Cases Found)**

Case Id	Patient UI	Record No.	First Name	Last Name	Admission Date	Validated	Created On	Date of Birth
00000001	00000001	SOTEST00001			2024 Jan 01	<input checked="" type="checkbox"/>	2024 Jan 17	2024 Jan 01

First Name:
Last Name:
DOB: 2024 Jan 01
DOA: 2024 Jan 01
Case ID: 00000001
Record No: SOTEST00001

- Admission
- Mother/Obstetric
- Mother/Obstetric (G)
- Resuscitation
- Transport
- TRIPS
- SNAP
- Patient Chart
- Diagnosis/Procedures
- Encephalopathy
- IVH/ROP
- Cultures/Transfusions
- Medications
- Discharge
- Post Transfer
- Validate Case
- Antimicrobial
- Reset PDA

### Admission

Reviewed

**Infant Identification**

Infant First Name:

Infant Last Name:

Birth Weight (g):

Date/Time(24hr) of Birth: 2024 Jan 01 06:00

Date/Time(24hr) of Adm.: 2024 Jan 01 06:00

CNN Case Id:

Hospital Record Number:

Patient UI:

Case Type: 1a. CNN - NICU Adm (Meets CNN critere)

Moribund On Admission:

**Gestational Age**

1) Date of Conception Via IVF:

2) Early Ultra-Sound?

GA when U-S was done:  Weeks  Days

EDC based on U-S:

3) Date of Last Menstrual Period:

Menstrual Cycle Length:  Days

4) Neonatal Estimate of GA:  Weeks

5) Obstetric Estimate of GA:  Weeks  Days

**Gestational Age**:  Weeks  Days

Documented GA from chart:  Weeks  Days

**Apgar Score**

Apgar @ 1 Minute:   N/A

Apgar @ 5 Minutes:   N/A

Apgar @ 10 Minutes:

Births This Pregnancy:

Order:   N/A

Chorionicity and Amnionnicity:

Admission Status

Inborn  Outborn

**Admission Details**

Admission Head Circ. (cm):   N/A

Admission Length (cm):

Admission Weight (g):

Admission Temp (°C):

**Infant Sex**

Male  
 Female  
 Ambiguous  
 Unknown

**Internal Transfer**

Internal Transfer:

Transferred From:

Birth Place:

First NICU:

**If GA < 37 weeks**

Primary reason:

**Associated conditions**

Medically indicated

- Maternal infection
  - Suspected/confirmed chorioamnionitis
  - Other infection
- Other maternal medical conditions
- Fetal indications
  - IUGR
  - Non-reassuring fetal status
  - Following fetal procedure
- Uterine anomaly/malformation

- Cervical insufficiency/short cervix
- Placental insufficiency
- PPRM
- Spontaneous
- Antepartum hemorrhage
  - Placenta previa
  - Placental abruption
  - Vasa previa
  - Other/unknown
  - Placenta accreta/increta/percreta
- Other
- Unknown/None reported

**Comments**

External Tools	Log Out Users	Used when a user continues to be logged in to the CNN Application despite the application having been closed. This normally occurs when the application is closed abruptly due to a power failure or an application crash. <ol style="list-style-type: none"> <li>1) Click on the “Force Logout All Users” button.</li> <li>2) Make sure that the CNN Application is not running and click on the “OK” button.</li> <li>3) A message will appear stating that the users have been successfully logged out. Click the “Close” button to exit the tool.</li> </ol>
External Tools	Unlock Case Records	A patient case is normally locked for other users when one user is currently accessing it. This is done to prevent two users from editing the same record and potential clashing. This tool is used when a patient case continues to stay locked despite the fact that no user is accessing the case. This normally occurs when the application is closed abruptly due to a power failure or an application crash. <ol style="list-style-type: none"> <li>1) Click on the “Unlock Records” button.</li> <li>2) Make sure that the CNN Application is not running and click on the “OK” button.</li> <li>3) A message will appear stating that the users have been successfully logged out. Click the “Close” button to exit the tool.</li> </ol>
External Tools	Synchronize ID Running Number	Select this tool when a user are not able to create new or readmission records.
External Tools	Repair Database	Database files can grow quickly as you use them, sometimes they would impede performance. They can also occasionally become corrupted or damaged. You can use the <b>Repair Database</b> in CNN External Tools to prevent or fix these problems. Please make sure no user is logon to the CNN application before use this feature.
External Tools	Backup Database	The “Backup Database” tool is used to back up the database. Click on “Backup Database” button to open up a new window where you can “Start” the backup process or find the location of the backup file with “Open Backup Location”.
External Tools	Change Database Location	Select this tool to change location of the database when the database file path is changed.
External Tools	Clean Log Records	Select this tool to clean log records.
External Tools	About CNN Application	Select this tool to see the database version & location, the next case numbers and the application version.

File	New Case	<p>Selecting this option will open a new dialogue window for the abstractor to enter the details of new case. It will ask you Hospital ID, Date and Time of admission. When you click OK, it will open up the a new admission screen with the hospital ID, case ID, patient UI and date of admission auto-populated and the user can fill in the rest.</p> <ol style="list-style-type: none"> <li>1) Go to File-New Case or click on the New Case toolbar icon</li> <li>2) Enter the hospital record number and admission date/time. The Time of admission is optional.</li> <li>3) User enters admission info in the admission screen that opens up</li> <li>4) Browse through the screens using the left navigation menu (Mother, Resuscitation, Transport...etc.) and enter the information required</li> <li>5) Tick the Reviewed checkbox once all the fields have been reviewed by the user</li> <li>6) Go to Validate Case screen to validate the whole CNN case and its status will change to Validated if successful</li> </ol>
File	New Readmission	<p>This option will open the new dialogue window specifically for readmitted babies. When you enter the correct hospital Record Number for the first admission of the baby, the case id and names are displayed for confirmation and the OK button is enabled. You enter the date of readmission, readmission number and time if available and click OK.</p> <p>The baby, mother and resuscitation information entered already when the first baby admission was created will automatically be populated in the baby, mother and resuscitation screens of the readmission record. There is no need to re-enter that information.</p>
File	Show/Hide Search	<p>Shows and Hides the search panel, as desired. You can hide the search panel to have a larger viewing area for the screens without the need to scroll.</p> <ol style="list-style-type: none"> <li>1) Go to the search panel, enter the search criteria and click Search</li> <li>2) Select the record you want to update by double-clicking on the row in the patient list search results box</li> <li>3) Update the fields as required on the admission screen that opened up</li> <li>4) Browse to any of the other screens to do any updates required</li> <li>5) If the update for the current case is done, select another case to update in the patient list search results box or perform a new search</li> </ol>
File	Save	Select this option to save your input.
File	Exit	Select this option to exit the system. Exiting the application will automatically save any entered data.

Reports	Reports	<p>1) Number of Admissions - Includes Validation Status; report output includes hospital record number 2) Number of Deaths</p> <p>3) Number of Patients Receiving Surfactants - Measures time from date of birth</p> <p>4) Number of Patients Receiving Oxygen</p> <p>5) Average SNAP Scores</p> <p>6) Rate of First Episode of Confirmed Nosocomial Infection</p> <p>7) Rate of Initial and Subsequent Confirmed Nosocomial Infection</p> <p>8) Total Positive Cultures</p> <p>9) Day 28 and Week 36 Dates</p> <p>10) Outcomes - Query all babies in the database with mortality or major morbidities for two calendar years. Report is based on local data only and without taking transfers into account.</p>
Tools	Unlock Records	This option allows you to access a locked record in the event of a system crash. The screen will show the currently locked records. Please make sure that the record is not really in use before you unlock it.
Tools	Deactivate Records	If a record was entered in error, this option allows abstractors to omit submission of the particular case. Search and select for the desired record and click Deactivate. Enter the deactivation reason. To reactivate a record, select it and click Reactivate.
Tools	Upload Database – Direct Database Upload	<p>Uploads the database to the Coordinating Centre.</p> <p>If your site has problems uploading using the direct upload method, please use the manual database upload using our website.</p>
Tools	Upload Database – Manual Database Upload	<p>When you click on the “Open Website of Manual Database Upload”, the application will prepare the database file for upload in the application temporary folder and open the web page in your default web browser.</p> <p>Note that the Temporary folder location where the database upload file will be created is shown on the screen for your easy reference. Browse to the Temporary Folder location to select the correct database file for the upload.</p> <p>You can make use of the “Location of Temp folder for Manual CNN Database Upload” shortcut that was automatically created during the CNN installation.</p> <p>Select the created database file with the correct dates for the upload.</p>
Tools	Import Records	
Tools	Export to Access	
Tools	View Error Logs	Allows abstractors to access the error logs in the event of a system crash

Tools	Settings	<p>Here you can customize:</p> <ol style="list-style-type: none"> <li>1) Patient Chart - allows you to change the colours of the Patient Chart grid and to personalize the vertical highlight bar</li> <li>2) Search settings - customize default search settings by selecting Date to reflect either Date of Admission or Date of Entry Creation, customize how far back to search, and the status of the cases that will be retrieved</li> <li>3) Inborn Hospital</li> <li>4) Outborn Hospital</li> <li>5) Date &amp; Language</li> <li>6) Database Location - By default, the database file location is the application installation folder, which you may choose to change depending on your local organizational needs. You can restore default settings on all tabs by clicking on the "Clear All" button at the bottom of the Settings window.</li> <li>7) Upload Settings</li> <li>8) Upload Server</li> </ol>
Help	CNN Manual	Access the CNN Manual for reference
Help	Go to CNN Website	Access the Canadian Neonatal Network™ website for reference
Help	Check for Updates	Go to CNN Website Updates download page
Help	Report a Bug	Go to CNN Bug Reporting / Feedback website
Help	About	Allows users to view information about the application version

## Screens

### ALL Screens

ALL	Which Babies to Abstract	<p>Abstractors are responsible for abstracting every eligible admission to the NICU. Intrauterine deaths or stillbirths are not included.</p> <p><b>Eligible babies are babies who stay in the NICU for at least 24 hours OR who die/are transferred to another level 2 or 3 facility within 24 hours and all delivery room deaths of infants <math>\geq</math>22 weeks gestational age.</b> Once a baby has been admitted to your NICU, you will have ultimate responsibility for the data collection on that baby, regardless of outcomes or transfers.</p>
ALL	Delivery Room Deaths	<p>You should also talk to your Site Investigator about getting a log of all <b>delivery room deaths of babies greater than or equal to 22 weeks gestational age (live born babies only)</b> from delivery room or Pathology. These include babies who die in the resuscitation room or are born following induction of labour for termination purposes and then die in other places in the hospital shortly after birth. Please enter these infants in the database. We need only basic information for such patients.</p> <p>Please note once you identify an infant as Delivery Room Death on the first page in the field "CASE TYPE" you will only be required to complete a very small subset of information (Admission, Mother and Resuscitation screens only).</p>
ALL	What Data to Abstract	<p><b>Record only patient data relating to the specified admission to your NICU.</b> Please include data occurring in the resuscitation room provided that the infant is afterwards ADMITTED TO THE NICU.</p> <p>You are not to record treatments/ resolved diagnosis provided at another hospital unless specific services that are not provided at your institute such as surfactant administration, PDA ligation, ROP Surgery for which infant was temporarily transferred to another facility and returns back in a reasonable period of time depending upon procedure (this should be individualized as to the procedure – PDA ligation baby if stays for &lt;48 hours, ROP surgery &lt;24 hours, Surfactant administration &lt;24 hours etc.) Please use your discretion as to whether patient stayed longer than expected and how likely is that the other NICU will initiate data collection during the period infant was in other NICU.</p>
ALL	Rounding	<p>Most numeric entries need not be rounded (head circumference, temperature, pH can all be entered as a decimal). However, some numeric entries that need to be rounded for entry should be rounded as follows: 2.4 and smaller should be rounded to 2; 2.5 and larger should be rounded to 3. Generally, if values are listed as "&lt;", as in "&lt;2", score as one less than what is written, e.g. &lt;2 would become 1 (or 1.9 in the case where an integer is not required).</p>
ALL	Missing Values	<p>Select the unknown value whenever the "Unknown" option is presented. Otherwise leave the field blank (as in the case of a non-required field).</p>

ALL	Personal Health Information	<p>These fields are personal health information and will be kept only in your local datasets. They will not be transferred to the CNN Coordinating Centre upon upload.</p> <ul style="list-style-type: none"><li>• Infant First Name, Infant Last Name</li><li>• Infant Hospital Record Number</li><li>• Mother First Name, Mother Last Name</li><li>• Mother Chart Number</li><li>• Mother Personal Health Number</li></ul>
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# Admission

Reviewed

## Infant Identification

Infant First Name   
 Infant Last Name   
 Birth Weight (g)   
 Date/Time(24hr) of Birth  :   
 Date/Time(24hr) of Adm.  :   
 CNN Case Id   
 Hospital Record Number   
 Patient UI   
 Case Type    
 Moribund On Admission

## Gestational Age

1) Date of Conception Via IVF   
 2) Early Ultra-Sound?   
 GA when U-S was done  Weeks  Days  
 EDC based on U-S   
 3) Date of Last Menstrual Period   
 Menstrual Cycle Length  Days  
 4) Neonatal Estimate of GA  Weeks  
 5) Obstetric Estimate of GA  Weeks  Days  
**Gestational Age**  Weeks  Days  
 Documented GA from chart  Weeks  Days

## Apgar Score

Apgar @ 1 Minute   N/A  
 Apgar @ 5 Minutes   N/A  
 Apgar @ 10 Minutes

Births This Pregnancy   
 Order   N/A

## Chorionicity and Amnionicity:

## Admission Status

Inborn  Outborn

## Admission Details

Admission Head Circ. (cm)   N/A  
 Admission Length (cm)    
 Admission Weight (g)   
 Admission Temp (°C)

## Infant Sex

Male  
 Female  
 Ambiguous  
 Unknown

Internal Transfer   
 Transferred From     
 Birth Place     
 First NICU

## Comments

## If GA < 37 weeks

Primary reason:  [Link - If GA <37 wks](#)

### Associated conditions

Medically indicated
 

- Maternal infection
  - Suspected/confirmed chorioamnionitis
  - Other infection
- Other maternal medical conditions
- Fetal indications
  - IUGR
  - Non-reassuring fetal status
  - Following fetal procedure

 Uterine anomaly/malformation
 

- Cervical insufficiency/short cervix
- Placental insufficiency
- PPROM
- Spontaneous
- Antepartum hemorrhage
  - Placenta previa  Placental abruption
  - Vasa previa  Other/unknown
  - Placenta accreta/increta/percreta
- Other
- Unknown/None reported

Admission	Infant First Name	First name(s) of infant as recorded on the medical record. Do <b>not</b> type in “Baby” “Boy” or “Girl” or their abbreviations. If the infant is not given a first name upon admission to the NICU leave this field blank, you can come back to it and enter it later. If the infant has still not been given a first name upon discharge, simply leave this field blank. This field is not sent to the CNN Coordinating Centre.
Admission	Infant Last Name	Family name of infant as recorded on the medical record. If hyphenated or double name, record both. <b><i>If the baby has a change of last name, do not record the change here or in the comments box. However, you may want to note the change for yourself elsewhere for future reference.</i></b> This field is not sent to the CNN Coordinating Centre.
Admission	Birth weight	Weight in <b>grams</b> at birth as recorded in birth hospital. If birth weight is unavailable, use the first weight taken up to 24 hours of life. If birth weight is only listed as an estimate, record the estimate. If weight was recorded after 24 hours and an estimate was used during first 24 hours, please record estimate (mandatory field)
Admission	Date of Birth / Time of Birth	Date of birth according to obstetric and/or admitting records. Enter by selecting from the calendar displayed or by typing in the date in the format YYYYMMDD. (Date of birth is mandatory). Enter time of birth in <b>military time</b> (24 hour clock). If infant is born at midnight, record as 00:00 (where midnight (00:00) is the first minute of a new day; for example: 23:59 on Jan 3 <sup>rd</sup> and 00:00 on Jan 4 <sup>th</sup> is 1 minute later).
Admission	Date of Admit / Time of Admit	Date of admission to the study NICU. This may be different than date of birth for late admissions or out-born babies. Auto-populated from initial screen and should not be changed carelessly as this will clear the patient chart. Time of admission is defined as the recorded time that the patient arrived to the NICU. If such timing is not available, use the time of first vital signs (at least one vital sign) recorded in the NICU. Do not include time in transport for out-born infants, or time in the delivery room for inborn infants. Write time of admission in military time. If time of admission is midnight record as 00:00 (mandatory field).  (Note: For purposes of this database, time of admission is defined as the recorded time that the patient arrived to the NICU. If such timing is not available, use the time of first vital signs recorded in the NICU.)
Admission	CNN Case ID	This is an auto-generated Case Identification number. It uniquely identifies a baby admission record in CNN. You do not need to enter any data in this field. <b><i>All screens are linked via this number</i></b> (mandatory field).
Admission	Hospital Record Number	Medical record number of the infant at the study hospital. When a patient is <b>readmitted</b> simply use the same record number and indicate the readmission number in the field that is displayed on the right hand side. To change this number from the one previously entered, click the button on the right of the field and proceed as instructed (mandatory field). This field is not sent to the CNN Coordinating Centre.

Admission	Patient UI	<p>Patient Unique identifier (UI) number is assigned automatically by the program. No data entry required. It is the unique identifier for a patient and is used when transferring patients between hospitals. To change this number from the one previously assigned, click the button on the right of the field and proceed as instructed. Patient UI can be reset to its original value, if necessary.</p> <p>Since the CNN sites have separate local databases, the patient Unique Identifier field was created to uniquely identify a patient in CNN when the baby moves across different sites. That ID will be used to link the different admission records entered in the separate local site databases when they are consolidated.</p> <p>When a new admission is created, there is a unique id generated under the Patient UI field. The following is the workflow that all site abstractors <b>MUST FOLLOW</b> to make sure that the patient UI number remains consistent across all the sites.</p> <ol style="list-style-type: none"> <li>1) A baby is born at CNN site X and gets admitted to CNN with an autogenerated patient UI number A</li> <li>2) The baby then gets admitted to CNN site Y and a patient UI number B is automatically assigned.</li> <li>3) The abstractor at site X will need to let the abstractor at site Y know of the patient UI number A and the latter should update the baby's patient UI from B to A.</li> </ol> <p>The guideline is that the hospital with the first CNN admission is the one which propagates the originally created baby patient UI to the subsequent sites and the abstractor at the transferring site should inform the other abstractor within a reasonable amount of time (for example, within a couple of days to a week maximum) for the patient UI update to take place.</p>
Admission	Case Type	<p>There are four types of patients collected under this screen. (mandatory field)</p> <ul style="list-style-type: none"> <li>• (1a) CNN / NICU admission – which will be the commonest and <b>default</b> regular option</li> <li>• (1b) delivery room death - delivery room deaths of babies greater than or equal to 22 weeks gestational age (live born babies only). These include babies who die in the resuscitation room or are born following induction of labour for termination purposes and then die in other places in the hospital shortly after birth. <b>Intrauterine deaths and stillbirths are not included.</b></li> <li>• (2a) Non-CNN / NICU admission not meeting CNN criteria - Certain sites collect babies in the database who are not eligible for CNN, such as short stay babies;</li> <li>• (2b) Non-CNN / non-NICU admission – admitted to other hospital unit;</li> <li>• (2c) Non-CNN / non-NICU admission – not admitted to our hospital</li> </ul>
Admission	Moribund on admission	<p>A patient will be classified as moribund at admission if patient is receiving only comfort care, without intubation, mechanical ventilation, pressor treatment, or cardiac compressions (mandatory field). Moribund at admission cannot be selected for delivery room death cases (case type 1b).</p>
Admission	Date of conception via IVF	<p>Use the date of embryo transfer as the date of conception after adjusting the age of embryo (in days) at time of transfer. If the age of embryo is unknown, assume the embryo is 5 days of age.</p>

		<p>Example 1: If the embryo is 3 days old at time of embryo transfer, then take away 3 days from the date of embryo transfer, and use that as the date of conception.</p> <p>Example 2: If the embryo is 5 days old at time of embryo transfer, then take away 5 days from the date of embryo transfer, and use that as the date of conception.</p> <p>Example 3: If the embryo age is unknown, then minus 5 days from the date of embryo transfer, and use that as the date of conception.</p>
Admission	Date of last menstrual period	Enter from maternal chart or history the date of last menstrual period.
Admission	Menstrual cycle length	Enter if this information is available.
Admission	Early Ultrasound	Click this field if mother had early ultrasound done. Early is defined as any ultrasound prior to 24 weeks.
Admission	GA when US was done	If there was an early ultrasound examination recorded, enter what was the estimated gestational age based on such an early ultrasound examination. Field is mandatory if early ultrasound is selected.
Admission	EDC based on US	Enter estimated date of confinement (delivery) based on the early ultrasound mentioned above. Note that this field is <b>not</b> Estimated Date of Conception.
Admission	Neonatal estimate of GA	Enter the estimate based on neonatal assessment as to how many weeks gestational age infant appears, generally by the Ballard or Modified Ballard examination. If there is no Neonatal estimate listed in the chart but the baby is referred to as a 'term baby', enter 40 weeks. (In weeks only)
Admission	Obstetric estimate of GA	Enter obstetric estimate of GA here in weeks and days.
Admission	Gestational Age	<p>This field will be automatically populated based on input from the other fields. <b>You do not need to enter any data here.</b> Check that the value generated in this field is within a reasonable range of the best estimate of the infant's gestational age according to the patients chart. If there is a discrepancy, recheck data entry above. The eight fields above appear in order of accuracy.</p> <p><i>Important Information: This program is set in such a way that it will calculate GA based on the best information that is available. Abstractor will complete as <b>much information available from charts as they can</b>, even if the dates or values in the chart are estimates. Please leave field blank if information is not available. If the Neonatal and Obstetrical estimated GA is reported as weeks + then just report weeks and leave days as zero. If Neonatal estimation spans more than one week enter earlier estimate (i.e. if GA is estimated as 30-31 weeks enter 30 weeks and zero days). <b>GA refers to gestational age at BIRTH - and NOT the Corrected GA.</b></i></p>

Admission	Documented GA from chart	Enter the gestational age as documented from chart.
Admission	Apgar at 1 minute	One minute Apgar score. Select "N/A" if the value is missing or not available. Mandatory field unless "N/A" is checked.
Admission	Apgar at 5 minutes	Five minute Apgar score. Select "N/A" if the value is missing or not available. Mandatory field unless "N/A" is checked.
Admission	Apgar at 10 minutes	Ten minute Apgar score if recorded. The recording of such a score usually denotes a worrisome event in the delivery room (depressed infant) and is noted as a measure of recovery or prolonged depression. If missing or not available, leave the field blank.
Admission	Births this pregnancy	<p>Total number of births in this pregnancy. For example triplets=3, twins=2. If fetal death occurs at or before 20 weeks, this is <b>not</b> counted under births this pregnancy. If the chart does not specify date of fetal death, use the date the death was discovered. If fetal death of a twin occurs in utero, make a note in the comments box (mandatory field).</p> <p>When this field is more than 1, a new "&gt; 1 births" will appear. Upon clicking it, the following popup will appear for the user to choose the other existing baby admission record for that multiple birth case in order to find the existing mother record to link that baby to.</p> <p>For cases where a mother has multiple babies, when the second baby is entered into the application, there is a feature to autofill the mother information automatically since they have the same birth mother. If the "Births this pregnancy" value is more than 1, the "&gt;1 Births" button will appear. When you click on it, a popup window will appear and you can type in the record number of the first baby admission already in the database. The case id, name and date of birth information for the existing baby record for the multiple birth case will be displayed for verification purposes. When you click on OK button, the mother information of the current baby will be autofilled. The retrieved record will be displayed if the "Birth This Pregnancy" field value matches the current baby record. The Date of Birth retrieved will be in red if it does not match the current baby record to alert the abstractor that the baby from which the mother info is going to be autofilled may be incorrect.</p>
Admission	Birth Order	Indicate the order in which the baby was born if it is part of a multiple birth. If fetal death has occurred at or before 20 weeks GA, do not count in birth order. If the baby is a singleton, please leave this blank. Select "N/A" if the birth order is not available or unknown.

Admission	Chorionicity and amnionicity for twins and triplets	<p>For twins and triplets, specify the type of multiples:</p> <p>Twins: Dichorionic/Diamniotic  Twins: Monochorionic/Diamniotic  Twins: Monochorionic/Monoamniotic  Twins: Unknown or other type</p> <p>Triplets: Trichorionic/Triamniotic triplets  Triplets: Monochorionic/Diamniotic twins pair with 'singleton' (also Dichorionic/Triamniotic)  Triplets: Monochorionic/Monoamniotic twins pair with 'singleton' Triplets: Unknown or other type</p> <p>Chorionicity/amnionicity information is not collected for higher order multiples. This field is enabled and mandatory only if the number of births for this pregnancy is 2 or 3.</p>
Admission	Admission Status	<p>Admission status at the study hospital. Score as inborn or out-born (transferred in). If out-born, specify the external transfer location in the "transferred from" field. If a patient is born at your hospital, discharged home a couple of days later (without admission to the NICU) then admitted to the NICU from home this is considered an <b>"inborn late admission"</b>. Score simply as inborn.</p> <p>If an infant was admitted from home (because born at home), score as an out-born; and under "Transferred From", enter OT &gt; Others &gt; "non-medical facility".</p>
Admission	Readmission Number	<p>For those sites just beginning data collection; a "readmission" on the patient log/admission screen can only be scored if this patient has been entered previously in the database. Therefore, any patient who is readmitted to your unit and whose initial admission is prior to your data collection start date would be scored as either inborn or outborn AND not a readmission (given that their initial visit was not recorded in the database).</p> <p>For all readmissions use the same record number (hospital chart number) and indicate which readmission number it is. After creating a new readmission, and linking previously entered data, complete this field to indicate the readmission number. Example enter "1", if this is the first readmission for the infant.</p> <p>If a patient is discharged to another hospital for 24 hours or less for surgery or other medical treatments not provided at your hospital, then this does <b>not</b> count as a readmission. For patients transferred out longer than 24 hours, you will need to begin a new data set and consider this now a readmission (mandatory field).</p>

Admission	Admission Head Circumference	The first Occipito-Frontal Circumference (OFC) (Head Circumference) measured in the <i>first 7 days</i> after admission, as noted in the physician or nursing notes. Record in cm. If discrepancy between two measurements, select the measurement made by the nurse. Select “N/A” if the first recorded head circumference is after the <i>first 7 days</i> of admission, or if value is not available. Mandatory field unless “N/A” is checked.
Admission	Admission Length	The length of infant in centimeters measured in the <i>first 7 days</i> after admission, as noted in the physician or nursing notes. If discrepancy between two measurements, select the measurement made by the nurse. Select “N/A” if the first recorded length is after the first 7 days of admission, or if value is not available. Mandatory field unless “N/A” is checked. Range is valid between 20 and 65 cm.
Admission	Admission Weight	Weight in grams as recorded at admission to the study NICU. When no admission weight is recorded – take birth weight as admission weight if baby was admitted on the first day after birth AND if baby was admitted after the first day and not weighed on admission, take weight measured in the first 24 hours after admission. If no weight is taken in the 24 hours following admission enter estimated weight on which treatment is based (mandatory field).
Admission	Admission Temp.	Body temperature in Celsius as recorded at admission to the study NICU. <b>Record the first temperature listed within five hours of admission.</b> Select “N/A” if the first recorded temperature is after 5 hours of admission, or if admission temperature is not available or unknown. For readmissions, record the temperature at the time of this second admission to the study NICU. Use axillary or rectal, but not skin probe temperatures (temperature of the baby taken by the incubator).
Admission	Infant Sex	Record sex of infant. If sex is listed as ambiguous, enter it as such; however, if later baby was identified as Male or Female, correct it before final submission. If not listed or unknown, select “unknown” (mandatory field).
Admission	Internal Transfer	Indicate from which department within your hospital the baby was transferred, if applicable. This field is optional and should only be used by sites that wish to have this data. The list of selectable items are the following. <ol style="list-style-type: none"> <li>1. PICU/PCCU (Pediatric Intensive Care Unit / Pediatric Critical Care Unit)</li> <li>2. L2N/SCN (Level 2 Nursery / Special Care Nursery)</li> <li>3. Operating Room</li> <li>4. Outpatient Clinic</li> <li>5. Emergency Department</li> <li>6. CCU/CCCU (Critical Care Unit / Comprehensive Cardiac Care Unit)</li> <li>7. Labor &amp; Delivery</li> <li>8. Mother/Baby Unit</li> <li>9. Pediatric Ward</li> <li>10. Others</li> <li>11. Unknown</li> </ol>

Admission	Transferred From	<p>Record the name of the facility (<b>outside your hospital</b>) the infant was transferred from <b>most recently</b>. Do <b>not</b> complete this item for inborn late admissions from home or from any other area within your hospital. If an infant was admitted from home (because born at home), score as an out-born and enter OT &gt; Others &gt; “non-medical facility” here (this is NOT considered an inborn late admission from home).</p> <p>For non-hospital areas or non-Canadian hospitals, you will be able to choose from the following:</p> <ol style="list-style-type: none"> <li>1. Non-medical facility (home, school, mall, taxi, truck...etc.)</li> <li>2. Non-hospital medical facility</li> <li>3. US Hospital</li> <li>4. Non-US Hospital Outside Canada</li> </ol> <p>If a baby is transferred from a community hospital (or home) to your hospital emergency department which then assesses the baby condition and decides to transfer the baby to your NICU, the transferred from field refers to the <b>external place</b> from which the baby comes from when it first reached the hospital.</p> <p>For those types of cases, DO NOT enter the transport data in the transport screen since there was no direct transfer and admission to your NICU.</p> <p>For inborn cases where baby is born and then directly transferred to the NICU in the same hospital stay, leave the field empty.</p>
Admission	Birth Place	<p>If baby was inborn, your hospital will automatically appear here if the Settings are set appropriately (refer to page 11, “Customizability of CNN Application”). The list of selectable items is the same as for the “Transferred From” field. If an infant was admitted from home (because born at home), enter OT &gt; Others &gt; “non-medical facility”. If the birth place is unknown, enter OT&gt;Others&gt;unknown. (mandatory field)</p>
Admission	First NICU	<p>For outborn babies, what was the first CNN hospital of admission? Select from list. Default is your own hospital.</p>
Admission	Comments	<p>Please enter comments for the CC here (maximum 255 characters). Do not record notes to yourself in this box. Use this item sparingly, it is not necessary to note additional maternal/obstetric information not required on the maternal screen. If you are unsure of the classification of a given congenital anomaly, diagnosis, or have a question regarding data collection please contact the CC for advice, <b>do not enter your question here</b>.</p> <p><b>To indicate a record is invalid or erroneous, DO NOT enter “To Delete”, “To Filter”, “Please Ignore” or similar comments here. Use the Deactivation feature available to deactivate invalid cases.</b></p>

<p>Admission</p>	<p>If GA &lt; 37 weeks – Primary reason</p> <p>[Enabled if GA is &lt;37 weeks]</p>	<p>Select the <b>primary reason</b> for THIS preterm birth. <i>(Select only one from list)</i> Consult the local MFM/OB Site Investigator if the primary reason for this preterm birth was not documented.</p> <p><b><u>Multiple pregnancy</u></b> Select if multiple pregnancy was the primary reason for this preterm birth.</p> <p><b><u>Medically indicated</u></b> <b>Maternal hypertension/preeclampsia/eclampsia:</b> Includes HTN, PIH, HELLP and PET. <b>Maternal infection:</b></p> <ul style="list-style-type: none"> <li>i. <b>Suspected/confirmed chorioamnionitis:</b> <i>Chorioamnionitis</i> is defined as inflammation of the chorion and amnion. Select this option if either suspected chorioamnionitis or pathology confirmed chorioamnionitis was the primary reason for this preterm birth.</li> <li>ii. <b>Other maternal infection:</b> Score this if any other type of systemic infection was found in mother during peripartum period. These include, but not limited to, urinary tract infection, pneumonia, septicemia etc. <b>Other maternal medical conditions:</b> Score this if the chart has documented any other maternal medical condition which was the primary reason for the preterm birth.</li> </ul> <p><b>Fetal indications:</b> <i>Only score the affected fetus for preterm delivery of multiples.</i></p> <ul style="list-style-type: none"> <li>i. <b>IUGR:</b> Intrauterine growth restriction, which will also appear as fetal growth restriction. This includes suspected IUGR as documented in chart.</li> <li>ii. <b>Non-reassuring fetal status</b> or compromised fetal status: Includes non-reassuring fetal heart rate tracing, non-reassuring biophysical profile or other such as Doppler, or evidence of fetal compromise. iii. <b>Following fetal procedure:</b> If preterm birth occurred within 72 hours after fetal procedures such as transfusion, laser, shunt placement, amnioreduction, surgery, catheterization, fetal reduction etc.</li> </ul> <p><b><u>Uterine anomaly/malformation</u></b> Includes Müllerian abnormality, Unicornuate uterus, Uterus didelphys (also uterus didelphis), Bicornuate uterus, Septated uterus.</p> <p><b><u>Cervical insufficiency/short cervix</u></b> Includes cervical insufficiency, cervical incompetence and short cervix. Cervical insufficiency might also be written as: “silent cervical dilation”, “painless cervical dilation”, or “bulging membranes without contractions”. If any intervention was applied for cervical insufficiency, such as cervical suture or pessary, they would be documented on the Mother/Obstetric screens.</p> <p><b><u>Placental insufficiency</u></b> Select if placental insufficiency was the primary reason for this preterm birth.</p>
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**PPROM**

Score if Preterm Premature Rupture of Membranes was the primary reason for this preterm birth. This includes prelabour rupture of membranes that occurred before 37 weeks gestation. Do not score if membranes were ruptured artificially by health care provider prior to birth.

**Spontaneous**

Score this if spontaneous preterm labour was documented as the primary reason for this preterm birth.

**Antepartum hemorrhage**

If antepartum hemorrhage was the primary reason for this preterm birth then select the cause of antepartum hemorrhage (based on classification below) as primary cause of preterm birth. This information can usually be found in the chart/antenatal record, operative note or delivery note. Do NOT score this variable if the mother has any of placenta previa, vasa previa, or placenta accreta/increta/percreta but does not hemorrhage. Do NOT include chronic abruption bleed that occurs early in pregnancy but “resolves” or no longer bleeding around time of birth.

- i. **Placenta previa:** Information can be found under “Preoperative Diagnosis”, “Indication for cesarean section” or operative note.
- ii. **Vasa previa:** Information can be found under “Preoperative Diagnosis”, “Indication for cesarean section” or operative note.
- iii. **Placenta accreta/increta/percreta:** Information can be found under “Preoperative Diagnosis”, “Indication for cesarean section” or operative note.
- iv. **Placental abruption:** Information can be found in maternal chart close to time of delivery as abruption or marginal abruption.
- v. **Other/unknown antepartum hemorrhage:** Antepartum hemorrhage not otherwise specified by one of the above. Score this if the chart has documented any other type of antepartum hemorrhage which was the primary reason for the preterm birth. Score this if reason for antepartum hemorrhage is unknown.

If antepartum hemorrhage was selected as primary reason for preterm birth, and it was associated with vasa previa / placenta previa / etc., please select the option "antepartum hemorrhage" in **associated condition** field with the corresponding condition.

**Other**

Select this if the primary reason for this preterm birth was documented but cannot be classified into any of the above.

**Unknown**

Select if the primary reason for this preterm birth could not be determined despite consultation with the local MFM/OB Site Investigator.

Admission	If GA < 37 weeks - Associated conditions	<p>Select all conditions mentioned in the chart that were or may be associated with THIS preterm birth. Exclude if these events occurred only in the past and in another pregnancy. <i>(Select all that apply)</i></p> <p><b><u>Note: Do not score same indication twice.</u></b></p> <p><b><u>Medically indicated</u></b></p> <p><b>Maternal infection:</b></p> <ul style="list-style-type: none"> <li>i. <b>Suspected/confirmed chorioamnionitis:</b> <i>Chorioamnionitis</i> is defined as inflammation of the chorion and amnion. Score if suspected chorioamnionitis was mentioned in the chart, or if pathology report confirmed chorioamnionitis.</li> <li>ii. <b>Other maternal infection:</b> Score this if any other type of systemic infection was found in mother during peripartum period. These include, but not limited to, urinary tract infection, pneumonia, septicemia etc.</li> </ul> <p><b>Other maternal medical conditions:</b> Score this if the chart has documented any other maternal medical conditions which may be associated with the preterm birth.</p> <p><b>Fetal indications:</b></p> <p><i>Only score the affected fetus for preterm delivery of multiples.</i></p> <ul style="list-style-type: none"> <li>i. <b>IUGR:</b> Intrauterine growth restriction, which will also appear as fetal growth restriction. This includes suspected IUGR as documented in chart.</li> <li>ii. <b>Non-reassuring fetal status</b> or compromised fetal status: Includes non-reassuring fetal heart rate tracing, non-reassuring biophysical profile or other such as Doppler, or evidence of fetal compromise. <b>iii.</b>  <b>Following fetal procedure:</b> If preterm birth occurred within 72 hours after fetal procedures such as transfusion, laser, shunt placement, amnioreduction, surgery, catheterization, fetal reduction etc.</li> </ul> <p><b><u>Uterine anomaly/malformation</u></b></p> <p>Includes Müllerian abnormality, Unicornuate uterus, Uterus didelphys (also uterus didelphis), Bicornuate uterus, Septated uterus.</p> <p><b><u>Cervical insufficiency/short cervix</u></b></p> <p>Check this if “cervical insufficiency”, “cervical incompetence” or “short cervix” is documented in the chart. “Cervical insufficiency” might also be written as: “silent cervical dilation”, “painless cervical dilation”, or “bulging membranes without contractions”. If any intervention was applied for cervical insufficiency, such as cervical suture or pessary, they would be documented on the Mother/Obstetric screens.</p> <p><b><u>Placental insufficiency</u></b></p> <p>Check this if documented in chart of having “placental insufficiency”. Usually this is associated with fetal growth restriction or IUGR particularly when associated with oligohydramnios.</p>
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### **PPROM**

Preterm Premature Rupture of Membranes: Score this if prelabour rupture of membranes occurred before 37 weeks gestation. Do not score if membranes were ruptured artificially by health care provider prior to birth.

### **Spontaneous**

Score this if spontaneous preterm labour was documented.

### **Antepartum hemorrhage**

Select if antepartum hemorrhage is an associated condition and is classified as any of the below. This information can usually be found in the chart/antenatal record, operative note or delivery note. Do NOT score this variable if the mother has any of placenta previa, vasa previa, or placenta accreta/increta/percreta but does not hemorrhage. Do NOT include chronic abruption bleed that occurs early in pregnancy but “resolves” or no longer bleeding around time of birth.

- i. **Placenta previa:** Information can be found under “Preoperative Diagnosis”, “Indication for cesarean section” or operative note.
- ii. **Vasa previa:** Information can be found under “Preoperative Diagnosis”, “Indication for cesarean section” or operative note.
- iii. **Placenta accreta/increta/percreta:** Information can be found under “Preoperative Diagnosis”, “Indication for cesarean section” or operative note.
- iv. **Placental abruption:** Information can be found in maternal chart close to time of delivery as abruption or marginal abruption.
- v. **Other/unknown antepartum hemorrhage:** Antepartum hemorrhage not otherwise specified by one of the above. Score this if the chart has documented any other type of antepartum hemorrhage which may be associated with preterm birth. Score this if reason for antepartum hemorrhage is unknown.

### **Other**

Select this if any other conditions were documented to be associated with preterm birth.

### **Unknown / None reported**

Select if information is unknown or not available. Mandatory field for babies with GA <37 weeks.

## Mother / Obstetric Reviewed

**Mother Identification**

Mother First Name

Mother Last Name

Date of Birth

Maternal Age (If DOB Unknown)

Chart Number

P.H.N.

Residential Postal Code

Type of Birth Mother Genetic

**Prenatal Care**

None  Some  Unknown

Antenatal Visit before 20 weeks

Yes  No  Unknown

**Antenatal**

Gravida  Para  Total Abortions

**Antenatal Corticosteroid TX**

Did the mother receive antenatal corticosteroids?

Yes  No  Unknown

If Yes

1st Dose Date/Time(24hr)

Completed course within last week prior to birth

Completed course prior to 1 week before birth

Completed course but timing unknown

Partial within last 24 hours

Partial > 24 hours ago

Partial course but timing unknown

Unknown course & unknown timing

SNACS trial participant

Rescue dose of steroids

Did the mother receive more than one complete course of antenatal steroids?

Yes  No  Unknown

If Yes, how many complete courses of antenatal steroids were given?

**Birth Summary**

ROM

Date / Time(24hr)

< 24 Hours  > 1 Week

24 Hours to 1 Week  Unknown

**Labour Initiation**

No Labour  Induced

Spontaneous  Unknown

Augmented

**Antenatal Intervention?**

Yes

No

Unknown

If Yes:

Fetal Transfusion

Laser Ablation

Amnioreduction/Decompression

Shunt Placement

Fetal Reduction

Chorionic Villus Sampling (CVS)

Amniocentesis <20 weeks

Open fetal surgery

Other

**Risks**

Yes  No  Unknown

Alcohol

Cigarettes

Marijuana/Cannabis

Other substance

ART

IVF  ICSI

Egg donation  Other ART

Sperm donation  Unknown

**Cervical Sutures**

Yes  No  Unknown

Gestational Age

**Systemic antibiotics given to mother within 24hr before birth**

Yes  No  Unknown

**Histological Chorioamnionitis**

Yes  Not Done

No  Unknown

**Suspected Chorioamnionitis**

Yes  No  Unknown

**Maternal fever within 24 hours before birth**

Yes  No  Unknown

**Maternal leukocytosis**

Yes  No  Unknown

**Purulent discharge from cervix**

Yes  No  Unknown

**Fetal tachycardia**

Yes  No  Unknown

**Obstetric Diabetes**

Yes  Gestational diabetes

No  Type 1 or juvenile onset diabetes

Unknown  Type 2 or adult onset diabetes

Unknown type

**Insulin**

Yes  No  Unknown

**Maternal Hypertension/Preeclampsia**

Yes  Pre-existing hypertension

No  Gestational hypertension

Unknown  Hypertension but timing unknown.

**Preeclampsia/eclampsia**

Yes  No  Unknown

**Presentation**

**Delivery Type**

Vaginal  Cesarean  Unknown

Low transverse

Classical or vertical

T or J or low transverse with vertical extension

Unknown/other

**Did Mother receive MgSO4 during labor?**

Yes  No  Unknown

If Yes

Neuroprotection  Tocolysis

Pre-eclampsia/Eclampsia  Unknown

Mother/Obs	Mother First Name	First name of mother as recorded on medical records. Do not enter abbreviations. Leave blank if unknown. This field is not sent to the CNN Coordinating Centre.
Mother/Obs	Mother Last Name	Family name of mother as recorded on the medical records. This field is not sent to the CNN Coordinating Centre.
Mother/Obs	Date of Birth	Mother's date of birth. If mother's date of birth is unknown, enter maternal age at time of admission. At least one of these fields must be entered.
Mother/Obs	Maternal Age	If mother's date of birth is unknown, enter maternal age. At least one of these fields must be entered.
Mother/Obs	Date of Admit	Mother's date of admission to <b>birth</b> hospital. If date of admission is unknown leave the field blank.
Mother/Obs	Chart Number	Mother's hospital record number for all inborn infants. For out-born infants leave the field blank. This field is not sent to the CNN Coordinating Centre.
Mother/Obs	P.H.N.	Mother's personal health number if mother has provincial coverage. If mother does not have provincial coverage or PHN is unknown leave the field blank (this information is kept locally, not transferred to CNN). This field is not sent to the CNN Coordinating Centre.
Mother/Obs	Residential Postal Code	Postal Code of mother's primary residence. Record the 6 digit number/letter code in the correct sequence (eg A1A 1A1). This should be completed for all babies, including out-born. If unknown, leave the field blank.
Mother/Obs	Type of birth mother	Record the type of birth mother: Genetic, Non-genetic, Surrogate, or Unknown. Default is "Genetic". Mandatory field. Record information on this screen according to the birth mother's information. Birth mother refers to the woman whose uterus carries the child, even in the case of surrogate pregnancy. If an infant is placed in foster care, DO NOT record details regarding the foster family here.
Mother/Obs	Risks <ul style="list-style-type: none"> <li>- Alcohol</li> <li>- Cigarette</li> <li>- Marijuana</li> <li>- Other substance</li> </ul>	<p>Indicate whether or not the mother used alcohol, cigarettes (include e-cigarettes), marijuana/cannabis or other substances <b>during this pregnancy</b>. Do not score if the mother used these substances prior to this conception or during a previous pregnancy. Include all routes of administration (e.g. smoked, vaporized, oral, topical etc.). Also include both legal and illegal use.</p> <p><b>Other substances</b> include all recreational drugs (i.e. cocaine, heroin, etc.) as well as abused prescription drugs known to do damage to a developing fetus (i.e. opioids, codeine, methadone etc.).</p>

		<ul style="list-style-type: none"> <li>• Select the “Yes” checkbox if the mother had exposure to alcohol, cigarette, marijuana/cannabis or other substances during this pregnancy. Also score “yes” if the mother had “suspected exposure” and test was not done or unavailable. Then select from the dropdown menu for each of the four categories.</li> <li>• Select the “No” checkbox if the mother had no exposure to alcohol, cigarette, marijuana/cannabis or other substances during this pregnancy. The dropdown menus for the four categories below would be disabled and defaulted to “No”.</li> <li>• Select the “Unknown” checkbox if it was unclear whether mother had any exposure for alcohol, cigarette, marijuana/cannabis or other substances during this pregnancy. The dropdown menus for the four categories below would be disabled and defaulted to “Unknown if exposed”.</li> </ul> <p><b><u>If the “Yes” checkbox was selected, enter the usage information for each of the four categories:</u></b></p> <ul style="list-style-type: none"> <li>• Score “No” if the mother did not use the substance during this pregnancy.</li> <li>• Score “Yes, but quit during pregnancy” if the mother used the substance but quit once she became aware of this pregnancy. As this option does not define quantity, <b>do</b> record substance use even if described as social use only.</li> <li>• Score “Yes, and use is ongoing” if there was ongoing use of the substance, or if mother quit and restarted, during this pregnancy. As this option does not define quantity, <b>do</b> record substance use even if described as social use only.</li> <li>• Score “Yes, but timing is unknown” if the mother used the substance during this pregnancy but usage information is not available.</li> <li>• Score “Unknown if exposed” if it was unclear whether the mother had exposure to the substance during this pregnancy or information was not available.</li> </ul>
Mother/Obs	Assisted Reproductive Technology (ART)	<p>Score if Assisted Reproductive Technology was used in this pregnancy.</p> <p>If ART was clicked, select the type (mandatory):</p> <ul style="list-style-type: none"> <li>• <b>IVF:</b> <i>In Vitro</i> Fertilization – Select if IVF was used in this pregnancy. If yes, then select egg or sperm donation as applicable. Leave blank if information regarding egg donation and sperm donation is unknown.</li> <li>• <b>ICSI:</b> Intracytoplasmic Sperm Injection</li> <li>• <b>Other ART:</b> This includes Intrauterine Insemination (IUI), embryo donation, surrogates, gestational carriers, ovulation induction with Clomid or other fertility drugs</li> <li>• <b>Unknown ART:</b> Score this when Assisted Reproductive Technology was used but technique unknown.</li> </ul>
Mother/Obs	Cervical Sutures	<p>Was cervical suture in place? Select yes, no or unknown (mandatory).</p> <p>If yes, enter the fetus GA in completed weeks at the time of suture. If more than one suture was placed, record the first. GA ranges between 8 to 36 weeks. Do not round up GA for incomplete weeks. Leave blank if GA is unknown.</p>


Mother/Obs	Systemic antibiotics given to mother within 24hr before birth	Record whether systemic antibiotics were given to the mother <b>within 24 hours before birth</b> . This includes antibiotics given only enterally or parentally, not topical antibiotics. If unknown check the unknown box (mandatory field). Exclude peri-operative prophylaxis given at time of cesarean section – e.g., Ancef/Cephalexin.
Mother/Obs	Maternal fever	Score yes if any of these conditions existed within the 24 hours before birth. Reason for fever would not be a factor in this determination. <ol style="list-style-type: none"> <li>Any maternal fever of <math>\geq 39.0^{\circ}\text{C}</math> recorded one or more times.</li> <li>Any maternal fever of <math>&gt;38.0^{\circ}\text{C}</math> recorded twice at least 30 minutes apart.</li> </ol>
Mother/Obs	Maternal leukocytosis	Maternal white cell count $>15000/\text{mm}^3$ (or sometimes recorded as $>15$ ) for blood sample collected within the 24 hours before birth, regardless if mom was in labour.
Mother/Obs	Purulent discharge from cervix	Definite purulent discharge within the 24 hours before birth, as documented in chart or intrapartum notes. It might be written as discharge that is ‘yellow’, ‘green’, ‘foul-smelling’ or ‘malodourous’.
Mother/Obs	Fetal tachycardia	Documented fetal tachycardia with fetal heart rate $>160$ bpm within the 24 hours before birth. Abnormal fetal heart rate may be documented on maternal partogram charting of fetal heart rate and intrapartum progress notes. Score if “fetal tachycardia” is documented in chart, even when the fetal heart rate is not available.
Mother/Obs	Chorioamnionitis	<p><b>Histological Chorioamnionitis:</b> (mandatory) Chorioamnionitis is defined as inflammation of the chorion and amnion.</p> <ul style="list-style-type: none"> <li>Yes – placental pathology/histological report indicates positive for chorioamnionitis</li> <li>No – placental pathology/histological report indicates negative for chorioamnionitis</li> <li>Not Done – placental pathology/histological investigation was not done</li> <li>Unknown – placental pathology/histological report was not available, report inconclusive, or unknown if report was done</li> </ul> <p><b>Suspected chorioamnionitis:</b> (mandatory if histological chorioamnionitis is No, Not Done or Unknown) Was “chorioamnionitis” or “suspected chorioamnionitis” documented in the chart? (regardless of other indicators)</p> <ul style="list-style-type: none"> <li>Yes – select if chorioamnionitis or suspected chorioamnionitis was documented in chart</li> <li>No – select if chorioamnionitis or suspected chorioamnionitis was not documented in chart</li> <li>Unknown - information not available</li> </ul>

Mother/Obs	Prenatal Care	If the mother had <b>at least one</b> prenatal care visit prior to hospital admission during which delivery occurred, score as 'some'. Otherwise, score as 'none'. If a pregnancy is dated by ultrasound (U/S) (other than on this admission) or if the notes indicate the mother had prenatal screens (rubella immune or hepatitis status) assume that there was some prenatal care. If there are no obstetric records, select "unknown" (mandatory field).
Mother/Obs	Antenatal Visits before 20 weeks	Check the box if mother had prenatal visit before 20 weeks of gestational age. If mother had first trimester screen, nuchal translucency measured, anatomy scan performed, or screening for genetic anomaly performed (triple screen) then score "yes" (mandatory field).
Mother/Obs	Gravida	The number of times a woman has been pregnant, including all abortions, live and still births. Note that this number includes the current pregnancy, therefore if this is the mother's first pregnancy enter '1'.
Mother/Obs	Para	The total number pregnancies delivering at greater than or equal to 20 weeks. This includes both live born and stillborn infants. Multiple pregnancies are counted only once (i.e. not 2 for twins or 3 for triplets). There is no weight criteria for this metric.
Mother/Obs	Total Abortions	The total number of both spontaneous (miscarriages including stillbirths) and therapeutic (planned) abortions of mother to date. The pregnancy would end before 20 weeks gestation (i.e. up to 19 + 6). This includes both live born and stillborn infants. Multiple pregnancies are counted only once (i.e. not 2 for twins or 3 for triplets). There is no weight criteria for this metric.
Mother/Obs	Antenatal Corticosteroid TX	<p>Antenatal corticosteroid treatment given to mother prior to delivery (mandatory field). These include any of the following: betamethasone, beta celestone, dexamethasone, cortisone, dihydrocortisone, but <b>not</b> prednisone</p> <p><b>If Yes:</b> score as below</p> <ol style="list-style-type: none"> <li>Complete course within last week prior to birth [defined as receipt of at least two doses of corticosteroids 24 hours or more but within one week of birth]</li> <li>Complete course before 1 week of birth (defined as receipt of at least two doses of corticosteroids initiated more than one week prior to birth)</li> <li>Complete course but timing unknown (If no dates of administration are given, but the chart refers to "complete" or if chart specifies two doses were given)</li> <li>Partial course within last 24 hours (defined as any dose given less than 24 hours prior to birth)</li> <li>Partial course &gt;24 hours ago (defined as one dose given &gt;24 hours ago and was not repeated")</li> <li>Partial course but timing unknown (If no dates of administration are given, but the chart refers to "partial" or if chart specifies that only one dose was given)</li> <li>Course and timing unknown (select if antenatal corticosteroid was given but no other details were available. I.e. Complete vs partial course and timing were unknown.</li> <li>SNACS trial participant</li> </ol>

		<p><b>Long course of corticosteroid for mother:</b> For Mothers who received systemic (oral or parenteral) corticosteroids for indications other than for lung maturity (e.g. fetal heart block, suspected congenital adrenal hyperplasia or for maternal indication etc.) for a prolonged period of time (&gt;2 weeks), score the appropriate “Completed course” option and enter the Number of Courses as “10”. If steroid was continued until the date of delivery, enter "Completed course within last week prior to birth". If it was stopped 1 week prior to birth, then enter "Completed course before 1 week of birth". Please enter the detailed reason for multiple steroid administrations in the comment box on the Admission Screen.</p>
Mother/Obs	First dose of antenatal steroid	<p>If antenatal steroids were given to mother, select “Yes” and provide date/time of first dose. Also, do complete other information under Antenatal Corticosteroid Treatment such as complete/partial courses. Information may be available on maternal charts.</p>
Mother/Obs	Rescue dose of steroids	<p>This field is enabled only if “complete course” is selected above.</p> <p>The practice of giving a rescue dose of steroid is adopted in some units. This means that mother has received a complete course of steroid &gt;1 week ago when she presented with threatened preterm birth. However, she settled and did not deliver at that time. She then presented with another episode of threatened preterm birth and rather than repeating a course of steroid, practitioner gave a single dose of steroid as rescue dose prior to current preterm birth. Usually this is a single dose within 12 hours of birth.</p>
Mother/Obs	Number of Courses	<p>If mother has received multiple complete courses (at least one complete and more) mark yes and indicate the number of antenatal corticosteroid courses given to mother prior to delivery. If not mentioned or unknown, select unknown. If mother has received complete and partial courses in the past, only enter courses that were complete (as defined above) and ignore partial courses.</p>
Mother/Obs	Rupture of membranes (ROM)	<p>Rupture of maternal membranes (ROM), either artificial or natural, releasing the amniotic fluid and indicating the onset of labour.</p> <p>Enter the date and time when rupture of membranes occurred. <b><i>There is no further need to classify the timing below if the date/time is available.</i></b></p> <p>If exact timing is unknown but information is available to classify the time between rupture of membranes and time of birth, select from the 3 groups below: &lt;24 hours; 24 hours to 1 week; &gt;1 week</p> <p>Mark unknown if information is not available. (mandatory field)</p>

Mother/Obs	Labour Initiation	Type of labour initiation, whether none, spontaneous, augmented (speeding up labour), or induced (getting labour started). If unknown record as such. Augmentation is defined as medications given to increase the strength and/or speed of contractions (mandatory field).
Mother/Obs	Antenatal Intervention	<p>Indicate if there were any interventions during this pregnancy to treat a fetal condition. If “Yes” was selected, indicate which intervention was performed.</p> <p>Amniocentesis and Chorionic Villus Sampling are performed to rule out chromosomal abnormalities and other genetic disorders (e.g. Down Syndrome and neural tube defects). Shunt placement includes pleuroamniotic shunt, vesicoamniotic shunt, antenatal placement of shunt for reduction of hydrocephalus, or shunt anywhere in the body to drain fluid collection. If there was only tapping of fluid from cavity and no shunt was placed, mention it in the “Other” category. If the intervention is not listed, click “Other” and free text the intervention (maximum 50 characters). In case of multiple pregnancy, record the procedure on all newborn charts, even if the intervention was done on only one fetus.</p>
Mother/Obs	Diabetes and Type	<p>Answer yes, no or unknown regarding mother’s status as a diabetic. This includes both gestational diabetes as well as previous maternal diabetes (i.e. prior to conception). Impaired Glucose Tolerance is not included. (Mandatory field).</p> <p>If Yes, select the type:</p> <ol style="list-style-type: none"> <li>1. Gestational diabetes: Diabetes which was first time diagnosed during this pregnancy</li> <li>2. Type 1 diabetes or juvenile onset diabetes: Diabetes diagnosed at younger age 3.</li> <li>Type 2 diabetes or adult onset: Diabetes diagnosed during adulthood</li> <li>3. Unknown type: Reported as diabetes but type is unknown.</li> </ol>
Mother/Obs	Insulin	Answer yes, no or unknown regarding whether or not mom received insulin for the treatment of diabetes.
Mother/Obs	Maternal Hypertension	<p>Record whether maternal hypertension is present or not, or whether this information is unknown. If obstetric information is noted, but maternal hypertension is not mentioned, select “no.” If there is no obstetric data in the chart, select “unknown.” Common abbreviations for this include: HTN, PIH, <i>HELLP</i> and PET. “Questionable HTN,” “question of <i>HELLP</i> syndrome” or “rule out PET” without more information should be scored as unknown (mandatory field).</p> <p>If Yes, select type:</p> <ol style="list-style-type: none"> <li>1. Pre-existing hypertension: Hypertension that was preexisting before current pregnancy</li> <li>2. Gestational hypertension: Hypertension diagnosed first time during this pregnancy. It may have been reported in previous pregnancy but mother was not hypertensive in between pregnancies.</li> <li>3. Hypertension but timing unknown: Reported as hypertension but timing unknown</li> </ol>

Mother/Obs	Preeclampsia/ Eclampsia	Record whether preeclampsia or eclampsia is present or not, or whether this information is unknown.
Mother/Obs	Maternal MgSO4	<p>Enter YES if MgSO4 is given at any time during gestation when mom had threatened preterm labour. This includes previous MgSO4 given weeks before actual birth when mother might have been admitted for threatened preterm labour but not given birth.</p> <p>If Yes, select the reason.</p> <ul style="list-style-type: none"> <li>• <b>Neuroprotection:</b> Administration of MgSO4 for prevention of cerebral palsy in infants. This is given when mother is admitted in threatened preterm labour. MgSO4 given for neuroprotection in all previous admissions for threatened preterm labour should be included. Check this if MgSO4 is intended for neuroprotection, irrespective of maternal conditions. Under most circumstances this is given for up to 24 hours in the event of suspected or threatened preterm labour, and stopped if mother does not progress to labour.</li> <li>• <b>Pre-eclampsia/Eclampsia:</b> Administration of MgSO4 for the treatment of maternal pre-eclampsia or eclampsia. This treatment can last for longer than 24 hours and should be mentioned as a reason in maternal charts.</li> <li>• <b>Tocolysis:</b> Administration of MgSO4 for the purpose of relaxing the uterus when mother presents with contractions and threatened preterm birth.</li> <li>• <b>Unknown:</b> When reason cannot be determined, identified or not known.</li> </ul>
Mother/Obs	Presentation	<p>Fetal presentation at birth (mandatory field). This should be recorded as:</p> <ul style="list-style-type: none"> <li>• <b>VERTEX:</b> Head first, includes OP (occiput posterior), hand presentation with head coming with hand</li> <li>□ <b>BREECH:</b> All types - footling, frank, etc.</li> <li>• <b>OTHER:</b> Includes shoulder, transverse, brow, face, oblique vertex, and compound (not vertex or breech but has other more than one parts as presenting parts) presentations.</li> </ul> <p>If there is no mention of presentation select “unknown.” If a baby was converted to vertex presentation for delivery by C-section, <b>score the initial position of the baby</b>. If vertex presentation can be inferred (e.g. “tried vacuum extraction”), score vertex.</p>

Mother/Obs	Delivery Type	<p>Record whether the delivery was vaginal or by cesarean section (mandatory field). If obstetric information is noted, but delivery type is not mentioned, “vaginal” may be assumed. If vaginal can be inferred (e.g. “vacuum extraction”), score vaginal. If there are no obstetric records, select “unknown.”</p> <p><b><u>Type of uterine incisions (mandatory for cesarean delivery)</u></b></p> <p>The following options are enabled when <b>cesarean delivery</b> is selected:</p> <ol style="list-style-type: none"> <li>1. Low transverse</li> <li>2. Classical or vertical</li> <li>3. "T" or "J" or low transverse with vertical extension</li> <li>4. Unknown/other – if information is not available</li> <li>5.</li> </ol> <p><i>Information may be found in operative records.</i></p>
Mother/Obs		<p>When selecting this feature, a screen will pop up to display the list of babies for this mother’s current pregnancy.</p>

## Mother / Obstetric

Reviewed

Mother / Obstetric (GA < 29 weeks)

Transferred from another tertiary CNN hospital  Yes  No  Unknown

### Maternal

#### Maternal Employment Status

- Employed  
 Unemployed  
 Student  
 Full-time homemaker  
 Unknown  
 Other

#### Severe Pre-existing Maternal Medical conditions (Exclude Diabetes and Hypertension)

Yes  No  Unknown

- Severe Cardiovascular Disease  
 Severe Renal Disease  
 Severe Nervous System Disorder  
 Severe Rheumatological Disease  
 Other Severe Maternal Conditions

#### Maternal mental health condition during pregnancy

- None  Schizophrenia  
 Anxiety  Other  
 Depression  Unknown  
 Bipolar disorder

# Previous preterm births

# Previous live births

# Previous stillbirths

# Previous pregnancies with multiples

#### Pre-pregnancy or early antenatal weight

Pounds  Kilos  Unknown

(lb)  (kg)

#### Mother's weight before birth

Pounds  Kilos  Unknown

(lb)  (kg)

#### Height

Feet/Inches  Centimeters  Unknown

/  (cm)

Pre-pregnancy or early antenatal BMI

### Partner

#### Partner Employment Status

- Employed  
 Unemployed  
 Student  
 Full-time homemaker  
 Unknown  
 Other

#### Progesterone

Yes  No  Unknown

#### Daily Aspirin

Yes  No  Unknown

#### Severe Maternal Outcome

Yes  No  Unknown

- Require higher level of care  
 Transfusion ≥4 units  
 Septic Shock  
 Require operation  
 Maternal Death

Family engagement ( GA <33 weeks)

First non birthing parent Presence in NICU  [Enter Date]  :  Unknown

No non-birthing parent involved

First Birthing parent Presence in NICU  [Enter Date]  :  Unknown

Social Worker Consult  [Enter Date]  Unknown

No social worker consultation in chart

First Exposure to Mother's Own Milk  [Enter Date]  :  Unknown

First Skin-to-Skin Care  [Enter Date]  :  Unknown

First Breastfeed  [Enter Date]  :  Unknown

Obs (G)	Whole Screen	Record information on this screen according to the birth mother's information. Birth mother refers to the woman whose uterus carries the child, even in the case of surrogate pregnancy. This screen is enabled for babies with GA < 29 weeks.
Obs (G)	Transferred from another tertiary CNN hospital	Was the infant transferred from another tertiary CNN hospital which had the first CNN admission? Select yes or no. Remaining screen is disabled if yes is selected.
Obs (G)	Maternal Employment Status	Record the mother's employment status. (Mandatory field) <ul style="list-style-type: none"> <li>• <b>Employed:</b> Select if employed full- or part-time or if self-employed.</li> <li>• <b>Unemployed:</b> Select if mother is available to work but does not have paid employment. If mother is not available for work due to childcare and other household responsibility, select <i>Full-time Homemaker</i>. If mother is not available for work due to injury or disability, select <i>Other</i>.</li> <li>• <b>Student:</b> Select if mother spends most of the time attending classes or works part-time while attending fulltime classes. However, if mother works full-time but attends night classes, select <i>Employed</i>.</li> <li>• <b>Full-time Homemaker:</b> Select if mother is not available for paid employment due to childcare and household responsibilities.</li> <li>• <b>Unknown:</b> Select if employment status cannot be determined or unknown.</li> <li>• <b>Other:</b> Score this if none of the above applies. Specify in free text field.</li> </ul>
Obs (G)	Severe pre-existing maternal medical conditions (exclude diabetes and hypertension)	Record whether or not the mother had pre-existing medical conditions, NOT including diabetes and hypertension. (Mandatory field). Select "Unknown" if this information was not documented. If "Yes", select the appropriate condition(s) if they were documented. <ul style="list-style-type: none"> <li>• <b>Severe Cardiovascular Disease</b> includes Left Ventricular dysfunction "LV" dysfunction, Ejection Fraction or EF &lt;45%, "Heart Failure" or "NYHA class &gt;II", Complex Congenital Heart Disease (NOT repaired Atrial Septal Defect (ASD) or repaired Ventricular Septal Defect (VSD); would include Cyanosis or cyanotic, Tetralogy of Fallot, Transposition of the Great Arteries, "Eisenmenger's ", Pulmonary Hypertension, Ventricular Fibrillation, Ventricular Tachycardia, or other severe (e.g. angina or heart attack) Myocardial Infarction, MI, Mechanical Valve, Aortic Root Dilation &gt;45 mm, cardiac transplant, cardiac ablation).</li> <li>• <b>Severe Renal Disease</b> includes "dialysis", renal failure (acute or chronic), pyelonephritis during the current pregnancy, or other severe transplant (e.g. renal/kidney).</li> <li>• <b>Severe Nervous System Disorder</b> includes epilepsy ("not well controlled", "poorly controlled", frequent seizures during pregnancy), stroke during the current pregnancy (Cerebrovascular Accident (CVA), "Brain Haemorrhage"), Transient Ischemic Attack (TIA), brain tumour diagnosed in pregnancy or intracranial hemorrhage.</li> <li>• <b>Severe Rheumatological Disease</b> includes severe lupus (SLE), severe rheumatoid arthritis (RA) or any other severe type of rheumatologic disease. Do not include any type of mild, well controlled, controlled or stable conditions, regardless of medications used.</li> </ul>

		<ul style="list-style-type: none"> <li>• <b>Other Severe Maternal Condition(s)</b> include cystic fibrosis, severe asthma requiring hospitalization during pregnancy, ulcerative colitis on medications but poorly controlled, Crohn’s on or off medications but poorly controlled, cancers, endocrine disorders (e.g. thyroid storm, prolactinoma), haematological disorders (e.g. anemic sickle cell).</li> <li>• Do not include hyperemesis gravidarum requiring hospitalization in “Other severe maternal condition”.</li> </ul>
Obs (G)	Maternal mental health conditions during pregnancy	<p>Indicate the maternal mental health conditions that are ongoing problems during current pregnancy. Include preexisting or pregnancy-related mental health conditions of the mother that occurred during this pregnancy only. (Mandatory field)</p> <p>Do not include previous postpartum depression or risk of postpartum depression as they are not “ongoing”.</p> <p>Select from <b>anxiety, depression, bipolar disorder and schizophrenia</b>. Select “<b>other</b>” for maternal mental health condition not otherwise specified by one of the above. Select “<b>unknown</b>” if information is not available.</p>
Obs (G)	Number of previous Preterm Births	<p>Preterm refers to birth before 37+0 weeks gestation; therefore, the gestational age of previous children must be &lt; 36+6 weeks to be included here. This includes both live born and stillborn infants. Leave blank if information is not available or unknown. This field is auto-populated with “zero” when Gravida=1.</p>
Obs (G)	Number of previous live births	<p>Record the total number of previous live births, both term and preterm. Exclude the baby who is being abstracted. A live birth is the complete expulsion or extraction from the mother after at least 20 completed weeks gestation or after attaining a weight of at least 500 grams, or a product of conception in which, after the expulsion or extraction, there IS breathing, beating of heart, pulsation of umbilical cord or unmistakable movement of voluntary muscle.</p> <p>Leave blank if information is not available or unknown. This field is auto-populated with “zero” when Gravida=1.</p>
Obs (G)	Number of previous stillbirths	<p>Death prior to the complete expulsion or extraction from the mother of a product of conception, irrespective of the duration of pregnancy; the death is indicated by the fact that after such separation the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Only fetal deaths where the product of conception has a birth weight of 500 grams or more or the duration of pregnancy is 20 weeks or longer are registered in Canada.</p>

Obs (G)	Number of previous pregnancies with multiples	Record the number of previous pregnancies with multiples, irrespective of livebirth or stillborn. This is not the number of children, but the number of pregnancies with multiples.  Leave blank if information is not available or unknown. This field is auto-populated with “zero” when Gravida=1.
Obs (G)	Pre-pregnancy or early antenatal weight	Record the pre-pregnancy weight of the mother or weight measured at the first antenatal visit (if <13 weeks gestation) using either the imperial or metric system.  Imperial system range: 30 lbs to 500 lbs (if more than 500lbs, then enter 500). Metric system range: 20 kg to 250 kg (if more than 250Kg, enter 250 kg)  If pre-pregnancy weight was not documented and mother’s weight before 13 weeks gestation was not measured or documented, select “Unknown”. (Mandatory field)
Obs (G)	Mother’s weight before birth	Record the mother’s weight last measured before this current birth, using either the imperial or metric system. Timing between measurement and delivery was irrelevant. Record the weight measured closest to birth, irrespective of where it was measured. Imperial system range: 30 lbs to 500 lbs (if more than 500lbs, then enter 500). Metric system range: 20 kg to 250 kg (if more than 250Kg, enter 250 kg) If pre-delivery weight was not documented, select “Unknown”. (Mandatory field)
Obs (G)	Maternal height	Record the height of the mother using either the imperial or metric system. Imperial system range: 3 feet to 7 feet (if more than 7 feet, enter 7 feet) Metric system range: 90 cm to 210 cm (if more than 210cm, enter 210cm) If maternal height was not documented, select “Unknown”. (Mandatory field)
Obs (G)	Pre-pregnancy or early antenatal Body Mass Index (BMI)	Record the pre-pregnancy BMI of the mother or BMI documented at the first antenatal visit (if <13 weeks gestation). Leave field blank if pre-pregnancy/early antenatal weight AND height were both entered. Leave blank if not documented or unknown.
Obs (G)	Progesterone	Progesterone intake including oral, per vagina (pv), or intramuscular. Record whether or not progesterone was given at any time during pregnancy. Select “unknown” if information was not available or unknown. (Mandatory field)

Obs (G)	Daily Aspirin	<p>Record if mother was given daily aspirin during pregnancy for prevention of preeclampsia, SGA/IUGR, or other conditions. This does not include the use of aspirin for headache or other pain/inflammation management. The usual dosing is either 80 mg or 160 mg daily.</p> <p>This information can usually be found in antenatal record, under Medications and also on an initial consult under Medications or in the Plan/Recommendation and/or the admission history for birth, under Medications. (Mandatory field)</p>
Obs (G)	Partner's Employment Status	<p>Record the partner's employment status. The partner is the person whom the mother has identified in the antenatal record. Select unknown if partner was not identified, information was not available or in case of surrogate pregnancy. (Mandatory field)</p> <ul style="list-style-type: none"> <li>• <b>Employed:</b> Employed full- or part-time or if self-employed.</li> <li>• <b>Unemployed:</b> Partner is available to work but does not have paid employment. If partner is not available for work due to childcare and other household responsibility, select Full-time Homemaker. If partner is not available for work due to injury or disability, select Other.</li> <li>• <b>Student:</b> Partner spends most of time attending classes or works part-time while attending full-time classes. However, if works full-time but attends night classes, select Employed.</li> <li>• <b>Full-time Homemaker:</b> Partner is not available for paid employment due to childcare and household responsibilities.</li> <li>• <b>Unknown:</b> Employment status cannot be determined, unknown or in the case of a surrogate pregnancy.</li> <li>• <b>Other:</b> Score this if none of the above applies. Specify in free text field.</li> </ul>
Obs (G)	Severe maternal outcome	<p>Indicate whether there was severe maternal morbidity or mortality within 4 weeks postpartum, regardless of the location of these events. Collect information during the birth admission and any readmissions due to pregnancyrelated complications. Information can usually be found in discharge summary. (Mandatory field)</p> <p>If Yes, select from following options:</p> <ul style="list-style-type: none"> <li>• Required higher level of care including Intensive Care (ICU) and High Dependency Unit (HDU): Include transfer of the mother to another institution that provides higher level of maternal care. <input type="checkbox"/> Transfusion <math>\geq 4</math> units of any blood products</li> <li>• Septic shock</li> <li>• Required operation: mother returned to operating room post C-section or required operation after vaginal birth.</li> <li>• Maternal Death: Exclude accidentals</li> </ul>

Obs (G)	First non-birthing parent Presence in NICU	Record the date and time the non-birthing parent visits their infant in the NICU for the first time. If date known but time unknown: record the date and leave time as blank. Delivery rooms are not typically considered as “in the NICU” unless the infants spends >30 minutes there and a parent is brought there to see the infants. (For example, if resuscitation occurs in same room as mother, this would not be considered “in NICU” )
Obs (G)	First Birthing parent Presence in NI	Record the date and time that the birthing parent visits their infant in the NICU for the first time. Parental presence in the delivery room or resuscitation room is excluded. Delivery rooms are not typically considered as “in the NICU” unless the infants spends >30 minutes there and a parent is brought there to see the infants. (For example, if resuscitation occurs in same room as mother, this would not be considered “in NICU” ) If date known but time unknown: record the date and leave time as blank.
Obs (G)	First Exposure to Mother's Own Milk	Record the date and time that the infant is exposed to their mother’s own milk for the first time. Exposure includes oral immune therapy, gavage feed, bottle feed or breastfeed). If date known but time unknown: record the date and leave time as blank.
	First Skin-to-Skin Care	Record the date that the baby receives skin-to-skin (Kangaroo) care for the first time. Skin-to-skin care is when the infant wearing only a diaper is placed in the upright prone position on a parent’s bare chest. Modified Kangaroo and other forms of holding or touching are excluded. ) If date known but time unknown: record the date and leave time as blank.
	First Breastfeed	Record the date that an infant breastfeeds for the first time. Breastfeeding includes non-nutritive sucking at the breast or nutritive sucking at the breast. Transfer of milk is not a necessary criterion. ) If date known but time unknown: record the date and leave time as blank.
	Social Worker Consult	Record the date that a social worker licensed to practice in Canada completed the initial consultation.

## Resuscitation / Stabilization / Transition

 Reviewed

Date of Birth: 2023 Jan 01

Time of Birth: N/A

Date/Time 30 Minutes After Birth: N/A

Please record if the following occurred in the first 30 minutes of birth

## Resuscitation Details

- No active resuscitation needed  
 Unknown  
 Suction and/or mild stimulation  
 Free flow  
 CPAP  
 PPV via bag and mask or T Piece  
 PPV via ET tube  
 Chest compression >=30 seconds  
 Epinephrine (ET or IV)  
 Palliative care or DNR order

## If Palliative Care or DNR Order

- Extreme immaturity     Major malformation  
 Other     Unknown

## Deferred cord clamping attempted?

- Yes     seconds     N/A  
 No  
 Unknown

## Umbilical cord milking

- Yes     No     Unknown

## If Resuscitation provided

## Initial gas provided for resuscitation

- Air/oxygen = 21%  
 Supplemental Oxygen > 21%     %     N/A  
 100% Oxygen  
 Unknown

Maximum of oxygen in % provided during resuscitation

 %     N/A

Discontinuation of all resuscitation measures due to no or poor response (time in minutes)

Resus	Whole Screen	Record information on this screen according to the first 30 minutes of birth. At least one checkbox under Resuscitation Details must be selected for validation to be complete. You do not have to fill this information out for readmissions, but do for all outborns.	
Resus	Resuscitation Details	Provide resuscitation details that the infant received in the first 30 minutes after birth irrespective of location of resuscitation. Note all that apply i.e. if infant required suction, stimulation, bag and mask and intubation; mark all items for the infant (mandatory field).	
Resus		<b>No active resuscitation needed</b>	Infant did not require any resuscitation. These are typically babies with Apgar scores higher than 8.
Resus		<b>Unknown</b>	If the details of resuscitation are completely unknown. If the infant is intubated at birth, then infer intubation rather than unknown even if details of resuscitation before intubation are unknown. "Unknown" categories are to be used for infants for whom no details are known and cannot be inferred from available information.
Resus		<b>Suction and/or mild stimulation</b>	If infant required oropharyngeal and/or nasal suction and/or stimulation then code here. Typically majority of infants who require resuscitation beyond this stage have this stage completed.
Resus		<b>Free flow</b>	Check this box if infant received free flow oxygen at any point during resuscitation.
Resus		<b>CPAP</b>	Check this box if the infant is given CPAP without artificial inflations or positive pressure ventilation.
Resus		<b>PPV via bag and mask or T piece</b>	Check this box if positive pressure ventilation is performed, including artificial inflations, using bag and mask or T piece.
Resus		<b>PPV via ET tube</b>	Check this box if positive pressure ventilation is performed on an infant who received endotracheal intubation. Note that ETT insertion for the purpose of suction of meconium is excluded and should not be marked here. However, if the same infant after suction requires intubation and receives positive pressure ventilation, then such infants would classify as yes.
Resus		<b>Chest compression for ≥30 seconds</b>	For chest compressions provided for <30 seconds, do not check box. If duration is unknown and cannot be inferred from supplemental information such as need for multiple doses of epinephrine etc.; leave this unchecked. Compressions for <30 seconds are not collected.
Resus		<b>Epinephrine (ET or IV)</b>	If the baby received epinephrine via ETT or PIV or umbilical catheter, then check this box.
Resus		<b>Palliative care or DNR order</b>	If the infant was planned to have palliative care after birth due to life limiting diagnoses and no active resuscitation was planned because of extreme prematurity or any other causes, check this box. Distinguish this clearly from first category where infant does not need resuscitation (maximum 50 characters in "Other" category). <b>Enter the reason for palliative care or DNR order.</b> Select from extreme immaturity, major malformation, other or unknown. (Mandatory if palliative care or DNR order is selected).

Resus	Initial gas provided for resuscitation	If the infant received any form of active resuscitation, you would indicate what was the initial gas used during resuscitation (air, supplemental oxygen or 100% oxygen). This would be the amount of oxygen the infant received at first attempt of resuscitation. Only enter value that was used during initiation irrespective whether it was increased within a few seconds or not. Usually your unit policy should clearly indicate this. For Supplemental Oxygen > 21%, enter a value between 22 – 99%. Select N/A if the value is not available or unknown. (Mandatory field if Supplemental Oxygen is selected)
Resus	Maximum oxygen in % provided during resuscitation (note resuscitation may last <30 minutes)	Indicate what was the maximum concentration of oxygen used during resuscitation (only during resuscitation). If initial gas provided during resuscitation is 100%, this field will be automatically populated indicating that maximum concentration was 100%. If any other concentration was used, you need to indicate maximum oxygen given during resuscitation. Select N/A if the value is not available or unknown. (Mandatory field) Choose the highest known FiO2 during the time period. Ignore times when the FiO2 is unknown.
Resus	Discontinuation of resuscitation due to no or poor response	For some unfortunate infants, resuscitative measures are not successful and at times resuscitation is discontinued. Note after how many minutes of resuscitation these measures were discontinued (note that this may be longer than 30 minutes).
Resus	Deferred cord clamping  Formerly labelled as “Delayed cord clamping”	Indicate whether deferred cord clamping was attempted. Select “yes” if cord was clamped $\geq 5$ seconds after birth. If deferred cord clamping was mentioned without a specific time, select “yes” and “N/A” for the “seconds” box. Select “no” if cord was clamped <5 seconds after birth, or if immediate cord clamping was mentioned. If yes, enter the duration of the delay in seconds. Valid range from 5 to 300 seconds. Enter 300 if duration was longer than 300 seconds. Enter the lowest number if a range was given. Select “N/A” if the duration is not available or unknown. (Mandatory field if deferred cord clamping is yes)
Resus	Umbilical cord milking	Umbilical cord milking is defined as milking of the cord 3-5 times from placenta towards the baby at a rate of 510cm/second. Record “yes” if it is documented as cord milking was performed irrespective of number of times and rate of milking.

## Transport

### Transport

#### Transport Data Available

Yes       No

#### If Yes: Transport Details

Mode of transport    Air       Ground       Unknown

Transport personnel    MD       RT  
                                  RN       EMT  
                                  CNS/NNP       Other  
                                  Unknown

Transport	Whole Screen	<p><b>Complete the Transport Sheet for all outborn or readmitted infants transported into the study NICU from another hospital.</b></p> <p>Do <i>not</i> complete, but select “No” for Transport Data Available and check “Data not available”, for:</p> <ul style="list-style-type: none"> <li>• inborn late admissions (see definition under Admission Status, pg. 22)</li> <li>• patients transported between wards within your hospital</li> <li>• patients admitted for the first time from home</li> <li>• those born at home and transported to the hospital by ambulance</li> <li>• infants transported out of your hospital</li> <li>• cases admitted via emergency department or other internal departments.</li> </ul>
Transport	Transport Data Available	Indicate whether or not any data to complete this screen is available for the infant. The rest of the fields will be activated only if the selection is “yes” (mandatory field).
Transport	Mode of transport	Record mode of transport as air or ground. Indicate both methods of transport by checking both boxes if applicable. Select unknown if information is not available.
Transport	Team Personnel	Record personnel in attendance throughout transport. MD (Doctor), RN (Registered Nurse), RT (Respiratory Therapist) EMT (Emergency Medical Technician; paramedic), Clinical Nurse Specialist/Neonatal Nurse Practitioner (CNS/NNP), other or unknown. Indicate multiple types of personnel in attendance by checking multiple boxes. Select “other” if the personnel category did not fit into any of the available options. Select “unknown” if information about personnel was not available or unclear. (Mandatory field)

# TRIPS

Vital Signs in the first 24 hours of Admission

	(mmHg)	Mode of measurement	N/A
Lowest Systolic BP	<input type="text" value="L"/>	<input type="text" value="v"/>	<input type="checkbox"/>
Lowest Mean BP	<input type="text"/>	<input type="text" value="v"/>	<input type="checkbox"/>
Lowest Diastolic BP	<input type="text"/>	<input type="text" value="v"/>	<input type="checkbox"/>

NOTE: TRIPS is not required for readmissions or admissions from another CNN Centre, provided the Patient UI is accurately indicated by the originating CNN Centre.

TRIPS	Whole Screen	<p><b>TRIPS score data are mandatory collection for all inborn and outborn infants.</b></p> <p>The <b><i>Transport Risk Index of Physiological Stability</i></b> (TRIPS) is an index which is used to assess changes in patient condition as a result of the transport process and can also be risk for outcome prediction/adjustment. TRIPS looks at four empirically weighed items: temperature, blood pressure, respiratory status and response to age appropriate stimuli. These items can be evaluated and compared at different time points. TRIPS has been found to be a good predictor of NICU mortality and severe IVH risk. TRIPS is also important in that it can be used to help explain causes for a patient’s change in status during transportation and from this new procedures to improve patient care during transport can be identified.</p>
TRIPS	Vitals signs in the first 24 h– lowest systolic BP	Lowest systolic blood pressure in mm Hg during the <b><i>time period (first 24 h of admission)</i></b> , as recorded in the nursing flow sheet. Arterial line pressures and cuff pressures should be weighted equally – and record method used to obtain the value. (does not need to be taken at same time as other values)
TRIPS	Vitals signs in the first 24 h – lowest mean BP	Lowest mean arterial pressure (MAP), also called mean blood pressure (MBP), during the <b><i>time period (first 24 h of admission)</i></b> , as recorded in the nursing flow sheet. Arterial line pressures and cuff pressures should be weighted equally – and record method used to obtain the value. (does not need to be taken at same time as other values)
TRIPS	Vitals signs in the first 24 h– lowest diastolic BP	Lowest diastolic blood pressure in mm Hg during the <b><i>time period (first 24 h of admission)</i></b> , as recorded in the nursing flow sheet. Arterial line pressures and cuff pressures should be weighted equally – and record method used to obtain the value. (does not need to be taken at same time as other values)

# SNAP

Reviewed

Day of Admission: 2023 Jan 01    Time of Admission: N/A    Date/Time 12 Hours After Admission: N/A

Transferred/Died within 12 hours

In the first 12 hours of admission

	Highest	Lowest	N/A
Mean Blood Pressure		<input type="text"/>	<input type="checkbox"/>
Heart Rate	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

In the first 12 hours of admission

Lowest Temperature	<input type="text"/>	<input type="checkbox"/> N/A
Lowest Serum pH	<input type="text"/>	<input type="checkbox"/> N/A
First Lactate	<input type="text"/>	<input type="checkbox"/> N/A
Urine (cc)	<input type="text"/>	<input type="checkbox"/> N/A

Arterial Blood Gases

		FiO2	pO2	If Low Flow FiO2 Flow
With Lowest pO2	<input type="checkbox"/> N/A	<input type="text"/>	<input type="text"/>	<input type="text"/>
With Highest MAWP	<input type="checkbox"/> N/A	<input type="text"/>	<input type="text"/>	<input type="text"/>
With Highest FiO2	<input type="checkbox"/> N/A	<input type="text"/>	<input type="text"/>	<input type="text"/>

Umbilical Cord Gases

		pH	pCO2	pO2	HCO3	Base Deficit	Base Excess
UA	<input type="checkbox"/> N/A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
UV	<input type="checkbox"/> N/A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Unspecified	<input type="checkbox"/> N/A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Seizures

None     Single     Multiple     Unknown

SNAP II Score = 0

SNAP II PE Score = 0

NOTE: SNAP is not required for readmissions or admissions from another CNN Centre, provided the Patient UI is accurately indicated by the originating CNN Centre.

SNAP	Whole Screen	<p>SNAP (<b>Score for Neonatal Acute Physiology</b>) is an illness severity scoring system which sums up the worst physiological derangement in each organ system in the first 12 hours of admission to the NICU. This scoring system has been shown to be highly predictive of neonatal mortality and to be correlated with other indicators of illness severity including therapeutic intensity, physician estimates of mortality risk, length of stay, and nursing workload. SNAP provides a numeric score that reflects how sick each infant is. This scoring system is modeled after similar adult and pediatric scores, which are already widely in use.</p> <p>SNAP data on day one should be scored from the time of admission (defined as the recorded time that the patient arrived to the NICU. If such timing is not available, use the time of first vital signs recorded in the NICU) for twelve (12) hours. Values occurring during an operation should be included. If you are missing information from the scoring period either because a flow sheet is missing, because the baby was transferred out, or died during the scoring period, complete the screen using the information that is available. The SNAPII and SNAPIPE scores are generated automatically once appropriate information is entered and the user clicks Save or moves to another screen. If the baby is transferred/died within the 12 hours, tick the checkbox at the top of the screen accordingly. If it is ticked, the SNAP score will not be calculated since it is based on twelve hours only.</p> <p><b>SNAP:</b> SNAP is scored on the day of admission for the first 12 hours following admission. Where the time of admission is defined as the recorded time that the patient arrived to the NICU. If such timing is not available, use the time of first vital signs (at least one vital sign) recorded in the NICU.</p>
SNAP	Whole Screen – Vital Signs	<p>Vital signs recorded while a baby is in the most stable condition possible. Score only non-zero values recorded in the chart for babies who are dying (i.e. <b>do NOT score the low heart rate as zero for babies who die during a scoring period</b>).</p> <p>Values listed as a range should be scored as the midpoint. Values listed as “&lt; a certain value” should be scored as point one (0.1) less than the value listed (e.g. a low temp of &lt;34 should be scored as 33.9). Similarly, values listed as “&gt; a certain value” should be scored as point one (0.1) more than the value listed.</p>

SNAP	Whole Screen – Lab Values	<p>Lab values should be included in the scoring period if they are <b>drawn during the scoring period</b>. Time of draw should be taken from the flow sheet when this is explicitly recorded. If the time of the draw is not explicitly recorded on the flow sheet, assume the time the lab received the samples is within 15 minutes of the draw (in other words, include values listed as occurring within 15 minutes of the end of the scoring period).</p> <p>Computer values should generally be considered more accurate than flow sheet/progress note values unless they are clearly being discounted by the clinicians. Lab values discounted by clinicians should not be recorded on SNAP. Hemolyzed values are acceptable. Pathology blood draws, cord specimens and other non-blood draws (CSF, urine) should <b>not</b> be scored on SNAP. Do not score “diluted” lab values or samples that are contaminated.</p>
SNAP	Whole Screen – Missing Values	<p>If you are missing information from the scoring period either because a flow sheet is missing or because the baby was transferred out, or died during the scoring period complete the SNAP screen using the information that is available, and using the “N/A” and “unknown” when the information that is unknown.</p> <p>If a baby dies during the SNAP scoring period you should abstract the score regardless of how many hours of the scoring period the baby lived.</p>
SNAP	Transferred / Died within 12 hours	If this applies to the patient, check the box
SNAP	Mean Blood Pressure: Low	<p>Lowest mean arterial pressure (MAP), also called mean blood pressure (MBP), during the <b>time period</b>, as recorded in the nursing flow sheet. Arterial line pressures and cuff pressures should be weighted equally. If these values are very different, ask a staff member in the NICU or contact the CC for advice. If only systolic and diastolic pressures are recorded, assume <b>mean blood pressure = diastolic + 1/3 (systolic - diastolic)</b>. E.g. 55/43: MBP = 43 + 1/3 (55-43) = 47. If only one blood pressure is recorded during the scoring period, enter this value as both the high and low value. <b>Do NOT score the low blood pressure as 0 for babies who die during a scoring period.</b> Select N/A if information is not available or unknown. (Mandatory field)</p>
SNAP	Heart Rate: High	<p>Highest heart rate during the <b>time period</b> sustained for more than one minute continuously. Do not include transient heart rate values that reflect bradycardia associated with apnea/desats. If only one heart rate is recorded during the scoring period, enter this value as both the high and low value. Select N/A if information is not available or unknown. (Mandatory field)</p>
SNAP	Heart Rate: Low	<p>Lowest heart rate during the <b>time period</b> sustained for more than one minute continuously. Do not include transient heart rate values that reflect bradycardia associated with apnea/desats. If only one heart rate is taken during the scoring period, enter this value as both the high and low value. <b>Do NOT score the low heart rate as zero (0) for babies who die during a scoring period.</b> Select N/A if information is not available or unknown. (Mandatory field)</p>

SNAP	Lowest Temperature	Lowest body temperature during the time period (axillary or rectal but not skin probe, which is the baby's temperature recorded through the incubator) recorded in Celsius. Select N/A if information is not available or unknown. (Mandatory field)
SNAP	Lowest Serum pH	Lowest pH during the <b>time period</b> . This may be obtained by arterial (ABG), capillary (CBG) or venous (VBG) blood gases. Select N/A if information is not available or unknown. (Mandatory field)
SNAP	First Lactate	Record the first lactate or lactic acid value reported from baby's blood. It could be venous, capillary or arterial. Do not include cord blood values. Select N/A if information is not available or unknown. (Mandatory field)
SNAP	Urine CCs	Total CCs of urine output during the <b>time period</b> . Do <b>not</b> divide by birth weight. <b>If notes indicate that 20% or more of the total output for the time period was lost/unmeasured</b> (recorded as mixed with stool, "VOID", or overflow) <b>then select N/A</b> . To calculate whether 20% was lost, if all urine output values list specific numbers, determine whether the uncertain values (CCs recorded as mixed with stool or overflow) make up 20% of the total CCs. If some values are not recorded at all (recorded as "VOID") then determine whether the uncertain values (unmeasured diapers) make up 20% of the total number of diapers. Select N/A if information is not available or unknown. (Mandatory field)
SNAP	Seizures	If only one seizure was confirmed, score as "single." If more than one seizure was confirmed, score as "multiple." Confirmed is defined as witnessed by two (2) or more clinicians or diagnosed by EEG or amplitude integrated EEG. Use of antiepileptic's (phenobarbital) ALONE is not enough evidence for diagnosis. However, if anti-epileptics are ordered by one clinician, and seizure is observed by a DIFFERENT clinician, assume the seizure is confirmed. Score "none" if the infant did not have seizures during the SNAP scoring period. Select "N/A" if information is not available or unknown. (Mandatory field)
SNAP	Arterial Blood Gases - All	Record only <b>arterial</b> blood gases. Select N/A if information is not available or unknown. If there is only one arterial blood gas available, enter the information required in the first line of blood gas with lowest pO2, and select N/A for the remaining rows. When two values are available for blood gases (original and corrected for body temperature), use the corrected values. At least one item per row is required, or N/A must be selected.

SNAP	Arterial Blood Gas with lowest pO <sub>2</sub>	<p>Select the <b>arterial</b> blood gas (ABG) with the lowest pO<sub>2</sub>. If there are several blood gases at the same lowest pO<sub>2</sub>, record the one occurring first. Record the FiO<sub>2</sub> (21% - 100%) at the time blood was drawn, and the PO<sub>2</sub> from this blood gas.</p> <p><b>FiO<sub>2</sub></b> should be left blank if the baby was on blow-by oxygen at the time of the draw or if the FiO<sub>2</sub> is unavailable. If the baby was on room air, record FiO<sub>2</sub> as 21. FiO<sub>2</sub>s listed while “bagging” should be recorded.</p> <p>If the baby is on low flow oxygen during SNAP scoring period, please enter the value of the flow of additional gas in ml/min in the last column. At the same time you will need to enter how much oxygen concentration is given to the baby in the flow mixture.</p> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>1. If baby is getting 20 cc of low flow air - enter 20 cc in the last column and 21% in the FiO<sub>2</sub> column.</li> <li>2. If baby is getting 20 cc of low flow oxygen - enter 20 cc in the last column and 100% in FiO<sub>2</sub> column.</li> <li>3. If baby is getting 20 cc of air and 50% oxygen mixture - enter 20 cc in the last column and 50% in FiO<sub>2</sub> column.</li> </ol>
SNAP	Arterial Blood Gas with highest MAWP	<p>Select the <b>arterial</b> blood gas with the highest mean airway pressure. If this is the same gas recorded above in the lowest PO<sub>2</sub> row, select the gas with the next highest MAWP instead. If there are several blood gases at the same highest MAWP, record the one with the lowest PO<sub>2</sub>. If there are several gases with the same highest MAWP <b>and</b> the same lowest PO<sub>2</sub>, record the gas occurring first. If MAWP is ‘0’ for the entire scoring period because the baby was never on assisted ventilation or no MAWPs are available, leave this row blank.</p> <p>Record the FiO<sub>2</sub> (21% - 100%) at the time blood was drawn, and the PO<sub>2</sub> from this blood gas.</p> <p><b>FiO<sub>2</sub></b> should be left blank if the baby was on blow-by oxygen at the time of the draw or if the FiO<sub>2</sub> is unavailable. FiO<sub>2</sub>s listed while “bagging” should be recorded.</p> <p>If the baby is on low flow oxygen during SNAP scoring period, please enter the value of the flow of additional gas in ml/min in the last column. At the same time, you will need to enter how much oxygen concentration is given to the baby in the flow mixture.</p> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>1. If baby is getting 20 cc of low flow air - enter 20 cc in the last column and 21% in the FiO<sub>2</sub> column.</li> <li>2. If baby is getting 20 cc of low flow oxygen - enter 20 cc in the last column and 100% in FiO<sub>2</sub> column.</li> <li>3. If baby is getting 20 cc of air and 50% oxygen mixture - enter 20 cc in the last column and 50% in FiO<sub>2</sub> column.</li> </ol> <p><b>MAWP</b>-If on CPAP only, you may use CPAP value as MAWP if there is no MAWP listed. No distinction is made between nasal (facial) and endotracheal CPAP. If MAWP recordings do not correspond with blood gas times, assume constant MAWP between recordings.</p>

SNAP	Arterial Blood Gas with highest FiO2	<p>Select the <b>arterial</b> blood gas with the highest FiO2. If this is the same gas recorded above in the lowest PO2 row OR in the highest MAWP row, select the gas with the next highest FiO2 instead. If there are several blood gases with the same highest FiO2, select the one with the lowest PO2. If there are several gases with the same highest FiO2 <b>AND</b> the same lowest PO2, select the gas occurring first.</p> <p>Record the FiO2 (21% - 100%) at the time blood was drawn, and the PO2 from this blood gas.</p> <p><b>FiO2</b> should be left blank if the baby was on blow-by oxygen at the time of the draw or if the FiO2 is unavailable. FiO2s listed while “bagging” should be recorded.</p> <p>If the baby is on nasal cannula or oxygen hood during SNAP scoring period, please enter the value of the flow of additional gas in ml/min in the last column. At the same time you will need to enter how much oxygen concentration is given to the baby in the flow mixture.</p> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>1. If baby is getting 20 cc of low flow air - enter 20 cc in the last column and 21% in the FiO2 column.</li> <li>2. If baby is getting 20 cc of low flow oxygen - enter 20 cc in the last column and 100% in FiO2 column.</li> <li>3. If baby is getting 20 cc of air and 50% oxygen mixture - enter 20 cc in the last column and 50% in FiO2 column.</li> </ol>
SNAP	Umbilical Cord Gases	<p>Record umbilical cord gases values from venous and arterial samplings. Cord gases values are auto-populated for readmissions of each baby. Select N/A if information is not available. At least one item per row is required or N/A must be selected.</p> <p><b>UA: Umbilical Arterial</b>  <b>UV: Umbilical Venous</b>  <b>Unspecified: Unspecified source</b></p> <p><b>Base Excess / Base Deficit:</b> Record either Base Excess <b>or</b> Base Deficit as found on the lab report, and leave the other field blank. Each centre should be consistently reporting one of these two variables. Valid range from -30.0 to 30.0.</p>

# Patient Chart

<< < Jan-2025 > >>		Gestational Age: 25 Weeks 0 Days																	<input type="checkbox"/> Reviewed
Item	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	Total	
Other Facility																			
<b>HFOV</b>																			
HFJV																			
<b>IPPV</b>																			
NI Ventilation																			
<b>CPAP</b>																			
High Flow																			
<b>Oxygen</b>																			
Low Flow Air																			
<b>NO</b>																			
TPN																			
<b>UA</b>																			
PAL																			
<b>UV</b>																			
Surgical CVL																			
<b>PICC</b>																			
PIV																			
<b>Transfusion</b>																			
Narcotic Infusion																			
<b>Sedatives</b>																			
Inotropes																			
<b>Antibiotics</b>																			
Antifungals/Virals																			
<b>NPO</b>																			
Breast Milk																			
<b>Donor Milk</b>																			
Formula																			
<b>Skin-to-skin</b>																			
VTV																			
Item	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	Total	

Pt. Chart	Whole Screen	<ul style="list-style-type: none"> <li>• This chart describes daily resource utilization by individual patients (<b>absolute calendar day value</b>. Day is considered from 00:00 hours to 23:59 hours on that calendar date). Resuscitation details which occur in the first 30 minutes after birth should be recorded in the Resuscitation Screen.</li> <li>• You need to click only boxes that apply to your patient. The chart will start from the date of admission and can be moved forward or backward as needed in terms of time.</li> <li>• <b>Therapies administered during an operation should be included.</b></li> <li>• <b>For medications, please indicate the days on which medication was actually administered.</b></li> <li>• <b>For respiratory support, you will have to select the highest support received by infant on a particular day and not all types of support that the patient received.</b> A group of respiratory support variables are included. Please read the explanation carefully as we would like to collect only the highest support received to a patient on a particular day.</li> <li>• The chart is customizable for color of row and column highlight as well as day to start and complete database.</li> <li>• Until you submit the data this chart is editable. You can easily correct mistakes made in data entry. The CNN application employs the use of data grids throughout the screens (Diagnosis/Procedures; Cultures/Transfusions; Medications). If errors in entry are made, rows can be deleted in their entirety by clicking on the grey area to the left of the first column of the entry you wish to delete. Once selected, pressing “Delete” on your keyboard will clear the row from the dataset and move remaining entries up.</li> <li>• Please note that you can select multiple consecutive days by clicking on the start date, pressing and holding down the “Shift” key, and clicking again on the end date to automatically select all in between.</li> </ul> <p>Below are details and explanation of what should be included in each grid of data collection.</p>
Pt. Chart	Whole Screen - Item	<p>Standard list of treatment items to select if patient is on item on a given day. Up to four additional items can be added for an individual site’s own data collection upon request to CC.</p>
Pt. Chart	Whole Screen Day Column	<p>Day on which an item is administered.</p> <ul style="list-style-type: none"> <li>• If the selected month is the admission month, the first day column displayed will be the admission day.</li> <li>• If the selected month is the current month and baby is not discharged, the last day column shown will be today.</li> <li>• If the selected month is the current month and the baby is discharged already, the last day column shown will be the discharge day.</li> <li>• This is the absolute calendar day value. Day is considered from 00:00 hours to 23:59 hours on that calendar date.</li> <li>• The Day of Admission and Day Name can be displayed if you hover over the header cell.</li> </ul>

Pt. Chart	Whole Screen - Total	Total number of days during the entire patient stay that a certain item was administered. This value is updated dynamically when cells are checked/unchecked.	
Pt. Chart	Other facility	If patient has gone to other facility for >a majority of part of 24 hours and returned back to your facility click this box. Do not use this box if patient is discharged from your hospital and is not expected/not returned within 24 hours. This box is only for those patients who have left your unit temporarily and are likely to return or have returned to your institute within 24 hours.	
Pt. Chart	HFOV (High frequency oscillatory ventilation)	For patient chart days in 2020 and onwards, select HFOV or HFJV where it applies.  <i>Only one of HFOV and HFJV can be selected for any given day on the patient chart.</i>	<p>These items are indicative of respiratory support. <b>Only one of these items should be checked for a particular day. The highest support received by an infant should be checked for each day.</b></p> <p>Please do not include bagging for the treatment of apnea.</p> <p>The hierarchy would be:</p> <ol style="list-style-type: none"> <li>1. HFJV</li> <li>2. followed by HFOV,</li> <li>3. followed by IPPV,</li> <li>4. followed by NI Ventilation,</li> <li>5. followed by CPAP, and then</li> <li>6. High Flow</li> </ol> <p>Enter the maximum support even if baby did not respond to the highest support.</p>
Pt. Chart	HFJV (High frequency jet ventilation)		
Pt. Chart	IPPV	Intermittent positive pressure ventilation (IPPV): This includes all forms of mechanical ventilation with endotracheal tube (except HFOV and HFJV), as well as Neurally Adjusted Ventilatory Assist (NAVA), Synchronized Intermittent Positive Pressure (SIMV), Pressure Support Ventilation (PSV) and Volume Guarantee (VG).	
Pt. Chart	NI Ventilation	Non-invasive ventilation: This includes all forms of non-invasive positive pressure support, such as nIPPV, SNIPPV (synchronized nasal intermittent positive pressure ventilation), where on the ventilator machine the respiratory rate is set. NIHFV (non-invasive high frequency oscillation ventilation) and non-invasive NAVA (Neurally Adjusted Ventilatory Assist) are included.	
Pt. Chart	CPAP	Continuous positive airway pressure (CPAP): Includes bubble CPAP, infant flow driver CPAP, BiPAP (Biphasic positive airway pressure), SiPAP (Sighpositive airway pressure). Please note that in SiPAP mode of ventilation, the rate set is for cycling between two levels of CPAP and not rate of ventilation. CPAP is scored regardless of route administered. CPAP can be scored if it is administered via any of: tracheostomy, endotracheal tube or prongs.	

Pt. Chart	High Flow	Click this if the infant is receiving oxygen or air at a rate >1.5 litres/minute. Also score if infant is getting humidified air at >1.5 litres/minute but in room air (e.g. AIRVO).	
Pt. Chart	Oxygen	Click this if infant is receiving oxygen higher than 21% at any given time of day. This is irrespective of whether patient is receiving mechanical ventilatory support or not. This includes if patient is receiving oxygen only for suctioning or while bottle feeding etc. This will also capture low flow oxygen as only this box will be checked. Also score if infant is getting additional oxygen (higher than 21%) via connected flow (e.g. AIRVO).	
Pt. Chart	Low Flow Air	Click this if infant is receiving low flow air via nasal cannula and not oxygen. Low flow air can be selected only if the patient is on low flow air without additional oxygen (i.e. FiO2=21%) and is not receiving any of items 2-7 (HFOV, HFJV, IPPV, NI ventilation, CPAP, or High Flow) at any time during the 24 hour period.	
Pt. Chart	NO	Use of nitric oxide on that day	
Pt. Chart	TPN	Use of total parenteral nutrition (amino acids with or without lipids) on that day.	
Pt. Chart	UA	Umbilical arterial catheter on that day. Only report if it was being used in NICU.	
Pt. Chart	PAL	Peripheral arterial catheter on that day. Only report if it was being used on that day. Patients with two catheters on same day will be marked once only.	
Pt. Chart	UV	Umbilical venous catheter on that day. Only report if it was being used on that day. Mark even if it is only saline locked or heparin locked. Patients with two catheters on same day will be marked once only.	
Pt. Chart	Surgical CVL	Central venous catheter other than umbilical venous catheter inserted surgically or by cutdown. This includes surgically placed catheters, broviac lines, HICKMAN™ catheters, central portacath etc. Only report if it was being used on that day. Patients with two catheters on same day will be marked once only. This also includes PICC lines inserted via “cut down” in the NICU or OR.	
Pt. Chart	PICC	Peripherally inserted central catheter typically placed in the NICU. It may be placed by image guided therapy by a radiologist. Only report if it was being used on that day. Mark even if it is only saline locked or heparin locked. Patients with two catheters on same day will be marked once only.	
Pt. Chart	PIV	Peripheral intravenous catheter (including intraosseous line) on that day. Only report if it was being used on that day. Mark even if it is only saline locked or heparin locked. Patients with two catheters on same day will be marked once only.	

Pt. Chart	Transfusions	<p>Click the day when blood or platelet transfusion was initiated. Do not include any other blood products. <b>Only click the day of initiation.</b> Do not click subsequent day(s) when the transfusion spanned over multiple days.</p> <p>Note: The total number of transfusions is collected in the Cultures/Transfusion Screen.</p> <table border="1" data-bbox="667 220 1896 451"> <thead> <tr> <th data-bbox="667 220 1346 266">Include these:</th> <th data-bbox="1346 220 1896 266">Exclude these:</th> </tr> </thead> <tbody> <tr> <td data-bbox="667 266 1346 311">Packed red blood cells</td> <td data-bbox="1346 266 1896 311">Fresh Frozen Plasma</td> </tr> <tr> <td data-bbox="667 311 1346 357">Whole blood (regardless of reason)</td> <td data-bbox="1346 311 1896 357">Cryoprecipitate</td> </tr> <tr> <td data-bbox="667 357 1346 402">Platelets</td> <td data-bbox="1346 357 1896 402">Albumin</td> </tr> <tr> <td data-bbox="667 402 1346 451"></td> <td data-bbox="1346 402 1896 451">Immunoglobulin</td> </tr> </tbody> </table>	Include these:	Exclude these:	Packed red blood cells	Fresh Frozen Plasma	Whole blood (regardless of reason)	Cryoprecipitate	Platelets	Albumin		Immunoglobulin
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Packed red blood cells	Fresh Frozen Plasma											
Whole blood (regardless of reason)	Cryoprecipitate											
Platelets	Albumin											
	Immunoglobulin											
Pt. Chart	Narcotic Infusion	<ul style="list-style-type: none"> <li>Days when infant is receiving <b>narcotics via continuous infusion</b>. This includes morphine, fentanyl, alfentanil and newer narcotics. <ul style="list-style-type: none"> <li>Continuous infusion only and not bolus infusion or single dose administration.</li> <li>Only include drugs administered directly into the vascular system.</li> </ul> </li> <li>Do not include drugs administered via epidural post-operatively, including epidural Fentanyl.</li> <li>Do not include drugs administered via subcutaneous methods.</li> <li>See <a href="#">Appendix I</a> for complete list</li> </ul>										
Pt. Chart	Sedatives	Days when infant is receiving sedatives such as midazolam, chloral hydrate, dexmedetomidine etc. This could be oral or parenteral, and intermittent or infusion. See <a href="#">Appendix I</a> for complete list										
Pt. Chart	Inotropes	Days when infant is receiving dopamine, dobutamine, epinephrine, norepinephrine, milrinone, vasopressin and phenylephrine. Use of epinephrine for resuscitation does not count in this field. See <a href="#">Appendix I</a> for complete list										
Pt. Chart	Antibiotics	<ul style="list-style-type: none"> <li>Days when infant is receiving treatment doses of <b>systemic antibiotics</b>. This includes antibiotics used in pre- and post-surgery, and antibiotics for Congenital Toxoplasmosis.</li> <li><b>DO NOT score antibiotics given for prophylactic interventions here.</b> Score instead on the Diagnosis/Procedures screen in the Prophylactic Interventions section.</li> <li><b>Excludes:</b> topical antibiotics, antibiotics used for other conditions (such as Trimethoprim for reflux, UTI prophylaxis).</li> <li>Antibiotics include (but not limited to): Amikacin, Amoxicillin, Amoxicillin-Clavulanic Acid (Clavulin), Ampicillin, Azithromycin, Bactrim (Trimethoprim/Sulfamethoxazole), Cefazolin (Ancef), Cefixime, Cefotaxime (Claforan), Cefoxitin, Ceftazidime, Ceftriaxone, Cefuroxime, Cephalexin, Chloramphenicol, Ciprofloxacin, Clarithromycin (Biaxin), Clindamycin, Cloxacillin, Co-Trimoxazole (Septra), Erythromycin, Flagyl (Metronidazole), Flucytosine, Gentamicin, Imipenem, Isoniazid, Keflex, Kefzol, Linezolid, Meropenem, Meticillin, Nafcillin, Netilmicin, Nitrofurantoin, Oxacillin, Penicillin G, Piperacillin-Tazobactam (Tazocin), Rifampin, Streptomycin, Tobramycin, Trimethoprim, Vancomycin.</li> <li>See <a href="#">Appendix I</a> for complete list</li> </ul>										

Pt. Chart	Antifungals/ Antivirals	<ul style="list-style-type: none"> <li>• Days when infant is receiving treatment doses of <b>systemic antifungals or antivirals</b>.</li> <li>• <b>DO NOT score antifungals or antivirals given for prophylactic interventions here.</b> Score instead on the Diagnosis/Procedures screen in the Prophylactic Interventions section.</li> <li>• <u>Excludes:</u> topical antifungals/antivirals, antifungals/antivirals used for other conditions (such as Fluconazole prophylaxis for antifungal).</li> <li>• Antifungals include (but not limited to): Amphotericin B Deoxycholate (Fungizone), Fluconazole, Ketoconazole, Nystatin.</li> <li>• Antivirals include (but not limited to): Acyclovir, AZT (Retrovir/Zidovudine), Ganciclovir, Lamivudine (3TC), Nevirapine, Valganciclovir</li> <li>• See <a href="#">Appendix I</a> for complete list</li> </ul>
Pt. Chart	NPO	Days when infant is not fed anything orally over entire 24 hour period. If infant is receiving any oral feeds, including sham feeds, do not score this item. NPO and any of Breast Milk, Donor Milk and Formula cannot be selected on any given day.
Pt. Chart	Breast Milk	Use of biological mother's breast milk $\geq 0.5$ ml given enterally irrespective of frequency during a given day. Do not include Oral Immune Therapy.
Pt. Chart	Donor Milk	Use of donor human breast milk $\geq 0.5$ ml (including that from non-biological mother) given enterally irrespective of frequency during a given day.
Pt. Chart	Formula	Use of formula $\geq 0.5$ ml given enterally irrespective of frequency during a given day.
Pt. Chart	Skin-to-Skin	Score yes if infant received skin-to-skin (Kangaroo) care on that day (regardless of duration). Skin-to-skin care is when the infant wearing only a diaper is placed in the upright prone position on a parent's bare chest. Modified Kangaroo and other forms of holding or touching are EXCLUDED.



Dx/Proc	Whole Screen	<p><b>Score all major diagnoses and procedures that that you are aware for the infant on this screen.</b> If a baby is transferred into your NICU, score only issues pertaining to the baby <b>at the time of transfer</b> into your NICU. If the initial diagnosis of a current issue occurred at the transferring hospital, use the admission date to your NICU as the diagnosis date.</p> <p>Likewise for readmission records, you are not required to record diagnoses that have already been resolved in the initial admission. Note that only ongoing and new issues pertinent to this particular (readmission) visit need be recorded. Do <b>not</b> score questionable diagnoses except where the data item has an uncertain/suspected category (i.e. RDS, seizures). <b>If there are conflicting diagnoses, where available use autopsy findings as they are more reliable than diagnostic tests.</b></p>	
Dx/Proc	Prophylactic Interventions	Check off any applicable interventions that have been given to the patient. <b>These interventions have to be given for prophylactic purposes only. They have to be administered before a relevant diagnosis is ascertained.</b> These interventions are usually given in the first 24-36 hours after birth.	
Dx/Proc		Indomethacin	Check this if indomethacin was used within the first 24 hours of life and was not used for the purpose of PDA treatment. There would have been a unit policy to give indomethacin for the prevention of IVH.
Dx/Proc		Probiotics	Check this if infant was started on any form of probiotics for prevention of NEC and/or sepsis.
Dx/Proc		Antifungal	Administration of antifungal agent e.g. Fluconazole, Nystatin or other antifungal agent from birth or immediately after birth with explicit interest of prevention of fungal infection. Initiation of antifungal agent for suspected fungal infection should not be counted here. This is usually based on unit policy.
Dx/Proc		Other	If infant was commenced on any other intervention that were reported to be of prophylactic nature. For interventions not listed, select "other" and write the intervention in the free text box (maximum 50 characters).

Dx/Proc	Seizures	This Section	<b>Occurrence of seizures at any time during the hospital stay.</b> Indicate whether the seizure was treated by checking the appropriate box.
Dx/Proc		Score <b>"None"</b> if:	<input type="checkbox"/> There were no seizures or seizure-like movements mentioned during the hospital stay.
Dx/Proc		Score <b>"Suspected"</b> if:	<ul style="list-style-type: none"> <li>• Observed by only one clinician</li> <li>• There were movements of uncertain significance observed by more than one person. Descriptions of seizure like movements should be considered movements of uncertain significance when not accompanied by a diagnosis of seizures or administration of phenobarbital.</li> </ul>
Dx/Proc		Score <b>"Definite"</b> if:	<ul style="list-style-type: none"> <li>• Witnessed by 2 or more clinicians</li> <li>• Diagnosed by EEG or a-EEG</li> <li>• There is one clinical observation of seizure like movements coupled with administration of phenobarbital or with a diagnosis of seizures by a different clinician. The use of antiepileptics/ anticonvulsants (i.e. phenobarbital) is not alone evidence of definitive diagnosis, but can be considered as confirmation if prescribed by a second clinician.</li> <li>• When an EEG is normal and contradicts a seizure diagnosis, score according to attending physician/neurologist diagnosis made after reviewing the EEG results.</li> </ul>
Dx/Proc		Score <b>"Unknown"</b> if:	<input type="checkbox"/> Information is not available not unknown

Dx/Proc	HIE	<p>Hypoxic- Ischemic encephalopathy (HIE): Score this section <b>only if all of the following preliminary conditions are met:</b></p> <ol style="list-style-type: none"> <li>1. Documented evidence of an acute perinatal event such as fetal distress, cord prolapse, uterine rupture, reduced fetal movements, abruption, antepartum hemorrhage or emergency cesarean section due to fetal distress.</li> <li>2. Evidence of intrapartum hypoxia: at least one of:             <ol style="list-style-type: none"> <li>a. Apgar score of <math>\leq 5</math> at 10 minutes;</li> <li>b. Mechanical ventilation or resuscitation (chest compressions <math>\geq 30</math> seconds and/or epinephrine) within 10 minutes</li> <li>c. At least 10 minutes of positive pressure ventilation</li> <li>d. Cord pH <math>&lt; 7.00</math> (venous or arterial), or an infant arterial pH <math>&lt; 7.00</math> or base deficit <math>\geq 12</math> within 60 minutes of birth</li> </ol> </li> </ol> <p>Record data for encephalopathy if the above criteria are met. <b>The Encephalopathy screen will activate only when Mild, Moderate, Severe, or Unknown Stage is selected.</b></p>	
Dx/Proc		Score “None” if:	<input type="checkbox"/> Either baby does not meet entry criteria, or baby meets <u>some</u> criteria but has <u>no</u> evidence of encephalopathy
Dx/Proc		Score “Not Available” if:	<input type="checkbox"/> Baby died before a diagnosis could be made or data is unavailable
Dx/Proc		Score “Unknown Stage” if either:	<ul style="list-style-type: none"> <li>• Baby meets entry criteria but data on staging could not be ascertained;</li> <li><b>OR</b></li> <li>• Baby did not meet entry criteria but hypothermia treatment initiated</li> </ul>
Dx/Proc		<p>If the chart mentions staging of encephalopathy, use the highest grade at any time during the stay in NICU (<b>Stage I = Mild; Stage II = Moderate and Stage III = Severe</b>)</p>	<ul style="list-style-type: none"> <li>• If seizures are present, record as Stage II or Moderate encephalopathy</li> <li>• If the chart is unclear about staging, check for data on neurological examination and record             <ul style="list-style-type: none"> <li>○ <b>Stage I or Mild:</b> irritability, jitteriness, hyperalertness</li> <li>○ <b>Stage II or Moderate:</b> lethargy, hyper-reflexia, miosis, bradycardia, seizures, abnormal tone, weak suck, incomplete Moro reflex, decreased activity, distal flexion, complete extension, hypotonia (focal or general), constricted pupils and periodic breathing</li> <li>○ <b>Stage III or Severe:</b> stupor, coma, flaccidity, deviated, dilated or small to mid-position pupils which react poorly to light, decreased stretch reflexes, hypothermia, absence of Moro reflex and sucking, decerebrate posture, variable heart rate and apnea</li> </ul> </li> </ul>

Dx/Proc	PDA	<p>First question would be whether infant has PDA or not, or if it is unknown.          If infant has no clinical suspicion of PDA – enter no.          If infant received treatment for PDA – enter yes.          If infant had clinical or echocardiographic suspicion of PDA – enter yes.</p> <p><b>Do not score PDA if the ductus arteriosus is artificially kept open due to critical cardiac defect</b>, which is done by giving Prostaglandin/Alprostadi/Prostin. In such scenario, PDA is not an anomaly. It happens when the patient has duct dependent cardiac malformation such as transposition of great vessels, hypoplastic left heart, and condition associated with single ventricle physiology.</p> <p>If PDA was detected, then was it treated? yes or no</p> <p>If it was treated – how? (select all that applies)</p> <ol style="list-style-type: none"> <li>1. Acetaminophen</li> <li>2. Ibuprofen</li> <li>3. Indomethacin</li> <li>4. Ligation (also score as Operations/Procedures “Others”)</li> </ol> <p>If PDA ligation was performed, select the relevant procedure(s) and the date(s):</p> <ol style="list-style-type: none"> <li>1. Surgical closure and date</li> <li>2. Device closure (a device was inserted by cardiac catheterization for ductal occlusion) and date</li> <li>3. Select N/A if the procedure date is not available.</li> </ol> <p>If PDA ligation was performed via surgery, please also select "Thoracotomy" under Any Time Operations/Procedures if applicable. For more details, see <a href="#">appendix II</a>.</p> <p><b>Indicate how PDA was diagnosed</b> – clinical or via echocardiography. Do not score only for the fact that infant had an echocardiogram, but score if PDA was diagnosed by this route. You can select both options if applicable.</p> <p>If PDA was diagnosed and the gestational age at birth was more than or equal to 37 weeks, also score PDA as a congenital anomaly.</p>
Dx/Proc	RDS	<p><b>Respiratory distress syndrome (RDS)</b>, sometimes called hyaline membrane disease (HMD), should be diagnosed within the first two days after birth (i.e. on day 1 or 2). The classical signs of RDS are less commonly seen today because of the use of exogenous surfactants for RDS prophylaxis and early rescue. RDS most commonly occurs in preterm babies but can occur in term babies. <b>RDS is recorded by clinical certainty and not by severity.</b></p>

		<p>There is a hierarchy to the identification of a baby with RDS:</p> <ol style="list-style-type: none"> <li>1. The chest x-ray report from day 1 or 2</li> <li>2. According to physician diagnosis</li> <li>3. If there is surfactant administration after 2 hours of age (on day 1 or 2).</li> </ol> <p>This hierarchy is to be used when there are conflicting diagnoses. However, if any one of the sources is definite, and the others are not, score RDS according to what definite information you have. If the evidence is conflicting, you may seek clarification from an involved physician.</p>	
Dx/Proc		<p><b>Score “Definite” if:</b></p>	<ol style="list-style-type: none"> <li>1. A chest x-ray or ultrasound report from day 1 or 2 reports definite RDS, Hyaline membrane disease (HMD) <u>OR</u></li> <li>2. Clinicians specify definite RDS based on typical symptoms and signs (grunting and retractions and/or oxygen requirement), and/or a typical chest x-ray (diffuse granularity, “ground glass”), <u>OR</u></li> <li>3. Exogenous surfactant is administered beyond 2 hours of age (on day 1 or 2) but not for meconium aspiration syndrome or pneumonia or pulmonary hemorrhage.</li> </ol> <p>If the CXR or ultrasound expresses doubt about the diagnosis, review the physician diagnosis with attention to dates of diagnoses as compared with x-ray dates, and find out if surfactant was given.</p>
Dx/Proc		<p><b>Score “None” if:</b></p>	<ol style="list-style-type: none"> <li>1. The clinicians describe “respiratory distress” without a specific diagnosis of RDS, no radiological confirmation, and no administration of surfactant, <u>OR</u></li> <li>2. There is a confirmed alternative pulmonary condition (for example “transient tachypnea of the newborn”, “meconium aspiration syndrome”, “congenital pneumonia”) and no RDS according to any of the three definitions, <u>OR</u></li> <li>3. If there is no respiratory distress and none of the three definitions are satisfied.</li> </ol>
Dx/Proc		<p><b>Score “Uncertain” if:</b></p>	<ol style="list-style-type: none"> <li>1. There was respiratory distress in the first 2 days of age but the clinicians recorded doubt about the diagnosis of RDS, <u>OR</u></li> <li>2. Surfactant was given in the first 2 hours after birth and there was no subsequent confirmation of diagnosis of RDS by CXR/ultrasound or clinically, and no further treatment with surfactant.</li> </ol> <p>Do not score uncertain if you are unsure about what the clinicians are saying. In this case, investigate further in the chart, or ask one of the clinicians in the NICU about RDS.</p>

Dx/Proc		Score "Unknown/NA" if	1. The baby died shortly after birth and no diagnosis of RDS was made.																						
Dx/Proc	Pneumothorax	Occurrence of pneumothorax, as diagnosed by chest x-ray, thoracentesis with documented removal of air or autopsy report. While placement of a chest tube is a common response, it is not necessary for diagnosis. This field does not include pulmonary interstitial emphysema (PIE).																							
Dx/Proc	Pneumothorax date and treatment	<p>Date of occurrence of the <b>first definite pneumothorax</b> by chest x-ray, documented needle aspiration or autopsy report. If the first time a pneumothorax is diagnosed is by autopsy report, score the date of death (not the date of autopsy) as the pneumothorax date. If the baby is transferred in with a pneumothorax, record the pneumothorax date as the admission date and record the date of the first pneumothorax diagnosed at the transferring hospital in the comments box, if available. If date of first pneumothorax is unknown, leave the field blank. If pneumothorax is not diagnosed during this hospital visit, leave blank. <b>If bilateral pneumothoraxes - record all treatments regardless of side even if date refers to only the first pneumothorax.</b></p> <p><u>Treatment of pneumothorax:</u> (mandatory if pneumothorax is selected)</p> <ol style="list-style-type: none"> <li>1. No intervention was performed</li> <li>2. Needle drainage, needle paracentesis or needle thoracentesis: This means draining air from pleural space with a needle and syringe and not leaving any permanent drainage.</li> <li>3. Chest tube placement: This means placing a tube in chest wall and draining air via negative pressure suction.</li> <li>4. Unknown</li> </ol>																							
Dx/Proc	Neonatal Thrombosis - Location	<p>Yes, no or unknown. The report should clearly mention about the presence of a thrombus. Presence of infarct, necrosis or ischemia does not necessarily mean that there was a thrombus. Please review the report completely for the reporting of "thrombus" or "clot".</p> <p>In the options below, multiple selections are permissible.</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Arterial Locations</th> <th>Venous Locations</th> </tr> </thead> <tbody> <tr> <td>1. Arterial</td> <td>1. Aortic</td> <td>1. Umbilical venous</td> </tr> <tr> <td>2. Venous</td> <td>2. Renal</td> <td>2. Portal</td> </tr> <tr> <td>3. Cardiac</td> <td>3. Cerebral (includes anterior, middle, posterior cerebral arteries etc.)</td> <td>3. Renal</td> </tr> <tr> <td>4. Unknown</td> <td>4. Other: (includes carotid, brachial, femoral arteries etc.)</td> <td>4. Cerebral Venus</td> </tr> <tr> <td></td> <td>5. Unknown</td> <td>5. Other (includes brachiocephalic, axillary, femoral, common iliac veins etc.)</td> </tr> <tr> <td></td> <td></td> <td>6. Unknown</td> </tr> </tbody> </table>			Location	Arterial Locations	Venous Locations	1. Arterial	1. Aortic	1. Umbilical venous	2. Venous	2. Renal	2. Portal	3. Cardiac	3. Cerebral (includes anterior, middle, posterior cerebral arteries etc.)	3. Renal	4. Unknown	4. Other: (includes carotid, brachial, femoral arteries etc.)	4. Cerebral Venus		5. Unknown	5. Other (includes brachiocephalic, axillary, femoral, common iliac veins etc.)			6. Unknown
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	5. Unknown	5. Other (includes brachiocephalic, axillary, femoral, common iliac veins etc.)																							
		6. Unknown																							

Dx/Proc	Neonatal Thrombosis - Method of Diagnosis	Select from (multiple selections are permissible): <ol style="list-style-type: none"> <li>1. Clinical (signs and symptoms include loss of pulsation, change in color, palpation of clot in the vessel and other symptoms depending upon location of thrombus)</li> <li>2. Imaging (includes but not limited to ultrasonography, angiography, Doppler, CT scan or MRI etc.)</li> <li>3. Unknown</li> </ol>	
Dx/Proc	Neonatal Thrombosis - Treatment	Select from (multiple selections are permissible): <ol style="list-style-type: none"> <li>1. Conservative (includes elevation of limb, compresses and careful observation etc.)</li> <li>2. Catheter (line) removal (includes removal of catheter after diagnosis of clot)</li> <li>3. Standard Heparin (unfractionated heparin usually used as continuous infusion, DO NOT include prophylactic use of heparin to prevent thrombus)</li> <li>4. Low molecular weight heparin (This includes Enoxaparin, Dalteparin, Tinzaparin, Nadroparin, Bemiparin, Centoparin, Nadroparin, Parmaparin or Reviparin etc.)</li> <li>5. Other anticoagulants (This includes Warfarin or other thrombolytic therapy such as urokinase)</li> <li>6. Other treatment (This includes surgical removal of thrombus, or image guided therapy to snare thrombus and any other method specifically designed to remove or dissolve thrombus not specified above)</li> <li>7. Unknown</li> </ol>	
Dx/Proc	Operations / Procedures	Section	<p>Did the infant have any operations or procedures at any time during this NICU admission? Select yes, no or unknown. If yes, then at least one procedure must be selected. (Mandatory field)</p> <p><b>Score all operations/procedures performed in the operating room and/or requiring anaesthesia or analgesia.</b></p> <p>Record operations that occurred at any time during infant’s stay. Some operations may not have been performed in your hospital (such as PDA ligation or ROP surgery). These should be documented in patient charts as for some of them an infant may go to another hospital for less than 24 hours and the data may not be captured. If relevant make a note of these instances in the comments box. If multiple operations were performed under the same anesthesia episode, include them all.</p> <p><i>For a complete list of procedures included under each category, see <a href="#">appendix II</a>.</i></p>
Dx/Proc		ECMO	<p>On extra corporeal membrane oxygenation (ECMO) at any time during the hospital stay. ECMO given as part of an operation should be scored here, but a note should also be made in the comments box that ECMO was given as part of an operation and not as a procedure unto itself.</p>

Dx/Proc		Laparotomy	Laparotomy ( <b>abdominal exploration</b> ) for surgical resolution of a variety of problems, excluding laparoscopy. <i>For a complete list of procedures included within this category, see <a href="#">appendix II</a>.</i>
Dx/Proc		Thoracotomy	Thoracotomy ( <b>chest exploration</b> ) for surgical resolution of a variety of reasons, excluding thorascopy. <i>For a complete list of procedures included within this category, see <a href="#">appendix II</a>.</i>
Dx/Proc		Reservoir/Drain	Reservoir/Drain includes any type of CSF drainage procedure other than VP shunt. It includes ventriculostomy.
Dx/Proc		Reservoir/Drain Date	Record the date of first reservoir/drain. Select N/A if information is not available or unknown.
Dx/Proc		VP shunt	Placement of reservoir or shunt for drainage of cerebro-spinal fluid (CSF).
Dx/Proc		VP shunt Date	Record the date of first VP shunt. Select N/A if information is not available or unknown.
Dx/Proc		Ostomy	Score this if ostomy was performed at any time during the hospital stay (include ileostomy or colostomy, but not tracheostomy or gastrostomy). Score regardless of where the original ostomy surgery occurred. Ostomy at time of discharge/transfer is also collected under the Discharge Screen.
Dx/Proc		Tracheostomy	Score this if the patient has a tracheostomy in place <b>at the time of discharge/transfer</b> .
Dx/Proc		Gastrostomy	Score this if the patient has a gastrostomy in place <b>at the time of discharge/transfer</b> .
Dx/Proc		Other CNS Surgery	Other CNS surgery includes myelomeingeocele repair or spina bifida related surgeries.
Dx/Proc		Others	Check box for any other operation. You can score operations such as BAS, surgically placed catheters, gastrostomy tube insertions, hernia repairs, rectal biopsies, PDA ligations and ROP therapies. <i>For a complete list of procedures included within this category, see <a href="#">appendix II</a>.</i>
Dx/Proc	Gastro-Intestinal Perforation		<p>Presence of free air under diaphragm or aspiration of intestinal contents from abdominal cavity suggest intestinal perforation (Mandatory field). Possible causes are:</p> <ol style="list-style-type: none"> <li><b>NEC related:</b> Perforation in a patient who is also diagnosed as having NEC (see below)</li> <li><b>Spontaneous/Other:</b> Typically this occurs in the first week after birth in a patient who does not show evidence of NEC. Include perforations which are related to medical devices (e.g. nasogastric tube insertion) or congenital anomalies.</li> <li><b>Unknown:</b> If the type is not identified then select unknown.</li> </ol> <p>This also includes gastric perforation.</p>

		<p>SIP Date and Treatment is enabled when “Spontaneous” is checked above.</p> <p><b>Spontaneous Intestinal Perforation (SIP):</b> Approximately 50% of neonates who are diagnosed with intestinal perforation are now classified as SIP. This means that on further clinical, sonographic and operative assessment revealed no signs of ischemia or inflammation in baby diagnosed with perforation. This entity is termed as SIP. Treatment for this is similar to NEC related perforation with peritoneal drainage alone, surgery alone or peritoneal drainage followed by surgery (3 options available).</p>
Dx/Proc	NEC Stage 2 or Higher	<p>Necrotizing enterocolitis (NEC) according to Bell’s criteria, stage 2 or higher (mandatory field). If there is <b>definite pneumatosis (air in the bowel wall) or portal/hepatic air (air in the liver)</b> diagnosed by x-ray or other imaging techniques, or if there is a surgical or autopsy diagnosis of NEC. If surgical/autopsy diagnosis conflicts with x-ray diagnosis, the surgical/autopsy diagnosis takes priority. <b>X-rays showing free air WITHOUT pneumatosis do NOT count as NEC diagnoses.</b> Bloody stools without pneumatosis may lead to a suspected diagnosis and treatment, but is <b>not</b> counted as NEC diagnosis. <b>Score “No” if:</b> there was no NEC diagnosed according to our definition during the hospital stay.</p> <p>If yes, mention stages:</p> <ol style="list-style-type: none"> <li>1. Stage II: medical suspicion confirmed by pneumatosis</li> <li>2. Stage III: Perforation</li> <li>3. Unknown: If it is not known whether to call stage II or III.</li> </ol>
Dx/Proc	NEC Date	<p>Date of the first definitive diagnosis of NEC (pneumatosis diagnosed by x-ray, other imaging techniques or by surgery). Record as YYYYMMDD. If pneumatosis is suspected on medical imaging and then NEC is diagnosed definitively by surgery/autopsy, score the date of onset of NEC as the date of the first medical imaging that showed a suspicion of pneumatosis. If unknown, leave the field blank.</p>
Dx/Proc	NEC Diagnosed By	<p>If pneumatosis was found, record whether it was diagnosed by autopsy/biopsy, clinical, x-ray or ultrasound. Select all that apply. Select unknown if information is not available.</p>
Dx/Proc	NEC Treatment	<p>Record if patient required surgical treatment <b>AND/OR</b> peritoneal drainage. Surgical treatment includes laparotomy (please also select "Laparotomy" under <i>Any Time Operations/Procedures</i> if applicable). Peritoneal drainage alone is not considered surgical treatment. However, if your unit practices “mini-laparotomy” it should be included under surgical treatment and operations. You will be able to select both if patient initially had peritoneal drainage and later went for surgery.</p>
Dx/Proc	Multiple Episodes	<p>Indicate if more than one episode of NEC occurred prior to discharge.</p>

Dx/Proc	Acquired Stricture	If patient was later diagnosed as stricture possibly related to NEC, mention it here. Patients may or may not have stage 2 or stage 3 NEC diagnosis in the early period (mandatory field).
Dx/Proc	Exchange transfusion	Check if patient received single volume or double volume or partial <b>exchange transfusion</b> (mandatory field).
Dx/Proc	Congenital Anomaly Type	Record all diagnosed congenital anomalies of a patient. Record only confirmed anomalies, anomalies that are “questionable” or “pending” should <b>not</b> be recorded. Do not enter if a baby returns for readmissions and the anomaly was fully repaired <u>prior</u> to this readmission. Anomalies are grouped under the systems they relate to and then listed alphabetically. Selecting the appropriate system from the system scroll down list will limit the anomalies that appear in the type scroll down list. If you cannot find a specific anomaly listed here <b>check <a href="#">appendix IV</a></b> for additional help in identifying how a given anomaly is recorded in the database. If you think a major anomaly is not listed, or if it requires specification, contact the CC for advice.
Dx/Proc	Other Diagnosis	Record additional major diagnoses included in the scroll down list provided. Record only confirmed diagnoses, diagnoses that are “questionable” or “pending” should <b>not</b> be recorded. Note that some diagnoses may be worded differently at various hospitals. For example a diagnosis of “hypoglycemia” is listed on the scroll down list as “hypoglycaemia”. If you cannot find a given diagnosis in the list, check <a href="#">appendix III</a> for additional help in identifying how a given diagnosis may be recorded in the database. <u>Optional:</u> For any diagnoses that are not listed in the “Diagnosis Type” scroll down menu, “Other” may be chosen and a free text field (maximum characters=100) for “Other Diagnosis Description” may be entered.

# Encephalopathy

## Encephalopathy

Reviewed

Did patient receive hypothermia treatment?

Yes  No  Unknown

If yes

Timing

Initiation of active/passive hypothermia [Enter Date] [Time]

Initiation of re-warming [Enter Date] [Time]

Temperature

Target temperature (°C) [Dropdown]

Lowest recorded temperature during hypothermia (°C) [Input]  N/A

Highest recorded temperature during hypothermia (°C) [Input]  N/A

Clinical Status

At initiation of hypothermia      At completion of hypothermia

Encephalopathy

HIE Stage I    
HIE Stage II    
HIE Stage III    
Unknown    
Normal

Seizures

Side effects during hypothermia

Hypotension requiring treatment  Yes  No

Thrombocytopenia requiring treatment  Yes  No

Coagulopathy requiring intervention  Yes  No

Persistent metabolic acidosis  Yes  No

Any other side effects

[Text Box]

If No: Reasons

- Chromosomal anomaly
- Major congenital anomalies
- Weight < 2000g or GA < 35 weeks
- Extreme condition
- Head trauma or intracranial hemorrhage
- Mild HIE
- Unit policy
- Health care team preference
- Delayed transfer
- Parental request
- Unknown/Other

Was hypothermia discontinued before 72 hrs of treatment?

Yes  No  Unknown

If Yes

- Death
- Recovered
- Palliative care
- Unknown
- Other

[Text Box]

Investigations

Was Full Channel EEG performed?

Yes  No  Unknown

If yes

Normal  Burst suppression  
 Discontinuous  Iso electric  
 Low amplitude  Unknown  
 Status Epilepticus  Other

[Text Box]

Was aEEG performed?

Yes  No  Unknown

If yes

Normal  Burst suppression  
 Mild abnormality  Iso electric  
 Moderate abnormality  Seizures  
 Unknown  Other

[Text Box]

Was neuroimaging (MRI/MRS) performed?

Yes  No  Unknown

If yes

Date of first imaging [Enter Date] [Time]

Normal  
 Watershed injury / white matter  
 Basal ganglia / thalamic injury / grey matter  
 Porencephalic cyst  
 Diffusion changes  
 Spectroscopic changes  
 Hemorrhage  
 Unknown  
 Other

[Text Box]

Other Complications of Asphyxia

- PPHN
- Renal failure
- DIC
- Hepatic dysfunction
- Cardiac dysfunction

HIE	Whole Screen	This screen will be activated if in the “Diagnosis / Procedures” screen it was recorded that baby has any degree of encephalopathy except for none. You need to complete this screen if it is activated in order to complete the case.
HIE	Hypothermia treatment	Mention here whether patient received hypothermia treatment or not. If patient has received hypothermia further screen detailing treatment will be activated. Hypothermia treatment is defined as active attempts to maintain temperature below 35.5°C after HIE was diagnosed (mandatory field).
HIE	Timing	Enter timings for initiation of active/passive hypothermia and when warming was initiated. In the event of baby’s death whilst receiving hypothermia, please enter time of death as the time of rewarming.
HIE	Temperature	Select target temperature range that was planned. This will again conform to your unit policy and would be constant in your unit. From continuous monitoring of patient, enter the lowest and the highest recorded temperature during hypothermia treatment.
HIE	Clinical Status	From clinical records, enter HIE staging before (within 6 hours of initiation of hypothermia) and after hypothermia (6 hours after completion of hypothermia). Document if patient had seizures within 6 hours of initiation of hypothermia. If the clinical status is unknown, mention unknown or if it is normal, check normal. (Mandatory field)
HIE	Side Effects	<p>If patient developed any side effect during hypothermia record it here.</p> <ol style="list-style-type: none"> <li>1. Hypotension requiring treatment: Treatment could be in the form of fluid or inotropes.</li> <li>2. Thrombocytopenia requiring treatment: Treatment would be in the form of platelet transfusion.</li> <li>3. Coagulopathy requiring intervention: Intervention could be in the form of FFP, Plasma or blood transfusion.</li> <li>4. Persistent metabolic acidosis: Defined as pH &lt;7.0 on two consecutive samples obtained at least 6 hours apart after initiation of hypothermia</li> </ol> <p>Any other complication / side effect not mentioned above can be free-texted (maximum 50 characters). Bradycardia should not be included in this as it is a known effect.</p>
HIE	Reasons if No	If hypothermia was not provided, please identify reason.
HIE	Was hypothermia discontinued before 72 hours of treatment?	Indicate whether hypothermia was discontinued before 72 hours by choosing “yes”, “no” or “unknown”. If yes, please identify the reason for discontinuation of hypothermia from the list provided. (Mandatory field)
HIE	Investigations: EEG	Indicate if full channel EEG (12 or 16 channels/electrodes placed and full EEG tracing taken) was performed and classify findings of background activity as indicated. This refers to background activity only (mandatory field).

HIE	Investigations: aEEG/CFM	Amplitude-integrated EEG (aEEG) is a method for electrocortical monitoring, whereas Cerebral Function Monitor (CFM) refers to the device for trend monitoring of changes in the amplitude of the electroencephalogram. Select if aEEG or CFM was performed. If it was performed, indicate the worst result during recording. If seizures were detected during aEEG/CFM, record it here as well (mandatory field).
HIE	Investigations: MRI	If neuroimaging in the form of MRI or MRS was performed indicate the results and date of scan. Note that some of the results collected are broad (diffusion changes, restriction changes etc.). In the initial period of data collection, this will be kept like this (mandatory field). The "Other" field can hold a maximum of 50 characters.
HIE	Other complications of asphyxia	<p>Complications of asphyxia should be mentioned here. You can choose multiple options.</p> <ol style="list-style-type: none"> <li>1. PPHN: Diagnosis will ideally require echocardiographic evidence; however, it may not be practical at every site and we will take any definition used in the chart.</li> <li>2. Renal failure: Urine output &lt;0.5 ml/kg/hr OR rising creatinine &gt;100 mmol/l at any time within first 72 hours</li> <li>3. DIC: Evidence of Coagulopathy for which no explanation could be provided.</li> <li>4. Hepatic dysfunction: AST or ALT &gt;100 IU at any time in the first 7 days after birth</li> <li>5. Cardiac dysfunction: Need for inotrope to support BP or echocardiographic evidence of cardiac dysfunction.</li> </ol>

# Neurological Findings / ROP

Reviewed

Neurological Findings **ROP**

## Brain Lesions (Ultrasound and/or MRI)

### Left Brain

	First week of life On or before: 2023 Jan 07	After first week of life After: 2023 Jan 07
Are neuroimaging or autopsy results available?	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>
<b>If Yes</b>		
Were they reported normal?	<input type="text" value="No"/>	<input type="text" value="No"/>
<b>If No</b>		
Blood in germinal matrix	<input type="text"/>	<input type="text"/>
Blood in ventricles	<input type="text"/>	<input type="text"/>
<b>Ventricular enlargement</b>		
Ventricular dilatation	<input type="text"/>	<input type="text"/>
Ventricular size (highest)	<input type="checkbox"/> <input type="text" value="."/> (mm)	<input type="checkbox"/> <input type="text" value="."/> (mm)
Anterior horn width (highest)	<input type="checkbox"/> <input type="text" value="."/> (mm)	<input type="checkbox"/> <input type="text" value="."/> (mm)
Ventricular index (highest)	<input type="checkbox"/> <input type="text" value="."/> (mm)	<input type="checkbox"/> <input type="text" value="."/> (mm)
Descriptor	<input type="checkbox"/> <input type="text"/>	<input type="checkbox"/> <input type="text"/>
Previous intraventricular hemorrhage reported	<input type="text"/>	
Intraparenchymal lesion	<input type="text"/>	<input type="text"/>
Periventricular leukomalacia (with cyst development or confirmed by MRI)	<input type="text"/>	<input type="text"/>

### Resolved before discharge

- Blood in germinal layer
- Blood in ventricle
- Intraparenchymal lesion
- Ventricular enlargement

### Other brain lesion (describe if present)

- Thalamic infarct
- Cerebellum hemorrhage
- Conatal cyst
- Porencephaly
- Choroid plexus cyst
- Calcification
- Other

### Right Brain

	First week of life On or before: 2023 Jan 07	After first week of life After: 2023 Jan 07
Are neuroimaging or autopsy results available?	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>
<b>If Yes</b>		
Were they reported normal?	<input type="text" value="No"/>	<input type="text" value="No"/>
<b>If No</b>		
Blood in germinal matrix	<input type="text"/>	<input type="text"/>
Blood in ventricles	<input type="text"/>	<input type="text"/>
<b>Ventricular enlargement</b>		
Ventricular dilatation	<input type="text"/>	<input type="text"/>
Ventricular size (highest)	<input type="checkbox"/> <input type="text" value="."/> (mm)	<input type="checkbox"/> <input type="text" value="."/> (mm)
Anterior horn width (highest)	<input type="checkbox"/> <input type="text" value="."/> (mm)	<input type="checkbox"/> <input type="text" value="."/> (mm)
Ventricular index (highest)	<input type="checkbox"/> <input type="text" value="."/> (mm)	<input type="checkbox"/> <input type="text" value="."/> (mm)
Descriptor	<input type="checkbox"/> <input type="text"/>	<input type="checkbox"/> <input type="text"/>
Previous intraventricular hemorrhage reported	<input type="text"/>	
Intraparenchymal lesion	<input type="text"/>	<input type="text"/>
Periventricular leukomalacia (with cyst development or confirmed by MRI)	<input type="text"/>	<input type="text"/>

### Resolved before discharge

- Blood in germinal layer
- Blood in ventricle
- Intraparenchymal lesion
- Ventricular enlargement

### Other brain lesion (describe if present)

- Thalamic infarct
- Cerebellum hemorrhage
- Conatal cyst
- Porencephaly
- Choroid plexus cyst
- Calcification
- Other

IVH	Whole Screen	<p>Score the Neurological Findings portion of the screen based on all head ultrasounds, CT scans and MRIs done during this NICU admission and taken during the appropriate time periods. If you come across any serious outcomes, which are not included on the Neurological Findings &amp; ROP screens, mention them in “other” section.</p> <p><b>The following should not be scored here:</b> “possible” or “questionable” diagnoses, subarachnoid hemorrhages, subdural hemorrhages, tentorial bleeds, fluid collections in the brain, arachnoid cysts, caudothalamic groove cysts, subependymal cysts or cysts other than those found in the brain parenchyma (the brain itself). <b>If the image only has choroid plexus cysts, score image as normal and do not record this as anomaly. If there are conflicting diagnoses, where available use autopsy findings as they are more reliable than diagnostic tests. Also note that MRI findings should be used over Ultrasound findings.</b></p> <p>See <a href="#">appendix III</a> to confirm hemorrhages that are to be included under ‘other diagnosis’ on the diagnosis/procedures screen. Record only “congenital cerebral cysts” (found in the brain parenchyma) under congenital anomalies (nervous cyst); other cysts not mentioned below need not be scored.</p> <ol style="list-style-type: none"> <li>1. Score “questionable” and “possible” as None</li> <li>2. Score “suggestive of...” and “most likely...” as Suspected</li> </ol> <p><b>Neurological findings are collected for the left and right brain separately and at two time points: within the first week of life and after the first week of life.</b> The infant’s date of birth must be available for these fields to open. The computer will calculate dates and display them on the screen if Birth Date and Admission Date are entered on Admission Screen. Complete both time frames for the left and right brain using the definitions described below.</p>
IVH	Brain Lesions (Ultrasound and/or MRI)	<p>Was any neuroimaging performed during infant’s stay in NICU? Mark yes, no or unknown. Mark “yes” if you have a brain autopsy report. Mark “unknown” if you are uncertain whether brain imaging was done during this time period. Also mark “unknown” under “First week of life” section if the date of admission is after one week of age. For section on “After one week of age”, mark “unknown” if baby was discharged before one week of age. By default, the selection for “Are neuroimaging or autopsy results available” one side of the brain will be displayed for the other side of the brain (mandatory field)</p>
IVH	If Yes	<p>If neuroimaging was performed, you will be asked to provide a report. If you report that it was abnormal, then the following explanation will help you to fulfill appropriate boxes.</p> <p><b>We are interested mainly in 5 types of cerebral ultrasound/CT scan/MRI abnormalities.</b> Any or all of these abnormalities may be present at different times so you need to review all reports during the stay of an infant in the NICU and report any or all of these lesions if present in the first week of life and/or after the first week of life.</p>
IVH	Blood in germinal matrix	<p>Evidence of blood in the germinal matrix or “germinal layer/matrix hemorrhage”, “subependymal hemorrhage”, “grade I intraventricular hemorrhage (IVH) (according to Papile)”. This is usually seen in the first 7 days of life. Record as “present”, “suspected”, “none”, or “unknown” irrespective of the presence of other lesions.</p>

IVH	Blood in ventricles	Evidence of blood in the ventricles or in the lining of the ventricles, also known as “intraventricular blood”, “intraventricular hemorrhage”, “grade II intraventricular hemorrhage (IVH) (according to Papile)”. This is usually seen in the first 7 days of life. Record as “present”, “suspected”, “none”, or “unknown” irrespective of the presence of other lesions.
IVH	Intraparenchymal lesions	Evidence of focal intraparenchymal lesions (echodense or echolucent) in the white or grey matter (with or without intraventricular hemorrhage) also known as “parenchymal lesion”, “parenchymal echodensity or echolucency”, “focal infarction”, “venous infarction”, “intraparenchymal hemorrhage”, “grade IV IVH (according to Papile)”. Remember to indicate whether there is blood in the ventricles or ventricular enlargement if you document a focal lesion. This is usually seen in the first 14 days. A single “porencephalic cyst”, or “cystic change” within a focal lesion also falls in this category – this should be distinguished from “cystic leukomalacia” which is more extensive, occurs later in age, is usually bilateral, and usually consists of multiple cysts. Record as “present”, “suspected”, “none”, or “unknown” irrespective of the presence of other lesions.
IVH	Periventricular leukomalacia	Evidence of diffuse brain lesions (usually echodense) in the white matter consistent with periventricular leukomalacia (PVL) or “white matter injury”. To be “present”, these may be confirmed by noticing development of multiple cysts on MRI or ultrasound (“cystic periventricular leukomalacia”). Record as “present”, “suspected”, “none”, or “unknown” irrespective of the presence of other lesions.
IVH	Ventricular enlargement	<p>Before entering these measures, please note:</p> <ol style="list-style-type: none"> <li>1. If you have more than one of these measures reported, please enter as many as you can. If the measurement was recorded on imaging reports from the specified time period, select the tick box and enter the highest value recorded. Measurements do not have to come from the same report. If the measurement was not done, leave the tick box unchecked.</li> <li>2. Please note that the highest measures are most likely before any procedures such as shunt placement, or ventricular drainage procedure is carried out.</li> <li>3. If ventricular enlargement/dilatation is reported but none of the measurement types are incorporated in report, please select Yes for Ventricular dilatation and make appropriate selection in “Descriptor” section.</li> <li>4. If there are measurements provided and there is no mention of ventricular dilation/enlargement, please enter the highest measurements and select a descriptor as defined in #5 below.</li> <li>5. All measurements are reported between 0.1 and 99.9 to one decimal place. Ventricular size, Anterior horn width and Ventricular index are entered in millimeters. If the imaging report details are in centimeters, convert to millimeters.</li> <li>6. Take care to ensure numbers less than 10.0 are entered correctly. Data accuracy will be improved if you enter numbers less than 10.0 with a leading zero. E.g. entering “087” will equal 8.7 but if you enter just “87” or “8.7” it will be accepted as “87.0”.</li> <li>7. If a measurement is recorded but the report does not state which side, please do not enter.</li> </ol>

**Description:**

1. **Ventricular dilatation** – also known as “hydrocephalus”, “ventriculomegaly”, or “ventricular enlargement”
  - a. Yes = ventricular dilatation / enlargement (of any degree or certainty) was noted by a physician or radiologist during this time period
  - b. No = ventricular dilatation / enlargement was NOT noted by a physician or radiologist during this admission
  - c. Unknown = it is uncertain whether ventricular dilatation / enlargement was present or not during this admission
2. **Ventricular size (highest):** enter the highest reported measurement in millimeter at any level. The measurement should be clearly one of the following: frontal, occipital or temporal horn. Enter the largest number of ventricular size in the time period.
3. **Anterior horn width (AHW):** This is typically measured on the more dilated lateral ventricle at the widest point at oblique plane at the level of foramen of Monro. It is reported in millimeter. The measurement should be clearly labeled as “anterior horn width”. Enter the largest number of AHW in the time period.
4. **Ventricular index (VI):** Ventricular index is the distance between the midline and the most lateral point of the lateral ventricle in millimeters. It is measured in the coronal plane at the level of foramen of Monro. It is reported in mm. The measurement should be clearly labeled as “ventricular index”. Enter the largest number of VI in the time period. See figure above for reference.

Some other types of measurements may be available from your reports. Record only AHW and VI are reported in the database. Do not record any measurement without label or the label/description does not fit with the above options. Enter the largest number of unknown measurement in the time period.

5. **Descriptor:** Enter qualitative descriptions for ventricular enlargement using **normal, mild, moderate or severe**. Choose the worst descriptor in the time period. If a qualitative description is mild/moderate, then enter as moderate. If a qualitative description is moderate/severe, then enter as severe. Enter “suspected” as “mild”.

If measurements were available but a descriptor was not provided on the radiological report, select the descriptor based on the highest measurement as follows:

- a. **“Normal”:** Measurement is <7 mm at any level section of lateral ventricle.
- b. **“Mild”:** Measurement is 7 to 10 mm at any level of the larger lateral ventricle.
- c. **“Moderate”:** Measurement is 11 to 15 mm at any level of the larger lateral ventricle on sagittal scan.
- d. **“Severe”:** Measurement >15 mm at any level of the larger lateral ventricle on a sagittal scan.

**Previous Intraventricular Hemorrhage Reported:**

1. Yes = intraventricular hemorrhage noted before ventricular dilatation started. This includes intraventricular hemorrhage noted in current or previous admission(s) or at other institutions prior to this admission

		<ol style="list-style-type: none"> <li>2. No = intraventricular hemorrhage noted but NOT <u>before</u> ventricular dilatation started</li> <li>3. Not Applicable = NO intraventricular hemorrhage noted at any time in current or previous admission (s) or at other institutions prior to this admission</li> <li>4. Unknown = it is not known or unclear if intraventricular hemorrhage was noted before ventricular dilatation started.</li> </ol>
IVH	Other lesions	Mention any other lesions that were identified in the imaging or autopsy. Conatal cyst is a term used for cystic lesions in the front of the lateral ventricles (frontal horn). The "Other" field can hold a maximum of 25 characters. <b>Cerebellar hemorrhage:</b> report both limited (> 4 mm but < 1/3 of cerebellar hemisphere) and massive (equal to or > 1/3 of cerebellar hemisphere) cerebellar hemorrhage as "cerebellar hemorrhage".
IVH	Resolved before discharge	These fields only become activated when corresponding indications are checked in previous selections (i.e. when Ventricular dilatation = yes, or when Descriptor = Mild, Moderate or Severe). If from last imaging it is determined that there was resolution of abnormalities detected before, indicate here. If it is not known, leave boxes unchecked.

# Neurological Findings / ROP

Reviewed

Neurological Findings **ROP**

## Retinopathy of Prematurity

Was ROP Screening done?  Yes  No  Unknown  Transferred/Died before screening age

Record the total # of ROP screening exams the patient received

### Left Eye - Highest Stage

Stage	Zone	Plus
<input type="checkbox"/> None	<input type="checkbox"/> 1	<input type="checkbox"/> None
<input type="checkbox"/> I	<input type="checkbox"/> 2	<input type="checkbox"/> Yes
<input type="checkbox"/> II	<input type="checkbox"/> 3	<input type="checkbox"/> N/A
<input type="checkbox"/> III	<input type="checkbox"/> N/A	
<input type="checkbox"/> IV		
<input type="checkbox"/> V		
<input type="checkbox"/> Imm		
<input type="checkbox"/> N/A		

AP ROP

### Right Eye - Highest Stage

Stage	Zone	Plus
<input type="checkbox"/> None	<input type="checkbox"/> 1	<input type="checkbox"/> None
<input type="checkbox"/> I	<input type="checkbox"/> 2	<input type="checkbox"/> Yes
<input type="checkbox"/> II	<input type="checkbox"/> 3	<input type="checkbox"/> N/A
<input type="checkbox"/> III	<input type="checkbox"/> N/A	
<input type="checkbox"/> IV		
<input type="checkbox"/> V		
<input type="checkbox"/> Imm		
<input type="checkbox"/> N/A		

AP ROP

### Was ROP Treatment given?

Yes  No  Unknown/NA

### ROP Treatment Complications

Left Eye	Right Eye
<input type="checkbox"/> None	<input type="checkbox"/> None
<input type="checkbox"/> Infection	<input type="checkbox"/> Infection
<input type="checkbox"/> Hemorrhage	<input type="checkbox"/> Hemorrhage
<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown
<input type="checkbox"/> Other	<input type="checkbox"/> Other

### ROP Treatments - All

	Date	Type	Eye(s)	VEGF Type	Dosage(mg)	Stage(L)	Zone(L)	Plus(L)	Stage(R)	Zone(R)	Plus(R)
*											

ROP	Was Screening Done	<p>Mark yes, no or unknown. Patient may have been transferred to another facility before complete vascularization is noted. If one screen was performed in your hospital – mark it yes.</p> <p>If you select “no” or “unknown”, a question will appear whether the reason for no is because patient died or was transferred to another facility prior to discharge (mandatory field).</p> <p>Do not record eye exams completed for purposes other than ROP Screening. You will know if the eye examination was performed for ROP Screening because the chart mentions any of the following (at least 1 of, however, it is rare to see 1 without another): a) ROP, b) Zone, c) Stage, d) Plus Disease</p>
ROP	Total # of ROP Screening exams the patient received	<p>Enter a numeric value greater than or equal to 1 (whole numbers only, two characters only).</p> <p>Enter a value which represents a count or sum of the number of ROP Screening exams the patient experienced while in your NICU. If a baby had two distinctly separate ROP Screening eye exams on the same day, count each one. Count each ROP Screening exam as one event regardless of the number of eyes examined.</p>
ROP	Left/Right Eye: Stage	<p>Selecting N/A in any field generates a default N/A selection for the other two. These selections, however, can be changed if desired. Maximum stage of retinopathy of prematurity (ROP) in left/right eye as defined by the International Committee on Retinopathy of Prematurity (ICROP). Score according to the grade of ROP assigned on an eye exam done by an ophthalmologist. If there is no explicit grade listed, then score according to the descriptions given by the ICROP:</p> <ol style="list-style-type: none"> <li>1. <b>None</b> denotes that there are no indications of an immature retina or ROP from the eye exam.</li> <li>2. <b>Stage 1</b> is characterized by a demarcation line between the normal retina near the optic nerve and the nonvascularized retina more peripherally.</li> <li>3. <b>Stage 2</b> ROP has a ridge of scar tissue and new vessels in place of the demarcation line. The white line now has width and height, and occupies some volume. It may take on a pink color as it becomes more vascularized. Small tufts of new vessels ("popcorn vessels") may appear posterior to the ridge.</li> <li>4. <b>Stage 3</b> ROP shows an increased size of the vascular ridge, with growth of fibro-vascular tissue on the ridge and extending out into the vitreous. Fibrous scar tissue is beginning to form in this stage, with attachments between the vitreous gel and the ridge.</li> <li>5. <b>Stage 4</b> refers to a partial retinal detachment. The scar tissue associated with the fibrovascular ridge contracts, pulling the retina away from the wall of the eye. There may also be an exudation of fluid under the retina, contributing to the detachment.</li> <li>6. <b>Stage 5</b> ROP implies a complete retinal detachment, usually with the retina pulled into a funnel-shaped configuration by the fibrovascular scar tissue. Eyes with stage 5 ROP usually have no useful vision, even if surgery is performed to repair the detachment.</li> <li>7. <b>Imm</b> is the abbreviation for ‘immature’ retina. If a patient’s eye exam states “imm” or “immature” look to see if this progresses further into a stage of ROP. If not, then score as ‘imm’.</li> <li>8. Score “<b>N/A</b>” if there is no eye exam during this hospital stay.</li> </ol>

ROP	Left/Right Eye: Zone	Record location of ROP in left/right eye by zone. Score according to eye exam having the greatest degree of ROP severity. Disease severity is worst in Zone 1 (optic disk to macula), very serious in Zone 2, (macula to periphery) and worrisome in Zone 3 (peripheral vision). If there is no eye exam or if stage is scored as “none”, score as “N/A”.
ROP	Left/Right Eye: Plus	Presence of plus disease at any stage of ROP in the left/right eyes. Plus disease is indicated by extreme tortuosity and redness of vessels, often accompanied by rapid progression of ROP disease. If an eye exam was completed, but there is no eye exam results available, score as “N/A”.
ROP	Aggressive Posterior ROP (APROP)	This is a severe form of ROP that does not progress through the classic stages of ROP from stage 1-3. It is commonly observed in zone 1, but may also occur in zone 2. These patients usually require immediate treatment. Score only if APROP is mentioned in ophthalmologist’s note.
ROP	Was ROP Treatment given?	Mark yes, no or unknown. If yes, complete the following sections about ROP treatment.
ROP	ROP Treatment Complications	Record any complications associated with ROP Treatment. <ol style="list-style-type: none"> <li>1. <b>None:</b> Check this if no complication is recorded.</li> <li>2. <b>Infection:</b> Record any ocular infection that occurred within 2 weeks of ROP treatment. e.g. conjunctivitis, chorioretinitis, ophthalmitis etc.</li> <li>3. <b>Hemorrhage:</b> Record any intra-ocular haemorrhage that occurred within 2 weeks of ROP treatment. i.e. conjunctival, retinal, vitreal etc.</li> <li>4. <b>Unknown:</b> Check this if data is not available or not known.</li> <li>5. <b>Other:</b> Check this if a complication arose within 2 weeks of ROP treatment that is a result of the ROP treatment. Specify the complication using the free text box.</li> </ol>
ROP	ROP Treatment(s)	If ROP Treatment(s) was laser and/or other surgery, this should also be scored as Operations/Procedures > “Others” on the Diagnosis/Procedures screen.
ROP	ROP Treatment Details	<p><b>Date</b> – Please enter the date on which the ROP treatment occurred. Enter by selecting from the calendar displayed or by typing in the date in the format YYYYMMDD. If the patient had ROP treatment on two different dates (example two different types of treatment or different eyes on different days), use a different line for each treatment date.</p> <p><b>Type</b> – Record the type of treatment using the drop down selections as follows:</p> <ul style="list-style-type: none"> <li>• <b>Laser</b> - Laser surgery for ROP (also known as diode laser or argon laser)</li> <li>• <b>VEGF Blocker</b> - VEGF Blockers for ROP (also known as anti-VEGF, VEGF Inhibitors, Macugen c [Pegaptanib Sodium], Lucentis c [Ranibizumab], and Avastin c [Bevacizumab])</li> <li>• <b>Other Surgery</b> - Retinal detachment surgery (seen on the operative record notes)</li> <li>• <b>Unknown</b></li> </ul> <p><b>Eye(s)</b> – Select the eye or eyes on which the ROP treatment occurred. Record “Right” or “Left”, or record “Both” if both eyes treated with the same type of treatment and, if VEGF, the same type and dose of medication</p>

		administered. If both eyes were treated on the same day with different treatment types and/or different type or dose of VEGF blockers, use more than one line and record the treatments separately. If one or both eyes were treated more than once in one calendar day, use more than one line to record all treatments.
ROP	ROP Treatment VEGF Details	<p><b>Type</b> – Specify the type of VEGF Blocker used for ROP. These are also known as anti-VEGF or VEGF Inhibitors. If both eyes were treated with a different type of VEGF blocker on the same day, then use one line to record the left eye and one line to record the right eye noting the correct VEGF blocker type for each treatment. □ Avastin © [Bevacizumab]</p> <ul style="list-style-type: none"> <li>• Lucentis © [Ranibizumab]</li> <li>• Macugen © [Pegaptanib Sodium]</li> <li>• Other</li> <li>• Unknown</li> </ul> <p><b>Dosage (mg)</b> – Specify the dosage of the VEGF blocker used in milligrams (mg). If the dosage is unknown record 0.0 mg. If both eyes were treated with VEGF blockers on the same day with the same drug but with a different dosage in each eye, then use one line to record the left eye and one line to record the right eye noting the correct dosage for each treatment.</p>
ROP	ROP Treatment Left/Right Eye: Last Exam Result before Treatment	<p>Record the last ROP screening result available from the most recent exam just before this ROP treatment regardless of if it was the worst or not the worst reported eye result. The results of this eye exam often lead to the decision to treat the patient. Record the Left and the Right eye exam result using the Stage, Zone and Plus results.</p> <ul style="list-style-type: none"> <li>• <b>Left/Right Stage</b> - Record severity of ROP in left/right eye by stage.</li> <li>• <b>Left/Right Zone</b> - Record location of ROP in left/right eye by zone.</li> <li>• <b>Left/Right Plus</b> – Record the presence of plus disease at any stage ROP.</li> </ul>

## Cultures / Transfusions

Reviewed

### Positive Blood or CSF Cultures

	Date	Organism	Culture
▶▶		▼	▼

### Transfusions

Number of PRBC transfusions

Number of platelet transfusions

Number of FFP transfusions

Total number of blood cultures

Total number of CSF cultures

### Type of Infection

	Date	Diagnosis Type	Organism	Culture
*		▼	▼	▼

### Positive Viral Isolates

	Date	Virus	Source
*		▼	▼

Cult/Transf	Positive Blood or CSF Cultures	Section	<ul style="list-style-type: none"> <li>• <b>Record only positive cultures that occur at your study hospital.</b> If a blood culture is drawn at another hospital prior to this admission visit, it should <b>not</b> be recorded. However, if this culture is positive AND the baby is considered to have an infection at the time of arrival to your hospital, this should be recorded as an infection episode under Type of Infection (given that this is an ongoing concern of the patient). In this instance, record the infection type and make a note in the comments box regarding the details of the positive culture including the organism discovered.</li> <li>• If patient is transferred into your hospital from a non-CNN hospital with a positive blood, CSF or viral culture, or a confirmed diagnosis of infection as identified in <a href="#">appendix V</a>, record it as <b>“Admitted with infection from other hospital”</b> under “Type of Infection”. Do not include infections that occurred at CNN hospitals.</li> <li>• Enter positive blood cultures found on <b>autopsy</b> here, and enter date of death as date of the blood or CSF draw.</li> <li>• <b>Admissions to NICU from your ER Department:</b> Include positive cultures drawn in the emergency department of your hospital immediately prior to admission to NICU. Record the appropriate date of the culture (this may be the day before your admission date for those who are admitted after midnight.) These should also be counted in the “Total # of blood cultures” and “Total # of CSF cultures”.</li> </ul>
	Positive Blood or CSF Cultures	Definition	<p><b>Laboratory-confirmed bloodstream or CSF infection</b> must meet one of the following criteria:</p> <ol style="list-style-type: none"> <li>1. Recognized pathogen isolated from at least ONE blood culture where pathogen is not related to infection at another site.<sup>1</sup></li> <li>2. For isolation of potential skin contaminants like coagulase negative Staphylococcus/ Bacillus species, the following THREE need to be satisfied: <ol style="list-style-type: none"> <li>a. Organism recovered from a blood culture obtained from either a central line, or peripheral blood sample</li> <li>b. One or more signs of generalized infection (such as unstable temperature, feeding intolerance, increased apnoea or worsening respiratory status, or haemodynamic instability).</li> <li>c. Physician institutes appropriate antimicrobial therapy for at least 5 days after the above cultures were obtained. If the infant died or transferred before the completion of 5 days of antimicrobials, this condition would still be met if the intention were to treat for 5 or more days.</li> </ol> </li> <li>3. One of the following: fever (&gt;38°C), chills, or hypotension and any of the following:</li> </ol>

			<ul style="list-style-type: none"> <li>a. Common skin contaminant<sup>2</sup> isolated from 2 blood cultures drawn on separate occasions and where the organism is not related to infection at another site<sup>1</sup></li> <li>b. Common skin contaminant isolated from patient’s blood culture with intravascular access device and physician institutes appropriate antimicrobial therapy for at least 5 days</li> <li>c. Common skin contaminant isolated from patient’s blood culture and physician institutes appropriate antimicrobial therapy for at least 5 days</li> <li>d. Positive antigen test on blood<sup>3</sup> and organism is not related to infection at another site</li> </ul> <p>4. Patient is less than or equal to 12 months of age and has one of the following: fever (&gt;38°C), hypothermia (&lt;37°C), apnea, or bradycardia and any of the following:</p> <ul style="list-style-type: none"> <li>a. Common skin contaminant<sup>2</sup> isolated from 2 blood cultures drawn on separate occasions and where the organism is not related to infection at another site<sup>1</sup></li> <li>b. Common skin contaminant isolated from patient’s blood culture with intravascular access device and physician institutes appropriate antimicrobial therapy for at least 5 days</li> <li>c. Common skin contaminant isolated from patient’s blood culture and physician institutes appropriate antimicrobial therapy for at least 5 days</li> <li>d. Positive antigen test on blood<sup>3</sup> and organism is not related to infection at another site.</li> </ul> <p><sup>1</sup> When an organism isolated from a blood culture is compatible with a related nosocomial infection at another site, the bloodstream infection is classified as a secondary bloodstream infection. Exceptions to this are intravascular device-associated bloodstream infections, all of which are classified as primary even if localized signs of infection are present at the access site.</p> <p><sup>2</sup> Organisms that are normal skin flora (eg. <i>diphtheroids</i>, <i>Bacillus sp.</i>, <i>Propionibacterium sp.</i>, <i>coagulase-negative staphylococci</i>, or <i>micrococci</i>).</p> <p><sup>3</sup> Detection of bacterial, fungal, or viral antigen (eg. <i>Candida sp.</i>, <i>herpes simplex</i>, <i>varicella zoster</i>, <i>Haemophilus influenzae</i>, <i>streptococcus pneumoniae</i>, <i>Neisseria meningitidis</i>, group B <i>strptococci</i>) by rapid diagnostic test (eg. counterimmunoelectrophoresis, coagulation, or latex agglutination)</p>
Cult/Transf	Positive Blood or CSF Cultures	Date	<p><b>For each positive blood or CSF culture</b>, record the date of the blood draw, NOT the date the culture was found to be positive. Only positive cultures are listed in detail. Negative cultures are to be included in counting the total number of blood/CSF cultures, but are not listed in detail. Enter the date using the pull-down calendar. If date unknown leave the field blank.</p>

Cult/Transf	Positive Blood or CSF Cultures	Organism	<ul style="list-style-type: none"> <li>• <b>Only record the organisms if:</b> <ol style="list-style-type: none"> <li>1. Organism is listed in the drop down menu <b>AND</b> one of the following</li> <li>2. Infant receives 5 or more days of antibiotics; <b>OR</b></li> <li>3. Infant dies within 5 days of positive culture</li> </ol> </li> <li>• Record the organism regardless of physician's note indicating that it was a contaminant.</li> <li>• For each positive culture, please check the duration of antibiotics use alongside the same timeline of positive culture.</li> <li>• If multiple organisms are found in the same culture, enter each organism separately on a new line in the table.</li> <li>• <b>Do not record repeat cultures that are considered part of the same infection.</b> Therefore, a second positive blood culture containing the same organism (repeat culture) is NOT included if the culture date is within 10 days of the initial positive blood culture. However, when a positive CSF culture OR a positive blood culture containing a new organism is identified, even if the culture date is within 10 days of the initial positive blood culture, it should be added as new infection separately following the same criteria as described above (for antibiotic duration). Any positive culture drawn after 10 days is considered a new episode of infection and should be included (regardless of the type of organism) separately following the same criteria as described above (for antibiotic duration).</li> <li>• For calculation of 10 days, count day of infection as "day 1".</li> <li>• If patients are transferred to your hospital from a non-CNN hospital with a positive culture, do not record here, but record it as "<b>Admitted with infection from other hospital</b>" under "<b>Type of Infection</b>".</li> <li>• Do not record information about resistance to antibiotics.</li> <li>• A <b>contaminant</b> is defined as isolation of organism which is either considered to be nonpathogenic or for which antibiotics were prescribed for less than 5 days (unless baby dies within 5 days of isolation of organism).</li> <li>• Contact the Coordinating Centre for organisms that do not appear on the list.</li> </ul>
Cult/Transf	Positive Blood or CSF Cultures	Culture	Source of positive culture. Choose from <b>blood or CSF</b> (cerebrospinal fluid).
Cult/Transf	Transfusions Section	Include transfusions that took place in the Operating Room.	
Cult/Transf		Number of PRBC Transfusions	Include total number of Packed Red Blood Cell transfusions during infant stay. Does NOT include whole blood transfusions. Enter zero if none occurred or if unknown. (Mandatory field)

Cult/Transf		Number of platelet transfusions	Include number of platelet transfusions during infant stay. Enter zero if none occurred or if unknown. (Mandatory field)
Cult/Transf		Number of FFP transfusions	Include number of Fresh Frozen Plasma transfusion during infant stay. Enter zero if none occurred or if unknown. (Mandatory field)
Cult/Transf	Total # of blood cultures	Total count of all blood culture draws (regardless of whether culture is positive or negative) received by the clinical laboratory during this NICU admission. Two blood cultures taken at the same time from different sites (2 blood draws) count as two blood cultures. Two bottle aerobic/anaerobic combination count as 1 culture (1 blood draw). Also include blood cultures drawn in the ER if the patient is then admitted to the NICU. Includes blood cultures drawn for serology only. Enter zero if no blood cultures were taken during this NICU admission, or if information is unknown. (Mandatory field)	
Cult/Transf	Total # of CSF cultures	Total number of CSF culture draws (regardless of whether culture is positive or negative) received by the clinical laboratory during this NICU admission. If CSF is obtained without culture, do not include. Also include CSF cultures drawn in the ER if the patient is then admitted to the NICU. Enter zero if no CSF cultures were taken during this NICU admission, or if information is unknown. (Mandatory field)	
Cult/Transf	Type of Infection	<ul style="list-style-type: none"> <li>• <b>An “episode” of infection is defined as any event where infection is suspected and as a result begins with:</b> <ul style="list-style-type: none"> <li>○ bacteriological or viral samples taken; OR</li> <li>○ antibiotics are initiated; OR</li> <li>○ a diagnosis of infection is made.</li> </ul> </li> <li>• If samples are taken: an “episode” of infection includes all cultures drawn within <i>10 days</i> of the initial positive culture, except in the following circumstances (which indicate then a new infection episode): <ul style="list-style-type: none"> <li>○ A new organism is found in a repeat culture within <i>10 days</i> of the initial culture draw date.</li> <li>○ The same (or new) organism is found in a <i>new type</i> of culture within <i>10 days</i> of the initial culture draw date.</li> </ul> </li> <li>• After <i>10 days</i>, any persistent infection should be considered a new infection episode. However, any repeat culture after <i>10 days</i> that proves to be negative should be excluded entirely as it is neither the start of a new episode nor part of the previous episode (as it is beyond the 10 day limit).</li> <li>• For calculation of 10 days, count day of infection as “day 1”.</li> <li>• When confirming a diagnosis for a given infection episode, look first for a positive culture, then for the administration of appropriate antibiotic therapy and finally look for the clinical signs listed below to infer the appropriate diagnosis type for a particular infection.</li> </ul>	
Cult/Transf	Type of Infection Date	Enter the date using the pull-down calendar. If the date of diagnosis is unknown, please record the date when treatment began (i.e. when antibiotic was initiated). If the start date of treatment is unknown and the patient was	

		admitted with infection from another hospital, then enter the date of admission. Date of diagnosis of infection could be before date of admission. Leave the field blank if information is not available.	
Cult/Transf	Type of Infection – Diagnosis Type	Admitted with infection from other hospital	Select this if a patient is admitted to your hospital from a <b>non-CNN hospital</b> with a positive blood, CSF or viral culture, or a confirmed diagnosis of infection as identified below. Also select this if a patient is admitted to your hospital after culture was taken at a non-CNN hospital and later was confirmed to be positive. If a patient is admitted from another CNN hospital and later identified to be positive for blood, CSF or viral culture, then please contact the original CNN hospital to code the infection in their CNN record.
Cult/Transf		Clinical Sepsis	Must meet the following criterion: Patient is less than or equal to 12 months of age and has one of the following clinical signs or symptoms with no other recognized cause: fever (>38C), hypothermia (<37°C), apnea, or bradycardia <b>and all</b> of the following: <ul style="list-style-type: none"> <li>a. Blood culture not done or no organism or antigen detected in blood</li> <li>b. No apparent infection at another site</li> <li>c. Physician institutes (or intends) appropriate antimicrobial therapy for sepsis for at least 5 days</li> </ul>
Cult/Transf		CNS Infection	Includes meningitis, ventriculitis, spinal abscess without meningitis and brain abscess (i.e. epidural abscess).  <b>Meningitis or ventriculitis</b> must meet the following criterion: A pathogen must be isolated from or detected in CSF.  Definitive meningitis can be diagnosed by one of the following ways based on the microbiology reports: <ul style="list-style-type: none"> <li>- <b>Positive smear or culture:</b> presence of an organism on CSF Gram stain or positive culture (this includes those with prior antibiotic treatment, and non-culturable dead bacteria on CSF after antibiotics) recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap, or ventricular drain.</li> <li>- <b>Detection of pathogens by molecular methods</b> (e.g. multiplex or panel-based nucleic acid amplification tests, PCR assays etc.)</li> </ul>
Cult/Transf		Lower Respiratory Tract Infection (Pneumonia)	Must meet the following criterion: 1. Patient is less than or equal to 12 months of age and has chest x-ray changes consistent with ‘pneumonia’, ‘consolidation’ or ‘infiltrates’ <b>and</b>

			<ol style="list-style-type: none"> <li>2. Worsening respiratory signs (increased respiratory distress or oxygen or ventilation requirements in the previous 24 hours (i.e. temp. instability, apnea, bradycardia, etc.) and</li> <li>3. Isolation of pathogenic organism from ETT culture or bronchoalveolar lavage and</li> <li>4. Treatment with antimicrobial for at least 5 days</li> </ol>
Cult/Transf	Type of Infection – Diagnosis Type	Skin Infection or Soft Tissue Infection	<p>Includes skin infection (other than an incisional wound infection), soft tissue infection, decubitus ulcer infection, burn infection, breast abscess or mastitis, omphalitis, infant pustulosis, and newborn circumcision infection <b>AND must meet any of the following criteria:</b></p> <ol style="list-style-type: none"> <li>1. Purulent drainage, pustules, vesicles, or boils, necrotizing fasciitis, infectious gangrene, necrotizing cellulitis, infectious myositis, lymphadenitis, or lymphangitis</li> <li>2. Two of the following at affected site: localized pain or tenderness, swelling, redness, or heat and any of the following: <ol style="list-style-type: none"> <li>a. Pathogenic organism isolated from culture of aspirate or drainage from affected site; if organism is normal skin flora, must be a pure culture of a single organism</li> </ol> </li> <li>3. Physician institutes (or intends) appropriate antimicrobial therapy for at least 5 days</li> </ol>
Cult/Transf		Surgical Site Infection	<p>SSI can be superficial infections involving the skin only. Other SSI can involve tissues under the skin or organs. Score if there was infection of the surgical site diagnosed <b><i>within 30 days of surgery and</i></b> physician institutes (or intends) <b><i>at least 5 days of antibiotics treatment</i></b>. The surface swab/fluid/pus from the site needs to be positive for pathogenic bacteria. This category includes wound infection or abscess at surgical site.</p>
Cult/Transf		Urinary Tract Infection	<p>Includes symptomatic urinary tract infection, asymptomatic bacteriuria, as well as other infections of the urinary tract.</p> <p><b><i>Symptomatic urinary tract infection</i></b> must meet either of the following criteria:</p> <ol style="list-style-type: none"> <li>1. Patient is less than or equal to 12 months of age and has one of the following: fever (&gt;38°C), hypothermia (&lt;37°C), apnea, bradycardia, dysuria, lethargy, or vomiting <b>and</b> a urine culture of <math>\geq 10^2</math> colonies/ml of urine with no more than 2 species of organisms in a catheter specimen or bladder tap.</li> <li>2. Physician institutes (or intends) appropriate antimicrobial therapy for at least 5 days</li> </ol>
Cult/Transf	Type of Infection – Organism  Opens if UTI	<p>If infant was diagnosed with Urinary Tract Infection (UTI), select the organism from the dropdown list. If there were more than one UTI organisms identified from the same urine culture, select "other organism". If UTI organism is unknown, leave blank.</p>	

Cult/Transf	Type of Infection – Culture  Opens if UTI	If infant was diagnosed with Urinary Tract Infection (UTI), select the type of urine culture from the following options: Bag / Catheterized sample / Suprapubic tap / Clean catch / Other / Unknown. If there were more than one culture sites, record each of them on multiple lines. If done via nephrostomy tube or other surgical site, record as other. If done via indwelling foley catheter or in/out, record as catheter.
Cult/Transf	Positive Viral Isolates	<ul style="list-style-type: none"> <li>• If a culture of secretion, body fluid, surface swab or any other tissue material is found to be positive for virus, or if molecular test (e.g. PCR) is positive for virus, then enter the date when the specimen was taken, the organism isolated and the source of specimen.</li> <li>• Record only positive viral isolates that occur at your study hospital. If a specimen is taken at another hospital prior to this admission visit, and it is positive AND the baby is considered to have an infection at the time of arrival to your hospital, this should be recorded as an infection episode under “Type of Infection” (given that this is an ongoing concern of the patient). In this instance, record the infection type according to the definitions of infection diagnosis, and make a note in the comments box regarding the details of the positive culture including the organism discovered.</li> <li>• If patient is transferred to your hospital from a non-CNN hospital with a positive viral isolate, record it as <b>“Admitted with infection from other hospital”</b> under “Type of Infection”.</li> <li>• Include positive viral isolates found on <b>autopsy</b>, and enter date of death as date of the viral isolation.</li> <li>• <b>Admissions to NICU from your Emergency Department:</b> Include positive viral isolations done in the emergency department of your hospital immediately prior to admission to NICU. Record the appropriate date of the specimen (this may be the day before your admission date for those who are admitted after midnight.)</li> </ul>
Cult/Transf	Positive Viral Isolates - Date	For each positive viral isolate, record the date when the specimen was taken, NOT the date the culture was found to be positive. Enter the date using the pull-down calendar. Leave the field blank if the date is unknown.
Cult/Transf	Positive Viral Isolates - Virus	Only enter confirmed cases where the virus name appears on the drop down list. Do not include suspected cases. <ul style="list-style-type: none"> <li>• If multiple viruses are found in the same specimen, enter each virus separately on a new line in the table.</li> <li>• If the same virus was found in more than one specimen and isolated from <b>the same source</b> during the same admission, only enter it once.</li> <li>• If the same virus was found in more than one specimen and isolated from <b>different sources</b> during the same admission, enter them on separate lines.</li> <li>• <u>List of Organisms:</u> Adenovirus, Coronavirus (COVID), Cytomegalovirus, Enterovirus (examples include Coxsackie virus, echovirus), Herpesvirus - Herpes Simplex virus I or II, Influenza virus, Norovirus/Norwalk virus, Parainfluenza virus, Respiratory Syncytial Virus, Rhinovirus, Rotavirus, Other virus</li> </ul>

Cult/Transf	Positive Viral Isolates - Source	Identify the source of specimen for isolation.
		Choose from bronchoalveolar lavage (“bronchioalveolar washing”), endotracheal aspirate, nasopharyngeal swab/nasopharyngeal wash, throat swab, rectal swab/stool, urine, surface swab (including skin blisters) and other body fluid/tissue.

## Medications

### Medications

Reviewed

#### Post-Natal Steroids

	Type	Indication	Route	Start Date	End Date
▶*	▼		▼		

#### Surfactant

	Date	Time	Type	Method	Premedication	Atropine
▶			BLES ▼	LISA/MIST ▼	Morphine ▼	Yes ▼
*			▼	▼	▼	▼

#### PDA Treatment

	Treatment	Start Date	End Date
*	▼		

#### Caffeine

Start Date

End Date

Meds	Whole Screen	<p>Refer to <a href="#">appendix I</a> for a complete list of drugs and the categories they are classified under. If you are unsure what category a medication should be classified under contact the CC for advice. Record each complete course of a particular medication as a single line. Therefore if Dexamethasone is given for 11 days but only given every other day, this would be scored as 1 ‘course’, and each day need not be scored separately on a new line. Generally if a medication is stopped for more than 48 hours and restarted, this is considered the start of a new ‘course’.</p> <ul style="list-style-type: none"> <li>• If a patient is transferred in on a particular medication, record the date of admission to your unit as the start date.</li> <li>• If a patient is transferred out while still receiving a particular medication, record the discharge date as the end date.</li> </ul>	
Meds	Post-Natal Steroids	Type	Select from the scroll down list the type of post-natal steroid administered. Common steroids include: <b>dexamethasone, budesonide, hydrocortisone and beclamethasone</b> . If a steroid is not included in the list, select “Other”
Meds		Indication	Select indication from the list. Select “other” when an indication is not in the list and “unknown” when not specified. The list of relevant items will be displayed for the given selected steroid type. If prophylactic hydrocortisone was initiated in the first 48 hours after birth as per the PREMILOC protocol, select "Prophylaxis for BPD" under post-natal steroids indication.
Meds		Route	Select route of administration from the pull-down list. If the route is IM, select "parenteral".
Meds		Start Date	First date of administration of all post-natal steroids given during this hospital admission. Record regardless of method of administration (i.e. bolus or infusion). <b>Do NOT score steroids given to the mother prior to the infant’s birth</b> . Enter the date using the pull-down calendar.
Meds		End Date	Last date of administration of the listed steroid. Enter the date using the pull-down calendar. <b>If a medication is only given for 1 day score that day as both the start and end date.</b>

Meds	Surfactant	Section	Here you will enter date, time and type of surfactant administration. Once you enter details of first dose, a second row will be populated which will allow you to enter subsequent doses if patient has received. Note that date of second dose could not be prior to first dose.
Meds		Date of administration	Enter the calendar date in which the dose of surfactant was given ( <b>regardless of whether the dose was given while the infant was admitted to your NICU or not</b> ). The default date of the calendar will be set to the birth date, however if this is not correct, you will need to edit this date. If the date on which surfactant is given is unavailable, leave the field blank.
Meds		Time of Dose	Record the time in <i>military time</i> (24 hr clock) at which the dose of the particular surfactant was given (should correspond to the date listed above). Record midnight as 00:00 (and the first minute of a new day; for example: 23:59 on Jan 3 <sup>rd</sup> and 00:00 on Jan 4 <sup>th</sup> is 1 minute later). If the time at which surfactant is given is unavailable, leave blank.
Meds		Type	Score all surfactants (i.e. BLES, Survanta, Exosurf, Curosurf etc.) given to a patient using the pull-down menu. If surfactant was given to the infant mixed with Budesonide, select the appropriate option. Do not record Budesonide on Post-natal Steroids Screen if it was only given with surfactant. <b>Score regardless of whether given at your hospital or at a different transferring/birth hospital.</b> If surfactant was given at a previous hospital, record all the information if available.
Meds		Method	Select the method of surfactant administration from options: <ol style="list-style-type: none"> <li>1. Endotracheal</li> <li>2. LISA/MIST</li> <li>3. Other (includes aerosol surfactant)</li> <li>4. Unknown</li> </ol> Score regardless of whether the surfactant was given at your hospital or at a different transferring/birth hospital. If surfactant was given at a previous hospital, record all the information if available.  Less Invasive Surfactant Administration (LISA) includes administration of surfactant with the use of thin catheter (special catheter, intravenous cannula or NG tube). Also include Minimally Invasive Surfactant Treatment (MIST) under this option. Record method of surfactant administration for each completed dose (if LISA/MIST was attempted but baby was intubated due to instability and surfactant was given via endotracheal tube – record endotracheal tube).

Meds		Premedication	If surfactant was given to the infant via Less Invasive Surfactant Administration (LISA) or Minimally Invasive Surfactant Treatment (MIST), record the premedication if it was used to provide <i>analgesia</i> or <i>sedation</i> . Sucrose and Atropine are <u>not</u> considered as premedication for this procedure. Select “other” if more than 1 different medications were used. Select from: Fentanyl / Ketamine/ Propofol / Morphine / Midazolam / None / Other
Meds		Atropine	If surfactant was given to the infant via LISA or MIST, record whether Atropine was used with premedication.
Meds	Caffeine Start and End Dates		Enter the start date and final stop date of caffeine administration using the pull-down calendar. <b>DO NOT enter the dates when caffeine was intermittently stopped and restarted.</b> Do not enter theophylline or aminophylline here. If caffeine was only given for 1 day, score that day as both the start and end date.
Meds	PDA Treatment		<ul style="list-style-type: none"> <li>• Treatment - Select the type of treatment from scroll down list. Options include Acetaminophen, Ibuprofen and Indomethacin.</li> <li>• Start Date – First date of administration of the PDA treatment during this hospital admission. Enter the date using the pull-down calendar.</li> <li>• End Date - Last date of administration of the PDA treatment. Enter the date using the pull-down calendar. If the medication is only given for 1 day score that day as both the start and end date.</li> </ul>

## Discharge

### Discharge

Reviewed

#### Discharge Destination

Discharge Status

Community Hospital

Tertiary Hospital

Inpatient Location

#### Chronic Pulmonary Hypertension after day 28 of birth

Evaluation

Diagnosis

[Enter Date]

#### Autopsy

Yes  No  Unknown

#### CNFUN referral

Yes  No  Unknown

#### BPD

##### Recorded by abstractor

Yes  
 No  
 Unknown

##### Calculated @ Validation

No BPD  
 Mild BPD  
 Moderate BPD  
 Severe BPD  
 Missing data

#### Cause of Death

Please, select follow-up hospital

	Day 28 After Birth	W36 Post Menstrual	W40 Post Menstrual	Discharge Date
Date:	2025 Jan 29	2025 Mar 19	2025 Apr 16	[Enter Date]
Weight (g)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Head Circumference (cm)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Length (cm)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="checkbox"/> Gavage	<input type="checkbox"/> Gavage	<input type="checkbox"/> Gavage	<input type="checkbox"/> Gavage
Level of Respiratory Support	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Oxygen %	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Nasal Cannula (cc)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
MAP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Discharge	Whole Screen	<p>Complete this screen for all patients that are discharged from your NICU, regardless of whether or not they are transferred out of your hospital or to another ward/nursery within your hospital. If a patient is transferred within your hospital enter your hospital name and the nursery name under the appropriate level of care received there. If a patient is <b>discharged to another hospital for less than 24 hours for either surgical or medical care</b> that cannot be given at your hospital, you need <b>not</b> count them as a discharged patient. Mention “other facility” in Patient Chart screen and continue data collection for the rest of the patient’s hospital stay in the current data set. If however the patient is discharged for more than 24 hours, complete the discharge information and record their return as a readmission, entering the remainder of the hospital stay in the new ‘readmission’ data set.</p>
Discharge	Discharge Status	<p>Indicate the status on discharge from your NICU as follows:</p> <ul style="list-style-type: none"> <li>• <b>Current Inpatient:</b> if the baby is not yet discharged from your NICU, but you wish to keep track of the record in the database.</li> <li>• <b>Died:</b> if the baby died during this hospital stay.</li> <li>• <b>Discharged on Palliative Care:</b> if the baby was discharged to home or other institution for palliative care.</li> <li>• <b>Discharged to Community Hospital:</b> if the baby was discharged from your NICU and transferred to any term (level 1/level II/regular/healthy baby) nursery/community hospital. Then complete the Community Hospital field by selecting the province, city and name of the community hospital from the drop-down menus (in which case you should follow up on this baby with the post-transfer screen, if possible).</li> <li>• <b>Discharged to Home:</b> if the baby was discharged home (or into home foster care) from your NICU. If the baby is discharged into foster care, it is <b>not</b> necessary to make a note in the comments box. We are only interested in the type of care the baby is to receive, i.e. home care versus hospital care. However, if the infant is discharged home on palliative care, record as palliative care.</li> <li>• <b>Discharged to Tertiary Hospital:</b> if the baby was transferred to one of the other CNN hospitals (in which case you should follow up on this baby with the post-transfer screen) or to another tertiary care centre. Then complete the Tertiary Hospital field by selecting the province, city and name of the tertiary hospital from the drop-down menus.</li> <li>• <b>Out of Country Discharge:</b> if the baby was discharged to a facility outside of Canada or home outside of Canada.</li> <li>• <b>Transferred to another inpatient area in hospital:</b> if the baby was transferred to an inpatient area within your hospital. Selection of this field will activate the Post Transfer screen. Complete the Inpatient Location field by selecting from the drop-down menu. If the baby was transferred to the OR, and does not return to the NICU (i.e. discharged from the NICU on the way to the OR), enter as OR (at your hospital), but do not score this operation on the diagnosis and procedures screen.</li> </ul>

Discharge	Support at Discharge	Section	If the infant was not on any of the supports listed below at the time of discharge or transfer, leave this section blank. <b>Do NOT mark anything in this column if the baby died.</b>
Discharge		Monitor	Score this if the patient is receiving continuous cardiac or apnea monitoring <b>at the time of discharge/transfer</b> . If the chart does not specify and discharge is to a level 2 or 3 community hospital, score monitor at discharge. If the chart does not specify and discharge is to the routine (level 1) nursery, do not score. If discharged home, there must be clear evidence of plans for home monitoring to score this item.
Discharge	Autopsy	If the death is selected as disposition of the infant during this admission, then this field will be activated and require completion. Record whether autopsy consent was obtained. This information will be used to recall charts later to verify causes of death. Note that the autopsy report may not be completed for several weeks.	
Discharge	Cause of death	If the death is selected as disposition of the infant during this admission, then this field will be activated and require completion. <b>Record the principle cause of death as stated by the attending physician or autopsy findings</b> (maximum 255 characters). Where there is a discrepancy, ask the physician to verify the cause of death. <b>Use underlying diagnoses, NOT terminal events</b> like "cardiac arrest."  For all babies who are admitted to the NICU and die you will need to verify the cause of death by a) asking the attending physician and b) checking the death certificate to see what is listed.	
Discharge	CNFUN Referral	Complete this section regardless of whether or not your site participates in CNFUN. Select yes if baby was referred to a CNFUN hospital for neurodevelopmental assessment. This field is applicable to babies less than 29 weeks GA and for the purpose of linking to CNFUN babies only.	
Discharge	Chronic Pulmonary Hypertension	Section	Section is enabled only if infant is more than 28 days of age during the NICU visit.
Discharge		Evaluation	Select yes if infant was evaluated by cardiac ultrasound or cardiac catheter at any point > 28 days after birth. Cardiac ultrasound includes cardiology echocardiogram and targeted neonatal echocardiography.
Discharge		Diagnosis	Select yes if, at any point > 28 days after birth, there is documentation of chronic pulmonary hypertension (some may document it as pulmonary hypertension).

Discharge		Diagnosis date	<p>Document the diagnosis date as the date of the first cardiac ultrasound or cardiac catheter if it was done at &gt;28 days after birth and the report mentioned <i>at least one</i> of the following:</p> <ul style="list-style-type: none"> <li>- pulmonary hypertension</li> </ul>
			<ul style="list-style-type: none"> <li>- chronic pulmonary hypertension</li> <li>- flat interventricular septum in systole</li> <li>- bidirectional or right to left shunt at PDA</li> <li>- bidirectional or right to left shunt at Ventricular septal defect (VSD)</li> </ul> <p>Score even if the condition was resolved before discharge.</p>
Discharge	Bronchopulmonary Dysplasia (BPD) – Recorded by Abstractor	<p><b>Applicable for babies ≤ 32 weeks GA.</b>  Manually entered by selecting yes, no or unknown based on clinician’s notes. (Mandatory field)</p> <ul style="list-style-type: none"> <li>• <b>Yes</b> – Score this if clinical notes describe BPD <u>OR</u> there is use of “oxygen” and/or “invasive or non-invasive ventilatory support” and/or “high flow air” when infant reaches 36 weeks of postmenstrual age or at the time of discharge to Level 2 hospital, whichever is earlier.</li> <li>• <b>No</b> – Score this if either of these apply: <ul style="list-style-type: none"> <li>○ There is no use of “oxygen” and/or “invasive or non-invasive ventilatory support” and/or “high flow air” <u>OR</u></li> <li>○ There is use of “oxygen” and/or “invasive or non-invasive ventilatory support” and/or “high flow air” <u>BUT</u> there is a confirmed explanation for such requirement like an acute event such as surgical procedures, postoperative care, or congenital central hypoventilation syndrome at 36 weeks CGA or at discharge. The infant prior to this acute event was in room air for prolonged period of time.</li> </ul> </li> <li>• <b>Unknown</b> – Score this if diagnosis of BPD is unknown or not available.</li> </ul>	

Discharge	Bronchopulmonary Dysplasia (BPD) – Calculated @ Validation	<p><b>Applicable for babies ≤ 32 weeks GA. No data entry is required in this field.</b></p> <p>Upon validation (when the “Validate Case” button is clicked on the Validate Case Screen), a calculated value is displayed based on other data entries using the following algorithm:</p> <table border="1" data-bbox="590 237 1896 846"> <thead> <tr> <th>BPD</th> <th>Oxygen</th> <th>Mode of delivery of oxygen</th> <th>Flow rate</th> </tr> </thead> <tbody> <tr> <td>No BPD</td> <td>21%</td> <td>None</td> <td>-</td> </tr> <tr> <td rowspan="3">Mild BPD</td> <td>&gt;21%</td> <td>Headbox or Incubator</td> <td>Any amount</td> </tr> <tr> <td>100%</td> <td>Nasal cannula</td> <td>&lt;100cc/min</td> </tr> <tr> <td>≥21-99%</td> <td>Nasal cannula blended air/oxygen</td> <td>&lt; 1.5 L/min</td> </tr> <tr> <td rowspan="3">Moderate BPD</td> <td>100%</td> <td>Nasal cannula</td> <td>&gt;100 cc/min</td> </tr> <tr> <td>≥21-29%</td> <td>Nasal cannula blended air/oxygen</td> <td>&gt; 1.5 L/min</td> </tr> <tr> <td>≥21-29%</td> <td>CPAP, SIPAP, NIPPV, NIHFV</td> <td></td> </tr> <tr> <td rowspan="3">Severe BPD</td> <td>&gt;30%</td> <td>Nasal cannula blended oxygen</td> <td>&gt; 1.5 L/min</td> </tr> <tr> <td>&gt;30%</td> <td>CPAP, SIPAP, NIPPV, NIHFV</td> <td></td> </tr> <tr> <td>≥21-100%</td> <td>Mechanical ventilation (Intubated)</td> <td></td> </tr> </tbody> </table> <p>The manually entered BPD value will NOT override the calculated value. In case of discrepancies between the two values, the CNN Site Investigator will advise the coordinating centre with respect to the final call of BPD for reporting purposes.</p>	BPD	Oxygen	Mode of delivery of oxygen	Flow rate	No BPD	21%	None	-	Mild BPD	>21%	Headbox or Incubator	Any amount	100%	Nasal cannula	<100cc/min	≥21-99%	Nasal cannula blended air/oxygen	< 1.5 L/min	Moderate BPD	100%	Nasal cannula	>100 cc/min	≥21-29%	Nasal cannula blended air/oxygen	> 1.5 L/min	≥21-29%	CPAP, SIPAP, NIPPV, NIHFV		Severe BPD	>30%	Nasal cannula blended oxygen	> 1.5 L/min	>30%	CPAP, SIPAP, NIPPV, NIHFV		≥21-100%	Mechanical ventilation (Intubated)	
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	≥21-100%	Mechanical ventilation (Intubated)																																						
Discharge	Day 28 / Week 36 / Week 40 / Discharge – Scoring Periods	<p><b>Day 28:</b> Day 28 data should be recorded as the first data noted after midnight <b>on day 28 of life</b> to 23:59 (24 hours).</p> <p><b>Week 36:</b> Week 36 is 36 weeks post conception (gestational age plus weeks of life). It is computed using the gestational age that is calculated from the best available information on the first page. Please note that if the baby is born at 32 weeks gestational age, the week 36 data will be identical to the day 28 data. Therefore, this data should not be collected if the gestational age is 32 weeks or more, or if the patient dies or is transferred to a level 1 nursery prior to week 36. Data should be recorded by using the first value noted after midnight on the first day of week 36 to 23:59 (24 hours).</p>																																						

		<ul style="list-style-type: none"> <li>• <b>The scoring period for “day 28”</b> data should be from 00:00 hr on day 28 of life to 23:59 hr (24 hours). For your convenience, the calendar date of day 28 has been calculated and is listed in red. If you are missing part of the day 28 flow sheet and you can get accurate information from other sources (i.e. progress notes), then score based on these other sources. Otherwise, you should use the closest complete 24 hour scoring period (it is okay to adjust times of day), but it should not be more than 48 hours off from day 28.</li> <li>• <b>The scoring period for “week 36”</b> data should be from 00:00 hr on day one of <b>week 36</b> to 23:59 hr (24 hours). Otherwise, you should use the closest complete 24 hour scoring period (it is okay to adjust times of the day). For your convenience, the calendar date of the first day of week 36 has been calculated where appropriate and is displayed in red on the right upper corner of this screen.</li> <li>• <b>The scoring period for “week 40”</b> data should be from 00:00 hr on day one of <b>week 40</b> to 23:59 hr (24 hours). Otherwise, you should use the closest complete 24 hour scoring period (it is okay to adjust times of the day). For your convenience, the calendar date of the first day of week 40 has been calculated where appropriate and is displayed in red on the right upper corner of this screen.</li> <li>• <b>Week 36 and week 40 data</b> need never be collected if the gestational age is 33 weeks or more.</li> <li>• <b>Week 36 and week 40 data</b> also need not be collected if the baby is discharged home, to a level 1 nursery, or if the patient dies before 36 or 40 weeks. In these instances, the week 36 and week 40 weights and head circumferences will be grayed out and you will not need to enter anything under this section. If a baby is transferred to another level 2 or level 3 hospital before week 36 where available, score according to the receiving hospital’s records.</li> <li>• Day 28, week 36 and week 40 data are auto-populated for readmissions of each baby</li> </ul>	
Discharge	Day 28 / Week 36 / Week 40 / Discharge	Date	These dates will be automatically calculated from the admission screen (mandatory field).
Discharge		Discharge Date	Record the infant’s date of discharge.
Discharge		Weight	Record infant’s weight nearest day 28, week 36, week 40 and discharge (within 2 days). If not weighed or data not available, leave the field blank.
Discharge		Head circumference	Record infant’s head circumference nearest day 28, week 36, week 40 and at discharge (within 7 days). If the information is unavailable, or if head circumference is not measured within 7 days, leave the field blank.
Discharge		Length	Record the length of infant in centimeters nearest day 28, week 36, week 40 and at discharge (within 7 days). If the information is unavailable, or if length is not measured within 7 days, leave the field blank. Range is valid between 20 and 65 cm.

Discharge	Level of Respiratory Support	<ul style="list-style-type: none"> <li>• <b>Score “None”</b> if no respiratory support was being used or if the baby was only receiving humidity for tracheostomy patients at day 28, week 36 or week 40 as appropriate.</li> <li>• <b>Score “Headbox or Incubator”</b> if the baby is receiving oxygen via headbox or incubator, without Nasal Cannula, at day 28, week 36 or week 40 as appropriate and at discharge/transfer.</li> <li>• <b>Score “Nasal cannula”</b> if the baby is receiving air and/or oxygen via nasal cannula, at day 28, week 36 or week 40 as appropriate and at discharge/transfer. This also includes “High Flow Nasal Prongs (HFNP)” (item #6) and “Low Flow Air” (item #8) as defined on the Patient Chart screen.</li> <li>• <b>Score “CPAP/SiPAP/NI”</b> if the baby is on CPAP, SiPAP or Non Invasive Ventilation – items #4 or #5 on the Patient Chart Screen, at day 28, week 36 or week 40 as appropriate and at discharge/transfer.</li> <li>• <b>Score “Mechanical Ventilation”</b> if baby was receiving mechanical ventilation as defined on the Patient Chart Screen as “HFV (item #2) or “IPPV” (item #3), at day 28, week 36 or week 40 as appropriate and at discharge/transfer. Route must be endotracheal tube or tracheostomy tube.</li> </ul>
Discharge	Gavage	Score this if the patient received gavage feeding at any time (any amount) within the 24 h reference period. If you are already scoring gastrostomy at discharge, make sure to <b>also score gavage at discharge/prior to discharge/transfer.</b>
Discharge	Oxygen %	This field is enabled if the corresponding Level of Respiratory Support is headbox or incubator, nasal cannula, CPAP/SiPAP/NI or mechanical ventilation. Record the level of oxygen percentage on day 28, week 36 or week 40 as appropriate and at discharge. Please enter maximum oxygen percentage given on that day between 21 and 100 <b>while on the highest level of respiratory support</b> . Enter 100 if patient is on oxygen via nasal cannula
Discharge	Nasal Cannula (cc)	This field is enabled if the corresponding <i>Level of Respiratory Support</i> is nasal cannula. Record the flow of gas in cc per minute given via the nasal cannula on day 28, week 36 or week 40 as appropriate and at discharge. (maximum value 10,000 cc)
Discharge	MAP	This field is enabled if the corresponding Level of Respiratory Support is CPAP/SiPAP/NI or mechanical ventilation. Record the highest mean airway pressure given <b>while on the highest level of respiratory support</b> on day 28, week 36 or week 40 as appropriate and at discharge. If baby is on CPAP record the CPAP level as MAP. If baby is on NIPPV, enter Expiratory positive airway pressure (EPAP) as MAP.

Post Transfer

## Post Transfer

Reviewed

	Destination from next hospital	Date of next discharge	If transferred/other (specify)	Last day on oxygen
▶*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Post Transfer	Screen	Complete this <b>OPTIONAL</b> screen only for patients that are discharged to another level 2 or level 3 nursery from your NICU. If patients are discharged home or to a level 1 nursery from your NICU leave this screen blank. Once a patient has been classified as being included under 'post-transfer' then you should continue to complete this screen for each time there is a transfer, until the patient is finally discharged home or to a level 1 nursery. If the information for certain items will never be available (e.g. the baby has been discharged from the next hospital and they do not have the oxygen information anymore), score these items as "unknown" or leave the field blank where appropriate.
Post Transfer	Destination from next hospital	Record destination on discharge from second hospital here. If second discharge is to another hospital or the baby died at the subsequent location <b>score "other"</b> and <b>record the destination/death in the "if transferred/other (specify)" box</b> . If second discharge is unknown score as "unknown or N/A". If baby has died, select "Death".
Post Transfer	Date of next discharge	Record the date of discharge from the subsequent location. If that discharge was to a destination other than home, record the next discharge information again in the box that pops up below.
Post Transfer	If transferred/other, specify	If discharge destination is other than home, record destination from second hospital here.
Post Transfer	Last day on oxygen at hospital	If the infant was still on oxygen at the time of the primary discharge, attempt to ascertain from the receiving hospital what day supplemental oxygen was finally discontinued. If the baby did not receive O2 at the receiving hospital, leave blank. If the baby went home or to another hospital/nursery on O2 and last day on O2 is unknown, use the date of discharge.

## Validate Case

### Validate Case

Please enter any extra notes for this case that did not fit in the Comments box in the Admission page.

Notes

Validation Status

[Print Status](#)

Validate Case

Validate	Screen	<p>Here you can enter any notes that you did not have enough room previously to enter (maximum characters=255). Press "Validate Case" for <b>an error report that will highlight missing, inaccurate or conflicting data and dates</b>, or an acknowledgement of a correctly entered case.</p> <p>You can print off a status report if you so desire by selecting the "Print Status" link to the upper right of the "Validate Case" button.</p>
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## Antimicrobial Use & Susceptibility

### Antimicrobial use and Susceptibility (birth weight <1500 grams)

Reviewed

Positive Blood or CSF Culture (if any) are listed by date of sample draw  
*Susceptible (S), Intermediate/Moderate (I/M), Resistant (R) or Unknown/ Not reported (U)*

Antimicrobial Use 2023 Jan 01

Antimicrobial	Start Date	End Date
▶▶ <input type="text"/>		

### Antimicrobial use and Susceptibility (birth weight <1500 grams)

Reviewed

Positive Blood or CSF Culture (if any) are listed by date of sample draw  
*Susceptible (S), Intermediate/Moderate (I/M), Resistant (R) or Unknown/ Not reported (U)*

Antimicrobial Use 2023 Jan 01

Organism: Alpha Streptococcus  
 Culture: Blood

Amikacin <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U	Cloxacillin/Oxacillin/ Methicillin <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U
Ampicillin <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U	Gentamicin <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U
Cefazolin <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U	Imipenem <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U
Cefotaxime <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U	Meropenem <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U
Ceftazidime <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U	Vancomycin <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U
Ceftriaxone <input type="checkbox"/> S <input type="checkbox"/> I/M <input type="checkbox"/> R <input type="checkbox"/> U	

Antimicrobial	Screen	<b>This screen is enabled only for sites that are participating in the Antimicrobial Stewardship Plan (ASP) study and for babies with birth weight &lt;1500 grams and with at least one positive blood or CSF culture recorded.</b>
Antimicrobial	Antimicrobial	Select from the dropdown list the antimicrobial administered during this hospital admission. Enter on separate lines if the infant received more than one antimicrobials during this admission. Exclude antimicrobials given for prophylactic purposes.
Antimicrobial	Antimicrobial Start Date	<ul style="list-style-type: none"> <li>Record the first date of antimicrobial administration using the dropdown calendar.</li> <li>If an infant is transferred to your NICU from another CNN hospital while receiving a particular antimicrobial, record the date of admission to your NICU as the start date.</li> <li>If an infant is transferred to your NICU from a non-CNN facility or another inpatient area of your hospital, record the start date of antimicrobials at the referring facility. If the start date at the referring facility is not available, record the date of admission to your NICU as the start date.</li> <li>The start day of every single antimicrobial needs to be entered. Any re-start after a stop date refers to a second course, and needs to be entered on a separate line.</li> </ul>
Antimicrobial	Antimicrobial End Date	<ul style="list-style-type: none"> <li>Record the last date of antimicrobial administration using the dropdown calendar.</li> <li>If an infant is transferred out while receiving a particular medication, record the discharge date as the end date. If an antimicrobial was given for 1 day, record that day as both the start and end date.</li> <li>The end day of every single antimicrobial needs to be entered. Any re-start after a stop date refers to a second course.</li> </ul>
Antimicrobial	Antimicrobial Susceptibility Tab(s)	<p>For each positive blood or CSF culture that occurs during this NICU admission, a tab is displayed with the date of specimen draw and organism name as recorded on the Cultures/Transfusions Screen.</p> <p>For each of the 11 antimicrobials, select from: Susceptible (S), Intermediate/Moderate (I/M), Resistant (R) or Unknown/ Not reported (U) based on laboratory results. Select the antimicrobial susceptibility as found on the laboratory reports.</p>

# RESET - PDA

Reviewed

Day 1-3 Day 4-7 Day 8-14 Day 15-28

Data N/A

Date of echocardiogram

Patient Weight (g)

Systolic BP

Diastolic BP

Mode of respiratory support at echo

SpO2  Flow rate (L / min)  FiO2

MAP/PEEP (cmH2O)  Flow rate (mL / min)

Left Ventricular Dimensions

LVEDV (A4Ch) (mL)   N/A

LVESV (A4Ch) (mL)   N/A

LVEDV (A2Ch) (mL)   N/A

LVESV (A2Ch) (mL)   N/A

LVID – end diastole (PSAX) (mm)   N/A

LVID – end systole (PSAX) (mm)   N/A

Patent Ductus Arteriosus

PDA Diameter (mm)   N/A

Peak Pressure Gradient (mmHg)   N/A

Mean Pressure Gradient (mmHg)   N/A

End diastolic velocity (m/s)   N/A

PDA shunt direction

Right Ventricular Dimensions and Function

RVEDA (A4Ch) (cm2)   N/A

RVESA (A4Ch) (cm2)   N/A

TAPSE (mm)   N/A

LV Function

Septal TDI (cm/s) e'   N/A a'   N/A s'   N/A

Lateral TDI (cm/s) e'   N/A a'   N/A s'   N/A

Ejection fraction (Simpson's) (%)   N/A

Pulmonary vein velocities (m/s) S   N/A D   N/A

IVRT (msec)   N/A

Mitral valve inflow (cm/s) E   N/A A   N/A

Systemic Dopplers: Flow Direction in Diastole

Abdominal aorta

Celiac

MCA

Other Measurements

LA : Ao   N/A

LVOT diameter (mm)   N/A

LVOT VTI (cm)   N/A

Heart rate (with LVOT Doppler) (bpm)   N/A

PDA treatment course following echocardiogram

Was pharmacological treatment administered?  Yes  No  Unknown

If Yes:

Date of first dose of pharmacological treatment course

Medication administered

Outcome of treatment based on post-treatment echocardiogram

Validated

Validate data

Reset PDA	Screen	<p>This screen is enabled only for sites that are participating in the CANRxPDA study</p> <p><b>* Only complete this screen for infants born less than 28 weeks of gestation and who are diagnosed with PDA *</b></p> <p><b>For infants who never receive treatment, <u>exclude</u> those echocardiograms where:</b></p> <p>(a) PDA size was not mentioned and PDA was described as “small” or “tiny”</p> <p>(b) The report specifically mentioned that the PDA shunt direction was either “bidirectional” or “predominantly right-to-left” or “right-left”.</p>	
	Echocardiogram data	Date	<p>Record the date of echocardiogram using the pulldown calendar. Enter multiple lines if more than one Echocardiograms were performed. Leave blank if the date is unavailable.</p> <p><b>For infants who never receive treatment,</b> only enter the details of the echocardiogram in which PDA was diagnosed. <b>Exclude</b> those echocardiograms where:</p> <p>(a) PDA size was not mentioned and PDA was described as “small” or “tiny” (b) The report specifically mentioned that the PDA shunt direction was either “bidirectional” or “predominantly right-to-left” or “right-left”.</p> <p><b>For infants receiving treatment,</b> only enter the details of echocardiograms done prior to each course of PDA treatment. Echocardiograms done for other purposes can be omitted.</p>
		PDA Size	<p>Enter the PDA size in millimeter.</p> <p>If a range is provided (e.g., 2-2.5 mm), please select the lower end of the range (i.e., 2 mm) If PDA size is not reported, leave blank.</p>
		LA:Ao Ratio	<p>Left atrium:aortic root ratio, irrespective of whether the infant received PDA treatment. This information can be found on the echo report [formal echo report on Meditech or informal TnECHO report on patient’s progress notes (for those centers that do not have a formal TnECHO reporting process). Please check with your local site investigator as to location of echo results (Meditech and/or patient’s progress notes)]. If it is not recorded, leave blank.</p>
Reset PDA	Respiratory support at the echocardiogram time	Mean Airway Pressure (MAP)	<p>Enter the mean airway pressure (cm of H<sub>2</sub>O) at the time of each echocardiogram. This information can be found on respiratory therapy (RT) notes. Please check with your local site investigator as to exact location of RT notes. If the MAP at the exact time of echocardiogram is not noted on the RT notes, please use the values documented on the most recent check prior to the echocardiogram.</p>
Reset PDA		FiO <sub>2</sub> Requirement	<p>Enter the FiO<sub>2</sub> requirement (%) at the time of each echocardiogram. This information can be found on respiratory therapy (RT) notes. Please check with your local site investigator as to exact location of RT notes. If the FiO<sub>2</sub> at the exact time of</p>

			echocardiogram is not noted on the RT notes, please use the values documented on the most recent check prior to the echocardiogram.
Reset PDA	Pharmacotherapy Done	Select Yes, no or unknown.	
Reset PDA	Pharmacotherapy Details Section	<ul style="list-style-type: none"> <li>• Enter course data as collected at the time of initiation of each course or at the specified moment.</li> <li>• Please use a separate row for each course of treatment.</li> <li>• Typically a course of ibuprofen (both standard and adjustable dose) will last 3 days, a course of indomethacin will last 36 hours to 3 days (depending on whether the dosing interval for the 3 doses is 12h or 24h), and a course of acetaminophen can last for 3-7 days. Please check with local site investigator to confirm the typical duration of the selected medication for the site.</li> </ul>	
Reset PDA	Medication Type	Select medication type from: <ul style="list-style-type: none"> <li>• Standard dose ibuprofen</li> <li>• Adjustable dose ibuprofen</li> <li>• Indomethacin</li> <li>• Acetaminophen</li> </ul>	
Reset PDA	Route of Medication	Select from: intravenous/oral/rectal	
Reset PDA	Start Date	Date when infant received first dose (not date of order).	
Reset PDA	Weight on the course start day	Please record infant's weight on the day he/she received first dose of medication.	
Reset PDA	First dose of the course	Please record actual amount of first dose (in mg). <b>DO NOT</b> calculate mg/KG.	
Reset PDA	Number of doses in each course*	Please record number of doses (continuous or every 6/8/12/24 hourly). If there is gap of more than 24 hours, count it as a second course and not include in number of doses.	
Reset PDA	Pre-treatment serum creatinine within 48 hr prior to course start	Please enter the latest pre-treatment serum creatinine value (uMol/L) documented within 48 hours prior to course start. <b>This applies only to the following:</b> <ul style="list-style-type: none"> <li>• Standard dose ibuprofen</li> <li>• Adjustable dose ibuprofen</li> <li>• Indomethacin</li> </ul>	
Reset PDA	Maximum serum creatinine within 1	Please enter the maximum serum creatinine value (uMol/L) within 1 week of the first dose of that particular course of treatment. <b>This applies only to the following:</b>	

	wk of course initiation	<ul style="list-style-type: none"> <li>• Standard dose ibuprofen</li> <li>• Adjustable dose ibuprofen</li> <li>• Indomethacin</li> </ul>
Reset PDA	Maximum serum bilirubin within 1 wk of course initiation	<p>Please enter the maximum <i>total</i> serum bilirubin value (uMol/L) within 1 week of the first dose of that particular course of treatment. This applies only to the following:</p> <ul style="list-style-type: none"> <li>• Standard dose ibuprofen</li> <li>• Adjustable dose ibuprofen</li> <li>• Acetaminophen/Paracetamol</li> </ul>
Reset PDA	Maximum serum ALT (u/L) during or within 1 wk of completion of pharmacotherapy	<p>Please enter the maximum serum ALT (u/L) during or within 1 week of completion of acetaminophen/paracetamol. This applies to <b>Acetaminophen/Paracetamol ONLY</b>.</p>
Reset PDA	Maximum serum AST (u/L) during or within 1 wk of completion of pharmacotherapy	<p>Please enter the maximum serum AST (u/L) during or within 1 week of completion of acetaminophen/paracetamol. This applies to <b>Acetaminophen/Paracetamol ONLY</b>.</p>

## Post-extubaton pressures CER Screen (Updated Feb 2026)

### Post-Extubation Pressures CER

Reviewed

Exclusion criteria (select only one - the first in order that applies)

- Patient enrolled in a conflicting study
- Confirmed major congenital/chromosomal/genetic abnormality?
- Never received invasive mechanical ventilation (IMV)
- Never extubated to any form of non-invasive respiratory support (NRS)
  - Transfer to another site prior to extubation
  - Death prior to extubation or withdrawal at time of initial extubation
  - Extubated to no respiratory support (i.e., to room air directly)
  - Other (i.e. Invasive ventilation with a tracheostomy)
- Patient does NOT meet any of the above exclusion criteria

Eligibility confirmation & Pre-extubation details

Respiratory management & outcomes over 7 days

Validated

Validate data

#### Extubation 1

Date/Time    Eligible

IMV duration  $\geq 36$  hours?  Yes  No  Unknown

Re-intubated within 1 hour of extubation?  Yes  No  Unknown

Pre-extubation measured MAP  $\leq 13$  cmH2O  Yes  No  Unknown

Pre-extubation mode

IPPV  HFOV  HFJV  Unknown

On IPPV, set PEEP  $\leq 11$  cmH2O?  Yes  No  Unknown

On HFOV; set MAP  $\leq 13$  cmH2O?  Yes  No  Unknown

On HFJV, set PEEP  $\leq 11$  cmH2O?  Yes  No  Unknown

#### Pre-extubation details

Date/Time of extubation

Weight at extubation (g)

Pre-extubation measured MAP (cmH2O)   Unknown

Pre-extubation FIO2 (%)   Unknown

Spontaneous Breathing Trial  Yes  No/Unknown

#### Pre-extubation settings

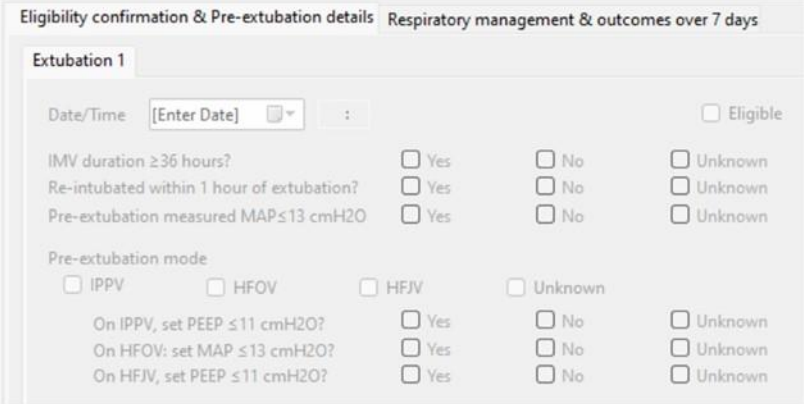
IPPV (including NAVA)	HFOV	HFJV
PIP (cmH2O) <input type="text"/>	MAP (cmH2O) <input type="text"/>	Jet PIP (cmH2O) <input type="text"/>
PEEP (cmH2O) <input type="text"/>		PEEP (cmH2O) <input type="text"/>
NAVA level (cmH2O/uV) <input type="text"/>		Jet Rate (bpm) <input type="text"/>
Set Rate (bpm) <input type="text"/>		Jet i-Time (sec) <input type="text"/>
i-Time (sec) <input type="text"/>		


#### Post-extubation modes and initial settings

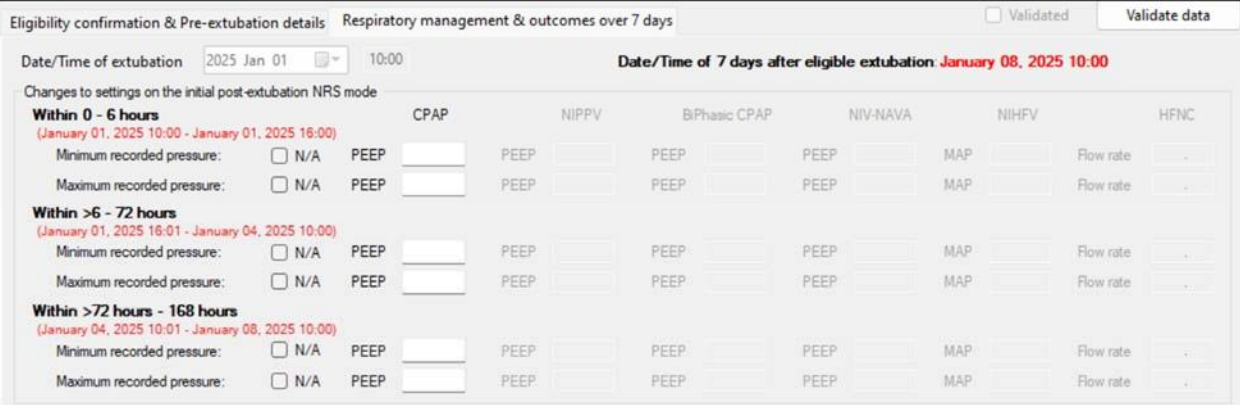

Mode	Initial settings
<input type="checkbox"/> CPAP	PIP (cmH2O) <input type="text"/>
<input type="checkbox"/> BiPhasic CPAP	PEEP (cmH2O) <input type="text"/>
<input type="checkbox"/> NIPPV	MAP (cmH2O) <input type="text"/>
<input type="checkbox"/> NIV-NAVA	Rate (bpm) <input type="text"/>
<input type="checkbox"/> NIHFV	i-Time (sec) <input type="text"/>
<input type="checkbox"/> Nasal cannula	NAVA level (cmH2O/uV) <input type="text"/>
<input type="checkbox"/> Other/Unknown	Flow rate (LPM) <input type="text"/>

Post-extubation FIO2 (%)   Unknown

<b>Post-extubation pressures</b>	This screen is for patients <28 weeks' GA who may be eligible for inclusion in the "Post-extubation Pressures" comparative effectiveness research (CER) study at any 1 of the 24 participating sites	
Sec on 1: Eligibility of Patient	<div style="border: 1px solid black; padding: 10px;"> <h3 style="text-align: center;">Post-Extubation Pressures CER</h3> <p>Exclusion criteria (select only one - the first in order that applies)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Patient enrolled in a conflicting study</li> <li><input type="checkbox"/> Confirmed major congenital/chromosomal/genetic abnormality?</li> <li><input type="checkbox"/> Never received invasive mechanical ventilation (IMV)</li> <li><input type="checkbox"/> Never extubated to any form of non-invasive respiratory support (NRS) <ul style="list-style-type: none"> <li><input type="checkbox"/> Transfer to another site prior to extubation</li> <li><input type="checkbox"/> Death prior to extubation or withdrawal at time of initial extubation</li> <li><input type="checkbox"/> Extubated to no respiratory support (i.e., to room air directly)</li> <li><input type="checkbox"/> Other (i.e. Invasive ventilation with a tracheostomy)</li> </ul> </li> <li><input checked="" type="checkbox"/> Patient does NOT meet any of the above exclusion criteria</li> </ul> </div>	
Sec on 1: Eligibility of Patient	<p>If any one or more of the 1<sup>st</sup> 4 criteria are met (need to select only one of the criteria in the sequence they appear), then patient is NOT eligible (no further ac on is needed on this screen for such a patient)</p> <p><i>*For list of major congenital/chromosomal/genetic abnormalities – see appendix below.</i></p> <p>If NONE of the first 4 criteria are met → confirm by selecting that "Patient does NOT meet any of the above exclusion criteria" → next sec on will activate</p>	
Sec on 1: Eligibility of Patient	Conflicting study = Post-extubation intervention that may impact re-intubation (e.g., Doxa-Trial). Site P.I. to inform abstractors of any unit studies that would exclude patients.	
Sec on 1: Eligibility of Patient	IMV = Invasive mechanical ventilation	Includes any of IPPV, HFOV and/or HFJV
Sec on 1: Eligibility of Patient	NRS = non-invasive respiratory support	Includes any of CPAP, NIV, NIPPV, BiPhasic CPAP, nHFO/NIHFV, HFNC/nasal cannula (flow rate >1.5 LPM)

<p>Sec on 2: Eligibility of Extubation</p>		
<p>Sec on 2: Eligibility of Extubation</p>	<p>IMV dura on ≥36 hours</p>	<p>Select “Yes” if the dura on of IMV (on any mode(s)) prior to <i>this</i> extubation was ≥36 hours</p>
<p>Sec on 2: Eligibility of Extubation</p>	<p>Pre-extubation <b>measured</b> MAP ≤13 cm H<sub>2</sub>O</p>	<p>MAP = mean airway pressure (may also be denoted as “Pmean” or “Paw”) and is <i>calculated by and displayed</i> on the ventilator. Use the last available value prior to extubation.</p> <p>If measured MAP is not documented (i.e., “unknown”), then the screen will prompt to provide the set pressures immediately below</p>
<p>Sec on 2: Eligibility of Extubation</p>	<p>Select pre-extubation mode</p>	<p>Note that “IPPV” consists of a broad range of specific modes – and may include “PC-AC”, “AC-VG”, “SIMV +PS”, “PSV”, “PCV” and many others. This also includes “NAVA”.</p>
<p>Sec on 2: Eligibility of Extubation</p>	<ul style="list-style-type: none"> <li>• Note that <i>only the first eligible extubation will be evaluated and included in this study</i>. If an extubation meets all the criteria for inclusion in this study – the extubation will be marked automatically as “Eligible”. If the extubation is NOT eligible, then select → “Add another extubation” if one exists for the patient.</li> <li>• If a patient does not have any extubations that meet eligibility, then click “Validate” and no further ac on needed on this screen.</li> <li>• For repeat admissions, if the Post-Extubation tab was completed during a previous admission, <u>no additional information should be entered</u>.</li> <li>• If the tab has not yet been completed, <u>information should only be documented if it is confirmed that no extubation occurred while the patient was outside the unit</u> (e.g., the infant remained intubated during transfer to another location for a procedure).</li> </ul>	

<p>Sec on 3: <b>Pre</b>extubation details</p>		
<p>Sec on 3: <b>Pre</b>extubation details</p>	<p>Weight at extubation</p>	<p>Document the <i>most recent weight</i> prior to extubation (and within the previous 3 days).</p>
<p>Sec on 3: <b>Pre</b>extubation details</p>	<p>Pre- extubation <b>measured</b> MAP</p>	<p>Document the actual <b>measured</b> MAP (as per ventilator, and the last available value prior to extubation).</p> <p>If this value is “unknown” → document the last available actual settings on the relevant pre- extubation mode.</p>
<p>Sec on 3: <b>Pre</b>extubation details</p>	<p>Pre- extubation FiO2</p>	<p>Document the most recent FiO2 <i>prior to</i> the me of extubation</p>
<p>Sec on 3: <b>Pre</b>extubation details</p>	<p>Spontaneous Breathing Trial (SBT)</p>	<p>A test to check if the baby is ready for extubation. Can take many different forms, but includes decreasing the set rate, or turning off PIP (and leaving baby on a ventilator only with PEEP). Should be labeled as “SBT” (or equivalent) in the progress or RRT note on day of extubation.</p>
<p>Sec on 3: <b>Post</b>-extubation details</p>	<p>Mode</p>	<p>Notes:</p> <ul style="list-style-type: none"> <li>• NIPPV may be also referred to as NIMV or NIV</li> <li>• NIHFV may be also referred to as nHFO</li> <li>• BiPhasic CPAP may also be referred to as BiPAP or DuoPAP</li> </ul>
<p>Sec on 3: <b>Post</b>-extubation details</p>	<p>Initial Settings</p>	<p>Enter settings specific to the mode</p>
<p>Sec on 3: <b>Post</b>-extubation details</p>	<p>Post- extubation FiO2</p>	<p>Document the first noted FiO2 <i>following</i> the me of extubation</p>

<p>Sec on 4: Resp management over 1<sup>st</sup> 7 days <b>Post-extubation</b></p>		
<p>Sec on 4: Resp. management over 1<sup>st</sup> 7 days <b>Post-extubation</b></p>	<p>Within 1<sup>st</sup> 6 hours; &gt;6 hours – 72 hours; &gt;72 hours – 7 days <i>[with date/ me ranges provided]</i></p>	<p>Document the maximum and minimum set pressures for the initial mode within the specified date/ me ranges for each.</p> <p>If a patient has been switched to a different NRS mode or re-intubated <i>before</i> one of the specific me windows → select “N/A” for that me window</p>
<p>All of the following queries in <b>Sec on 5</b> are ONLY for the dura on between the Date/Time of eligible extubation un l Date/Time of 7 days after extubation (denoted in <b>red</b> in <b>top right corner</b> of Sec on 4 of the screen – in this example, un l <b>January 8, 2025 at 1000</b>)</p>		
<p>Sec on 5: Additional details over 1<sup>st</sup> 7 days post-extubation</p>		

Section 5: Additional details over 1st 7 days post-extubation	Any switch (i.e., escalation) to an alternate mode?	If yes, choose the first time the patient was switched to any of the alternate modes available for selection (Include the Date and Time of switch)
Section 5: Additional details over 1st 7 days post-extubation	Re-intubation and mechanical ventilation within 7 days?	If yes, document only the first time the patient was re-intubated within the 7 days post-extubation (Include the Date and Time of re-intubation)
Section 5: Additional details over 1st 7 days post-extubation	Assessment of Failure criteria (if reintubated)	If re-intubated, select all criteria (if any) met within 4 hrs prior
Section 5: Additional details over 1st 7 days post-extubation	Assessment of Failure criteria (if reintubated)	Sustained FiO <sub>2</sub> >50%: Two or more consecutive FiO <sub>2</sub> values >50%, recorded at least 1 hour apart, within the 7-day post-extubation window.  Sustained rise in FiO <sub>2</sub> >20% above baseline: A rise in FiO <sub>2</sub> of more than 20 percentage points above the documented baseline FiO <sub>2</sub> at extubation, maintained over two or more consecutive readings at least 1 hour apart within any 12-hour window.
Section 5: Additional details over 1st 7 days post-extubation	Assessment of Failure criteria (if NOT re-intubated)	Choose whether any of the failure criteria were met over the 1st 7 days post-extubation (choose only 1 and the first occurrence) (Include the Date and Time when any of the criteria first met)
Section 5: Additional details over 1st 7 days post-extubation	Assessment of Failure criteria (if NOT re-intubated)	If a mode change or rate increase (NIPPV/BiPAP) occurred within 1st 7 days post-extubation, review the prior 4 hrs for apneas documented as the reason
Section 5: Additional details over 1st 7 days post-extubation	Assessment of complications over 1st 7 days post-extubation	Pulmonary air leak: Any of Pneumothorax, Pulmonary Interstitial Emphysema, or Pneumomediastinum as reported on chest X-ray report by radiologist and is new (i.e., since after extubation).  Gastro-intestinal perforation: Any new (i.e., after extubation) perforation in the gastro-intestinal tract, manifesting as a pneumoperitoneum, as reported on abdominal X-ray by radiologist (may be called a "spontaneous intestinal perforation").

**Appendix: List of Major Congenital/Chromosomal/Genetic abnormalities:**

<b>Name</b>	<b>System</b>	<b>ICD-10 Code</b>
46,XX true hermaphrodite	Chromosomal Abnormalities	Q99.1
Achondroplasia	Musculoskeletal System	Q77.4
Agenesis of lung	Respiratory System	Q33.3
Agenesis of the corpus callosum	Nervous System	Q04.0
Agenesis of the corpus callosum	Nervous System	Q04.0
Anencephaly	Nervous System	Q00.0
Anencephaly	Nervous System	Q00
Arhinencephaly	Nervous System	Q04.1
Arteriovenous malformation of cerebral vessels	Cardiac Chambers And Circulation	Q28.2
Arthrogyposis multiplex congenita	Musculoskeletal System	Q74.3
Atresia of aorta	Cardiac Chambers And Circulation	Q25.2
Atresia of bile ducts	Digestive System	Q44.2
Atresia of foramina of Magendie and Luschka	Nervous System	Q03.1
Atresia Of Oesophagus With Tracheo-Oesophageal Fistula	Digestive System	Q39.1
Atresia of oesophagus with tracheo-oesophageal fistula	Digestive System	Q39.1
Atresia Of Oesophagus Without Fistula	Digestive System	Q39.0
Atresia of oesophagus without fistula	Digestive System	Q39.0
Atresia of pulmonary artery	Cardiac Chambers And Circulation	Q25.5
Atresia Of The Bile Ducts	Digestive System	Q44.2
Atrioventricular Septal Defect	Cardiac Chambers And Circulation	Q21.2
Atrioventricular septal defect	Cardiac Chambers And Circulation	Q21.2
Balanced autosomal rearrangement in abnormal individual	Chromosomal Abnormalities	Q95.2
Balanced sex/autosomal rearrangement in abnormal individual	Chromosomal Abnormalities	Q95.3
Bladder/Cloacal Exstrophy	Urinary System	Q64.1
Bladder/Cloacal Exstrophy	Urinary System	Q64.1

Cervical spina bifida with hydrocephalus	Nervous System	Q05.0
Cervical spina bifida with hydrocephalus	Nervous System	Q05.0
Cervical spina bifida without hydrocephalus	Nervous System	Q05.5
Cervical spina bifida without hydrocephalus	Nervous System	Q05.5
Chimera 46,XX/46,XY	Chromosomal Abnormalities	Q99.0
Chondroectodermal dysplasia	Musculoskeletal System	Q77.6
Coarctation of aorta	Cardiac Chambers And Circulation	Q25.1
Coarctation Of The Aorta	Cardiac Chambers And Circulation	Q25.1
Complete transposition of great vessels	Cardiac Chambers And Circulation	Q20.31
Congenital absence of bladder and urethra	Urinary System	Q64.5
Congenital absence of both forearm and hand	Musculoskeletal System	Q71.2
Congenital absence of both lower leg and foot	Musculoskeletal System	Q72.2
Congenital absence of hand and finger(s)	Musculoskeletal System	Q71.3
Congenital absence of thigh and lower leg with foot present	Musculoskeletal System	Q72.1
Congenital absence of upper arm and forearm with hand present	Musculoskeletal System	Q71.1
Congenital absence, atresia and stenosis of anus with fistula	Digestive System	Q42.2
Congenital absence, atresia and stenosis of anus without fistula	Digestive System	Q42.3
Congenital absence, atresia and stenosis of duodenum	Digestive System	Q41.0
Congenital absence, atresia and stenosis of ileum	Digestive System	Q41.2
Congenital absence, atresia and stenosis of jejunum	Digestive System	Q41.1
Congenital absence, atresia and stenosis of large intestine, part unspecified	Digestive System	Q42.9
Congenital absence, atresia and stenosis of other parts of large intestine	Digestive System	Q42.8
Congenital absence, atresia and stenosis of other specified parts of small intestine	Digestive System	Q41.8

Congenital absence, atresia and stenosis of rectum with fistula	Digestive System	Q42.0
Congenital absence, atresia and stenosis of rectum without fistula	Digestive System	Q42.1
Congenital absence, atresia and stenosis of small intestine, part unspecified	Digestive System	Q41.9
Congenital Absence, Atresia and Stenosis of The Anus (Imperforate Anus)	Digestive System	Q42.3
Congenital Absence, Atresia And Stenosis Of The Duodenum	Digestive System	Q41.0
Congenital Absence, Atresia And Stenosis Of The Jejunum	Digestive System	Q41.1
Congenital Absence, Atresia And Stenosis Of The Small Intestine	Digestive System	Q41
Congenital atresia of trachea	Respiratory System	Q32.11
Congenital complete absence of lower limb(s)	Musculoskeletal System	Q72.0
Congenital complete absence of upper limb(s)	Musculoskeletal System	Q71.0
Congenital Cystic Lung	Respiratory System	Q33.0
Congenital Diaphragmatic Hernia	Musculoskeletal System	Q79.0
Congenital heart block	Cardiac Chambers And Circulation	Q24.6
Congenital Hydrocephalus	Nervous System	Q03
Congenital hydrocephalus, unspecified	Nervous System	Q03.9
Congenital hydronephrosis	Urinary System	Q62.0
Congenital Posterior Urethral Valves	Urinary System	Q64.2
Congenital posterior urethral valves	Urinary System	Q64.2
Congenital Renal Cystic Diseases	Urinary System	Q61
Congenital tracheo-oesophageal fistula without atresia	Digestive System	Q39.2
Congenitally corrected transposition of great vessels	Cardiac Chambers And Circulation	Q20.32
Conjoined twins	Other Congenital Malformations	Q89.4
Craniorachischisis	Nervous System	Q00.1
Craniosynostosis	Musculoskeletal System	Q75.0
Craniosynostosis	Musculoskeletal System	Q75.0
Deletion of short arm of chromosome 4	Chromosomal Abnormalities	Q93.3

Deletion of short arm of chromosome 5	Chromosomal Abnormalities	Q93.4
Deletions with other complex rearrangements	Chromosomal Abnormalities	Q93.7
Dextratransposition of aorta	Cardiac Chambers And Circulation	Q20.30
Diastematomyelia	Nervous System	Q06.2
Discordant atrioventricular connection NEC	Cardiac Chambers And Circulation	Q20.58
Discordant atrioventricular connection with corrected transposition	Cardiac Chambers And Circulation	Q20.50
Double inlet ventricle	Cardiac Chambers And Circulation	Q20.4
Double outlet left ventricle	Cardiac Chambers And Circulation	Q20.2
Double Outlet Right Ventricle	Cardiac Chambers And Circulation	Q20.1
Double outlet right ventricle	Cardiac Chambers And Circulation	Q20.1
Down'S Syndrome	Chromosomal Abnormalities	Q90
Down's syndrome, unspecified	Chromosomal Abnormalities	Q90.9
Ebstein's anomaly	Cardiac Chambers And Circulation	Q22.5
Ectodermal dysplasia (anhidrotic)	Other Congenital Malformations	Q82.4
Edwards' Syndrome Or Trisomy 18	Chromosomal Abnormalities	Q91.3
Edwards' syndrome, unspecified	Chromosomal Abnormalities	Q91.3
Encephalocele	Nervous System	Q01
Epidermolysis Bullosa	Other Congenital Malformations	Q81
Epidermolysis bullosa dystrophica	Other Congenital Malformations	Q81.2
Epidermolysis bullosa letalis	Other Congenital Malformations	Q81.1
Epidermolysis bullosa simplex	Other Congenital Malformations	Q81.0
Epidermolysis bullosa, unspecified	Other Congenital Malformations	Q81.9
Exomphalos	Musculoskeletal System	Q79.2
Exomphalos	Musculoskeletal System	Q79.2
Female pseudohermaphroditism, not elsewhere classified	Genital System	Q56.2
Female with 46,XY karyotype	Chromosomal Abnormalities	Q97.3
Female with more than three X chromosomes	Chromosomal Abnormalities	Q97.1

Fetal Alcohol Syndrome (Dysmorphic)	Other Congenital Malformations	Q86.0
Fragile X chromosome	Chromosomal Abnormalities	Q99.2
Gastroschisis	Musculoskeletal System	Q79.3
Gastroschisis	Musculoskeletal System	Q79.3
Harlequin fetus	Other Congenital Malformations	Q80.4
Hermaphroditism, not elsewhere classified	Genital System	Q56.0
Hirschsprung's disease	Digestive System	Q43.1
Hirschsprung's disease	Digestive System	Q43.1
Holoprosencephaly	Nervous System	Q04.2
Holoprosencephaly	Nervous System	Q04.2
Hydromyelia	Nervous System	Q06.4
Hypoplasia and dysplasia of lung	Respiratory System	Q33.6
Hypoplasia and dysplasia of spinal cord	Nervous System	Q06.1
Hypoplastic Left Heart Syndrome	Cardiac Chambers And Circulation	Q23.4
Hypoplastic left heart syndrome	Cardiac Chambers And Circulation	Q23.4
Incontinentia pigmenti	Other Congenital Malformations	Q82.3
Indeterminate Sex And Pseudohermaphroditism	Genital System	Q56
Indeterminate sex, unspecified	Genital System	Q56.4
Iniencephaly	Nervous System	Q00.2
Isomerism of atrial appendages	Cardiac Chambers And Circulation	Q20.6
Karyotype 45,X	Chromosomal Abnormalities	Q96.0
Karyotype 46,X iso (Xq)	Chromosomal Abnormalities	Q96.1
Karyotype 46,X with abnormal sex chromosome, except iso (Xq)	Chromosomal Abnormalities	Q96.2
Karyotype 47,XXY	Chromosomal Abnormalities	Q98.5
Klinefelter's syndrome karyotype 47,XXY	Chromosomal Abnormalities	Q98.0
Klinefelter's syndrome, male with 46,XX karyotype	Chromosomal Abnormalities	Q98.2
Klinefelter's syndrome, male with more than two X chromosomes	Chromosomal Abnormalities	Q98.1
Klinefelter's syndrome, unspecified	Chromosomal Abnormalities	Q98.4

Lower Urinary Tract Obstruction (LUTO)	Urinary System	Q64.3
Lower Urinary Tract Obstruction (LUTO)	Urinary System	Q64.3
Lumbar spina bifida with hydrocephalus	Nervous System	Q05.2
Lumbar spina bifida with hydrocephalus	Nervous System	Q05.2
Lumbar spina bifida without hydrocephalus	Nervous System	Q05.7
Lumbar spina bifida without hydrocephalus	Nervous System	Q05.7
Male pseudohermaphroditism, not elsewhere classified	Genital System	Q56.1
Malformations of aqueduct of Sylvius	Nervous System	Q03.0
Medullary cystic kidney	Urinary System	Q61.5
Megalencephaly	Nervous System	Q04.5
Monosomies And Deletions From The Autosomes Not Elsewhereclassified	Chromosomal Abnormalities	Q93
Mosaicism, 45,X/46,XX or XY	Chromosomal Abnormalities	Q96.3
Mosaicism, 45,X/other cell line(s) with abnormal sex chromosome	Chromosomal Abnormalities	Q96.4
Mosaicism, lines with various numbers of X chromosomes	Chromosomal Abnormalities	Q97.2
Multiple congenital malformations, not elsewhere classified	Other Congenital Malformations	Q89.7
Osteogenesis imperfecta	Musculoskeletal System	Q78.0
Osteopetrosis	Musculoskeletal System	Q78.2
Other congenital hydrocephalus	Nervous System	Q03.8
Other epidermolysis bullosa	Other Congenital Malformations	Q81.8
Other exstrophy of urinary bladder	Urinary System	Q64.18
Other male with 46,XX karyotype	Chromosomal Abnormalities	Q98.3
Other reduction deformities of brain	Nervous System	Q04.3
Other specified sex chromosome abnormalities, female phenotype	Chromosomal Abnormalities	Q97.8
Other transposition of great vessels NEC	Cardiac Chambers And Circulation	Q20.38
Other Trisomies And Parial Trisomies Of The Autosomes Not Elsewhere Classified	Chromosomal Abnormalities	Q92
Other variants of Turner's syndrome	Chromosomal Abnormalities	Q96.8
Patau Syndrome Or Trisomy 13	Chromosomal Abnormalities	Q91.7

Patau's syndrome, unspecified	Chromosomal Abnormalities	Q91.7
Persistent cloaca	Digestive System	Q43.7
Phocomelia, unspecified limb(s)	Musculoskeletal System	Q73.1
Polycystic kidney, adult type	Urinary System	Q61.2
Polycystic kidney, infantile type	Urinary System	Q61.1
Polycystic kidney, unspecified	Urinary System	Q61.3
Pseudohermaphroditism, unspecified	Genital System	Q56.3
Pulmonary valve atresia	Cardiac Chambers And Circulation	Q22.0
Reduction Defects Of The Lower Limb	Musculoskeletal System	Q72
Reduction Defects Of The Upper Limb	Musculoskeletal System	Q71
Renal agenesis, bilateral	Urinary System	Q60.1
Renal agenesis, bilateral	Urinary System	Q60.1
Renal agenesis, unilateral	Urinary System	Q60.0
Renal agenesis, unilateral	Urinary System	Q60.0
Renal agenesis, unspecified	Urinary System	Q60.2
Renal dysplasia	Urinary System	Q61.4
Renal dysplasia	Urinary System	Q61.4
Sacral spina bifida with hydrocephalus	Nervous System	Q05.3
Sacral spina bifida with hydrocephalus	Nervous System	Q05.3
Sacral spina bifida without hydrocephalus	Nervous System	Q05.8
Sacral spina bifida without hydrocephalus	Nervous System	Q05.8
Septo-optic dysplasia	Nervous System	Q04.4
Sequestration of lung	Respiratory System	Q33.2
Sequestration of The Lung	Respiratory System	Q33.2
Sex chromosome abnormality, female phenotype, unspecified	Chromosomal Abnormalities	Q97.9
Spina Bifida	Nervous System	Q05
Spina bifida, unspecified	Nervous System	Q05.9
Tetralogy Of Fallot	Cardiac Chambers And Circulation	Q21.3
Tetralogy of Fallot	Cardiac Chambers And Circulation	Q21.3

Thanatophoric short stature	Musculoskeletal System	Q77.1
Thoracic spina bifida with hydrocephalus	Nervous System	Q05.1
Thoracic spina bifida with hydrocephalus	Nervous System	Q05.1
Thoracic spina bifida without hydrocephalus	Nervous System	Q05.6
Thoracic spina bifida without hydrocephalus	Nervous System	Q05.6
Total Anomalous Pulmonary Venous Connection	Cardiac Chambers And Circulation	Q26.2
Total anomalous pulmonary venous connection	Cardiac Chambers And Circulation	Q26.2
Transposition Of The Great Vessels (Tgv)	Cardiac Chambers And Circulation	Q20.3
Tricuspid valve atresia/stenosis	Cardiac Chambers And Circulation	Q22.4
Tricuspid valve atresia/stenosis	Cardiac Chambers And Circulation	Q22.4
Triploidy and polyploidy	Chromosomal Abnormalities	Q92.7
Trisomy 13, meiotic nondisjunction	Chromosomal Abnormalities	Q91.4
Trisomy 13, mosaicism (mitotic nondisjunction)	Chromosomal Abnormalities	Q91.5
Trisomy 13, translocation	Chromosomal Abnormalities	Q91.6
Trisomy 18, meiotic nondisjunction	Chromosomal Abnormalities	Q91.0
Trisomy 18, mosaicism (mitotic nondisjunction)	Chromosomal Abnormalities	Q91.1
Trisomy 18, translocation	Chromosomal Abnormalities	Q91.2
Trisomy 21, meiotic nondisjunction	Chromosomal Abnormalities	Q90.0
Trisomy 21, mosaicism (mitotic nondisjunction)	Chromosomal Abnormalities	Q90.1
Trisomy 21, translocation	Chromosomal Abnormalities	Q90.2
Trisomy and partial trisomy of autosomes, unspecified	Chromosomal Abnormalities	Q92.9
Truncus Arteriosus (common arterial trunk)	Cardiac Chambers And Circulation	Q20.0
Truncus Arteriosus (common arterial trunk)	Cardiac Chambers And Circulation	Q20.0
Tuberous sclerosis	Other Congenital Malformations	Q85.1
Turner'S Syndrome	Chromosomal Abnormalities	Q96
Turner's syndrome, unspecified	Chromosomal Abnormalities	Q96.9
Unspecified spina bifida with hydrocephalus	Nervous System	Q05.4

Unspecified spina bifida with hydrocephalus	Nervous System	Q05.4
Whole chromosome monosomy, meiotic nondisjunction	Chromosomal Abnormalities	Q93.0
Whole chromosome monosomy, mosaicism (mitotic nondisjunction)	Chromosomal Abnormalities	Q93.1
Whole chromosome trisomy, meiotic nondisjunction	Chromosomal Abnormalities	Q92.0
Whole chromosome trisomy, mosaicism (mitotic nondisjunction)	Chromosomal Abnormalities	Q92.1

**Note:** Conditions highlighted in green only used at HSC/EDM/UAH

## Appendices

### Appendix I: Medication Classification List

CNN medications include only those drugs classified as: nitric oxide, narcotics, sedatives, inotropes, caffeine, antibiotics, antifungals, antivirals, post-natal steroids, and surfactant.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
ACETAMINOPHEN (Tylenol)	ANALGESIC, PDA TREATMENT	Do not score analgesic use. If used for <a href="#">PDA treatment</a> , score on <a href="#">Medications Screen</a> and <a href="#">Diagnosis/Procedures Screen</a> .
ACYCLOVIR	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
ALFENTANYL	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
ALPROSTADIL	PROSTAGLANDIN E1	<b>Do not score.</b> This drug is usually given for keeping the ductus arteriosus open in neonates with critical cardiac condition. Do not score that the baby had a PDA if this medication was used to artificially keep the ductus arteriosus open.
AMIKACIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
AMOXICILLIN (same as Amoxil)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
AMOXICILLIN – CLAVULINIC ACID (Clavulin)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
AMPHOTERICIN B DEOXYCHOLATE (Fungizone)	ANTIFUNGAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
AMPICILLIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
ANCEF (same as Cefazolin)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
ATIVAN (same as Lorazepam)	SEDATIVE, ANTICONVULSANT	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear. Score as <a href="#">seizure</a> treatment if applicable.
AVASTIN (Bevacizumab)	VEGF BLOCKER	If given intraocularly, score on the <a href="#">ROP screen</a> under ROP treatment
AZITHROMYCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
AZT (same as Retrovir and Zidovudine)	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
BACTRIM (Trimethoprim/Sulfamethoxazole) (same as Septra)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
BECLOMETHASONE	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
BECLOVENT PUFFS	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
BEMIPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
BETAMETHASONE	POST-NATAL STEROID, ANTENATAL CORTICOSTEROID	Score on <a href="#">Medications Screen</a> if given to baby. Score on <a href="#">Mother/Obstetrics Screen</a> if given to mother prior to delivery.
BEVACIZUMAB (Avastin)	VEGF BLOCKER	If given intraocularly, score on the <a href="#">ROP screen</a> under ROP treatment
BIAXIN (same as Clarithromycin)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
BIOGAIA	PROBIOTICS	Score prophylactic use on <a href="#">Diagnosis/Procedure Screen</a>
BLES	SURFACTANT	Score on <a href="#">Medications Screen</a>
BUDESONIDE (inhaled)	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
CAFFEINE	CAFFEINE	Score on <a href="#">Medications Screen</a> – first and last dose only
CEFAZOLIN (same as Ancef)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CEFIXIME	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
CEFOTAXIME (same as Claforan)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CEFOXITIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CEFTAZIDIME	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CEFTRIAZONE	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CEFUROXIME	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CELESTONE	POST-NATAL STEROID, ANTENATAL CORTICOSTEROID	Score on <a href="#">Medications Screen</a> if given to baby. Score on <a href="#">Mother/Obstetrics Screen</a> if given to mother prior to delivery.
CENTOPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
CEPHALEXIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CHLORAL HYDRATE	SEDATIVE	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear.
CHLORAMPHENICOL	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CIPROFLOXACIN (CIPRO)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CLAFORAN (same as Cefotaxime)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
CLARITHROMYCIN (same as Biaxin)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CLINDAMYCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CLONIDINE (CATAPRES)	SEDATIVE, $\alpha$ 2 ADRENERGIC RECEPTOR AGONIST	Do not score. Often used as an adjunct for sedation/analgesia, especially for opioid withdrawal (Neonatal Abstinence Syndrome).
CLOXACILLIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CODEINE	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
CORTISONE	POSTNATAL STEROID, ANTENATAL CORTICOSTEROID	Score on <a href="#">Medications Screen</a> if given to baby. Score on <a href="#">Mother/Obstetrics Screen</a> if given to mother prior to delivery.
COSYNTROPIN	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
CO-TRIMOXAZOLE (same as Septra)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
CUROSURF	SURFACTANT	Score on <a href="#">Medications Screen</a>
DALTEPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
DAPTOMYCIN	ANTIBIOTIC	Score as Antibiotic on Patient Chart Screen. If given prophylactically, score only on Diagnosis/Procedure Screen under Prophylactic Interventions.
DECADRON	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
DEXAMETHASONE	POST-NATAL STEROID, ANTENATAL CORTICOSTEROID	Score on <a href="#">Medications Screen</a> if given to baby. Score on <a href="#">Mother/Obstetrics Screen</a> if given to mother prior to delivery.
DEXMEDETOMIDINE	SEDATIVE	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear.
DIAZEPAM (same as Valium)	SEDATIVE, ANTICONVULSANT	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear. Score as <a href="#">seizure</a> treatment if applicable.
DIHYDROCORTISONE	POSTNATAL STEROID	Score on medication screen if given to baby.
DILANTIN (same as Phenytoin)	ANTICONVULSANT	Score as <a href="#">seizure</a> treatment if applicable
DOBUTAMINE	INOTROPES	Score as Inotropes on <a href="#">Patient Chart Screen</a> .
DOPAMINE	INOTROPES	Score as Inotropes on <a href="#">Patient Chart Screen</a> .

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
ENOXAPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
EPINEPHRINE (EPI DRIP)	INOTROPES	Score as Inotropes on <a href="#">Patient Chart Screen</a> .
ERYTHROMYCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
EXOSURF	SURFACTANT	Score on <a href="#">Medications Screen</a>
FENTANYL	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
FLAGYL (same as Metronidazole)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
FLORABABY	PROBIOTICS	Score prophylactic use on <a href="#">Diagnosis/Procedure Screen</a>
FLORINEF	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
FLOVENT (Inhaled, same as flonase, fluticasone)	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
FLUCLOXACILLIN	ANTIBIOTIC	Score as Antibiotic on Patient Chart Screen. If given prophylactically, score only on Diagnosis/Procedure Screen under Prophylactic Interventions
FLUCONAZOLE	ANTIFUNGAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
FLUCYTOSINE	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
FLUDROCORTISONE	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
FLUTICASONE	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
GANCICLOVIR/GANCYCLOVIR	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
GENTAMICIN/GENTAMYCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
HEPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
HYDROCORTISONE	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a> . Do not score if only given topically as Hydrocortisone cream.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
IBUPROFEN	ANTI-INFLAMMATORY, PDA TREATMENT	If used for <a href="#">PDA treatment</a> , score on <a href="#">Medications Screen</a> <b>and</b> <a href="#">Diagnosis/Procedures Screen</a> .
IMIPENEM	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
INDOMETHACIN, INDOCIN, INDOCID	PDA TREATMENT,  IVH PROPHYLAXIS	If used for <a href="#">PDA treatment</a> , score on <a href="#">Medications Screen</a> <b>and</b> <a href="#">Diagnosis/Procedures Screen</a> .  If used prophylactically for prevention of neurological injury, score <b>only</b> on <a href="#">Diagnosis/Procedures Screen</a> under Prophylactic Interventions.
INFASURF	SURFACTANT	Score on <a href="#">Medications Screen</a>
INHALED STEROIDS	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
ISONIAZID	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
KEFLEX	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
KEFZOL	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
KETAMINE (Anesthetic)	SEDATIVE	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear.
KETOCONAZOLE	ANTIFUNGAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
LAMIVUDINE (3TC)	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
LINEZOLID	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
LORAZEPAM (same as Ativan)	SEDATIVE, ANTICONVULSANT	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear. Score as <a href="#">seizure</a> treatment if applicable.
LUCENTIS (Ranibizumab)	VEGF BLOCKER	If given intraocularly, score on the <a href="#">ROP screen</a> under ROP treatment

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
MACUGEN (Pegaptanib Sodium)	VEGF BLOCKER	If given intraocularly, score on the <a href="#">ROP screen</a> under ROP treatment
MEPERIDINE	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
MEROPENEM	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
METHADONE	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
METHYLPREDNISOLONE, METHYLPREDNISON	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
METICILLIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
METRONIDAZOLE (same as Flagyl)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
MIDAZOLAM	SEDATIVE	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear.
MILRINONE	INOTROPES	Score as Inotropes on <a href="#">Patient Chart Screen</a> .
MORPHINE	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
MORPHINE SULFATE (same as MSO4)	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
MUPIROCIN (same as Bactroban)	NOT SCORED (topical antibiotic)	<b>Do not score.</b>
MYCOSTATIN (same as Nystatin)	See Nystatin (oral vs. topical)	
NADROPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
NAFCILLIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
NETILMICIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
NEVIRAPINE	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
NITRIC OXIDE (iNO)	NITRIC OXIDE	Score as NO on <a href="#">Patient Chart Screen</a> .
NITROFURANTOIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
NYSTATIN ORAL SUSPENSION	ANTIFUNGAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
OXACILLIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
PARMAPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
PEDIAPRED	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
PEGAPTANIB SODIUM (Macugen)	VEGF BLOCKER	If given intraocularly, score on the <a href="#">ROP screen</a> under ROP treatment
PENICILLIN G	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
PENTOBARBITAL	SEDATIVE	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear.
PHENOBARBITAL	SEDATIVE, ANTICONVULSANT	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Score as <a href="#">seizure</a> treatment if applicable. Do not score if the reason is unclear. Do not score if given as treatment for cholestasis or other uses.
PHENYLEPHRINE	INOTROPES	Score as Inotropes on <a href="#">Patient Chart Screen</a> .
PHENYLEPHRINE EYE DROPS	NOT SCORED	<b>Do not score.</b>
PHENYTOIN (same as Dilantin)	ANTICONVULSANT	Score as <a href="#">seizure</a> treatment if applicable
PIPERACILLIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
PIPERACILLIN-TAZOBACTAM (Tazocin)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
POLYSPORIN	NOT SCORED (topical)	Topical or ophthalmic ointments are <b>not scored</b>
PREDNISOLONE	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
PREDNISONE	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
PROBIOTICS	PROBIOTICS	Score prophylactic use on <a href="#">Diagnosis/Procedure Screen</a>
PROPOFOL	SEDATIVE	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
PROSTIN	PROSTAGLANDIN E1	<b>Do not score.</b> This drug is usually given for keeping the ductus arteriosus open in neonates with critical cardiac condition. Do not score that the baby had a PDA if this medication was used to artificially keep the ductus arteriosus open.
PROSTAGLANDIN E1	PROSTAGLANDIN E1	<b>Do not score.</b> This drug is usually given for keeping the ductus arteriosus open in neonates with critical cardiac condition. Do not score that the baby had a PDA if this medication was used to artificially keep the ductus arteriosus open.
PULMICORT	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
RANIBIZUMAB (Lucentis)		If given intraocularly, score on the <a href="#">ROP screen</a> under ROP treatment
RETROVIR (same as Zidovudine and AZT)	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
REVIPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
RIFAMPIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
RIVOTRIL	ANTICONVULSANT	Score as <a href="#">seizure</a> treatment if applicable
SEPTRA (same as Bactrim or CoTrimoxazole)	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
SOLUCORTEF	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
SOLUMEDROL, SOLU-MEDROL	POST-NATAL STEROID	Score on <a href="#">Medications Screen</a>
STREPTOMYCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
SUFENTA	NARCOTIC INFUSION	If given via continuous infusion, score on the <a href="#">Patient Chart Screen</a> .
SURVANTA	SURFACTANT	Score on <a href="#">Medications Screen</a>
TAZOCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.

DRUG NAME	CLASSIFICATION on Patient Chart Screen	Other information
TINZAPARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
TOBRAMYCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
TRIMETHOPRIM	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
UROKINASE	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
VALGANCICLOVIR	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
VALIUM (same as Diazepam)	SEDATIVE, ANTICONVULSANT	Score as Sedative on <a href="#">Patient Chart Screen</a> if used as sedative and not as anticonvulsant. Do not score if the reason is unclear. Score as <a href="#">seizure</a> treatment if applicable.
VALPROIC ACID	ANTICONVULSANT	Score as <a href="#">seizure</a> treatment if applicable
VANCOMYCIN	ANTIBIOTIC	Score as Antibiotic on <a href="#">Patient Chart Screen</a> . If given prophylactically, score only on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.
VASOPRESSIN	INOTROPES	Score as Inotropes on <a href="#">Patient Chart Screen</a> .
VIGABATRIN	ANTICONVULSANT	Score as <a href="#">seizure</a> treatment if applicable
WARFARIN	ANTICOAGULANT	Score on Diagnosis/Procedure screen under <a href="#">Neonatal Thrombosis</a> Treatment if given for treatment. Do not score if given prophylactically.
ZIDOVUDINE (same as Retrovir and AZT)	ANTIVIRAL	Score as Antifungals/Antivirals on <a href="#">Patient Chart Screen</a> . If given prophylactically, score on <a href="#">Diagnosis/Procedure Screen</a> under Prophylactic Interventions.

## Appendix II: Classification of Operations List

Operations List	Operations List
<p><b><u>LAPAROTOMY (MAJOR)</u></b></p> <ul style="list-style-type: none"> <li>• Abdominal omphalocele, repair, closure or re-section of</li> <li>• Aneurysm in right internal iliac artery, removal of</li> <li>• Bladder rupture, closure of</li> <li>• Bowel, re-section of</li> <li>• Bowel, correction of atresia</li> <li>• Colostomy or revision of prolapsing colostomy</li> <li>• Corkscrew duodenum, release of</li> <li>• Dermoid Cyst, removal of (laparo- or thora- depending on site)</li> <li>• Diaphragmatic hernia repair (from under the diaphragm)</li> <li>• Duodenojejunostomy</li> <li>• Fundoplication</li> <li>• Enterotomy (for removal of meconium)</li> <li>• Epispadias repair</li> <li>• Esophageal atresia (laparo- or thoro- as per location)</li> </ul>	<p><b><u>LAPAROTOMY (MAJOR)</u></b></p> <ul style="list-style-type: none"> <li>• Gastroschisis defect, closure of</li> <li>• Ileostomy - closure/reversal of ileostomy</li> <li>• Ileostomy - resection ileum &amp; formation ileostomy/mucus-fistula</li> <li>☐ Ileostomy - closure of ileostomy &amp; mucus fistula</li> <li>• NEC</li> <li>• Nephrectomy</li> <li>• Omphalomesenteric duct fistula, repair of</li> <li>• Orchidectomy</li> <li>• Pyloromyotomy (for pyloric stenosis)</li> <li>• Pyloroplasty</li> <li>• Urinary ascites w/ bladder rupture, repair</li> <li>• Vesicostomy, closure/revision of</li> <li>• Volvulus correction</li> </ul>
<p><b><u>THORACOTOMY (MAJOR)</u></b></p> <ul style="list-style-type: none"> <li>• ASD closure</li> <li>• BTS for tricuspid atresia</li> <li>• Coarctation repair</li> <li>• Cystic adenomatoid malformation, correction of</li> <li>• Cystic hygroma</li> <li>• Dermoid Cyst, removal of (laparo- or thora- depending on site)</li> <li>• Diaphragmatic hernia repair (from above the diaphragm)</li> <li>• Esophageal atresia (laparo- or thoro- as per location)</li> </ul>	<p><b><u>THORACOTOMY (MAJOR)</u></b></p> <ul style="list-style-type: none"> <li>• Lobectomy</li> <li>• Lung biopsy (open chest)</li> <li>• Pacemaker, insertion of (permanent)</li> <li>• Pneumonectomy</li> <li>• Pulmonary artery banding</li> <li>• Pulmonary artery plasty (Blalock-Tassug shunt placed)</li> <li>• Tracheoesophageal fistula (TEF), repair</li> <li>• Vascular ring operation</li> </ul>
<p><b><u>OTHER CNS SURGERY (MAJOR)</u></b></p> <ul style="list-style-type: none"> <li>• Myelomeingocele repair</li> <li>• Spina bifida related surgeries</li> </ul>	
<p><b><u>VP SHUNT (MAJOR)</u></b></p>	<p><b><u>ECMO (MAJOR)</u></b></p>
<p><b><u>RESERVOIR/DRAIN (MAJOR)</u></b></p>	<p><b><u>OSTOMY (MAJOR)</u></b></p>

**OTHER/MINOR**

- Amputation, below the knee
- Angiogram
- Anoplasty
- Balloon dilations of the esophagus (also of pulm. valve)
- Balloon Septostomy
- Bone marrow biopsy
- Bronchoscopy
- Catheters, surgically placed
  - arterial (cardiac) catheterization
  - CVL placement (in OR or w/anaesthesia)
  - Elecath pacing catheter placement
  - IVC catheter
    - peritoneal drainage catheter
- Choanal atresia repair
- Circumcision
- Craniotomy to drain subdural hematoma or closure/re-section of
- Cryo/Laser treatment (for ROP)
- Cytoscopy
- Embolization
- Esophagoscopy
- Examination under anaesthesia (i.e.)
- Eye surgery to re-attach cornea (with or without banding) □ Gastroscopy
- Gastrostomy, G-tube insertion under general anaesthesia
- Gastrostomy, G-tube replacement (with general anaesthesia)
- Hepatic cyst drainage (in radiology under U/S guidance)
- Hernia repair
- Herniorrhaphy
- HICKMAN™ catheter line, placement of (if to superior vena cava) *HICKMAN™ is a trademark of C.R. Bard Inc. and its related company, BCR, Inc.*
- Iridectomy
- Laparoscopic fundoplication
- Laryngoscopy
- Laryngo-bronchoscopy
- Lensectomy

**OTHER/MINOR**

- Lung biopsy (if by puncture)
- Myeloschisis, closure of
- Myringotomy tubes
- Nephrostomy (tube placement)
- Nerve biopsy (under general anaesthesia)
- Occipital encephalocele, re-section of
- Orchiopexy
- Osteomyelitis, drainage of left tibial
- Pacemaker insertion of (if put in intracardiac)
- PDA ligation/closure (even if a thoracotomy is required)
- PDA closed during cardiac catheterization with device
- Penrose drain insertion
  - for spontaneous intestinal perforation
  - for NEC (with or without general anaesthesia)
- Posterior laryngeal cleft, repair of, laryngeal fissure approach □  
Rectal biopsy
- Right femoral artery, resection of w/ proximal thrombectomy & w/ a 4-compartment fasciotomy of lower leg
- Right forearm fasciotomy, both dorsal & volar compartments
- Right groin wound, debridement & repair of
- ROP therapy
- Scalp wound debridement (with formation of multiple flaps & skin grafts)
- Septum pellucidum fenestration for hydrocephalus
- Silo placement for gastroschisis
- Skin grafting
- Stint Placement (even if only lidocaine applied)
- Subperiosteal release for mouth
- Tethered cord, release of with operating microscope
- Tongue adhesion to palate, release of
- Tongue lip adhesion
- Tracheostomy (on Diagnosis/Procedures screen only) cricoid split
- Tracheotomy
- Ventricular taps, multiple frontal
  - Ventricular drain insertion (if w/ general anaesthesia) □ Vitrectomy

Operations List	Operations List
<p><b><u>NOT SCORED</u></b></p> <ul style="list-style-type: none"> <li>• Balloon catheter in lung (with fentanyl &amp; pavulon but not anaesthesia)</li> <li>• Chest tube placement</li> <li>• Cutdown venous access</li> <li>• CVL removal (or any line, unless sent to OR specifically for removal)</li> <li>• Extra digit removal</li> <li>• 10 French thoracotomy tube placement</li> <li>• G-Tube replacement (without anaesthesia)</li> <li>• Lumbar puncture</li> <li>• Pacemaker insertion via esophageal lead</li> </ul>	<p><b><u>NOT SCORED</u></b></p> <ul style="list-style-type: none"> <li>• Peripheral arterial line (PAL) placement</li> <li>• Skin biopsy</li> <li>• Thora/paracentesis</li> <li>• Tooth extraction under local anaesthetic</li> <li>• Tracheostomy (only counts on Diagnosis/Procedures screen)</li> <li>• UAL or UVL placement</li> <li>• Ventricular drain insertion (with fentanyl but not general anaesthesia)</li> <li>• Ventriculopuncture (through a previously implanted catheter)</li> </ul>

### Appendix III: Other Diagnosis List

Name	Number	Other Diagnosis - Description
Anemia of prematurity	P61.2	Anaemia due to no identified cause or other causes in preterm infant
Apnea of prematurity	P28.4	Apnoea due to no other reason in a preterm infant
Arrhythmia	P29.1	Cardiac rhythm disturbances
Aspiration of amniotic fluid and mucus	P24.1	Amniotic fluid aspiration
Aspiration of meconium	P24.0	Meconium aspiration syndrome
Aspiration of milk and regurgitated food	P24.3	Milk aspiration
Birth injury, intracranial hemorrhage	P10.1	Intracranial hemorrhage due to birth injury
Birth injury, subarachnoid hemorrhage	P10.3	Subarachnoid haemorrhage due to birth injury
Birth injury, subdural hemorrhage	P10.0	Subdural haemorrhage due to birth injury
Birth injury, subgaleal hemorrhage	P12.2	Subgaleal hemorrhage due to birth injury (also called Epicranial subaponeurotic hemorrhage due to birth injury)
Birth injury, unspecified and other	P15.9	Trauma during birth
Cardiomyopathy	I42	Cardiomyopathy
Coagulopathy but not DIC	P61.6	Coagulation abnormalities not meeting diagnosis of DIC, Transient coagulation disorder
Coagulopathy due to Disseminated intravascular coagulation	P60	DIC
Congenital cytomegalovirus infection	P35.1	Congenital cytomegalovirus refers to detection of CMV DNA in the urine, saliva, or blood, within three weeks after birth. The diagnosis was made by attending physician based on the history, clinical presentations and serologies.
Congenital herpes viral [herpes simplex] infection	P35.2	Congenital herpes viral [herpes simplex] infection
Congenital rubella syndrome	P35.0	Congenital rubella infection
Congenital syphilis		Congenital syphilis refers to infection in babies born to mothers who are infected with the bacteria ( <i>Treponema pallidum</i> ) during pregnancy. The diagnosis was made by attending physician based on the maternal history, infants' clinical presentations and serologies, with relevant investigations conducted and at least a course of Penicillin G given.
Congenital toxoplasmosis	P37.1	Congenital toxoplasmosis is a disease caused by mother-to-foetal transmission of a parasite called <i>Toxoplasma gondii</i> . The diagnosis was made by attending physician based on the history, clinical presentations, serologies and imaging.
Dehydration	P74.1	Dehydration
Fetal blood loss, other	P50.8	Other foetal blood loss
Fever	P81.9	Pyrexia

Name	Number	Other Diagnosis - Description
Gastroesophageal reflux disease	K21	GERD
Hemolytic disease due to ABO incompatibility	P55.1	ABO incompatibility
Hemolytic disease due to Rh incompatibility	P55.0	Blood group Rh incompatibility
Hemolytic diseases of fetus and newborn, other	P55.8	Other haemolytic diseases of foetus and newborn
Hemorrhage into co-twin	P50.3	Feto-fetal hemorrhage
Hemorrhage into maternal circulation	P50.4	Feto-maternal hemorrhage
Hemorrhagic disease due to cause other than Vitamin K Deficiency	P54	Neonatal hemorrhage
Hemorrhagic disease due to Vitamin K deficiency	P53	HDNB
Human immunodeficiency virus (HIV), congenital or perinatally acquired		This refers to the acquisition of Human Immunodeficiency Virus (HIV) during pregnancy or after birth. The diagnosis was made by attending physician based on the history and confirmatory laboratory tests. P.S. infants born to mothers with HIV or AIDS, but with negative serologies themselves should NOT be counted.
Hydrocele	P83.5	Scrotal swelling
Hydrops fetalis due to isoimmunization	P56.0	Hydrops fetalis due to isoimmunization
Hydrops fetalis due to other and unspecified haemolytic disease	P56.9	Hydrops fetalis due to other and unspecified haemolytic disease
Hyperglycemia	R73.9	Hyperglycemia
Hyperkalemia	P74.31	Hyperkalaemia
Hypernatremia	P74.21	Hypernatraemia
Hypertension	P29.2	High blood pressure
Hypertonia	P94.1	Increased tone
Hypoglycaemia	P70.4	Neonatal hypoglycaemia
Hypokalemia	P74.30	Hypokalaemia
Hyponatremia	P74.20	Hyponatraemia
Hypotension	R03.1	Low blood pressure, refractory hypotension
Hypothermia	P81	Hypothermia not as part of therapy
Hypotonia	P94.2	Congenital hypotonia
Inguinal hernia	K40.9	Hernia, inguinal
Intestinal obstruction	P76.9	Bowel obstruction , unspecified includes atresia
Meconium ileus	P75	Meconium ileus, meconium plug
Neonatal abstinence syndrome (NAS) due to maternal use of addictive substances	P96.1	Withdrawal symptoms from maternal use of drugs in newborn

Name	Number	Other Diagnosis - Description
Neonatal abstinence syndrome (NAS) due to neonatal use of addictive substances	P96.2	Withdrawal symptoms from therapeutic use of drugs in newborn
Neonatal cerebral infarction	P91.82	Includes neonatal stroke, perinatal arterial ischemic stroke, perinatal cerebral infarction not related to IVH
Neutropenia	P61.5	Transient neonatal neutropenia
Osteopenia of prematurity	M85.9	Metabolic bone disease of prematurity
Persistent pulmonary hypertension (PPHN)	P99.9	Persistent pulmonary hypertension or PPHT
Pneumomediastinum	P25.2	Pneumomediastinum
Pneumopericardium	P25.3	Pneumopericardium
Pulmonary edema	J81	Pulmonary edema
Pulmonary haemorrhage	P26.8	Pulmonary haemorrhage
Pulmonary Interstitial Emphysema	P.25.0	Interstitial emphysema originating in the perinatal period
Renal failure	P96.0	Renal failure
Respiratory distress, unspecified (not RDS)	P22.9	Respiratory distress (excluding RDS)
Thrombocytopenia	P.61.0	Transient neonatal thrombocytopenia due to: <ul style="list-style-type: none"> <li>•exchange transfusion</li> <li>•idiopathic maternal thrombocytopenia</li> <li>•isoimmunization</li> </ul>
Transient myocardial ischemia	P29.4	Transient myocardial ischemia
Transient tachypnea of newborn	P22.1	TTN
Traumatic Perforation of the Esophagus	S27	Laceration of intrathoracic organs (includes esophagus)
Traumatic Perforation of the Bowel (includes stomach)	S36	Traumatic laceration of intraabdominal organ(s) (includes stomach, duodenum, bowel and other organs)
Twin-to-twin transfusion syndrome	P02.3	Twin-to-twin transfusion syndrome (TTTS – donor) Twin-to-twin transfusion syndrome (TTTS – recipient) Twin-to-twin transfusion syndrome (TTTS – donor/recipient status unknown)" TTTS may be treated antenatally which could prevent the presentation of TTTS at birth. Please record treated/resolved and untreated cases.
Umbilical hernia	K42.9	Hernia, Umbilical but not omphalocele
Vocal cord palsy	J38.0	Paralysis of vocal cords and larynx
Wilson-Mikity syndrome	P27.0	Wilson-Mikity syndrome
Other	O00.0	<u>Optional:</u> "Other" may be chosen to enter any diagnoses that are not listed in the scroll down menu. A free text field (maximum characters=100) for "Other Diagnosis Description" will display.

## Appendix IV: Congenital Anomalies List

Use the most precise diagnosis possible for congenital anomalies when the diagnosis fits in the list, otherwise use the general categories. For example, diagnosis of choanal atresia should be recorded as Q30.0 and not Q30. As another example, choanal stenosis is not specifically itemized on the list, therefore it should be recorded as Q30 (i.e. Congenital Malformations Of The Nose).

System	Name	ICD10	Comments
Cardiac Chambers And Circulation	Atrial Septal Defect	Q21.1	
	Atrioventricular Septal Defect	Q21.2	
	Coarctation Of The Aorta	Q25.1	
	Congenital Absence And Hypoplasia Of The Umbilical Artery (Single Umbilical Artery)	Q27.0	
	Congenital Heart Block	Q24.6	
	Double Outlet Right Ventricle	Q20.1	
	Hypoplastic Right Heart Syndrome	Q22.6	
	Hypoplastic Left Heart Syndrome	Q23.4	
	Other Congenital Malformations Of The Circulatory System	Q28	
	Other Congenital Malformations Of The Heart	Q24	This includes dextrocardia, cor triatriatum, pulmonary infundibular stenosis, subaortic stenosis
	Patent Ductus Arteriosus (after 37 weeks gestation)	Q25.0	
	Pulmonary Valve Stenosis	Q22.1	
	Tetralogy Of Fallot	Q21.3	
	Total Anomalous Pulmonary Venous Connection	Q26.2	
	Transposition Of The Great Vessels (Tgv)	Q20.3	
Tricuspid valve atresia/stenosis	Q22.4		
Ventricular Septal Defect	Q21		
Chromosomal Abnormalities	Balanced Rearrangements And Structural Markers Not Elsewhere Classified	Q95	
	Down's Syndrome	Q90	
	Edwards' Syndrome Or Trisomy 18	Q91.3	
	Monosomies And Deletions From The Autosomes Not Elsewhere classified	Q93	
	Other Sex Chromosome Abnormalities, Female Phenotype Not Elsewhere Classified	Q97	
	Other Sex Chromosome Abnormalities, Male Phenotype Not Elsewhere Classified	Q98	
	Other Trisomies And Parial Trisomies Of The Autosomes Not Elsewhere Classified	Q92	

System	Name	ICD10	Comments
	Patau Syndrome Or Trisomy 13	Q91.7	
	Turner'S Syndrome	Q96	
Digestive Anomalies	Atresia Of Oesophagus With Tracheo-Oesophageal Fistula	Q39.1	
	Atresia Of Oesophagus Without Fistula	Q39.0	
	Atresis Of The Bile Ducts	Q44.2	
	Congenital Absence, Atresia And Stenosis Of The Anus (Imperforate Anus)	Q42.3	
	Congenital Absence, Atresia And Stenosis Of The Duodenum	Q41.0	
	Congenital Absence, Atresia And Stenosis Of The Jejunum	Q41.1	
	Congenital Absence, Atresia And Stenosis Of The Small Intestine	Q41	
	Congenital Hypertrophic Pyloric Stenosis	Q40.0	
	Congenital Malformations Of The Esophagus	Q39	
	Congenital Malformations Of The Gallbladder, Bile Ducts And Liver	Q44	
	Congenital Malformations Of The Tongue, Mouth, Pharynx	Q38	
	Other Congenital Malformations Of The Digestive System	Q45	
	Other Congenital Malformations Of The Intestine	Q43	This includes meckel's diverticulum, Hirschprung's disease, ectopic anus, cloacal anomaly
	Ear Anomalies	Congenital absence of (ear) auricle	Q16.0
Congenital Malformations Of The Ear Causing Impairment Of Hearing		Q16	This includes anomalies of auditory canal, eustachian tube, ossicles
Microtia		Q17.2	
Other Congenital Malformations Of The Ear		Q17	This includes small ear, large ear, misplaced ear, accessory auricle
Eye Anomalies	Anophthalmos, Microphthalmos And Macrophthalmos	Q11	
	Congenital Lens Malformations	Q12	This included congenital cataract, lens abnormalities
	Congenital Malformations Of Eyelid, Lacrimal Apparatus And Orbit	Q10	
	Congenital Malformations Of The Anterior Segment Of The Eye	Q13	This includes abnormalities of iris, cornea
	Congenital Malformations Of The Posterior Segment Of The Eye	Q14	This includes abnormalities of vitreous, retina, optic disc, choroid
	Other Congenital Malformations Of The Eye	Q15	
Face & Neck Anomalies	Congenital Anomalies Of Neck Region	Q18	
	Truncus Arteriosus (common arterial trunk)	Q20.0	

System	Name	ICD10	Comments
Genital Anomalies	Congenital Malformations Of Ovaries, Fallopian Tubes And Broad Ligaments	Q50	
	Congenital Malformations Of The Uterus And Cervix	Q51	
	Hypospadias	Q54.0	
	Indeterminate Sex And Pseudohermaphroditism	Q56	
	Other Congenital Malformations Of The Female Genitals	Q52	
	Other Congenital Malformations Of The Male Organs	Q55	
	Undescended Testicle, Bilateral	Q53.2	
	Undescended Testicle, Unilateral	Q53.1	
Musculoskeletal Anomalies	Accessory finger(s)	Q69.0	
	Accessory thumb(s)	Q69.1	
	Accessory toe(s)	Q69.2	
	Congenital Deformities Of The Feet	Q66	This includes varus and valgus deformities. Congenital talipes equinovarus is scored separately as Q66.0.
	Congenital Deformities Of The Hip	Q65	
	Congenital Diaphragmatic Hernia	Q79.0	
	Congenital Malformations Of The Musculoskeletal System, Not Elsewhere Classified	Q79	
	Congenital Malformations Of The Spine And Bony Thorax	Q76	
	Congenital Musculoskeletal Deformities Of Arm, Leg, Long Bones	Q68	
	Congenital Musculoskeletal Deformities Of Head, Face, Spine And Chest	Q67	
	Congenital talipes equinovarus, unilateral	Q66.0	
	Congenital talipes equinovarus, bilateral	Q66.0	
	Craniosynostosis	Q75.0	
	Exomphalos	Q79.2	
	Gastroschisis	Q79.3	
	Other Congenital Malformations Of Limbs (Shoulder Girdle, Knee, Arthrogyposis)	Q74	
	Other Congenital Malformations Of The Skull And Face Bones	Q75	
	Polydactyly	Q69	
	Prune belly syndrome	Q79.4	
	Reduction Defects Of The Lower Limb	Q72	
Reduction Defects Of The Upper Limb	Q71		
Reduction Defects Of Unspecified Limb	Q73		

System	Name	ICD10	Comments
	Syndactyly	Q70	
Nervous System Anomalies	Agenesis of the corpus callosum	Q04.0	
	Anencephaly	Q00	
	Cervical spina bifida with hydrocephalus	Q05.0	
	Cervical spina bifida without hydrocephalus	Q05.5	
	Congenital Hydrocephalus	Q03	
	Encephalocele	Q01	
	Holoprosencephaly	Q04.2	
	Lumbar spina bifida with hydrocephalus	Q05.2	
	Lumbar spina bifida without hydrocephalus	Q05.7	
	Microcephaly	Q02	
	Other Congenital Malformations Of The Brain	Q04	This includes malformation of corpus callosum, holoprosencephaly, reduction anomaly of brain, cerebellar anomaly
	Other Congenital Malformations Of The Nervous System	Q07	This includes any other malformations of central nervous system not mentioned above
	Sacral spina bifida with hydrocephalus	Q05.3	
	Sacral spina bifida without hydrocephalus	Q05.8	
	Spina Bifida	Q05	
	Spinal Cord Anomaly Other Than Spina Bifida	Q06	
Thoracic spina bifida with hydrocephalus	Q05.1		
Thoracic spina bifida without hydrocephalus	Q05.6		
Unspecified spina bifida with hydrocephalus	Q05.4		
Other Congenital Malformations	Congenital Ichthyosis	Q80	
	Congenital Malformations Of The Breast	Q83	
	Congenital Malformations Syndromes Due To Known Exogenous Causes Not Elsewhere Classified	Q86	This includes fetal alcohol syndrome, fetal hydantoin
	Epidermolysis Bullosa	Q81	
	Fetal Alcohol Syndrome (Dysmorphic)	Q86.0	
	Neurocutaneous Syndromes	Q85	This includes neurofibromatosis, tuberous sclerosis
	Other Congenital Malformations Of Skin Appendages Such As Nail, Hair	Q84	This includes hair and nail abnormalities
	Other Congenital Malformations Of The Skin	Q82	This includes incontinentia pigmenti, mastocytosis, xeroderma, hereditary lymphoedema
	Other Congenital Malformations, Not Elsewhere Classified	Q89	This includes malformations of spleen, adrenal, endocrine glands, conjoint twins

System	Name	ICD10	Comments
	Other Specified Congenital Malformation Syndromes Affecting Multiple Systems	Q87	
	Situs Inversus	Q89.3	
Respiratory Anomalies	Choanal Atresia	Q30.0	Sometimes referred to as atresia of the nares
	Cleft Lip	Q36	
	Cleft Palate	Q35	
	Cleft Palate With Lip	Q37	
	Congenital Cystic Lung	Q33.0	
	Congenital Malformations Of The Larynx	Q31	
	Congenital Malformations Of The Lung	Q33	This includes agenesis, ectopic, hypoplastic and dysplastic lung
	Congenital Malformations Of The Nose	Q30	This includes choanal stenosis and other malformations of the nose. Choanal atresia is scored separately as Q30.0.
	Congenital Malformations Of The Trachea And Bronchus	Q32	
	Sequestration of The Lung	Q33.2	
Urinary Anomalies	Bladder/Cloacal Exstrophy	Q64.1	
	Congenital Hydronephrosis	Q62.0	
	Congenital Posterior Urethral Valves	Q64.2	
	Congenital Renal Cystic Diseases	Q61	
	Epispadias	Q64.0	
	Lower Urinary Tract Obstruction (LUTO)	Q64.3	
	Other Congenital Malformations Of The Urinary System	Q64	This includes epispadias, exstrophy of bladder, stricture of meatus
	Renal Agenesis, unilateral	Q60.0	
	Renal Agenesis, bilateral	Q60.1	
	Renal Agenesis And Other Defects Of The Kidney	Q60	This includes hypoplasia and Potter's syndrome. Renal agenesis is scored separately as Q60.0/Q60.1.
	Renal dysplasia	Q61.4	

## Appendix V: Positive Cultures – Organism List

Organisms A-D	Organisms E-K
Acinetobacter species Acinetobacter junii Acinetobacter colistiniresistens	EBV, Epstein Barr Virus
Acinetobacter Lwoffii	Eikenella Species
Actinomyces neuui	Elizabethkingia Species
Adenovirus	Enterobacter Asburiae Enterobacter aerogenes
Aggregatibacter actinomycetemcomitans	
Alpha Streptococcus	Enterococcus Avium
Aspergillus fumigatus	Enterococcus Faecalis
Astrovirus	Enterococcus Faecium
Bacillus Cereus	Enterococcus Gallinarum
Bacillus Species	Enterococcus Species
Bacteroides Species	Echovirus or Coxsackievirus
Bifidobacterium breve Bifidobacterium bifidum Bifidobacterium infantis Bifidobacterium longum	Escherichia Coli
Bordetella parapertussis	Eubacterium Species
Campylobacter Species	Gram Negative Bacteria
Candida Albicans	Gram Negative Rod(s) (includes coliform)
Candida Glabrata	Gram Positive Bacteria
Candida Guilliermondii	Gram Positive Coccus (Cocci)
Candida Lusitaniae	Gram Positive Rods
Candida Parapsilosis	Group B Streptococcus or Streptococcus Agalactiae
Candida Species (unspecified)	Haemophilus species Haemophilus parainfluenzae Nontypeable Hemophilus influenzae
Candida Tropicalis	Hepatitis A Virus
Chlamydia Trachomatis	Hepatitis B Virus
Citrobacter Species	Herpes Simplex Virus
Citrobacter SP	Gram Negative Bacteria
Citrobacter Koseri	HIV

Clostridium Species	Human Herpes Virus 7
COVID-19/ SARS-CoV-2	Human Metapneumovirus
Corynebacterium Species	Influenza Virus
Enterobacter sakasakii Cronobacter species	Klebsiella
Cytomegalovirus	Klebsiella Aerogenes
Dengue	Klebsiella Oxytoca
	Klebsiella Pneumoniae

Organisms L-R	Organisms S-Z
Lactobacillus rhamnosus Lactobacillus reuteri	Salmonella Species
Lactococcus Lactis	Salmonella Typhimurium
Listeria Monocytogenes	Sapovirus
Malassezia Furfur	Serratia Marcescens
Measles Virus	Shigella Species
Moraxella Species	Staphylococcus Aureus Coagulase Positive
Morganella Morganii	Staphylococcus Capitis
Mycobacterium Species	Staphylococcus Coagulase Negative
Mycobacterium Tuberculosis	Staphylococcus Epidermidis
Mycoplasma Hominis	Staphylococcus Haemolyticus
Neisseria Gonorrhoeae	Staphylococcus Hominis
Neisseria Meningitidis	Staphylococcus Lugdunensis
Neisseria Species	Staphylococcus Species
Norovirus	Staphylococcus Warneri
Other Organism	Stenotrophomonas Maltophilia
Paenibacillus Species	Streptococcus Anginosus
Pantoeae species / Enterobacter agglomerans	Streptococcus Bovis
Parainfluenza	Streptococcus Milleri
Parechovirus	Streptococcus Pneumoniae
Parvovirus	Streptococcus Pyogenes or Group A Streptococcus
Pasteurella Species	Streptococcus Viridans Group

Peptostreptococcus Species	Streptococcus Zooepidermidis
Plasmodium Species or Malaria	Toxoplasma Gondii
Prevotella Species	Treponema Pallidum or Syphilis
Proteus Mirabilis	Ureaplasma Species
Proteus Species	Varicella Zoster Virus
Proteus Vulgaris	Yeast
Providencia Species	
Pseudomonas Species	
Respiratory Syncytial Virus	
Rhinovirus / Enterovirus	
Rhodotorula Species	
Rotavirus	