

EPIQ - Stabilization and Support During Transition (START) Recommendations:

Care for preterm infants (<32 weeks) in the first 6 hours of life

November 2025

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Strength of evidence supporting recommendations has been evaluated using GRADE principles. As infants born at the lowest gestational ages (GA) (22–23 weeks) are underrepresented in the scientific literature, caution should be exercised when applying these suggestions to this group. ¹

Domain	Recommendations for Infants < 32 weeks, <6 hours of life	Strength of recommendation & certainty of evidence
Antenatal Counselling	Counselling for threatened preterm should provide an opportunity for the family and clinicians to share information about the family context, beliefs and values, and to provide information about the anticipated preterm course following delivery. Counselling for threatened preterm birth at 22-24+6 weeks should include outcomes of preterm infants and employ a family value and prognosis-based approach to shared decision making. Counselling should highlight the importance of the parental role in the NICU as an integral part of their infant's care (enteral feeding, skin to skin care).	Strong Recommendation [Consensus, very low quality of evidence, best practice] Strong Recommendation [Consensus, very low quality of evidence, best practice] Strong Recommendation [Consensus, very low quality of evidence, best practice] Ref: ²⁻⁴
Antenatal Corticosteroids (ACS)	ACS should be offered to women at risk of preterm delivery within 7 days at $\geq 24+0$ weeks gestational age (GA) when active resuscitation is planned. For women at risk of preterm delivery within 7 days who are <24 weeks GA, ACS should be given 48 hours prior to the agreed upon resuscitation GA. A single repeat course of ACS can be considered if the first course was given > 14 days prior.	Strong Recommendation [High quality evidence, reduced mortality] Ref: ⁵ Strong Recommendation [Moderate - low quality evidence, reduced mortality] <i>*data below 22 weeks GA is very limited.</i> Ref: ⁶⁻⁸ Conditional Recommendation [Low quality evidence, improved short term respiratory outcomes] Ref ^{9,10}2026/07/06 10:34:00 AM
Antenatal Magnesium Sulfate (MgSO4)	MgSO4 should be given to women when preterm delivery is imminent.	Strong Recommendation [High quality evidence, reduced cerebral palsy (CP)/ death or CP] Ref¹
Team Preparation	A prebrief should take place before a preterm birth to assign roles, outline tasks, and verify that all necessary equipment is prepared and functioning.	Strong Recommendation [Consensus, very low quality of evidence, Best Practice] Ref¹²
Cord Management	Discuss the cord clamping plan prior to delivery. Deferred cord clamping (DCC) for at least 60 should be provided for all infants not needing immediate resuscitation in the absence of contraindications. Umbilical cord milking (UCM) should be avoided in infants <28 weeks. For infants 28 – 32 weeks needing immediate resuscitation UCM may be considered as an alternative to immediate cord clamping, particularly when parents place a high value on avoiding blood transfusion.	Strong Recommendation [Consensus, very low quality of evidence, best practice] Strong Recommendation [High quality evidence, reduced mortality] Strong Recommendation [Moderate quality evidence, increased risk intraventricular hemorrhage (IVH)] Conditional Recommendation [Low quality evidence- reduced need for blood transfusion and increased hematocrit] Ref^{13,14}

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Thermoregulation	Maintain normothermia (36.5°C – 37.5°C). Heated humidified gas, a polyethylene bag or wrapping, preheated radiant warmers and delivery room temperature to 25-26°C should be used to achieve normothermia. Use of a thermal mattress can be considered. However, monitoring for hyperthermia is needed particularly when used with other warming strategies. Incubator humidification ($\geq 60\%$) is recommended for very preterm infants though the optimal humidity level is uncertain.	Strong Recommendation [High quality evidence, reduced mortality] Strong Recommendation [Moderate quality of evidence, reduced hypothermia on NICU admission] Conditional Recommendation [Low quality evidence, lower rate of hypothermia however when combined higher rate of hyperthermia] Conditional Recommendations [Low quality evidence for reduced transepidermal water losses] Ref¹⁵⁻¹⁷
Initial Respiratory Support	Where available use a T-Piece device should be used for initial stabilization. Stabilize spontaneous breathing infants with stimulation and CPAP (5 – 8 cm H₂O). A starting FiO₂ of at least 30% is recommended. The FiO₂ should be adjusted to target saturation goals (80%-85% by 5 minutes of life).	Strong Recommendation [Moderate quality of evidence for more consistent pressure delivery] Ref^{14,18,19} Strong Recommendation [Moderate to high quality of evidence reduced BPD or mortality at 36 weeks] Ref²⁰ Conditional Recommendation [Low quality of evidence, saturations of 80% by 5 min of life associated with lower neurodevelopmental impairment or death at 2 years] Ref^{14,21} 2026/07/06 10:34:00 AM
Respiratory Distress Syndrome (RDS) / Surfactant	Infants with RDS requiring intubation should be given early surfactant. Clinicians should also consider gestational age and clinical trajectory when giving surfactant. Early surfactant should be considered for infants with RDS who are managed on non-invasive support with a FiO₂ >0.3. Lung ultrasound can help be used to diagnose RDS and inform the need for early surfactant. For spontaneous breathing infants with RDS on noninvasive support, surfactant should be administered using minimally invasive surfactant therapy (MIST) though a thin catheter. Where MIST is unavailable use INSURE (Intubate-SURfactant- Extubate) procedure. Surfactant administration through supraglottic/laryngeal mask airway (SALSA) can be used where appropriate size laryngeal mask airway is available (generally >1000 gm infants). Infants undergoing non-urgent laryngoscopy should receive analgesia including non-pharmacologic measures such as	Strong Recommendation [High quality of evidence for reduced BPD or mortality at 36 weeks] Ref^{22,23} Conditional Recommendations [Low quality of evidence, FiO₂ threshold associated with CPAP failure] Ref²⁴ Conditional Recommendations [Moderate quality of evidence, early prediction of need for surfactant] Ref²⁵ Strong Recommendation [Moderate quality of evidence, reduced death or BPD at 36 weeks] Ref²⁶ Conditional Recommendation [Low quality evidence, reduced need for mechanical ventilation compared to INSURE method] Ref^{27,28}

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	swaddling and facilitated tucking and medications. Premedication for MIST should include a vagolytic (atropine) and may include analgesic (fentanyl 0.5 -1 mcg/kg via slow IV push). Premedication for non urgent endotracheal intubation should include vagolytic (atropine), analgesic (fentanyl 3-5 mcg/kg via slow IV push), and paralytic (succinylcholine). Videolaryngoscopy is recommended for intubation and for MIST.	Conditional Recommendation [Ethical principle of ensuring adequate analgesia during painful procedures] Ref²⁹⁻³¹ Strong Recommendation [Low quality of evidence, reduced adverse intubation related events] Ref^{32,33} Conditional Recommendation [Low quality of evidence for significantly improving procedure success] Ref³⁴
Initial Mode of Ventilation	If invasive ventilation, volume targeted conventional mechanical ventilation is preferred. Tidal volumes of 4- 6 ml/kg. For intubated extremely preterm infants, lung protective strategies with first intention high frequency (jet or oscillation) may be considered based on local expertise.	Strong Recommendation [Moderate quality of evidence for the combined outcome of death or BPD] Ref³⁵ Conditional recommendation [Very low quality of evidence] Ref³⁶
Caffeine	Infants with a birth weight of <1250 g or <29 weeks should receive prophylactic caffeine (20 mg/kg loading dose of caffeine citrate). Very early dosing (within 6 hours) should be used in infants with apnea of prematurity, ventilated or on high non invasive settings. Infants 29- 31+6 weeks with apnea of prematurity, ventilated or on high non invasive settings should also receive early caffeine.	Strong Recommendation [High quality of evidence for reduction in BPD. <i>Evidence supports the use of early dosing (<2 days) however data specifically within the first 6 hours is lacking</i>] Strong Recommendation [Moderate evidence for BPD reduction] Ref³⁷⁻⁴⁰
Vascular Access	Consider an umbilical venous catheter (UVC) for infants born ≤ 28 weeks, ≤ 1250 g, full feeds anticipated to be ≥ 7 days, or if there is difficult peripheral access. Consider an umbilical arterial catheter (UAC) for infants born ≤ 26 weeks, ≤ 1000 g, frequent blood sampling or invasive blood pressure monitoring.	Conditional Recommendation [Consensus, Very Low quality of evidence] Conditional Recommendation [Consensus, Very Low quality of evidence] Ref⁴¹
Hypoglycemia	Monitor blood glucose at the time of the IV start then every 3-6 hours. Use a starting glucose infusion rate (GIR) of 5-8 mg/kg/min. Adjust GIR to keep blood glucose ≥ 2.6 mmol/L. Monitor BG after changes. If timely UVC access cannot be obtained in ≤ 28 weeks a peripheral access should be started to prevent hypoglycemia.	Conditional Recommendation [Consensus, Very Low quality of evidence] Conditional Recommendation [Consensus, Low quality of evidence] Conditional Recommendation [Consensus, Very Low quality of evidence] Ref⁴²⁻⁴⁴
Infection / Antibiotic management	Symptomatic infants or those at risk of sepsis should undergo early onset sepsis (EOS) evaluation (minimum 1 mL blood culture, CBC and empiric antibiotics). Empiric therapy with ampicillin plus an aminoglycoside is recommended while early-onset sepsis is under investigation. Antibiotic selection should be adjusted based on local antibiogram data.	Strong Recommendation [Low quality Evidence, EOS high incidence and case fatality rate in this population] Strong Recommendation [Low quality evidence, based primarily on susceptibility data] Ref⁴⁵⁻⁴⁹

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	Fluconazole prophylaxis (3-6 mg/kg) IV is recommended for infants <1000 gm if baseline NICU rates of invasive candidiasis is >10%. For infants <24 weeks fluconazole prophylaxis should be strongly considered.	Strong Recommendation [High Quality evidence for reduction of invasive candidiasis] Ref⁵⁰ Conditional Recommendation [Very Low Quality evidence, reduction of invasive candidiasis with high case fatality among this GA] Ref^{51,52}
Total Parenteral Nutrition (TPN)	Consider a starting total fluid index (TFI) of 80mL/kg/day for most preterm infants in humidified isolette. Infants <26 weeks require a higher TFI 100ml/kg/day. Start TPN once intravenous (IV) access is obtained. Consider starting amino acids (AA) at 1.5- 2.5 gm/kg/ day. Where available consider starting lipids at 1-2 gm/kg/ day	Conditional Recommendation [Consensus, physiologic principles] Strong Recommendation [Very low quality evidence, physiologic rationale to reduce protein and energy deficits] Ref⁵³ Conditional Recommendation [Low quality evidence, physiologic rationale to reduce protein deficits while avoiding potential harm of excessive early AA intake] Ref⁵⁴ Conditional Recommendation [Low quality evidence, short term growth outcomes] Ref⁵⁵
Enteral Feeds	Counsel and assist mothers to early expression milk within the first hours of birth and to pump every 2-3 hours thereafter. Fresh mother's own milk (MOM) is the preferred initial feed. Pasteurized donor milk should be offered if MOM is unavailable. Give colostrum in buccal cavity in the first 6 hours as oral immune therapy. Early enteral feeds should be started in hemodynamically stable infants. Consider a starting volume of 12-24 ml/kg/day.	Strong Recommendation [Moderate evidence for improved milk supply. Well-established benefits of mother's own milk (MOM) for preterm infants] Ref⁵⁶ Strong Recommendation [High quality evidence for reduction of necrotizing enterocolitis compared to formula] Ref^{56,57} Strong Recommendation [Low quality evidence for reduction in necrotizing enterocolitis and sepsis] Ref⁵⁸⁻⁶⁰ Strong Recommendation [Moderate quality evidence for early enteral feeding reduction in critical outcome of mortality] Ref⁶¹
Neuroprotection	Hypotension treatment should be tailored to the underlying etiology and reserved infants with signs of hypoperfusion, such as elevated lactate, prolonged capillary refill time, or low cardiac output. Prophylactic indomethacin to prevent severe intraventricular hemorrhage (IVH) may be considered based on the risk factors for the individual infant such as ACS, <26 weeks, intraamniotic infection, and the unit's baseline risk of IVH. For infants	Conditional Recommendation [Very low quality evidence, physiologic rationale, hypotension associated with increased mortality though no benefit found with treatment] Ref⁶² Conditional Recommendation [Moderate evidence, reduction in severe IVH. No long-term benefit in mortality or neurodevelopmental outcomes]

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	receiving indomethacin concomitant use of hydrocortisone should be avoided. When infants are not skin to skin, keep the head in a neutral, midline position, with the bed elevated 15 - 30 degrees. Trendelenburg positioning (downward head tilting) should be avoided to prevent potential adverse effects on cerebral hemodynamics. (ex) during diaper changes Noise exposure should be minimized by reducing alarm frequency/volume and avoiding discussions at the bedside. <45 dB is recommended. Following stabilization and procedures minimize light exposure by using incubator covers and eye coverings during care.	Ref⁶³ Conditional Recommendation [Very low quality evidence for IVH reduction with positioning as a part of a care bundle, physiologic rationale] Ref⁶⁴ Conditional Recommendation, [Consensus, very low evidence] Ref⁶⁵ Conditional Recommendation, [Consensus, very low evidence] Ref⁶⁶
Skin to Skin (Kangaroo care)	Early skin to skin (STS) is safe and beneficial for very preterm infants. However, delaying SSC in extremely preterm infants (particularly <24 weeks) may be considered given the lack of data in the lowest GA in the very first hours of life. For infants where SSC is withheld provide opportunities for parental closeness (hand hugs).	Strong Recommendation [High quality evidence, Critical outcome mortality in very preterm infants] Conditional Recommendation, [Consensus, Lack of studies involving extreme preterm infants in the first hours] Strong Recommendations [Based on Consensus, Best Practice] Ref⁶⁷⁻⁷¹
Family Communication	Provide parents tailored information and emotional support to help build trust and effective partnerships with families.	Strong Recommendation [Based on consensus, Best Practice] Ref^{23,24}

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EPIQ - Stabilization and Support During Transition (START) Recommendations:

Care for preterm infants (<32 weeks) in the first 6 hours of life

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