

Withholding Enteral Feeds Around Blood Transfusion (WHEAT International Trial)

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The WHEAT International Trial is a comparative effectiveness, randomized controlled trial (RCT) exploring whether withholding enteral feeds around the time of blood transfusion in very premature infants (<30 weeks) will reduce the occurrence of Necrotizing Enterocolitis (NEC). Currently both continued feeding and withholding feeding are approved care practices. This RCT will randomize infants from Neonatal Intensive Care Units (NICUs) across Canada and the UK into one of two care approaches (withholding or continued feeds).

Withholding enteral feeds around the time of blood transfusions is currently practiced in some neonatal settings, however this practice varies significantly across NICUs and care providers. Pre/post studies have suggested a significant reduction in the relative risk of NEC when feeds are withheld¹, however no adequately powered RCTs have been completed to support this. Potential risks associated with withholding feeds also need to be considered including feeding intolerance and an increase in time to establish full enteral feeds².

The WHEAT International Trial will build on the WHEAT Pilot study³ and recruit 4333 premature infants from both UK and Canadian NICU sites. Participating infants will be randomized into either the continued feeds or withhold feeds study arm. Infants in the withhold feeds study arm will have their feeds stopped for an estimated 10-12 hours (4 hours before, during and 4 hours after blood transfusion). Continued feed study arm infants will have no change in their feeds. The primary outcome for the study will be Stage II NEC or higher (modified Bell's criteria⁴) with secondary outcomes including severe NEC, death, late-onset sepsis, number of days with central venous line in situ, number of central line-associated bloodstream infections, duration of parenteral nutrition, growth, spontaneous intestinal perforation, duration of hospital stay, bronchopulmonary dysplasia/chronic lung disease, retinopathy of prematurity and severe brain injury.

CNN sites are being invited to take part in the trial with 9 sites confirmed presently. The majority of trial data will be gathered through the CNN database, however some additional data will be gathered and entered into a REDCap database and linked via CNN ID. IWK Health has begun recruitment using a modified opt-out consent approach. The proposed presentation will provide details regarding the study rollout at IWK and the use of opt-out consent as well as broader study details and information/invitation for CNN sites to join the trial as a study sub-site.

¹ Jasani B, et al. Withholding feeds and transfusion-associated necrotizing enterocolitis in preterm infants: a systematic review. *Adv Nutr* 2017;8:764–9.doi:10.3945/an.117.015818

² Oddie SJ, et al. Slow advancement of enteral feed volumes to prevent necrotising enterocolitis in very low birth weight infants. *Cochrane database of systematic reviews*. 2017(8).

³ Gale C, et al. The WHEAT pilot trial—WithHolding Enteral feeds Around packed red cell Transfusion to prevent necrotising enterocolitis in preterm neonates: a multicentre, electronic patient record (EPR), randomised controlled point-of-care pilot trial. *BMJ open*. 2019 Sep 1;9(9): e033543

⁴ Neu J. Necrotizing enterocolitis: the search for a unifying pathogenic theory leading to prevention. *Pediatric Clinics*. 1996 Apr 1;43(2):409-32.