

Gastric Physiology in the Preterm Infant

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Despite advances in neonatal care, preterm gastro-intestinal function is not well understood, and gastro-intestinal disease remains a major cause of morbidity and mortality. With few diagnostic tests available, clinicians frequently rely on clinical signs to detect abnormalities. Ultrasound imaging offers a safe and non-invasive method of monitoring gastro-intestinal function.

An overview of current knowledge of preterm gastric emptying, gall bladder function and superior mesenteric blood flow velocity will be presented. A validation study of ultrasonic measurements of the preterm infant's stomach, antral cross-sectional area (ACSA) and gall bladder in response to intragastric tube feeds will be reported. Twenty medically stable preterm infants (born 28 –33 weeks gestation) were studied. Results of this study, including the effect of infant characteristics and milk composition on gastro-intestinal responses and curdling ultrasonic characteristics, will be presented.

Accurate non-invasive means of monitoring the preterm infant's gastric response to milk feeds will contribute substantially to the understanding of gastro-intestinal function, and therefore may have implications for the management of neonatal nutrition.

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Sharon is a registered nurse and midwife, with postgraduate qualifications and 14 years experience in neonatal intensive care nursing; she qualified as a voluntary breastfeeding counsellor in 2006 and as an International Board Certified Lactation Consultant in 2008. Sharon's clinical and research interests include the development of maternal-infant relationships, preterm infant feeding, and the establishment of lactation and breastfeeding within the hospital environment and beyond discharge. Sharon is a PhD candidate at the University of Western Australia, investigating the preterm gastrointestinal response to different types of milk under the supervision of Professor Peter Hartmann, Professor Karen Simmer and Assistant Professor Donna Geddes.