

Donna Geddes DMU, PostGrad Dip (Sci), PhD



Professor Donna Geddes is internationally renowned for her novel work with ultrasound imaging that has revolutionized our understanding of the anatomy of the lactating breast, milk ejection and blood flow, as well as the infant's sucking technique, suck-swallow-breathe co-ordination, gastric emptying and body composition of both the term and preterm infant. She has since expanded her range of research interests to include the synthesis and removal of milk from the breast, the composition of human milk and its impact on the growth and body composition of breastfed infants, the investigation of HM metabolites and the search for biomarkers that are indicative of breast dysfunction. She runs a holistic research program that endeavors to provide, evidence to underpin clinical practice, improve breast milk production and develop diagnostic tests for women experiencing breastfeeding difficulties.

1. Maternal Experiences of breastfeeding during the COVID pandemic

During the COVID-19 pandemic breastfeeding women have experienced restricted access to breastfeeding support. With already high rates of anxiety and depression in the population we assume that breastfeeding women might be at increased risk of mental health concerns. We surveyed breastfeeding women across Australian and New Zealand to investigate the impact of the pandemic on mental health and wellbeing. We found relationships between mental health and wellbeing with family functioning, increased perceived stress, perinatal anxiety, longer pregnancy duration during the pandemic and regions with higher COVID infection rates. Negative and positive responses to the pandemic were reported and highlight a critical need for access to mental health and broader family support during the pandemic.

2. New discoveries – components in human milk that make a difference.

With the advent of ground-breaking analytical technologies new components are being discovered in human milk. For example, our lab has utilised mass spectrometry and discovered new lipids. More importantly our ability to measure the intake of these components, as opposed to the concentration, has led to a greater understanding of how human milk protects our grows our babies. We have found relationships between hormones, proteins, sugars and lipids in milk and the growth and development of body composition in breastfed babies. Furthermore, some of these new components have been shown to differ according to whether the babies were ill further confirming the protective and nutritive nature of human milk components. These exciting advances also potentially provide opportunities to enhance infant health.

