

# Introducing WOMB

Jacquie Nutt, BSc, GradCE, IBCLC





# Mothers expressing for others



**Nurturing a child  
not one's own**





# Why did WOMB start?

- Donor human milk is the preferred option when a baby has no access to MOM.
- We see a milk bank as the missing link in promotion of breastfeeding.

# What helped WOMB start?



- Previous experience overseas
- An enthusiastic committee
- Free commercial kitchen
- Wright Family Foundation funding for 3 years



# Informal milk sharing

Getting milk from another trusted mother is wonderful and normal.

There is a small possibility that viruses and bacteria could be passed through unscreened donors.

Milk banks can test donors, and have treated, frozen milk for emergencies, ie, be a trusted, consistent central supply system for ill babies.



# What's wrong with using formula?

There are many problems with formula being the first and only choice of supplement.

# Necrotising enterocolitis



- NEC is a disease of artificially fed premature infants.
- It can add 6 months to the stay of a preterm baby (Christen Lukas, 2014)
- NEC mortality is up to 50% and those who survive may have reduced quality of life

# From Lancet series 2016



Human breast milk is probably the most specific personalised medicine that he or she is likely to receive, given at a time when gene expression is being fine-tuned for life.

This is an opportunity for health imprinting that should not be missed.





# Other reasons

- Milk donation involves no pain or deprivation to the donor, and benefits the recipient immeasurably.
- For every \$1 spent on milk banking, \$11 - 37 are saved on direct health care costs. (*Nancy Wight, 2001, Lois Arnold 2002*)



# WOMB community

- Recipients
- Donors
- Major sponsors/funders
- Local businesses
- Breastfeeding Steering Group
- DHB and Well Child/Tamariki Ora nurses







Donors are amazing!





# The start-up committee was unbelievable



- With 7 different skill sets, we set up the business structure in a few months.

# Our sponsors have been so generous!



- PiAstra donated our first tiny pasteuriser
- Wright Family Foundation let us use the commercial kitchen and gave 3 years' funding
- Sir Patrick Higgins funded a bigger pasteuriser
- Medlabs waived blood test fees
- Lions club found and delivered a freezer
- Other businesses donated raffle prizes





# Milk banking in simplest terms

- Collect milk from screened donors.
- Heat the milk and cool it fast.
- Test for spore-forming bacteria. \*\*\*  
(current lack of lab capacity)
- Refreeze and dispense as needed.



# Recipients

- Recipients will include
  - pre-term babies and ill community babies
  - mothers with no breasts or on contraindicated drugs
  - emergency surgery/traffic accident victims
- We supply for 1 week at a time.
- We will have a triage system in times of low supply, for the most vulnerable of babies.
- Any volume of MOM is gold.

# What is lost by heat treatment?



- All the living cells – good and bad
- IgA by up to 48% and IgG by 34%
- 20-80% of the lactoferrin
- 60 % of the lysozyme
- All of BSSL; can lead to changes in fat absorption and thus lower weight gain



# Remember

- None of those lost components are in formula.
- Human milk is the only human tissue that can be heated and stay useful, as a food and with many anti-infective properties intact.
- Mum's OWN milk is the gold standard and should be sought first.



# Re-seeding pDBM with fresh MOM.

Personalization of the Microbiota of Donor Human Milk with Mother's Own Milk

Cacho et al, 2017, [Front Microbiol.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5541031/?fbclid=IwAR0wdupZ5UjrhJ-iZHEU7JRRgAQ9bHOEXxkWde7IMr6zdWP7HIMSoFVT4vw) 2017; 8: 1470.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5541031/?fbclid=IwAR0wdupZ5UjrhJ-iZHEU7JRRgAQ9bHOEXxkWde7IMr6zdWP7HIMSoFVT4vw>



# What do we retain?

- All Oligosaccharides & Lactose
- DHA and AA
  - **Docosahexaenoic acid**, or **DHA**, is a type of omega-3 fat. **DHA** supports brain function and eye health.
  - **Arachidonic acid (AA)**, sometimes ARA) is a polyunsaturated omega-6 fatty acid
- Vitamins B1, B2, B6, folic acid, C
- Increase in Vitamin A

# Holder pasteurising (Sterifeed) *63.5<sup>^</sup>C for 30 minutes*



# Jars cooling, showing temperature probe







# Final word

- MOM is the best long-term solution for babies
- We want the recipients to work on their own supplies if possible.
- We want the recipients to be supported by a health professional.



# Contact details

- [info@whangaiora.org.nz](mailto:info@whangaiora.org.nz)
- Facebook: Whāngai Ora Milk Bank - Te Papaiōea
- Ground floor, Te Papaiōea Birthing Centre by appointment.

## Questions?