

# Methods of Milk Expression for lactating women: a Cochrane Systematic Review

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Cochrane Systematic Reviews can help to answer questions and to highlight areas where answers are needed. Human milk makes a difference to short and long term health. Due to a health condition or separation from their mother not all infants can feed at the breast and expressed milk is needed.

Little is known about the effectiveness or safety of different methods of milk expression.

This systematic review sought to assess acceptability, effectiveness, safety, effect on milk composition, bacterial contamination and cost implications of a range of methods of human milk expression including hand expression, manual, battery and electric pumps; protocols and adjunct behaviours.

What is the best way to express my milk?



Mothers express or pump for a variety of reasons. No one method suits all situations the “best”. The evidence indicates that:

- ◇ Relaxation, music, warmth, massage, initiation of expression soon after birth if infant is not breastfeeding, increased frequency of pumping and suitable breast shield size, (*all lost cost/low tech*) increased the volume of milk obtained.
- ◇ No pump type consistently significantly increased the milk volume obtained when compared to another type.
- ◇ Hand-expressed milk may provide more sodium than manual or electric pumped milk (important for VLBW infants).



What is this “evidence”?



- ◇ We used electronic databases, searched publications, and contacted researchers to find trials that compared methods of expressing where the mothers were randomly assigned to which method to use.
- ◇ There were 41 trials that met the inclusion criteria involving 2293 women with 22 trials involving 1339 participants contributing data for numerical analysis.
- ◇ The trials were conducted in the USA, UK, Australia, India, Canada, Malaysia, Brazil, Egypt, Mexico, Israel, Ecuador, Turkey, Kenya and Nigeria.

Is more research needed?



Research gaps:

- ◇ Agreed terminology – expression is physiologically different from mechanical pumping.
- ◇ Economic and environmental aspects included in trials.
- ◇ Common measurement points, i.e. Day 2, 7, 28, 42 etc.
- ◇ Milk constituents related to their immunological effects in relation to methods of expression.
- ◇ Structured replicable in-person education intervention vs no intervention, or vs a video, leaflet or not in-person.
- ◇ Back massage as a means of relaxation and stimulating oxytocin release, and the “hot jar” technique of milk expression.
- ◇ Drinking a warm beverage, eating, or other activities while expressing or pumping, which have the potential to affect maternal physiological responses.

How do I find out more?



The full Cochrane Review is published: Becker GE, Smith HA, Cooney F. Methods of milk expression for lactating women. *Cochrane Database of Systematic Reviews* 2016, Issue 9. DOI: 10.1002/14651858.CD006170.pub5. [www.cochranelibrary.com](http://www.cochranelibrary.com)

