

A clarification on dummies for infants on neonatal units: unreliable decontamination in practice

The expert commentary by Annie Aloysius and Alexandra Connolly is a well-reasoned outline of the value of dummies for sick or preterm infants in neonatal care.¹ We would like to add a comment that the last sentence about selecting a dummy should not be taken to indicate that dummies can be acceptably decontaminated and reused for this high risk group.

Successful decontamination (cleaning and disinfection) depends on a number of factors. By 'successful' we mean not only the possibility of adequate decontamination but also the ability to achieve this with high quality assurance to ensure that every dummy is safe on every occasion. One of the relevant factors for decontamination is the design of the item to be decontaminated. Dummies are hollow, often with complex structures and recessed areas that cannot be reliably reached in practice for cleaning and disinfection.^{2,3} Complete rinsing of detergents and disinfectants from the internal and external surfaces as well as any recessed areas will be very difficult to achieve.

For many dummies, substances that enter the hollow centre during washing can come out through one or more small holes onto the outer dummy surface where it is handled. This will occur when the dummy teat/bulb area is depressed (ie when it is put into an infant's mouth and the infant's lips and mouth press on it). The dummy surface will then be contaminated with varying amounts of detergents, disinfectants, organic material and bacteria. Even for those dummies where the design allows the teat/bulb area to be inverted, this still leaves recessed areas that are difficult to clean adequately and reliably. Also, dummies have a tendency to float in disinfecting solutions with surfaces above the fluid or with trapped air preventing contact with disinfectant. In addition, manufacturers' instructions for reprocessing can be poorly specific and guidance for assessing that the dummies are still fit for use may be inadequately detailed. All of the dummies we have seen have such problems.

The other important factors are procedural: what training do those doing the decontamination have, what facilities do they have and how can each decontamination episode be validated as adequate? Even if one dummy brand is thought to be more suitable for decontamination than the others, it is not likely that its successful decontamination is routinely guaranteed in a neonatal unit (given the time pressures and often suboptimal facilities for decontamination).

In our Letter to the Editor² that precedes this commentary,¹ we restate the guidance from the Healthcare Infection and Infection Prevention Societies that dummies on these units should be used for no more than 24 hours and then discarded.^{2,3} There should be

no attempt to decontaminate and reuse them.^{2,3} If they are soiled or contaminated with anything other than the infant's saliva, they should be discarded immediately.³ In addition, they should be individually packaged by the supplier/manufacturer and ready to use without requiring decontamination. When not in use, they should be stored in a clean, dry container covered with paper towels.

All dummies for sick or preterm infants in neonatal care should be regarded as single use only. These infants have highly susceptible gastrointestinal tracts and although the clinical relevance is uncertain, it is not advisable for them to ingest detergents, disinfectants and bacteria from the neonatal unit environment.⁴⁻⁷

Yours sincerely

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References

1. **Aloysius A, Connolly A.** Dummies and non-nutritive sucking for preterm infants in neonatal care. *Infant* 2019;15:10.
2. **Weaver G, Hoffman P, Price E, et al.** Dummies for infants on neonatal units and the impossibility of adequate decontamination. *Infant* 2019;15:9.
3. **Price E, Weaver G, Hoffman P, et al.** Decontamination of breast pump milk collection kits and related items at home and in hospital: guidance from a joint working group of the Healthcare Infection Society and Infection Prevention Society. *J Hosp Infect* 2016;92:213-21 and *J Infect Prevent* 2016;17:53-62.
4. **Ng PC, Lewindon PJ, Siu YK, et al.** Bacterial contaminated breast milk and necrotising enterocolitis in preterm twins. *J Hosp Infect* 1995;31:105-10.
5. **Price E, Awadel-Kariem FM, Hatelty P, et al.** Possible hazards of hypochlorite disinfection for feeding equipment for premature infants. *J Hosp Infect* 2006; 64:90-92.
6. **Fox DA, Epstein ML, Bass P.** Surfactants selectively oblate enteric neurons of the rat jejunum. *J Pharmacol Experiment Therapeutics* 1983;227:538-44.
7. **Mercurius-Taylor LA, Jayaraj AP, Clark CG.** Is chronic detergent ingestion harmful to the gut? *Brit J Ind Med* 1984;41:279-81.

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