



## OPERATIONAL DIRECTIVE

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**Subject:** **Reprocessing of Infant Feeding Equipment in Western Australian Healthcare Facilities**

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***Compliance with this Operational Directive is mandatory for all public hospitals and those private healthcare facilities contracted to provide services to public patients.***

This Operational Directive describes procedures for the provision and safe use of equipment associated with infant feeding in Western Australian healthcare facilities. It describes the minimum reprocessing standards required when reusable equipment is used for multiple infants and or mothers. In addition, recommendations are included for the management of equipment that is reused by the same mother or baby while in the healthcare facility.

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**This information is available in alternative formats upon request.**

## DEFINITIONS

**Breast Milk:** is classified as a body fluid.

**Infant Feeding Equipment:** is all equipment used for the purpose of expressing breast milk and feeding babies either expressed breast milk or infant formula e.g. breast pumps, membranes, valves, breast shields, bottles and teats.

**Reusable Equipment:** means a device that is approved for use by the Therapeutic Goods Administration (TGA) for more than one episode of use and for reuse on multiple patients following appropriate reprocessing.

**Semi-critical Item:** is an item according to the Spaulding Classification (1968) that has contact with intact non sterile mucosa or non intact skin.

**Single Patient Use:** means a device has been approved for use by the TGA for more than one episode of use on the one patient only. Unless the manufacturer specifies otherwise, devices labelled 'single patient use' can be reprocessed between uses for the same patient.

**Single Use:** means a device that has been approved for use by the TGA for only one episode of use on one patient only and is to be disposed of immediately after that use.

## INTRODUCTION

It is essential that equipment that is used for the purpose of expressing breast milk and feeding infants is managed to prevent contamination of equipment and transmission of infection. Milk is an excellent medium for the growth of bacteria, and poorly cleaned feeding equipment can be a source of infection. In addition, blood borne viruses have been detected in breast milk and, therefore, inadequately cleaned and disinfected shared equipment can pose a risk of disease transmission.<sup>1,2</sup>

Infant feeding equipment that is reused for multiple mothers and babies in a hospital environment is classified as a semi-critical item under the Spaulding Classification (1968)<sup>3</sup> system and therefore requires reprocessing after each use in accordance with Australian Standard *AS/NZS 4187-2003 Cleaning and disinfecting and sterilising reusable medical and surgical instruments and equipment and maintenance of associated environments*.<sup>4</sup> The Spaulding Classification was designed to address reprocessing of items that are reused for multiple patients.

There are no definitive reprocessing standards when single patient use equipment is reused for the same mother or baby for an episode of care. However, health care workers (HCWs) supplying this equipment for patient use need to be aware of the manufacturers' instructions relating to reuse on the same patient and any documented reprocessing instructions.

There is scant evidence on the efficacy of cleaning and disinfection processes for infant feeding equipment used by the same mother/infant. There are no specific recommendations in lactation research literature at this time regarding the use of additional disinfecting methods.<sup>5</sup> A study by Ma et al in 2009, examined the efficacy of protocols for cleaning and disinfecting infant feeding bottles in less developed countries.<sup>1</sup> The study highlighted the importance of removing residual milk and concluded that final rinsing with hot soapy water effectively removed contaminating pathogens.

The World Health Organization (WHO) describes sterilisation of infant feeding equipment prior to preparing powdered infant formula (PIF), either by use of commercial sterilisers or by boiling.<sup>6</sup> These guidelines are a generic document to provide guidance to all countries. The WHO stipulates that when adapted at a country level, conditions such as climatic and socioeconomic differences within the country must be reflected.<sup>6</sup>

Healthcare facilities (HCFs) need to ensure that all HCWs are provided with clear direction on the type of equipment utilised in their HCF, i.e. single use, single patient use, or reusable, and the correct means of reprocessing. Processes need to be in place to ensure appropriate management in the event of equipment failure or interruption to supply, e.g. there may be a need to revert to reusable bottles if using single use only equipment and supply is interrupted and vice versa in the event of reprocessing equipment failure.

HCWs should ensure that the appropriate infection prevention and control principles are applied when mothers utilise equipment for infant feeding or to express breast milk. This is an opportune time to promote the importance of hand hygiene to mothers in preventing the transmission of infection.

## **POLICY**

HCFs shall ensure that any equipment labelled 'single use' is not reused and is discarded immediately after use.

Equipment labelled 'single patient use' can only be reused, in accordance with manufacturers' instructions, for the same patient and discarded when no longer required by that patient. Appropriate cleaning and reprocessing must occur between uses on the same patient.

HCFs shall ensure that all TGA approved reusable equipment utilised for infant feeding is cleaned after each use and the required level of reprocessing, as per the Spaulding Classification, is achieved.

## **REPROCESSING REQUIREMENTS FOR REUSABLE EQUIPMENT**

Reusable equipment utilised for infant feeding or to express breast milk is classified as semi-critical and, therefore, requires reprocessing by steam sterilisation or thermal disinfection prior to reuse. Chemical disinfectants and commercial home sterilisers, including boiling and microwave methods, are not suitable for use in HCFs.

Automated equipment, such as washer/disinfectors, is recommended for use in thermal disinfection processes. HCFs undergoing construction or refurbishment should source and appropriately site this equipment and related accessories for the purpose of decontaminating infant feeding equipment.<sup>7</sup>

## **REPROCESSING PROCEDURES FOR REUSABLE EQUIPMENT**

Following use of all reusable infant feeding equipment, HCWs shall ensure the equipment is:

- disassembled and rinsed in cold water, ensuring all milk residue is removed
- manually washed in a neutral detergent and warm water
- rinsed in hot water
- then thermally disinfected or steam sterilised.

Automated washer/disinfectors that have a dedicated detergent wash cycle may be used to replace manual cleaning processes. The following temperature-time parameters are recommended to achieve thermal disinfection:

- 90°C for 1 minute / 80°C for 10 minutes / 75°C for 30 minutes / 70°C for 100 minutes.

HCFs utilising washer / disinfectors shall ensure the equipment:

- includes appropriate accessories to reprocess infant feeding equipment
- is suitable for the hospital setting
- is maintained according to the manufacturers instructions
- meets the technical requirements described in AS 2945<sup>8</sup>
- is monitored in accordance with AS/NZS 4187.<sup>4</sup>

## **STORAGE OF EQUIPMENT**

Infant feeding equipment that is not being used immediately after sterilisation or thermal disinfection shall be stored dry in a clean container in a cupboard or refrigerator to protect from environmental contamination. Equipment should be reprocessed every 24 hours if not used.

## **CLEANING OF SINGLE PATIENT USE (PERSONAL USE) EQUIPMENT**

Appropriate cleaning of single patient use equipment is essential after each use. Mothers should be instructed to wash their personal use equipment in an appropriate area, e.g. formula preparation area, kitchen/pantry area, or, at a minimum, utilise a dedicated utensil cleaning bowl and bottle brush in their room. Equipment is not to be washed in hand basins or baby baths in the patient's room. Mothers should be instructed on the following cleaning procedure:

- the used equipment should be separated and rinsed thoroughly in cold water to remove any milk residue
- the equipment should then be washed in neutral detergent and warm water and then rinsed in hot water\*
- all equipment should be air dried and stored in a clean container in the mother's room or in designated place in the nursery if the mother is not an inpatient
- all items must be clearly labelled with the mother's/infant's name

(\*alternatively, following initial cold water rinse, the equipment can be mechanically washed in a washer / disinfector, if the equipment can be processed and remain clearly identifiable to the individual mother/infant, i.e. some HCFs utilise baskets for each mother / infant that can be labelled).

## **INFANT FORMULA**

All HCFs should support breast feeding and promote its benefits as per the WA Operational Directive *OD 0211/09: Baby Friendly Health Initiative: hospital breastfeeding policy*. However, in instances where formula feeding is required, HCFs need to ensure the safe provision and handling of infant formula to prevent the risk of contamination and infection.

Where available commercially prepared, sterile ready-to-feed (RTF) liquid formula should be used for infants. Sterile RTF formula does not contain pathogenic microorganisms and so does not pose a risk of infection.<sup>6</sup> These products are designated single use and the bottle and teat and any remaining formula is to be discarded after each use. Decanting of liquid formula from a single use bottle to be used for a later feed should not occur.

PIF is not a sterile product and may be intrinsically contaminated with pathogens that can cause serious illness in infants. Inappropriate preparation and handling of reconstituted PIF may provide conditions for these pathogens to multiply, which increases the risk of infection. HCFs need to ensure PIF is prepared in an area designated for formula preparation only and that staff are trained in preparing feeds safely.

## **PATIENT INFORMATION**

HCFs need to ensure appropriate information is provided to parents, if required, on the options for using formula feed and for the cleaning and reprocessing of infant feeding equipment. This should occur during their antenatal education to enable them to make an informed decision regarding their choice of product and reprocessing methods. Parents should be supported to commence the formula of their choice from birth and instructed on how to safely prepare PIF to minimise the risk of contaminating feeds. Parents wishing to utilise disinfection methods such as 'steam sterilising' with electric or microwave steam units should be supported with educational opportunities (literature and practical instruction) to enable them to manage this process safely both within the hospital setting and subsequently at home.

## **REFERENCES**

1. Ma L, Zhang G, Swaminathan B, Doyle M, Bowen A, 2009. Efficacy of protocols for cleaning and disinfecting infant feeding bottles in less developed countries. *Am. J. Trop. Med. Hyg.*, 81(1), 2009 pp132-139.
2. Renfrew MJ, McLoughlin M and McFadden A, 2008. Cleaning and sterilisation of infant feeding equipment: a systematic review. *Public Health Nutrition*: 11(11), 1188-1199.
3. NHMRC (2010) Australian Guidelines for the Prevention and Control of Infection in Healthcare. Commonwealth of Australia.
4. Australian Standard AS/NZS 4187 – 2003. Cleaning and disinfecting and sterilising reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities. Standards Australia.
5. Rhodes J 2011. Evidence-based recommendations for breast pumping hygiene. *The Journal of Perinatology-Neonatology Neonatal Intensive Care* vol.24 No.4 July-August 2011.
6. WHO, 2007. Safe preparation, storage and handling of powdered infant formula: Guidelines. World Health Organization.
7. Australian Standard HB 260-2003. Hospital acquired infections – Engineering down the risk handbook. Standards Australia.
8. Australian Standard AS 2945 (Int) – 2002. Batch-type washer/disinfectors for healthcare facilities. Standards Australia.
9. Richards K (2011). Secretariat Advisory Panel on Marketing in Australia of Infant Formula (APMAIF). Department of Health and Ageing. Electronic communication.
10. Ford R (2011). Manager, Baby Friendly Health Initiative (BFHI), Australian College of Midwives. Electronic communication.