

reflux: sleeping position for babies with gastro-oesophageal reflux (GOR)

To Reduce the Risk of Sudden Unexpected Deaths in Infancy (SUDI), including SIDS and Fatal Sleep Accidents

1. Sleep **baby on the back** from birth, not on the tummy or side
2. Sleep baby with **head and face uncovered**
3. Keep baby **smoke free** before birth and after
4. Provide a **safe sleeping environment** night and day
5. Sleep baby in their **own safe sleeping place** in the **same room as an adult care-giver** for the first six to twelve months
6. **Breastfeed** baby

The term Sudden Unexpected Death in Infancy (SUDI) is now used as this term refers to all cases of sudden and unexpected death in infancy and includes deaths from Sudden Infant Death Syndrome (SIDS) and fatal sleeping accidents. Safe sleeping recommendations target known risk factors associated with SUDI. Where studies specifically define the population as SIDS, this specific term will be used to describe the study findings.

definitions

Gastro-Oesophageal Reflux (GOR) is the effortless regurgitation or spitting up of gastric [stomach] contents into the oesophagus [food pipe] with or without effortless regurgitation and vomiting¹.

Gastro-Oesophageal Reflux Disease (GORD) occurs when the reflux of gastric [stomach] contents causes troublesome signs and/or complications, that is, when GOR has an adverse effect on the well-being of the baby. For example, when the GOR causes poor weight gain or complications such as oesophagitis or respiratory signs. This requires medical assessment before a diagnosis of GORD is made^{1,2}.

Regurgitation in children is defined as the passage of refluxed contents into the throat, mouth or from the mouth. Other terms include “spitting up”, “positing” or “spilling”. It is a characteristic sign of reflux in infants but is not diagnostic of GORD¹. Regurgitation in infants is normal. It is normal for up to 50% of babies less than three months of age and 70% of completely healthy infants under twelve months of age to have regurgitation that is physiologic. Most of this regurgitation resolves spontaneously after 6 months, and completely by twelve months in 95% of babies^{1,3,4}.



key points

- Babies with GOR should be placed to sleep on their back from birth on a firm, flat mattress that is not elevated⁵.
- In babies with GOR, the risk of sudden death when baby is in the tummy or side sleeping positions outweighs any benefits of tummy or left side positioning of babies⁶.
- Elevating the sleeping surface for back sleeping babies does not reduce GOR and is not recommended^{5,7}.
- If a baby is in an elevated cot, further hazards may be introduced into the sleeping environment. When elevated, babies are more likely to slip down the cot and become completely covered by bedding, or if a pillow is used to elevate the baby pillows become a suffocation hazard⁵.
- If for a rare medical reason a baby must be slept in a position other than the back position, medical staff should advise the parents **in writing** and provide information about the other ways parents can reduce the risk of SUDI.
- Medical assessment is required for a diagnosis of GORD².
- Non-nutritive sucking using a pacifier or dummy has no effect on acid or non-acid GOR and thus can be used in preterm infants with GOR symptoms⁵.

Elaboration of the key points:

GOR regurgitation or 'spitting up' is common in babies. Regurgitation occurs in about 50% of babies less than 3 months of age and resolves spontaneously, without intervention, by 12 months in all but 5% of babies^{1,3,4,8}. It is usually mild and self-resolving. GOR is a normal physiological process occurring several times per day in healthy babies both term and preterm and is normally cleared by swallowing^{9,10}. The great majority of children with the more serious GORD are over one year of age². Most GOR can be managed by educating and reassuring parents that it will resolve by itself without treatment or medication. Medical attention is recommended if vomiting is very frequent and growth should be monitored using parent-held records.

Reducing GOR.

- **Breast feeding.** Babies who are breastfed have less GOR^{11,12}
- **Eliminate smoking.** Eliminating environmental tobacco smoke (ETS) is important for many baby health outcomes. In adults, cigarette smoking is a common cause of gastro-oesophageal reflux, and ETS from parental smoking may also be a cause of GOR in babies¹³⁻¹⁷.
- **Thickened feeds.** Two critical systematic reviews of the literature suggest that thickening of feeds is helpful in reducing the signs of GORD^{7,18}. Results show that frequency of regurgitation and vomiting is reduced and increasing weight gain can be achieved by thickening feeds.

Pacifiers (dummies) used for non-nutritive sucking have no effect on acid and non-acid GOR and thus can be used in preterm infants with GOR¹⁹.

Positioning for sleep.

Sleeping baby on the back provides airway protection⁶. The back sleeping position is safer for babies with GOR as babies can protect their airways when placed on the back compared with babies placed to sleep on the tummy or side [Figure 1]^{6,9,21}.

The tummy or side positions should not be used for babies including those with GOR or GORD unless parents are advised **in writing** by the child's medical practitioner. The American Academy of Pediatrics advises that the back sleeping position be recommended in the treatment of gastro-oesophageal reflux for mild to moderate cases⁵. The tummy and side sleeping positions significantly increase the risk of sudden infant death for babies under six months of age^{5,6}.

Elevating the cot during sleep is not recommended

In a critical review of the literature elevating the head of the cot in the supine position does not reduce GOR⁷. It may cause the baby to slide down to the foot of the cot into a position that might compromise breathing. Placing a pillow or wedge under the mattress or in the cot with the aim of elevating the baby's head is also not recommended as it increases the likelihood of baby slipping down under the bedding and the baby's head becoming covered⁵.

Elevating a baby during feeding and tummy time

While props in the shape of a wedge may provide an aid during feeding, and tummy time while the baby is under supervision, they should never be used during sleep or when baby is awake and not being watched by an adult.

Sleep positioners are not recommended

Aids and devices intended to keep babies in certain sleeping positions are NOT recommended; they do not prevent babies from rolling on to the tummy [prone] position, and they limit the baby's movements as they get older. These products have not been researched and, like other soft products in the cot, may create a suffocation risk⁵.

Rare situations where the tummy sleeping position is recommended for medical reasons

If the child's medical practitioner determines that the stomach sleeping position is necessary because of a rare medical condition or other concern, the **medical practitioner should advise the parents in writing**. The medical practitioner should also provide information about the child care practices that reduce the risk of sudden infant death.

GOR Medications in preterm and term infants should be carefully evaluated especially in the high risk preterm population as there is uncertain evidence of efficacy and potential harms²⁰.

Figure 1

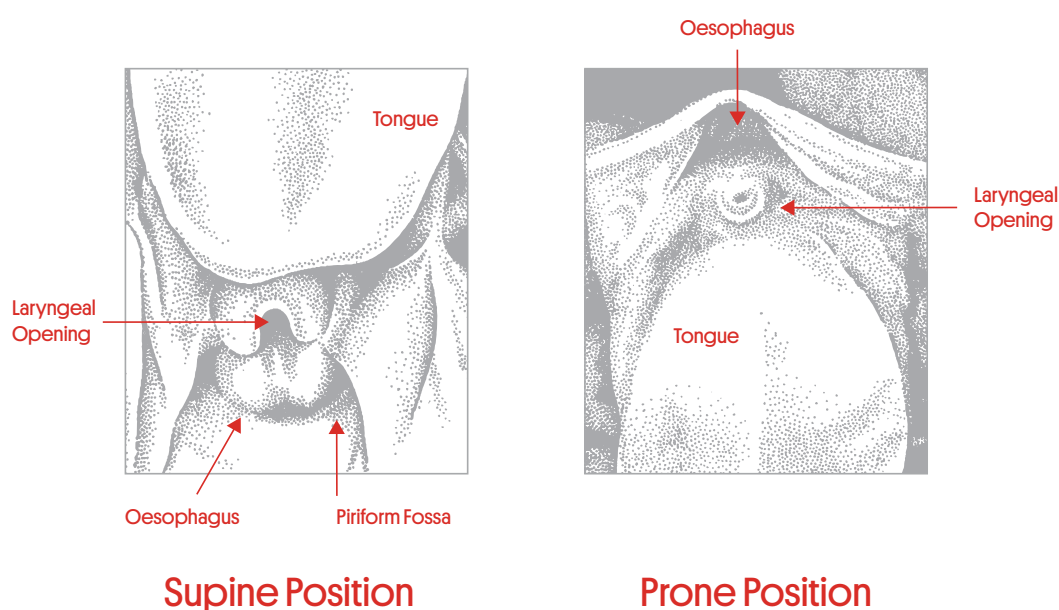


Figure 1: Anatomy of infant larynx in the prone and supine position

When prone the oesophagus [food pipe] is above the laryngeal opening, thus high reflux or postnasal secretions have direct access to stimulation of receptors around the laryngeal opening leading to laryngeal chemoreceptor reflex [LCR] apnoea [breathing stops]. When supine the food pipe is below the laryngeal opening and the piriform fossae provide a temporary reservoir with protection from LCR stimulation. Thus both the anatomy and physiology predispose the infant to activation of the LCR when prone^{6, 9, 21}.

In Australia, between 1990 and 2015 there were 5,000 babies who died suddenly and unexpectedly. Baby deaths attributed to SUDI have fallen by 85% and it is estimated that 9,967 infant lives have been saved as a result of the infant safe sleeping campaigns.

The Safe Sleeping program is based on strong scientific evidence, has been developed in consultation with major health authorities, SUDI researchers and paediatric experts in Australia and overseas, and meets the National Health & Medical Research Council rules for strong evidence.

For further information visit the Red Nose website at rednose.com.au or phone Red Nose on 1300 998 698.

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