



## Infant Reflux and Inclined Sleep: Why is this a SUDI risk?

### Infant story

Jessica is a healthy 3 month old baby girl. Her parents report that she has been spitting up small amounts of feed and is unsettled and cries afterwards. They wonder if she has reflux. She has been waking frequently during the night and her mother, Sarah, has found that Jessica seemed more comfortable and settled easier when she is cradled in an adult's arms in a semi upright position.

During the day her mother decides she will try propping Jessica up on a pillow as she feels this may help her not to regurgitate her food and cry less.

Sarah uses two adult pillows placed at right angles and places Jessica in the middle of the triangle. Jessica and the pillows are in the middle of her parent's queen size bed, where Sarah can keep an eye on her. Jessica looks comfortable and quickly falls asleep in this position. Sarah is confident that Jessica is securely nestled and won't move.

Sarah continues with tasks around the house, checking on Jessica each time she passes the room. About 20 minutes later Sarah walks into the room and finds Jessica lying face down half-way along the pillow on the right. When Sarah turns Jessica over, she is pale and floppy, with bluish lips. Sarah immediately picks Jessica up and rubs her chest. Jessica gives a brief cry, then begins breathing more vigorously. She proceeds to cry more loudly and her skin colour changes to her normal pink.

### QPQC Review

Many Sudden Unexpected Deaths in Infants (SUDI) occur during sleep, and it is thought that some of these deaths are due to the infant's position within the sleep environment. One identified risk is inclined sleep positioning.

The QPQC has reviewed 117 cases of SUDI that occurred during sleeping (2013-15). Of these cases, 14.5% involved the infant being placed in an inclined sleep position.

Reviewers identified that in over half of the deaths the infants had been propped on boomerang pillows or pillows positioned to create a triangle.

Current literature reports that 55% of mothers will place their babies in an inclined position if they have concerns about reflux, while 10.2% routinely used a pillow and 21.7% had used a pillow at some point in the first 3-4 months of life<sup>(1)</sup>.

### Why is SUDI a risk?

**Infants have large heavy heads compared to body size which can fall forwards or sideways if they are placed on an inclined surface.**

- Chin-to-chest positioning narrows infants' upper airway making it difficult to breathe and increasing the risk of airway obstruction.
- Inclined surfaces are unstable for infants as their large heavy heads increase the risk of rolling forward, to the side or prone.
- Lying on an inclined surface helps infants activate their abdominal muscles and lift their heads, which increases the risk they will turn over, even if they have not done this before.
- Infants may slip down an inclined surface and curl into a C-shape making chest and diaphragm movement difficult.

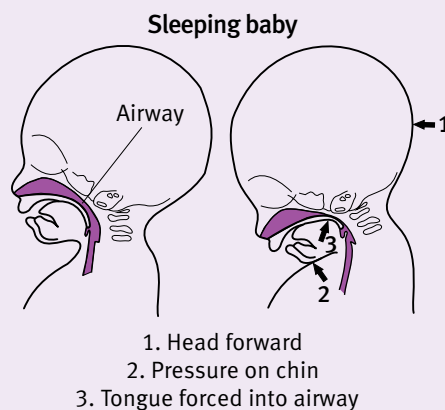


Diagram adapted from Tonkin, McIntosh & Gunn, *Safe Sleep for Babies*, The University of Auckland.

### Lessons learnt

- 1 The safest way for infants to sleep is on their back on a firm, flat surface. This includes infants with reflux. [www.rednose.org.au/article/my-baby-has-reflux](http://www.rednose.org.au/article/my-baby-has-reflux)
- 2 Infants should not be placed to sleep on pillows under any circumstances.
- 3 Creating an inclined position using pillows, positional devices or tilting the cot is not recommended as a sleep position for infants with gastro-oesophageal reflux symptoms.<sup>(2,3)</sup>
- 4 An inclined sleep position may be considered for medical reasons in only a very small number of infants.
- 5 Ask the question – Do the risks of SUDI outweigh any benefits of an inclined sleep position?
- 6 If an inclined sleep position is recommended by a health professional, provide families with clear written information about the risks and benefits of an inclined sleep position for their infant.
- 7 Include a clear timeline for review as infant's needs change rapidly.

### Internal resources

Queensland Health *Inclined Sleep for Infants short* Guide available early 2021 on the Queensland Clinical Guidelines web page [www.health.qld.gov.au/qcg](http://www.health.qld.gov.au/qcg)

### References

1. Cole R, Young J, Kearney, Thompson JMD. *Infant care practices and parent uptake of safe sleep messages: a cross-sectional survey in Queensland, Australia.* BMC Pediatrics, 2020; 20:27
2. Moon RY, Task Force On Sudden Infant Deaths. *SIDS and Other Sleep-Related Infant Deaths: Evidence Base for 2016 Updated Recommendations for a Safe Infant Sleeping Environment.* Pediatrics. 2016;138(5)
3. Rosen R, Vandenplas Y, Singendonk M et al. *Pediatric Gastroesophageal Reflux Clinical Practice Guidelines: Joint Recommendations of the North American and European Societies (NASPGHAN and ESPGHAN).* J Pediatr Gast Nutr: 2018;66(3);516-554