

# check

Independent learning program for GPs

Unit 568  
January–February 2020

## Mothers and babies



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**Published by**

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100 Wellington Parade  
East Melbourne, Victoria 3002, Australia

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[www.racgp.org.au](http://www.racgp.org.au)

ABN 34 000 223 807  
ISSN 0812-9630

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# Mothers and babies

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## The five domains of general practice

-  Communication skills and the patient–doctor relationship
-  Applied professional knowledge and skills
-  Population health and the context of general practice
-  Professional and ethical role
-  Organisational and legal dimensions

## About this activity

General practitioners (GPs) frequently provide postpartum care to mothers and their babies following hospital discharge. A Queensland study showed that 64% of women presented to a GP in the seven days after giving birth in a public facility, and 87% of women had visited a GP by three months postpartum.<sup>1</sup>

Breastfeeding is often a source of concern for new mothers.<sup>2</sup> Although Australian guidelines recommend exclusive breastfeeding until the age of approximately six months, followed by breastfeeding in combination with solid foods until 12 months of age,<sup>3</sup> many babies are breastfed for a shorter period of time. The 2010 Australian National Infant Feeding Survey found that although 96% of babies were initially breastfed, this dropped to 69% of babies at four months of age, and further to 60% of babies at six months of age.<sup>4</sup>

For some women, breastfeeding difficulties stem from pain. This may be due to various factors, including improper latching or tongue-tie. The latter is seen in 4–11% of newborns, most frequently in boys.<sup>5</sup> Breastfeeding difficulties can also include milk oversupply, with resultant lactose overload, and milk undersupply. The GP is well placed to perform a breastfeeding observation or refer the patient to a breastfeeding consultant.

Mental health is also a critical concern for new parents, with Australian data showing that approximately 15% of new mothers and 10% of new fathers experience postnatal depression annually.<sup>6</sup> The numbers of new parents living with mild anxiety and mood disturbances caused by the significant change in their lives is likely even greater.

This edition of *check* considers the care of mothers and babies in general practice.

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## Learning outcomes

At the end of this activity, participants will be able to:

- describe the assessment of women presenting with breastfeeding difficulties
- identify the key features of lactose overload
- outline the approach to patients who feel overwhelmed by the challenges of having a newborn baby
- discuss the management of babies with excessive night waking.

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## Abbreviations

<b>ABA</b>	Australian Breastfeeding Association
<b>ACT</b>	acceptance and commitment therapy
<b>CMPI</b>	cow's milk protein intolerance
<b>EPDS</b>	Edinburgh Postnatal Depression Scale
<b>FWB</b>	first wave behaviourism
<b>Ig</b>	immunoglobulin
<b>GOR</b>	gastro-oesophageal reflux
<b>GORD</b>	gastro-oesophageal reflux disease
<b>GP</b>	general practitioner
<b>UTI</b>	urinary tract infection

**CASE**

# 1 | Yu Yan has ongoing nipple pain

Yu Yan, aged 32 years, is a first-time mother who comes to see you with her baby boy, Li Qiang, aged four weeks. She is worried about ongoing nipple pain, which is worse on her right breast, and has been told by several women in her mother's group that she probably has nipple thrush.

### Question 1

What further history would you take from Yu Yan?

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### Further information

Yu Yan reports that this was her first pregnancy and it was very straightforward, other than some mild nausea and vomiting in her first trimester. She did not develop gestational diabetes and all scans were normal. Li Qiang was born via an uncomplicated vaginal delivery, with Yu Yan sustaining a small second-degree tear that is healing well. At birth, Li Qiang weighed 2.9 kg (16th centile) and was 49 cm long (25th centile). Yu Yan has no past medical or surgical history and no allergies. Li Qiang had skin-to-skin contact with her from birth for one hour and then tried feeding, but Yu Yan says this was difficult as she felt she had an inverted nipple on the right breast. On further history, she is able to evert the nipple with stimulation but at times is still finding it difficult to latch Li Qiang on to this side. She feeds Li Qiang every 3–4 hours and usually alternates sides so that he only feeds on one side per feed. He is feeding approximately 6–8 times per 24 hours, including twice overnight. Li Qiang produces approximately five wet nappies and 3–4 large mustard-coloured grainy stools every 24 hours. He sleeps in a bassinet next to her bed. Yu Yan is feeling very tired but does not report any concerning symptoms of depression.

### Question 2

What examinations would you perform?

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### Further information

On examination, both of Yu Yan's nipples are everted and have traumatic cracks, with the damage being more prominent on the right breast. There is no erythema, indurated areas or fever. Her vital signs are within normal limits. You perform an oromotor assessment on Li Qiang and find that he can lateralise and extend his tongue past his lower alveolar ridge. There is no evidence of a cleft, and his palate is normal when examined with a tongue depressor and headlamp.<sup>1</sup> His mucous membranes are moist and he has good skin turgor. Li Qiang weighs 3.78 kg (15th centile) and is 53 cm long (15th centile).

### Question 3

What conditions would you include in your differential diagnosis?

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**Question 4** 

With the information obtained on history and examination, what is your working diagnosis?

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**Question 5** 

Would you order any investigations at this stage?

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**Question 6**  

What information would you give Yu Yan regarding Li Qiang's weight gain?

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**Question 7** 

How would you further investigate Yu Yan's latch and positioning?

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**Further information**

When Yu Yan begins to breastfeed Li Qiang, you note several things. First, she is not uncovering enough of the breast surrounding the nipple-areolar complex, and Li Qiang seems to be having difficulty burying his face into the breast. The clothing is getting in the way of his face and he is pulling back and back-arching at times, seemingly 'falling off' the breast. When he does come off the breast, you notice that the breast falls into quite a different position from the one in which he was feeding, confirming that there is breast tissue drag during breastfeeding. This is often very painful for the mother and can result in nipple trauma and bleeding. After three or four attempts, Li Qiang successfully latches on to the breast and finishes his feed. He seems to transfer milk reasonably well but does not look stable at the breast, with intermittent fussing and back-arching, and Yu Yan tries to reposition them both several times during the feed.

**Question 8** 

What interventions are available to assist women with breastfeeding techniques?

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**Question 9**  

What information can you provide about gestalt breastfeeding?

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**CASE 1** **Answers****Answer 1**

Further history would include:

- brief pregnancy history
- mode of delivery and any complications
- past medical or surgical history, especially any past breast surgery
- current medications
- breastfeeding history – what day Yu Yan’s milk ‘came in’, whether she feels she has had enough or too much milk
- type of pain experienced, when it occurs, what things improve it and what things make it worse
- Li Qiang’s feeding habits – number of feeds in 24 hours, duration of each feed
- Li Qiang’s behaviour – settled or crying and fussing
- Li Qiang’s throughput – stool and urine
- Yu Yan’s social support (eg partner, family)
- Yu Yan’s mental health.

**Answer 2**

Examinations would include:

- examination of the breasts and nipples – assessing for any nipple trauma, breast lumps, swelling or erythema
- measurement of Yu Yan’s temperature
- oromotor assessment of Li Qiang – assessing tongue mobility and palate (<https://education.possumsonline.com/video/dr-krystyna-demonstrates-infant-ormotor-assessment>)
- review of Li Qiang’s weight gain since birth
- observation of a breastfeed with consent

- neonatal examination of Li Qiang – general appearance, skin, head shape, eyes, ears, mouth, neck, abdomen, hips, genitalia, anus, back, neurological and cardiorespiratory exam.

**Answer 3**

The differential diagnosis would include a variety of causes ranging from very common to rare.<sup>2-6</sup>

Very common causes of nipple trauma include:

- suboptimal fit and hold, characterised by
  - nipple trauma – fissures, ulceration, inflammation
  - maternal pain during and between breastfeeding, which may be deep, burning or shooting/stabbing, as well as more superficial stinging
  - poor milk transfer
  - maternal stress (often)
  - excessively frequent or prolonged breastfeeding
  - infant symptoms including distress, frequent pulling off and unsettled behaviour at the breast. Late stages can include breast refusal.
- breast pump trauma/misuse, characterised by
  - nipple-areolar complex or soft tissue injury or bruising, typically inflammation with clearly delineated margin on areola.

Less common causes of nipple trauma include:

- nipple bacterial infection
- mastitis
- ankyloglossia (tongue-tie)
- nipple-areolar complex dermatitis (eczema)<sup>5</sup>
- blocked/plugged milk duct
- nipple vasospasm
- candidiasis of the nipple
- white spot/bleb.

Rare causes of nipple trauma include:

- herpes simplex mastitis
- dysbiosis and ductal infection
- psoriasis of the nipple-areolar complex<sup>6</sup>
- allodynia/functional pain.

The Academy of Breastfeeding Medicine Protocol is an excellent resource for further detail and treatment options, including dosages.<sup>7,8</sup>

**Answer 4**

The most likely cause of Yu Yan’s nipple symptoms is suboptimal fit and hold (which may also be referred to as positioning and latch).

This is the most common cause of the presenting complaint of nipple pain and is supported by evidence of visible damage to the nipples and a history of inverted nipples.

### Answer 5

Generally, investigations are not required at this point, as the nipple trauma confirms that latch and positioning is the key issue. If you suspected bacterial or fungal infection, you could swab the nipple and collect breast milk for microscopy and culture, but this has a high rate of false positives due to the normal flora on the skin and from within the baby's mouth, and results should be interpreted with caution.<sup>2</sup>

### Answer 6

Breastfeeding, while natural and innate, is not easy, and it is important to affirm to Yu Yan how hard she has worked to continue to breastfeed through such pain and difficulties. It is also important to reassure Yu Yan that Li Qiang's weight gain is excellent. Loss of 7–10% of birthweight in the days following the birth is considered normal. Thereafter, gains of 15–30 g per day can be expected over the first week, with a return to birthweight expected by day 14.<sup>9</sup> Li Qiang now weighs 760 g above his birthweight, which means he has gained an average of 190 g per week. It is recommended that babies gain approximately 150–200 g per week;<sup>10</sup> however, this is only a guide, and each child must be considered individually. Babies should have 5–8 very wet nappies per day of pale, odourless urine, and exclusively breastfed infants can pass stools as often as every breastfeed or as little as once every 7–10 days.<sup>8</sup>

### Answer 7

Watching a breastfeed is usually the best way to assess whether the latch and positioning can be improved to reduce the pain and prevent nipple damage. Alternatively, if you are not confident observing a breastfeed, you could arrange an urgent consultation with a lactation consultant.

### Answer 8

There are many interventions available to support women with breastfeeding. This can contribute to breastfeeding difficulties, as women can have so many different opinions and advice given to them regarding how to breastfeed. These opinions may be conflicting and confusing.

Some of the more well-known methods include:

- baby-led breastfeeding<sup>11</sup>
- laid-back breastfeeding<sup>11</sup>
- baby-led, mother-guided attachment<sup>11</sup>
- mother-led breastfeeding<sup>12</sup>
- Thompson Method of breastfeeding<sup>13</sup>
- gestalt breastfeeding.<sup>14</sup>

These methods have elements in common, and practitioners will develop their own techniques to assist women who are struggling with breastfeeding.

When a breastfeeding technique is successful – meaning that the baby is well attached and feeding well – there will be several things that a mother will notice.<sup>12</sup> These include:

- breastfeeding feels comfortable, not painful
- the baby is sucking deeply and regularly (sometimes with short pauses), and can be heard swallowing
- the baby takes the whole nipple and a large amount of the areola into his/her mouth
- the baby's chin is pressed into the breast and his/her nose is clear or just touching the breast
- the nipples stay in good condition and do not show any signs of damage
- the baby is draining the breast properly, so that the breast feels floppy after a feed.

Gestalt breastfeeding, which is one specific approach to breastfeeding, aims to optimise positional stability and intraoral breast tissue volumes for pain-free, effective breastfeeding (Figure 1). The word gestalt (pronounced 'ger-shtolt') means 'a whole that is more than the sum of its parts'. Gestalt breastfeeding builds on the theoretical foundations of complexity science, physiological breastfeeding initiation and new understandings of the biomechanics of infant suck elucidated in ultrasound studies.<sup>14</sup> This is becoming an increasingly preferred method used by many lactation consultants and breastfeeding practitioners because of the significant research from which it has been developed, and its application to address both physical and emotional difficulties associated with breastfeeding.



Figure 1. Gestalt breastfeeding, demonstrating positional stability and deep face/breast bury. Photo credit: Pamela Douglas.

### Answer 9

It is useful to divide gestalt breastfeeding into four steps to help understanding.<sup>14</sup>



### Step 1: The biomechanics of breastfeeding

A video of a baby ideally transferring milk at the breast can be viewed online (<https://possumsonline.com/video/baby-transfers-milk-beautifully>). This video shows the vacuum that is created when the baby's jaw drops reflexively at the breast, which is possible because of a deep face–breast bury. The baby's lips, and the mother's nipple and areola, are not visible, and the vacuum that is created draws incrementally more breast tissue into the baby's mouth until he or she reaches optimal intraoral breast tissue volume. This is minimally dependent on the baby's tongue action, so the presence of most 'tongue-ties' is irrelevant and does not have an impact on the ability to breastfeed.

It is very important to consider whether there is any breast tissue drag. This occurs when the breast is pulled in any direction that will interfere with the baby's capacity to achieve maximal intraoral breast tissue volume. It is normal for babies to come onto the breast with a shallow latch; there is no need to worry about a wide gape, nipple to nose, shaping the breast, flanging lips or taking the baby off to achieve a 'deeper' latch.

### Step 2: Preparing the mother's body for breastfeeding

The mother's body must be positioned to optimise a 'switching-on' of the baby's breastfeeding reflexes. This means that she should be somewhat reclined, with enough breast exposure (usually approximately 10 cm diameter around the nipple) so that the 'landing pad' is not encroached on by clothing, the woman's upper arm or, as occurs in some cases, by her abdomen. Breast tissue drag and landing pad encroachment will result in the baby having difficulty coming onto the breast, leading to pulling off and back-arching.

### Step 3: Turning on the baby's breastfeeding reflexes

Breastfeeding reflexes for the infant are turned on by having the infant's abdomen and chest flat against the mother's body, wrapped around her lower rib cage and up under her other breast, with the baby's hands free of mittens or other cover. The baby's hands should never be placed between the baby's and mother's bodies. The lower half of the baby's face should be symmetrically buried into the breast, lips should not be visible, and the nostrils should be resting against the breast but not obstructed.

### Step 4: The power of micromovements

Micromovements are made experimentally, 1–2 mm at a time. They occur either vertically, controlled by the mother's forearm under the baby's head, or horizontally, moving the baby across the mother's body, to find a pain-free position where the baby's cues tell the mother that the position is stable. This position should be pain-free for the mother, and the baby will be transferring milk well.

### Conclusion

Working with Yu Yan, you improve her positioning so that Li Qiang is stable at the breast with good face–breast bury and Yu Yan does not have nipple or breast pain. Yu Yan is not sure

whether she can continue this at home, so you see her again two days later to review this process, helping her to perfect the micromovements. She is much more confident after the second visit and continues to work on this herself. After one week, Yu Yan continues to breastfeed exclusively and has had another session with a lactation consultant, who focused on the gestalt breastfeeding method to improve latch and positioning. She no longer has any pain while breastfeeding and the damage to her nipples is almost completely healed. She is enjoying breastfeeding more and is beginning to feel confident enough to try feeding in more public places such as cafés or at friends' houses.

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CASE

## 2 Sophie's stools are green and frothy

Kelly, aged 33 years, presents to you with her second baby, Sophie, aged nine weeks. Kelly is concerned about Sophie's unsettled behaviour, vomiting after feeds and green stools. Similar symptoms had prompted a diagnosis of reflux in her older child, Sam, when he was a newborn. Kelly describes Sophie as 'constantly screaming day and night', and states, 'I just can't put her down'. She feels very sleep deprived.

### Question 1

What further history would you take from Kelly?

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### Further information

Kelly reports that Sophie has been very unsettled for the past month or so. She cries when she is put down, and Kelly finds that she has to hold her upright for long periods after feeds. She spends up to 15 minutes burping Sophie during and after feeds. Sophie seems to have stomach pain on occasion and draws her legs up in discomfort. Kelly describes Sophie's stomach as being tight 'like a drum' at times. Sophie passes a lot of wind but settles briefly after doing so. She has more than six heavy wet disposable nappies a day, as well as frothy, explosive stools after each feed. They are usually green, which concerns Kelly as she has researched cow's milk protein intolerance on the internet and wonders if this is the cause of Sophie's symptoms. Kelly has begun excluding dairy from her diet as a precaution. Sophie is breastfed on demand and seems to be 'constantly on the breast' as Kelly is using feeding as a tool to calm Sophie. At times Sophie splutters, pulls off the breast and arches her back in discomfort. She is offered both breasts at

each feed. Kelly feels that she has a very generous milk supply and has had no concerns regarding nipple trauma, mastitis or blocked ducts. Sophie vomits after most feeds, especially if lying flat. Kelly has not noticed any blood in the vomit.

Sophie was born by uncomplicated vaginal delivery at 39 weeks' gestation after induction of labour for maternal hypertension. She weighed 3.6 kg (78th centile) at birth and was 51 cm long (72nd centile). Her immunisations are up to date. Kelly is no longer taking any medication, although she has given Sophie some over-the-counter colic drops most days. Kelly wonders if Sophie needs to start omeprazole, as this was given to her son for reflux when he was a baby, although in retrospect she is unsure if it helped. Kelly is finding it difficult spending so much time feeding and settling Sophie when she also needs to care for Sam. Her partner works full time, but her parents are able to help care for Sam occasionally. Kelly feels exhausted but does not feel depressed.

### Question 2

What features would you look for on examination of Sophie?

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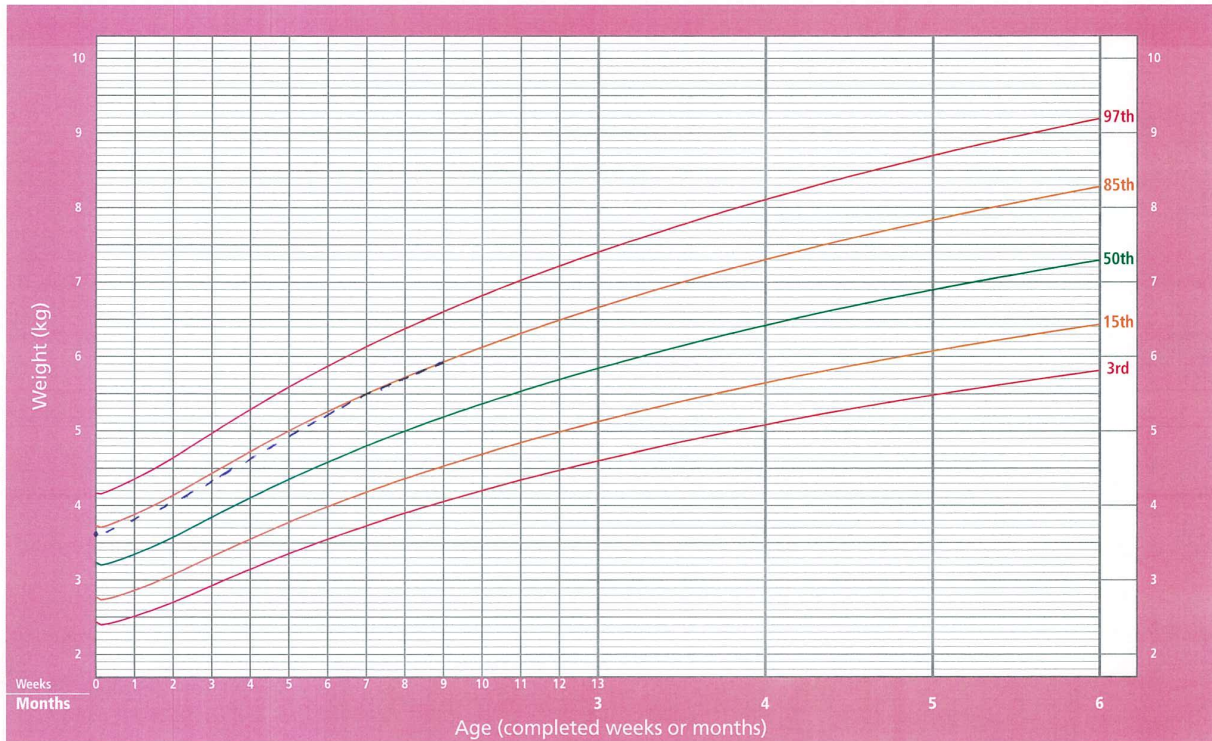
### Further information

Sophie's examination is normal. She is afebrile, appears alert and healthy and weighs 5.9 kg. This equates to an average of 255 g weight gain per week since birth (Figure 1). Her length is 58 cm (50th centile) and head circumference is 39 cm (50th centile). You do not note any rashes or abdominal masses. Sophie smiles in response to Kelly during the consultation. Kelly interacts well with Sophie. Kelly's Edinburgh Postnatal Depression Scale score is 6 (low risk).

You encourage Kelly to offer Sophie a breastfeed during the consultation. Sophie attaches well and shows a good suck/swallow pattern for the first two minutes, before pulling off the breast and arching her back. This prompts Kelly to switch to the other breast, where a similar pattern is observed.

# Weight-for-age GIRLS

Birth to 6 months (percentiles)



WHO Child Growth Standards

**Figure 1.** World Health Organization weight-for-age chart: Girls 0–6 months. Sophie’s growth is marked with a dashed line. Reproduced with permission from the World Health Organization.

### Question 3

What conditions would you consider in the differential diagnosis?

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### Question 4

What investigations, if any, would you order at this point?

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**Question 5** 

What is your working diagnosis at this stage?

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**Question 6**  

What advice would you offer Kelly at this stage?

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**Question 7** 

Are there any breastfeeding methods that Kelly could use to reduce the lactose overload?

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**Question 8** 

What can be done to support Kelly's mental health?

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**CASE 2** **Answers**

**Answer 1**

Further information required would include:

- history of Sophie's presenting complaint – frequency and nature of vomiting, urine output, further history about stools (colour, consistency, frequency, any perception of discomfort)
- cry/fuss behaviour – the duration of the behaviour and the time of day that the fussing occurs
- feeding history – how Kelly is feeding Sophie, duration of feeds, Sophie's behaviour on the breast/bottle
- obstetric and birth history
- past medical history
- medications, including any over-the-counter preparations
- social history, including support available
- mental health status
- Sophie's developmental and immunisation history.

**Answer 2**

Features to look for on examination include:

- measurement of length, weight and head circumference
- top-to-toe infant examination – general appearance, skin, head shape, eyes, ears, mouth, neck, abdomen, hips, genitalia, anus, back, cardiorespiratory and neurological exam
- brief developmental assessment encompassing the four domains of infant development (gross motor, fine motor, social and language):
  - Is Sophie smiling?
  - Does she fix and follow?

- Does she turn to sound?
- Does she hold her head up when on her stomach?

### Answer 3

Conditions to consider in the differential diagnosis include:

- functional lactose overload
- urinary tract infection (UTI)
- pyloric stenosis.

Diagnoses that are often considered for this presentation but are very unlikely are:

- gastro-oesophageal reflux disease (GORD)
- cow's milk protein intolerance (CMPI; in severe forms, this may be referred to as cow's milk protein intolerance allergy)
- colic
- lactose intolerance.

### Answer 4

In the context of a normal examination in a well-grown baby who is alert, and a history of unidentified feeding issues, no specific investigations are useful at this stage. A clean catch urine sample could be considered if Sophie's symptoms are unchanged after addressing feeding concerns.

### Answer 5

The most likely cause of Sophie's symptoms is functional lactose overload.

Functional lactose overload occurs when a baby receives a large volume of lactose-rich breastmilk and less of the creamy milk that they typically receive towards the end of a feed. If the baby does not receive enough cream, the high-volume lactose-rich milk moves through the gut so quickly that it is not properly digested by lactase in the small intestine. The milk ferments in the large intestine, resulting in gas and potentially explosive stools. Additional fluid enters the colon via osmosis. The baby may seem distressed and cry because of pain, with a tympanic abdomen.

Functional lactose overload is common when a woman has a generous milk supply and the baby does not completely drain the breast. The baby does not access the creamy milk, which acts to reduce contractions in the gut. The baby typically has excellent weight gain (250–300 g or more per week) and feeds frequently. It is not unusual for the baby to cry a lot.

Functional lactose overload can also occur if fit and hold is suboptimal, resulting in the baby coming on and off the breast, thus drinking only the milk produced in the early part of the feed, and not receiving the creamy milk that comes towards the end of the feed.

Although many babies who present in this manner are presumed to have GORD, this presentation does not occur in the absence of failure to thrive, haematemesis, anaemia

or apnoea. Although not relevant to this case, GORD is also rare in formula-fed infants. GORD should only be diagnosed by endoscopy. Many babies may have physiological gastro-oesophageal reflux (GOR) due to the immaturity of the lower oesophageal sphincter; however, this would not be expected to cause distress in breastfed babies because breastmilk is pH neutral.<sup>1</sup> No causal relationship between GOR and infant crying has been established. Sophie's symptoms are not consistent with a presentation of GORD, and the use of a proton pump inhibitor in this scenario is unlikely to be of benefit.<sup>2</sup>

CMPI is an important diagnosis, resulting in both immunoglobulin (Ig) E and non-Ig E mediated reactions to dairy products. Babies may present with immediate or delayed symptoms including vomiting, diarrhoea, rashes and features of proctocolitis such as perirectal bleeding. Babies typically have poor growth.<sup>3</sup> Cessation of dairy exposure through breastmilk or formula results in improvement of symptoms. Sophie does not show features of CMPI, and her mother's trial without dairy has not improved her symptoms.

Colic is a commonly misunderstood and frequently misused diagnosis. It is described as 'crying for three hours a day, at least three times a week, for at least three weeks'<sup>4</sup> in a baby that is well and thriving. Overdiagnosis and overtreatment is rampant,<sup>5</sup> and a 2014 analysis proposed that the propensity for applying this diagnosis harms infants.<sup>6</sup> Medicalised labels for crying babies increase the use of inappropriate medical treatments and disempower parents,<sup>7,8</sup> and it is important to consider this when using the term 'colic' to explain infant unsettled behaviour. It is recommended to address any unidentified feeding issues before attributing any crying to 'colic'.

A UTI may be suspected if crying commences acutely and may occur with or without fever and vomiting. If suspicious, a clean catch urine should be obtained. This is a common medical cause that must be considered in the case of vomiting, fevers or unsettled behaviour.

Pyloric stenosis could be considered if there was frequent projectile vomiting, typically with inadequate weight gain.

### Answer 6

At this stage it is important to explain the concept of functional lactose overload and reassure Kelly. Green stools with mucus are common in healthy babies, and are not of concern (unless the baby has gastroenteritis). Burping babies and holding them upright after feeds is physiologically unnecessary and often makes babies more unsettled.

A breastfeeding intervention can help to minimise the occurrence of functional lactose overload. This involves observing a feed and making adjustments to fit and hold to ensure optimal milk transfer by improving positional stability and reducing breast tissue drag. The aim is to ensure Sophie's stability at the breast to prevent her from pulling off during feeds and increase her access to creamy milk. If you are not comfortable in offering breastfeeding advice during a consultation, a referral to an international board certified lactation consultant is recommended.

## Answer 7

Kelly may need to employ 'block feeding' to address the functional lactose overload. This involves offering one breast for all feeds over a certain period; for example, 2–3 hours. This is done in an attempt to down-regulate her supply and allow Sophie to receive more cream. The premise behind this is that if the other breast 'runs full' it will reduce supply as the breast is not emptied as frequently. Kelly will need to manage this situation very carefully to avoid two potential consequences:

- mastitis secondary to allowing the breast to 'run full' and resulting milk stasis – she may still need to offer the full breast once the other breast is emptied
- reducing the supply so much that she is unable to satisfy Sophie's hunger.

## Answer 8

It is very important to acknowledge the impact a crying baby can have on the parents' mental health. It is important to screen for postnatal depression and ensure appropriate supports are in place. Kelly should be encouraged to get out and about to provide Sophie with sensory input, but also for her own mental health. Community resources are available to new mothers, such as the Australian Breastfeeding Association (ABA), various parents' groups and the local maternal and child health centre.

## Conclusion

Kelly agrees to return the following week; in addition, you provide her with the number for the ABA and a plan to return for review earlier if she has any concerns regarding mastitis or if Sophie's symptoms escalate. She is aware that it may take a few days for the changes she has made to feeding patterns to take effect.

Kelly returns one week later and admits, although she was sceptical at first, that Sophie's symptoms have improved considerably. Sophie's crying has reduced. Kelly states that she feels more confident and empowered, and is grateful that she did not commence medication unnecessarily. She is enjoying getting out and about and is more confident to do so now that Sophie is more settled. You weigh Sophie and her weight gain continues to be appropriate.

## Resources for doctors

- Australian Breastfeeding Association – Lactose overload in babies, [www.breastfeeding.asn.au/bfinfo/lactose-overload-babies](http://www.breastfeeding.asn.au/bfinfo/lactose-overload-babies)

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**CASE**

**3**

**Hallah is exhausted**

Hallah, aged 29 years, is a first-time mother who has been visiting your practice for several years. Hallah has a daughter, Yasmin, aged four months, and you have seen Yasmin for her routine check-ups and vaccinations only. Hallah presents today in tears, stating that she is completely exhausted and just cannot cope anymore with Yasmin not sleeping. She thinks she would like to go sleep school with Yasmin, even though she has never wanted to leave Yasmin alone to cry in her cot. 'I just don't know what else to do. I'm waking up at least every hour and I don't think I can keep this up much longer,' Hallah says.

**Question 1** 

What further history would you take from Hallah?

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**Further information**

Hallah confirms that Yasmin is her first child and that the pregnancy and birth were uncomplicated. Yasmin was born by vaginal delivery with forceps needed. Hallah had an episiotomy that healed well and she has had no issues since. Hallah has no significant medical history and she has never had any mental health concerns. Her husband, Amir, is quite supportive; however, he works full time and is also exhausted and frustrated by the situation. Hallah's family lives interstate and Amir's family lives overseas. They have good friends in their city but they feel that they can only ask them to help in emergencies, not simply because Hallah would like to have a daytime sleep.

Yasmin weighed 3.44 kg at birth (67th centile) and she is mostly breastfed; however, four weeks ago Hallah introduced a bottle of formula before Yasmin's bedtime because she thought this might help Yasmin sleep better. Yasmin usually has three sleeps during the day that last 1.5–2 hours each. Hallah always breastfeeds Yasmin to sleep and then transfers her to her cot, where she usually sleeps well. Yasmin tends to be more unsettled in the evenings, which Hallah finds difficult. She often has to cluster-feed her, sometimes for hours, before

she eventually falls asleep sometime between 9.00 pm and midnight. On a good night, Yasmin will wake up every two hours or so until she wakes up for the day at 6.00 am. Yasmin sleeps in a cot in her parent's bedroom, but sometimes Hallah is so tired that she falls asleep in bed with Yasmin lying next to her. On a bad night, which Hallah estimates is three nights per week, Yasmin can wake as often as every 45 minutes throughout the night. Hallah usually breastfeeds Yasmin back to sleep but sometimes she does try patting her or walking around the house with her. Once Yasmin falls asleep, which can take 30–45 minutes, Hallah usually falls asleep quite quickly as she is so exhausted. Yasmin sleeps on her back, swaddled, and never snores. Introducing formula has not improved Yasmin's sleep.

**Question 2** 

What examinations would you perform at this point?

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**Further information**

On examination, Yasmin looks well and is bright and engaging. Her physical examination is normal. She now weighs 6.9 kg (remaining on the 50th centile) and is 56 cm long (just below the 50th centile). Hallah's Edinburgh Postnatal Depression Scale (EPDS) score is nine, which is on the high end of normal, but her score is zero for the red-flag question about self-harm or suicide.

**Question 3** 

Considering this further information, what are your initial thoughts about Yasmin's sleep patterns?

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**Question 4** 

How would you reassure Hallah?

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**Question 5** 

What would you advise Hallah about sleep training?

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**Further information**

You review the 'first wave behaviourisms' (FWBs) quickly with Hallah, who admits she has been using some of these techniques, obviously without success. You invite Hallah to experiment with different ideas and advice, and remind her that there is not a 'one size fits all' approach to babies. You encourage her to consider her own values to help find an approach that works best for the family. She is relieved to learn that this is an alternative approach that she can experiment with. You acknowledge that this is a definite shift in thinking that some families (and even health professionals) may feel uncomfortable with.

**Question 6** 

What could help to improve Yasmin's sleeping patterns?

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**Question 7** 

What approaches would you recommend to resettle Yasmin if she wakes during the night?

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**Question 8** 

What advice can you offer Hallah about awakening Yasmin in the morning?

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**Question 9** 

What recommendations will you make to Hallah as she begins to try these new strategies?

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**CASE 3** **Answers****Answer 1**

Essential points to cover in Hallah's history include:

- brief pregnancy and birthing history
- Hallah's past medical and mental health history
- Hallah's social history including her partner and family support
- a review of Yasmin's past medical history and any parental concerns during the past few months
- Yasmin's feeding history – breast or bottle fed, number of feeds per day and volume of milk or formula consumed
- Yasmin's sleep history – number and duration of daytime sleeps, her usual sleep pattern overnight.

**Answer 2**

It is recommended to measure Yasmin's weight, length and head circumference and plot this on the growth charts appropriate for her age and sex. It is important to conduct a general physical examination of Yasmin, including general appearance, head shape, eyes, ears, mouth, neck, cardiorespiratory system, abdomen, hips, genitalia, anus, back, tone and reflexes.

The EPDS ([www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/edinburgh-postnatal-depression-scale.pdf?sfvrsn=8](http://www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/edinburgh-postnatal-depression-scale.pdf?sfvrsn=8)) should be undertaken with Hallah because of her obvious distress about Yasmin not sleeping.

**Answer 3**

Yasmin's sleep is considerably interrupted and it is clear that this situation is not sustainable for her family, especially as they lack good social support. While night waking is normal in the first year of life and often beyond, it is clear that Yasmin's night waking is excessive. This is good news in the sense that there is a lot of room for improvement. A few simple changes and education for Hallah and Amir will likely improve their nights, and subsequently their days, significantly.

There are no concerning features on history or examination that point to a physical illness as the cause of excessive night waking, and while Hallah's EPDS score is borderline, it is expected that this will improve when everybody has more sleep.

**Answer 4**

First, it is important to acknowledge to Hallah that it must be very difficult to have a baby who wakes so frequently, and reassure her that there are plenty of things that can be changed to improve the situation. It is also important to acknowledge that there are so many potential sources of advice, and that it can be confusing to know what to do and which approach to follow. There is good evidence that behavioural sleep interventions do not improve outcomes for mothers or babies in the first six months of life,<sup>1-4</sup> and so it is

recommended that Hallah and Amir try some new strategies for a few weeks before booking into sleep school. There is reason to hope for substantial improvement in that time with some changes in approach.

**Answer 5**

FWBs are common catchphrases or advice given by professionals who care for mothers and babies. Such catchphrases are designed to help make the lives of mothers more predictable and manageable. They were first developed in the 1950s as a result of early behavioural psychology research and, despite an evidence base that demonstrates they are ineffective for most families, are still widely used. Some examples are included in Box 1.

**Box 1. Principles and practices of first wave behaviourism applied to infant sleep<sup>14</sup>**

- Bad sleep habits will impair baby's sleep and cognitive development
- Sleep breeds sleep
- Watch for tired signs and put baby down straightaway
- Do not let baby stay awake for more than a certain period of time during the day
- Try to link sleep cycles during daytime naps
- Put baby to bed for the night at a regular, early hour (6.00 pm or 7.00 pm)
- Do not let baby become overtired
- Do not let baby become overstimulated
- Delay responses to baby's grizzling and crying cues
- Introduce feed-play-sleep cycles
- Do not let baby develop bad habits by breastfeeding or bottle-feeding to sleep
- Teach baby to 'self-settle' by putting in cot drowsy but awake

FWBs or 'sleep training' approaches have been shown to not decrease night waking, not reliably improve maternal mood and not result in improved sleep or developmental outcomes in later childhood; however, they may be associated with increased parental anxiety. This has been demonstrated in four systematic reviews.<sup>1-5</sup> The known association between unsettled infant behaviour and behaviour problems in later childhood is cited as rationale to apply FWB as a public health strategy for infant sleep.<sup>6</sup> However, this association may, in fact, be mediated by the ubiquitous promotion of FWB approaches – either by health professionals, in parenting books, or by social media – that exacerbate anxiety<sup>5,7</sup> and disrupt the infant's circadian clock, worsening night-time sleep.<sup>8-11</sup>

Infant sleep is variable; babies differ dramatically in how much sleep they need within 24 hours, with sleep requirements ranging from nine to 18 hours per day. Babies who have low sleep needs are perfectly normal and develop equally as well as babies who sleep for longer periods. It is also normal for babies to wake during the night. Fifty per cent of babies will still wake at least once overnight at the age of 12 months, and

this is both normal and expected. However, what Hallah is experiencing can be defined as excessive night waking (baby cueing more frequently than every two hours overnight) and some simple interventions will help reduce this to a normal number of night wakings.

### Answer 6

The first step to improve Yasmin's sleep will be to reset her 'sleep-wake homeostat'. As Yasmin is sleeping for long periods during the day, it is no surprise that she is not sleeping for a longer duration overnight. One approach to sleep is a gentle method based on the biological processes dominating sleep – the homeostatic sleep factor and endogenous circadian clock. In order to harness these biological mechanisms, the two most important things to do to improve sleep are to set a wake-up time and maintain this every day, and for the mother and baby to fill their days with variations in their sensory environment to ensure that the baby's rich sensory needs are met.<sup>11-14</sup> It is important the baby learns the difference between daytime and night-time, and this is done by having very different environments and routines that separate the two. During the day, the baby should stay in the same environment as the caregiver and not be put into a quiet, dark room for day sleeps. Babies are able to regulate their own sleep needs, and when their sleep pressure is high enough, they will fall asleep easily and without fuss. Caregivers do not need to create a special environment to encourage sleep. Babies can sleep in a cot, or their carrier or pram when the caregiver is outside the home. It is essential to ensure that safe baby wearing and correct restraints are used if this is the case.

It is useful to think of the baby as having a dial that can go up or down on the basis of how unsettled the baby is. Ideally, caregivers aim to keep babies settled, relaxed and happy, and this can be done by doing things that help the baby to relax. By going out regularly during the day, the baby will 'dial down' as their rich sensory needs are being met simply by being able to take in the world around them. While it may initially seem difficult for the exhausted caregiver to leave the house, it is vital to encourage this, as it will make the days easier, not harder. In the evening, caregivers should try to keep the baby awake and active for as long as possible by offering different sensory experiences. Then, when the baby is ready for sleep, it will happen quickly and easily.

### Answer 7

During the night, one approach advises to do whatever works best to get caregivers and baby back to sleep as quickly as possible.<sup>13</sup> If the baby is breast fed, breastfeeding the baby back to sleep is a common approach. Other approaches may include offering the baby a bottle of formula or picking the baby up and cuddling them. Co-sleeping is not advised because it increases the risk of sudden infant death syndrome; however, for parents who choose to co-sleep, Red Nose provides guidelines to reduce the risk ([https://rednose.org.au/article/Co-sleeping\\_with\\_your\\_baby](https://rednose.org.au/article/Co-sleeping_with_your_baby)). It is helpful to assure caregivers that they do not need to burp the baby after feeds, hold the baby upright, change the nappy (unless

stool) or even wrap the baby, as these steps commonly arouse and disrupt the baby, making night-time wakings longer than necessary.

### Answer 8

The baby's wake-up time in the morning should be consistent, at the earliest time that is bearable for the caregivers. Even if the baby is still asleep, it is advised to make their sleep environment into a daytime atmosphere, by doing things such as opening the curtains to let light in, making usual noise that happens during the day and simply proceeding with the morning's activities. The baby should soon wake in response to these changes, even if the caregiver is unwilling to wake the baby.

### Answer 9

Ideally, Hallah could start experimenting with and implementing these new strategies immediately. It may be helpful for her to have an activity planning table that she fills out at the beginning of each week noting what she will do every morning, afternoon and evening for each day of the week. She should aim to get out of the house at least daily, and this could be to do shopping, visit friends or run errands.

It is important to explain that she should start noticing improvements within a few days and that things should be considerably better within two to three weeks.

### Conclusion

You invite Hallah to consider this new information and advice and see what works for her and her family. Hallah returns three weeks later to see you so that you can assess whether improvements have been made, reassess her mood and implement any further changes as necessary. She and Amir have been implementing a 6.00 am wake-up time for Yasmin. They have found that Yasmin's bedtime is still variable but that she goes to sleep fairly easily between 8.00 pm and 9.00 pm. During the day, Hallah has been going out more and has found that Yasmin is very happy to sleep in the pram. Hallah has started visiting friends and has even been to a café, which she enjoyed. Yasmin's night-time wakings have reduced to 1-2 per night and, now that Hallah is breastfeeding Yasmin to sleep without guilt, they are only awake for 20-30 minutes each time. Yasmin seems happy and Hallah's EPDS has reduced to 5. You commend Hallah on her efforts and invite her to continue to check in regularly with you for advice and help as needed.

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**CASE**

**4**

**Maryse does not have enough milk**

Maryse, aged 26 years, presents to you with her first baby, Jack, who is four weeks of age. Maryse was sent to you by a child health nurse for 'a script'. She explains that she has 'no milk' and has been told that Jack's weight gain is 'not good enough'. She is quite distressed as she feels that she 'should be able to give milk to my baby'.

**Question 1** 

What further history would you take from Maryse? In particular, what should be explored if you are concerned about low milk supply?

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**Further information**

Maryse had an uncomplicated pregnancy and spontaneous onset of labour at 41 weeks' gestation, resulting in a ventouse delivery due to slow progress in the second stage of labour. She had an epidural that worked effectively. Jack was born with Apgar scores of nine at both 1 and 5 minutes, and required no resuscitation. His birth weight was 3.94 kg (87th centile). Maryse and Jack had immediate skin-to-skin contact after birth, and he had his first breastfeed within the first hour of life. Maryse did not have a postpartum haemorrhage. Jack was initially quite 'sleepy' and appeared jaundiced on his third day of life. The midwives at the hospital assisted Maryse with feeds, advising her to wake Jack every three hours for a feed in the day, and every four hours overnight. She does not recall ever really feeling 'full' in her breasts after Jack's birth. She reports no pain with feeds, which last up to 40 minutes. She offers each breast once during a feed. Maryse planned to discharge four days after the birth; however, Jack's discharge weight was 3.51 kg, which was a weight loss of >10% of his birth weight. Maryse was advised to start expressing after breastfeeds and giving Jack expressed breast milk 'top-ups' via a bottle. Despite this, Jack became very unsettled after feeds. When weighed on day seven, he had gained only 40 g (3.55 kg; 51st centile). It was recommended that Maryse supplement his feeds with formula 'top-ups'. She currently

offers Jack a breastfeed every three hours (waking him if he is not already demanding a feed), then expresses for 20 minutes, and follows by giving Jack a bottle of expressed breast milk or formula (50 mL total).

On this regimen, Jack is producing six wet disposable nappies per day and approximately three yellow-coloured stools per day. He occasionally possets, but Maryse does not recall any significant vomits. Maryse appreciates your taking an interest in her journey so far, but tells you the maternal and child health nurse told her to see a general practitioner (GP) 'just to get a script' for some tablets that 'will make more milk'. She tells you that she is very committed to breastfeeding and will do whatever she needs to increase her milk supply, although she is absolutely exhausted from expressing after every feed and preparing bottles each day. She wonders when she can find time to sleep. During the consultation, Maryse becomes quite teary, saying several midwives have told her that she does not have enough milk to meet her baby's needs and this, in turn, has made her feel inadequate as a mother. She shows you a notebook outlining Jack's feeds, what times they occur and how long they last. She does not have any significant past medical history, but tells you that she had minimal breast change during pregnancy. She takes no regular medications but has been eating lactation cookies that she purchased online while she was in hospital and drinking a tea one of the midwives recommended. She does not smoke and has not been consuming any alcohol.

**Question 2** 

What features would you look for on examination of Maryse and Jack?

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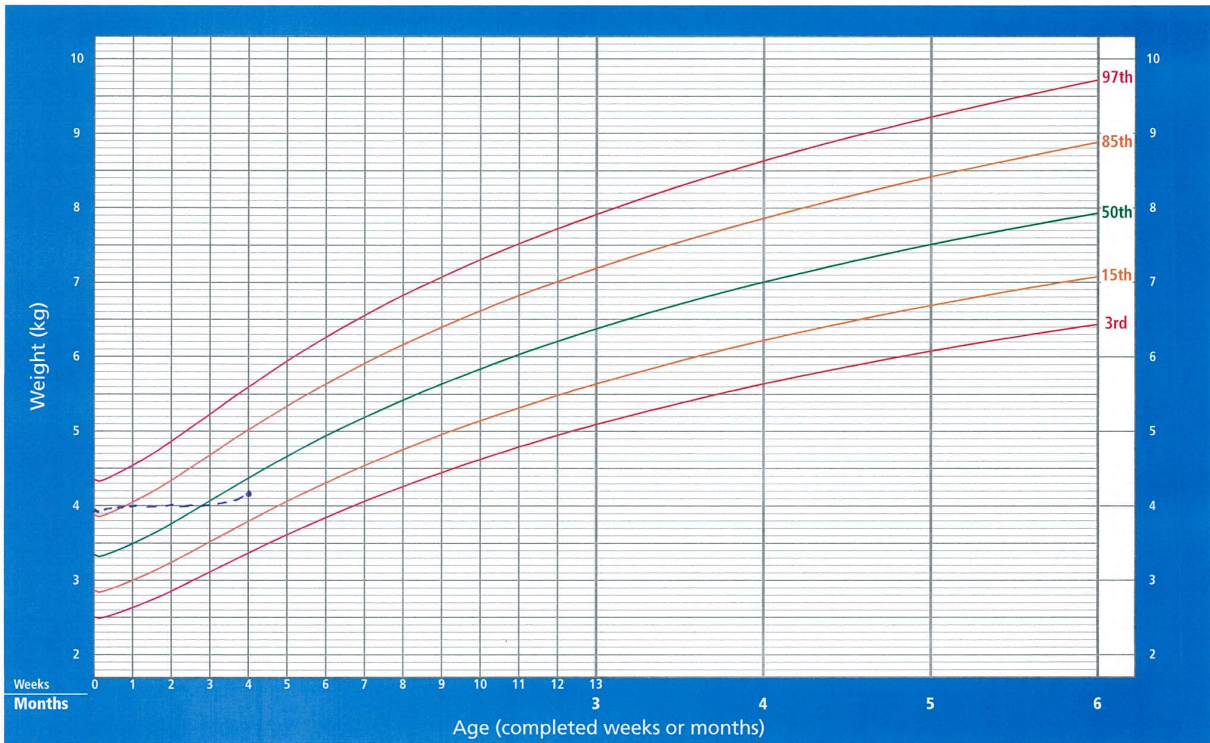
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**Further information**

Maryse's breast examination is normal, with no scars noted or obvious nipple trauma. There are no lumps. Her breasts are of normal shape and appearance. Jack's examination is normal, apart from mild plagiocephaly and an umbilical hernia. He does not appear jaundiced. His oromotor assessment is normal. His current weight is 4.13 kg (33rd centile; Figure 1). His length is 53 cm (15th centile) and head circumference is 36 cm (15th centile). He is clinically well hydrated and is currently sleeping in Maryse's arms.

## Weight-for-age BOYS

Birth to 6 months (percentiles)



WHO Child Growth Standards

**Figure 1.** World Health Organization weight-for-age chart: Boys 0–6 months. Jack’s growth is marked with a dashed line. Reproduced with permission from the World Health Organization.

### Question 3

What are the potential contributing factors to Maryse’s perceived low milk supply or low milk supply in general?

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### Question 4

What investigations, if any, would you order at this point?

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**Further information**

Maryse agrees to have you observe a breastfeed. She wakes Jack to offer him her breast. She sits upright and ‘shapes’ the breast as he comes on, holding his head and neck with the back of her hand (Figure 2). His upper lip is visible. You cannot observe a suck/swallow pattern. You continue to observe this for several minutes before Jack comes off the breast and starts crying. Maryse goes on to tell you that when she is at home, she eventually stops him feeding after 30 minutes and offers a bottle of expressed breast milk or formula, which he usually drinks quite quickly before settling back to sleep. Maryse anxiously asks if she should express now, because that is what she would usually do after a feed.



**Figure 2.** Maryse breastfeeding Jack during consultation – note Maryse is shaping her breast and Jack’s hand is between Maryse’s chest and his body, compromising fit and hold. Maryse’s clothing, particularly underneath the breast, is encroaching on the ‘landing pad’, and Maryse is stabilising Jack with her hand on the back of his neck, both of which are contributing to positional instability. Photo credit: Melody Jackson.

**Question 5**

What is your working diagnosis at this stage?

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**Further information**

At this point, you conduct a breastfeeding intervention and assist Maryse to achieve optimal fit and hold of Jack. You both observe Jack, who shows a good suck/swallow pattern. Maryse seems relieved to realise she does not necessarily have to continue with her current feeding regimen. You both then remember the initial reason for her consult was to obtain ‘a script’.

**Question 6**

What advice would you offer Maryse at this stage?

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**Question 7**

What is the role of domperidone in Maryse’s presentation?

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**Question 8**

Would you prescribe domperidone in this situation?

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**CASE 4** Answers**Answer 1**

It is recommended to explore the following areas on history-taking:

- pregnancy and birth history
- past medical history
- family history
- medication history
- breast changes during pregnancy
- Maryse's breastfeeding experience since Jack's birth
- feeding history – how Maryse is feeding Jack, how often and how he behaves on the breast/bottle
- history of nipple or breast pain or nipple trauma
- Jack's output (ie wet nappies, stools, vomits) – would expect six wet cloth nappies/five wet disposable nappies per day and frequent stools (three per day) at this age
- Jack's birth weight, discharge weight and any recorded weights since
- Jack's neonatal course
- Maryse's feelings, her breastfeeding goals and how she is coping – what does she want to do?
- Maryse's social and family supports.

**Answer 2**

When conducting a breast examination, it is important to note any scars, obvious nipple trauma or lumps, and check if the breasts are of normal shape and appearance. Breasts are likely to have increased in size during pregnancy and the postnatal period, with an increase in vein size and pigmentation of the nipple/areolae complex. Wide-spaced breasts with bulbous areolae and minimal glandular tissue would be suspicious for breast hypoplasia.

A neonatal exam comprises recording the baby's weight, head circumference and length; checking if the baby is well hydrated or appears jaundiced; and conducting an oromotor assessment, assessing tongue mobility and palate (<https://education.possumsonline.com/video/dr-krystyna-demonstrates-infant-ormotor-assessment>).

**Answer 3**

Table 1 outlines common causes of perceived or actual low milk supply.

**Answer 4**

In the context of a normal examination and a history of unidentified feeding issues, no investigations are useful at this stage; however, it would be very useful to observe Maryse breastfeeding Jack.

**Table 1. Common causes of perceived or actual low milk supply<sup>1</sup>**

Problem	Reason
Timed breastfeeds and 'top-ups' undermining supply	Milk production is driven by frequent emptying of the breast. By offering a 'top-up', babies often have longer periods between feeds, which slows milk production.
Poor fit and hold	Can result in ineffective sucking/poor milk transfer, suboptimal emptying of the breast and therefore reduced milk production, due to autocrine control of milk production.
<i>Medical causes</i>	
Polycystic ovarian syndrome	May cause ongoing milk supply issues, unclear mechanism
Hypothyroidism	Suspected to affect milk supply, although there is a lack of human studies
Retained products of conception	A fall in progesterone triggers lactogenesis after delivery. Retained tissue maintains high serum progesterone levels.
<i>Breast abnormalities</i>	
Insufficient glandular tissue	Congenital lack of glandular breast tissue
Previous breast surgery	Usually breast reduction, particularly if there is circumferential scarring around the nipple due to disruption of nerve supply. If breast augmentation has occurred, consider underlying precipitant for this decision (eg if hypoplasia is present).
Medications	Oral contraceptive pill, pseudoephedrine, bromocriptine, cabergoline, clomiphene and aripiprazole can all reduce milk supply.
Smoking and alcohol	Can reduce supply
Mastitis	Can lead to temporary reduction in supply
Pregnancy	Women report a temporary reduction in milk supply when they become pregnant, although they can still continue to breastfeed.
Infant factors	Other causes of ineffective infant suck, resulting in inadequate emptying of the breast (eg cleft palate, prematurity, jaundice, neurological disorders, cardiac abnormalities).

**Answer 5**

Based on your observations of the breastfeed, it is probable that Maryse's reduced milk supply has occurred as the result of poor fit and hold. Formula 'top-ups' are likely to have further undermined milk supply.

**Answer 6**

This is a challenging consult. It is important to inform Maryse that breastmilk is produced on a 'supply and demand' basis and the more a baby can empty the breast during a feed, the more milk is produced. Optimum fit and hold is important to

ensure that the baby is draining the breast adequately. It is common for women to need to feed their baby at least 12 times in 24 hours until supply is well established, with breastfed babies requiring feeds more frequently than formula-fed babies as breastmilk tends to be digested more quickly. Some general advice would include:

- avoid scheduling or timing feeds, but feed the baby on demand; it is not unusual for women to have to feed more than 12 times from each breast in 24 hours
- use the breast as a tool to 'dial down' the baby to increase the number of feeds or 'top-up' the baby at the breast rather than with a bottle; 'topping-up' with a bottle signals to the mother's body that the baby does not need extra milk and the body may reduce the amount of milk it makes
- experiment with switching breasts during a feed to encourage further 'let down' or milk ejection
- use Jack as her 'pump' as much as possible, as many mothers find expressing using a breast pump exhausting
- understand that supplementation with formula may still be required.

It is important to explore Maryse's thoughts and feelings about this situation and ensure that she is receiving the support she needs. Maryse should be encouraged to focus on self-care and to delegate any household tasks where possible.

### Answer 7

Milk production is based on two mechanisms – autocrine (emptying of the breasts to encourage further production) and endocrine (milk production due to the action of prolactin). Domperidone increases the amount of prolactin produced. If, despite good fit and hold and frequent feeds to ensure optimal milk transfer, Maryse's milk supply is not matching Jack's needs, domperidone can be considered. Evidence suggests that it is effective, well-tolerated and safe for the baby.<sup>2-6</sup> It can take time for domperidone to work, and side effects include abdominal cramping, diarrhoea, dry mouth, headache and dizziness. Domperidone is contraindicated in patients with cardiac arrhythmias because of the potential for a prolonged QT interval, so it is important to assess if the patient has any past or family history of cardiac arrhythmias or any concurrent medication that can cause QT lengthening.

### Answer 8

It is recommended that Maryse tries to work on fit and hold to optimise milk transfer as a first step, and increases the frequency of feeds. She should reduce the amount that she is expressing and bring Jack to the breast for a 'top-up' instead. If she feels that he continues to demand a feed and is not satiated at the breast, she could offer a top-up of expressed breast milk/formula to appetite using the paced bottle feeding technique.<sup>7</sup> An excellent example of how to do this can be viewed online (<https://possumonline.com/video/renee-keogh-demonstrates-paced-bottle-feeding>). This technique allows Jack to regulate the amount of milk he takes and offers a similar experience to breastfeeding. An alternative method of offering 'top-ups' is via a supplementary nursing system, which

encourages babies to stimulate the breast while receiving the expressed breast milk/formula. Fine tubing carries milk from a container to the nipple. When the baby sucks at the breast, milk is drawn through the tubing to its mouth, as well as any milk from the breast.<sup>8</sup>

Given Jack's current weight gain, it would be recommended to experiment with one of these approaches for the next week, counselling Maryse to closely observe Jack's behaviour and urine/stool output and to present earlier if there are any signs of dehydration. It would be recommended to delay prescribing domperidone for now and review the decision at Maryse's visit next week.

### Conclusion

Maryse returns to your clinic the following week and reports that she is breastfeeding Jack frequently and flexibly, without any pain. She observes six wet disposable nappies in 24 hours and frequent yellow stools. Jack occasionally demands additional feeds during the day, at which time Maryse offers the breast. Although Maryse is breastfeeding more often than before, she does not find it burdensome and is delighted that she does not have to express as frequently. She occasionally uses a bottle to 'top-up' with paced bottle feeding but has been reducing this also. She feels more confident and empowered, with improvement in her mood. When weighed today, Jack is 4.28 kg. You both decide to continue to postpone prescribing domperidone and arrange review for Jack's six-week immunisations in a week.

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**CASE****5****Alice is not gaining enough weight**

Kate, aged 30 years, presents with baby Alice, aged 12 weeks. Kate tells you that Alice 'cries a lot' and seems 'constantly hungry'. Kate feels as though she spends the entire day breastfeeding and yet Alice still does not settle after a feed. Kate is keen to weigh Alice today to ensure that she is receiving enough milk. She has recently attended a mothers' group and feels Alice looks 'a bit small' in comparison to the other babies.

**Question 1** 

What further history would you take from Kate? In particular, what should be explored if you are concerned about low milk supply?

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**Further information**

Alice is Kate's first baby. Kate had an uncomplicated pregnancy, aside from developing gestational diabetes, which she managed through adjustments to her diet. Under the guidance of a lactation consultant, Kate performed antenatal expression of colostrum. She had spontaneous onset of labour at 38 + 5 weeks' gestation, resulting in an emergency caesarean delivery for fetal distress. Alice was born with Apgar scores of seven and nine and did not require resuscitation. Her birth weight was 3.85 kg (90th centile). Kate breastfed Alice immediately after the birth; however, Kate was returned to theatre for management of a postpartum haemorrhage and lost an estimated 1.5 L of blood. She received an iron infusion postnatally.

At four hours of age, Alice was noted to have hypoglycaemia (blood sugar level of 1.8 mmol/L) and Kate consented for Alice to be given her expressed colostrum via a syringe. Alice's hypoglycaemia resolved by her next examination and Kate began breastfeeding Alice with a three-hourly limit during the day and four-hourly overnight (ie three hours after starting a feed, Kate would commence the next feed, sometimes waking Alice to do so, and four hours after starting a feed, Kate would commence the next feed overnight). Kate felt as if she had some breast engorgement when she left hospital after four days. Alice weighed 3.6 kg on discharge (6% weight loss since birth). Kate declined community midwife follow-up as her

mother is a midwife and she felt that she had ample support. Alice had her six-week immunisations at the council and was not weighed. Alice's neonatal blood spot screening test (also known as the heel prick or Guthrie test) was normal.

Despite this, Alice has been difficult to settle between feeds, and a dummy is offered. Kate reports some nipple trauma and pain with latching, which began while in hospital and has continued. She offers each breast once during a feed, but finds that Alice 'marathon feeds' for more than an hour at each feed. Alice tends to fall asleep several times during a feed. As soon as Kate attempts to transfer Alice to her bassinnet, Alice wakes and appears to want to feed again. Kate wonders if Alice has abdominal pain or is constipated because of her unsettled behaviour.

Alice is producing four wet disposable nappies in 24 hours and has not opened her bowels for the past week, which is why Kate thinks that she is constipated. Her mother told her that it is not unusual for breastfed babies to go a long time without opening their bowels. Kate gives a history of a breast augmentation five years ago, which is why she saw a lactation consultant antenatally. The lactation consultant was confident that Kate would be able to breastfeed. Kate is not taking any medication currently but has been offering Alice some brown sugar and water for her constipation.

Kate has a past history of depression. She is very tired but feels that her experience is all part of being a new mother. She states that she does not feel depressed, and her Edinburgh Postnatal Depression Scale (EPDS) score is seven. She does not consume alcohol or take recreational drugs. Her husband, Dave, has been on extended leave from work and is managing the majority of household duties. Her mum and sister also provide good support. Kate is keen to continue breastfeeding but is worried about Alice's constipation and abdominal pain.

**Question 2** 

What features would you look for on examination of Kate and Alice (specifically, what features of the neonatal examination)?

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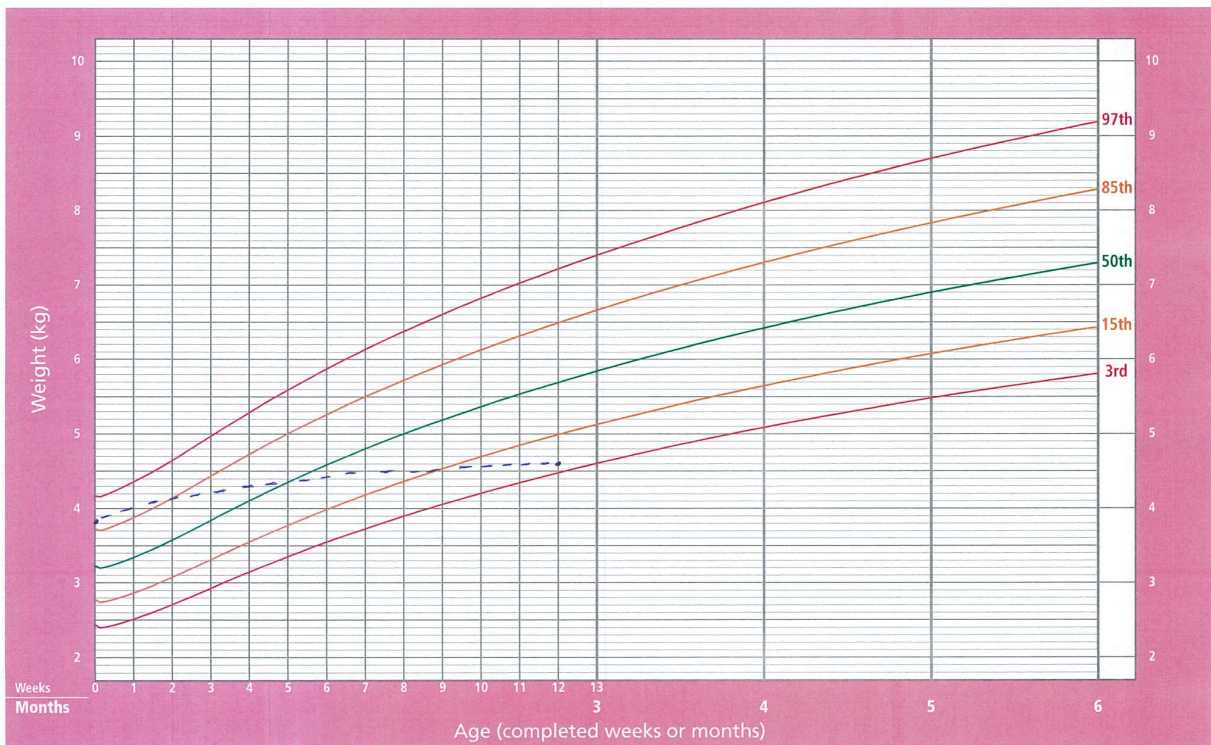
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**Further examination**

On examination of Kate's breasts, you note peri-areolar incisions along the lower half of each areola. There are no lumps palpable. There is bilateral nipple trauma evident but no discolouration.

# Weight-for-age GIRLS

Birth to 6 months (percentiles)



WHO Child Growth Standards

**Figure 1.** World Health Organization weight-for-age chart: Girls 0–6 months. Alice’s growth is marked with a dashed line. Reproduced with permission from the World Health Organization.

Alice does not appear jaundiced. Her oromotor assessment is normal with no evidence of cleft palate or tongue-tie. Her current weight is 4.61 kg (Figure 1). Her length is 59 cm (50th centile) and head circumference is 39 cm (25–50th centile). Her examination is otherwise normal, with no cardiac murmur detected. The fontanelles are normal. Alice’s nappy is dry when you remove it to weigh her. Alice is irritable and sucking her fists during the assessment.

### Question 3

What is the definition of ‘failure to thrive’ and what are the potential causes?

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### Question 4

What would you do next?

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### Further information

Kate consents to you observing a breastfeed. Kate finds it quite difficult to attach Alice to the breast as Alice is distressed, and Kate visibly winces in pain as she positions Alice. Alice continues to pull off the breast during the course

of the feed. You ultimately observe a ‘suck, suck, suck, suck, suck, swallow’ pattern for approximately two minutes before Alice falls asleep at the breast. Kate continues to talk to you while Alice sleeps on the breast.

**Question 5** 

What is your working diagnosis at this stage?

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**Question 6** 

Which investigations would you undertake to assess poor growth in the absence of an obvious cause?

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**Question 7** 

What is your management plan for Kate and Alice?

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**Further information**

You outline optimal feeding techniques for Kate to try with Alice and recommend that Kate supplements Alice’s feeds with expressed breast milk or formula. You discuss the options of either offering ‘top-ups’ via a breastfeeding supplementer or via a bottle. Kate finds the idea of expressing overwhelming as she cannot imagine how she would fit that into her day at present. She decides for now to offer Alice formula in a bottle. You discuss offering ‘top-ups’ according to Alice’s appetite and explain that she may require increased volumes of supplementation in the evening because of a natural reduction in maternal milk supply during this time. You encourage Kate to follow Alice’s cues and explain this may not be a permanent measure. You direct Kate to resources on paced bottle feeding, which allows the baby to regulate the amount of milk they take and offers a similar experience to breastfeeding. You also provide Kate with resources about preparation of formula and cleaning bottles. Kate is unsure what type of formula she should use.

**Question 8**  

What information can you provide about the types of formula available in Australia?

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**CASE 5** **Answers**

**Answer 1**

Aspects of Kate’s history to investigate would include:

- past medical history
- family history
- medication history
- pregnancy and birth history
- breast changes during pregnancy
- breastfeeding experience since Alice’s birth, including colostrum expression (Box 1)

- feeding history – how she is feeding Alice, how often and how Alice behaves when feeding from the breast or bottle
- Alice’s output – would expect six wet cloth nappies or five wet disposable nappies per day; Alice may not produce a stool daily but soft stools would be expected; vomiting
- Alice’s birth weight, discharge weight and any weights measured since
- Alice’s neonatal course
- Kate’s social supports (eg partner, family)
- Kate’s feelings, her breastfeeding goals and how she is coping – what does she want to do?

**Box 1. A note on antenatal colostrum expression**

Colostrum is produced in the breasts from the sixteenth week of pregnancy. In the Diabetes and Antenatal Milk trial, women expressed colostrum for 10 minutes twice a day from 36 weeks’ pregnancy until the birth of their babies.<sup>1</sup> The trial showed that this practice was safe and resulted in an increased chance that the baby would not receive baby formula in the first 24 hours of life.<sup>1</sup> Colostrum is hand expressed and collected in clean containers that are labelled and stored in a freezer until it can be transported in a cooler bag with ice bricks to hospital for storage. The colostrum can then be offered to newborns in lieu of formula if it is felt supplementation is required.

**Answer 2**

An examination of Kate would include breast examination and an identification of any scars, lumps or discolouration.

A neonatal examination of Alice would include fontanelles, dysmorphic features, rashes, assessment of tone and reflexes, examination of the mouth for cleft palate or anterior tongue-tie, cardiorespiratory examination for chronic disease and evidence of wasting as well as adominal examination to assess for organomegaly or herniae.<sup>2</sup>

**Answer 3**

Failure to thrive, or poor growth (Table 1), applies to a child whose current weight or rate of weight gain is significantly lower than that expected for children of a similar age, sex or ethnicity. The crossing of two percentile lines on a growth standard chart (eg World Health Organization weight-for-age child growth charts [www.who.int/childgrowth/standards/weight\_for\_age/en] for breastfed babies, or the Centers for Disease Control and Prevention growth charts [www.cdc.gov/growthcharts/cdc\_charts.htm]) is often considered failure to thrive. Linear growth and head circumference are typically not affected, or are affected to a lesser extent than weight.

Poor growth needs to be distinguished from infants growing to genetic potential, premature infants growing below those of the same age, babies ‘finding their percentile’ postnatally and those with constitutional delay in growth. ‘Finding their percentile’ refers to babies that have a potentially inflated percentile at birth due to intrauterine conditions but their genetic growth potential percentile is actually less than this. These babies typically ‘drop percentiles’ in the first few months before following a growth curve.

**Answer 4**

It would be important to observe Kate feeding Alice to determine if Alice’s poor growth is secondary to inadequate caloric intake due to an undiagnosed feeding issue.

**Answer 5**

The probable explanation for Alice’s low weight gain is poor milk transfer and Kate’s resultant low milk supply. This is most likely due to Alice’s poor fit and hold during breastfeeding, resulting in poor milk transfer. Kate’s previous breast surgery involving peri-areolar incisions could also be a contributing factor, as might breast hypoplasia (which may have prompted Kate to seek breast augmentation surgery initially).

**Table 1. Causes of poor growth<sup>3-5</sup>**

Inadequate caloric intake	Excessive energy use	Reduced absorption or excessive loss of nutrients
<p><b>Inadequate nutrition</b></p> <ul style="list-style-type: none"> <li>• breastmilk – feeding difficulties, restricted maternal diet (eg vegan, very low calorie)</li> <li>• formula – error in formula dilution</li> <li>• other – structural causes of poor feeding, for example cleft palate, chromosomal abnormality, psychosocial factors (poverty, poor supports, neglect)</li> </ul> <p><b>Lack of appetite</b> – chronic illness or anaemia, psychosocial disorder (more obvious in an older child)</p>	<p><b>Chronic illness</b> – cardiac, respiratory, liver, renal failure; endocrine conditions; infections; anaemia</p>	<p><b>Pancreatic insufficiency</b> – cystic fibrosis</p> <p><b>Loss or damage to small intestinal villi</b> – coeliac disease, inflammation (eg cow’s milk protein intolerance/allergy)</p> <p><b>Vomiting</b> – obstruction, gastro-oesophageal reflux disease (not to be confused with physiological gastro-oesophageal reflux), raised intracranial pressure, medication, systemic illness, metabolic disorders</p> <p><b>Diarrhoea</b> – malabsorption, inflammatory bowel disease, cystic fibrosis</p> <p><b>Renal loss</b> – diabetes mellitus or insipidus, renal tubular acidosis, renal failure</p>

## Answer 6

Investigations to assess poor growth would include:<sup>5,6</sup>

- full blood examination
- erythrocyte sedimentation rate
- electrolyte/liver function tests
- iron studies
- thyroid function tests
- blood sugar level
- urine microscopy, culture and sensitivity
- stool microscopy, culture and sensitivity
- stool for fat globules
- fatty acid crystals
- coeliac screen if eating solids.

## Answer 7

Alice has had suboptimal growth, and increasing Alice's caloric intake is recommended. Advice about gestalt breastfeeding could assist Kate to optimise Alice's fit and hold and assist with pain-free breastfeeding. Domperidone (10–20 mg orally three times per day) could also be commenced to increase milk supply as Kate's milk supply has likely reduced because of suboptimal milk transfer. Domperidone increases the amount of prolactin produced and is effective, well-tolerated and safe for the baby.<sup>7–11</sup> It can take time for domperidone to work, and side effects include abdominal cramping, diarrhoea, dry mouth, headache and dizziness. Domperidone is contraindicated in patients with cardiac arrhythmias because of the potential for a prolonged QT interval, so it is important to assess if the patient has any past or family history of cardiac arrhythmias or any concurrent medication that can cause QT lengthening.

It is recommended to discuss the importance of frequent and flexible offering of the breast, and 'switch feeding' (ie moving Alice from breast to breast once milk transfer slows to promote repeated 'let downs' of breast milk). Many mothers need to feed their babies 12 times in 24 hours at this stage. These measures may take time to achieve an improvement, and the introduction of supplementation with either expressed breast milk or formula could assist in the interim.

'Top-ups' are another option available for Kate. She could offer a 'top-up' of expressed breast milk/formula to appetite using the paced bottle feeding technique.<sup>12</sup> An alternative method of offering 'top-ups' is via a supplementary nursing system.<sup>13</sup>

## Answer 8

There are various types of formula available on the Australian market (Box 2). If an infant has no features of cow's milk protein intolerance, there is no advantage in choosing one formula over another. All formula available to purchase in Australia meets specific standards. 'Gold' formulas, however, may cause constipation. It is also recommended to consider formulae with lower protein load

to reduce the risk of obesity later in life unless the baby is not achieving appropriate weight gain.<sup>14</sup> It is ideal to continue using the same brand of formula to reduce the risk of inappropriate preparation given the lack of consistency between formulae in this regard. Parents can be reassured that changing brands of formula is unlikely to reduce an infant 'dialling up' in the absence of allergy.<sup>14</sup>

### Box 2. Types of formula available on the Australian market<sup>14</sup>

- Cow's milk-based formula – tolerated by most babies
- Soy-based formula – preferred by some families for various reasons (eg religious, dietary [vegan]), but intake is best monitored by a dietitian or doctor
- Hydrolysed formula – for babies that do not tolerate cow's milk protein
- Follow-on formula – for older babies and toddlers. There is no evidence that these are superior to traditional formulas.

## Conclusion

Kate returns two weeks later. She reports that Alice is far more settled and is receiving 40–80 mL formula 'top-ups' after most feeds. The feeds have halved in duration and Kate has noticed that Alice swallows much more when breastfeeding. Alice's wet nappies have increased and she has three soft bowel motions each day. Alice weighs 4.97 kg on examination today (8th centile). Kate hopes to be able to wean the supplementation, but in the meantime acknowledges that Alice is far more content than previously.

## Resources for doctors and patients

- Possums for Parents with Babies – About paced bottle feeding, <https://possumsonline.com/video/renee-keogh-demonstrates-paced-bottle-feeding>

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**CASE**

# 6 Tomiko cannot soothe her baby

Tomiko, aged 24 years, presents to you with her baby girl, Yuzuki, aged nine weeks. As soon as you ask her what brought her to see you today, Tomiko becomes tearful and tells you that she is 'just so tired'. Yuzuki is not sleeping well during the day and Tomiko cannot put her down for more than 10 minutes at a time before Yuzuki starts crying and screaming. Tomiko's partner, Simon, is helpful in the evenings when he is home, but he often works interstate and she is sometimes alone with Yuzuki for several days at a time.

## Question 1

What further history would you take from Tomiko?

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## Question 2

What examination would you perform?

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## Further information

Tomiko's pregnancy was planned and straightforward, but she was induced at 38 weeks' gestation for intrauterine growth restriction. She had an emergency caesarean when she was 3 cm dilated for failure to progress, about which she says she still feels upset, as she desperately wanted to have a vaginal birth. Yuzuki weighed 2.55 kg and was 48 cm long at birth (4th centile). She stayed on Tomiko's chest and breastfed within the first hour. Breastfeeding has been going well and Tomiko is glad that she 'at least got one thing right'. She was discharged on day two, and the midwifery at-home program stopped after one week. Tomiko exclusively breastfeeds on demand and finds that she feeds Yuzuki on average every 2-3 hours both day and night, as well as cluster feeding for several hours most evenings for the past six weeks. Yuzuki was initially feeding for approximately 40 minutes per feed, but for the past two weeks she seems to want to feed for only 15-20 minutes. She always feeds on both sides. She feeds a lot, especially in the evenings, and seems very unsettled in the afternoons leading into the evenings. This is particularly stressful as this is when Simon is home and Tomiko cannot spend any time with him. Yuzuki has eight heavy wet nappies per day and opens her bowels with most nappies.

Tomiko is otherwise well and is not taking any regular medications. Yuzuki has not had any medical issues and has been gaining weight well. All Yuzuki's examinations are within the normal range, and she remains on the same centile lines as her birth weight and height.

Tomiko's partner, Simon, had nine days' leave from work after Yuzuki's birth before returning to his job as a salesman, and he spends approximately 5-7 days per fortnight travelling interstate. They live in a two-bedroom unit. Simon's parents live in the same suburb, but Tomiko is reluctant to ask them for help, even though they seem willing. Tomiko's own family lives interstate. She has not attended any mothers' groups as she is embarrassed about how unsettled Yuzuki is and is tired of hearing everybody's advice about what she is doing wrong.

Tomiko has never been diagnosed with any mental illness before but she does suspect that she had an episode of untreated depression when she was approximately 18 years of age. At that time, Tomiko had low motivation, anhedonia, poor sleep, weight gain and a general sadness, which was precipitated by having a termination of pregnancy. This seemed to self-resolve after approximately 18 months. Currently, she is experiencing similar symptoms but attributes her mood changes to lack of sleep and long, hard days with Yuzuki. Tomiko's EPDS score is 13, and she scores zero on the self-harm/suicide question. She is upset with herself that she is not enjoying motherhood more, as she really thought she would love it.

**Question 3** 

Do you have any particular concerns? What is your working diagnosis?

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**Question 4** 

What are the signs and symptoms of postnatal depression?

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**Question 5** 

Would you order any investigations at this stage?

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**Question 6** 

What interventions do you think would be helpful to improve Tomiko's days with Yuzuki?

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**Question 7** 

What can Tomiko do to help settle Yuzuki more easily?

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**Question 8** 

What advice would you give to Tomiko in terms of self-care?

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**Question 9** 

What strategies can you offer Tomiko for times when she is finding Yuzuki challenging?

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**Further information**

Tomiko is keen to engage with a psychologist who specialises in acceptance and commitment therapy (ACT) to have ongoing support. Together you discuss developing a GP Mental Health Care plan to facilitate this.

You direct Tomiko to free online videos (<https://possumsonline.com/act-mental-health-strategies-parents-babies>) that explain ACT in detail and give her strategies to use. It would also be good for Simon to watch these videos with Tomiko so that he can understand the process and be supportive.

**Question 10** 

What red flags would you be concerned about regarding a mother’s mental health in the postpartum period?

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**Question 11** 

Are there other treatment options that you may consider?

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**CASE 6** **Answers**

**Answer 1**

Further history would include:

- brief pregnancy history
- mode of delivery and complications (if any)
- Tomiko’s past medical and surgical history
- current medications
- Yuzuki’s feeding history – breast or formula fed, number of feeds per day and night
- Tomiko’s current and past mental health
- social history.

**Answer 2**

At this stage it would be recommended to conduct a mental state examination for Tomiko, including an assessment for suicidal and homicidal risk. The Edinburgh Postnatal Depression Scale (EPDS) may also be used to assess Tomiko’s mental state (refer to [www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/edinburgh-postnatal-depression-scale.pdf?sfvrsn=8](http://www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/edinburgh-postnatal-depression-scale.pdf?sfvrsn=8)).

An examination of Yuzuki would include assessing general appearance, skin, head shape, eyes, ears, mouth, neck, abdomen, hips, genitalia, anus, back, cardiorespiratory and neurological examination.

**Answer 3**

There are no concerns regarding the physical health of Yuzuki or Tomiko. Yuzuki’s unsettled behaviour and Tomiko’s exhaustion and feelings of being overwhelmed are quite common among mothers of young babies, especially if the baby is unsettled. This usually improves considerably by 3–4 months of age.<sup>1</sup>

Red flags in regard to the baby’s crying include:

- sudden onset irritability and crying that is not easily soothed
- maternal postnatal depression – excessive baby crying is the most proximal risk factor for shaken baby syndrome
- suspected cow’s milk/soy protein intolerance/allergy if
  - vomiting
  - blood or mucus in diarrhoea
  - poor weight gain
  - family history in first-degree relative
  - signs of atopy
  - significant feeding problems (especially if worsening with time).<sup>1</sup>

There is some concern regarding Tomiko's mental health, and this is confirmed by the EPDS score of 13, which indicates the presence of symptoms of distress.<sup>2</sup> Postnatal depression should be considered for all women who present in the postpartum period.

#### Answer 4

The signs and symptoms of postnatal depression<sup>3</sup> can present at any time in the first year following birth. For a diagnosis of postnatal depression to be considered, emotional, behavioural and/or cognitive symptoms usually persist for longer than two weeks.

##### Emotional

- Persistent sadness, anxiousness or 'empty' mood
- Severe mood swings
- Frustration, irritability, restlessness, anger
- Feelings of hopelessness or helplessness
- Guilt, shame, worthlessness
- Low self-esteem
- Numbness, emptiness
- Exhaustion
- Inability to be comforted
- Trouble bonding with the baby
- Feeling inadequate when taking care of the baby

##### Behavioural

- Lack of interest or pleasure in usual activities
- Low or no energy
- Low libido
- Changes in appetite
- Fatigue, decreased energy and lack of motivation
- Poor self-care
- Social withdrawal
- Insomnia or excessive sleep

##### Cognition

- Diminished ability to make decisions and think clearly
- Lack of concentration and poor memory
- Fear of being unable to care for the baby or fear of the baby
- Worry about harming self, baby or partner

#### Answer 5

At this point, there are no features on history or examination that require further investigation. This is a very common presentation and, once red flags have been ruled out, the key

is in reassurance, normalisation and education. Further investigations may even add to a mother's anxiety that something is wrong with her baby.

The aim is to change Tomiko's response when hearing Yuzuki cry, from 'Oh no, I cannot face this, I cannot bear this', to 'Oh, there's the baby again'.

#### Answer 6

Childbirth is a life-changing event, and up to 80% of parents will experience some type of mood disturbance.<sup>4</sup> While for most mothers these symptoms are transient and mild, resolving within a few days, approximately 10–15% of new mothers have persistent and disabling symptoms, and these mothers are at high risk of a major depressive episode in the postnatal period.<sup>5</sup> Considering the wellbeing of both mother and baby is crucial to create happy and healthy families that flourish in the long term.

Tomiko's elevated EPDS score shows how important it is to take care of her own emotional wellbeing, and it is recommended that you check in with her regularly during the coming weeks. There are two aspects of care to cover with Tomiko. The first is the management of Yuzuki's unsettled behaviour, and the second is discussing simple ways to improve Tomiko's emotional wellbeing.

#### Answer 7

Tomiko can do some simple things to help Yuzuki settle more easily. Babies need rich sensory stimulation during the day so that their neurodevelopmental needs are met.<sup>6</sup> There are two main strategies parents can use at this age to help their baby to settle. The first is feeding; in this case, that would mean Tomiko offering Yuzuki the breast. If this is not successful, the other strategy is to change the sensory environment. Babies will often 'dial down' and become suddenly much more manageable once their environment changes. This can be achieved through very simple measures such as stepping outside, going for a walk or taking the baby to the shops or a café. In fact, babies will often fall asleep when taken out. While this may seem frustrating, it is actually their way of responding to the sensory changes and can be a perfect way to help them settle.

This may initially seem overwhelming and too big a task for the caregiver, but they will soon find that their baby is much easier to manage when their days are filled with changing environments and busy schedules. This, in turn, can also be used to help with Tomiko's mental health. Going out regularly, visiting friends and spending time away from the house (especially when Tomiko is often the only adult at home for days at a time) will help Tomiko to socialise and to remain in contact with friends. Mothers' groups can be very helpful, and it is worth encouraging Tomiko to at least give this a try, as she may find great benefit from spending time with people who are at a similar stage of life. If Tomiko is finding it difficult to comprehend how this may work, it can be useful to give her a timetable template of the week and ask her, at the beginning of the week, to schedule some activities outside the house at least once or twice per day.

**Answer 8**

It is important to explain to Tomiko that it is often easier for a new mother to separate self-care from her baby's sleep times. Often, mothers feel that that is the only downtime they get. If their baby does not sleep well, or will only sleep while in their caregiver's arms or while out and about, it is easy for mothers to feel frustrated and that they have 'missed' their only opportunity for the day to relax. In this situation, it may be useful to encourage Tomiko to enlist the help of Simon's parents. They can help her look after Yuzuki while she has a daytime sleep or does something that she enjoys such as a yoga class or another form of recreation. Simon's parents could look after Yuzuki at the same location so that Tomiko is reassured that they are very close if Yuzuki needs to feed or if there are any issues.

**Answer 9**

It would be helpful to review some simple ACT strategies for Tomiko to use in the moments that seem overwhelming. This can be done over a few consults if necessary. With a focus on mindfulness, ACT aims to normalise difficult thoughts and feelings; it does not try to remove them. It may also be useful to refer patients to a psychologist who specialises in ACT using a GP Mental Health Care Plan.

Table 1 summarises some key ACT strategies for new parents.

**Answer 10**

In major postpartum depression, the baby is usually a protective factor. If this is not the case, and the mother is using negative language such as, 'They (the baby) would be better off without me', this is cause for great concern and the mother may need urgent inpatient psychiatric support and treatment. It is also very important to consider the risk to the infant, including neglect and poor parenting secondary to significant depressive symptoms.<sup>3</sup>

**Answer 11**

If the patient is quite unwell or is not improving with ongoing review, it may be useful to consider the need for antidepressant medication and/or referral to a qualified psychologist for ongoing review and support.

Other services can also be recommended to the patient, including Perinatal Anxiety & Depression Australia and MumMoodBooster, a website through which mothers can gain access to six online sessions that are personalised to their own situation, as well as an online library of information and support. The Centre of Perinatal Excellence is another good resource for expectant and new parents. Links are provided in 'Resources for patients'.

**Conclusion**

You follow up with Tomiko two weeks later. She has been working hard to implement your suggestions and now leaves the house on most days, occasionally visiting friends. Sometimes she sits outside in the courtyard and has found that Yuzuki settles just by watching the leaves of the trees moving in the wind. Tomiko is still finding the evenings difficult at times, especially when Simon is away, but overall she feels that she is managing much better. When things do get overwhelming, she tries to implement the ACT strategies when she remembers, but sometimes she forgets. You review these key strategies with her and she agrees to keep trying them at home. Her EPDS score today is six, which is considerably reduced from her initial score and now within the normal range. She is happy to see you when she needs to and does not schedule any further follow-up visits at this stage. She thanks you for your help and says, 'I am finally beginning to enjoy my baby'.

**Table 1. Key acceptance and commitment therapy strategies for new parents<sup>6</sup>**

Name of strategy	Example	Acceptance and commitment therapy rationale
Cognitive defusion: Noticing and naming	'I'm a bad mother'	It is normal to feel anxious when we are sleep deprived/the baby screams so much/ breastfeeding is not going well. We are biologically hardwired to feel anxious at this time of life. From an evolutionary perspective, worrying a lot about the baby in the first months after birth is protective. What matters is how we relate to the anxious feeling, so that it does not control our behaviour in unhelpful ways.
Experiential acceptance: Making room for uncomfortable thoughts and feelings	Chest tightness when the baby cries	Noticing where the feeling is in your body, and making space for it by breathing around it
Contact with the present moment: 'Noticing' or 'paying attention'	Anxiety about another sleepless night ahead	Anchoring strategies: Deep breaths, conscious muscle relaxation
Self-compassion: Being kind to oneself	Negative self-talk	What would your best friend say? What would you say to your child if he or she were experiencing this?
Committed action: Doing what matters	'I'm too exhausted to do anything. I can't do this anymore.'	Do not wait until you feel better. Break goals down into small steps. Plan the week in advance using a weekly schedule.

## Resources for patients

- Perinatal Anxiety & Depression Australia (PANDA), [www.panda.org.au](http://www.panda.org.au) or national helpline 1300 726 306
- MumMoodBooster, <https://mummoodbooster.com/public/>
- Centre of Perinatal Excellence, [www.cope.org.au/about/](http://www.cope.org.au/about/)

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**CASE**

**7 | Samantha's nipples are very damaged**

Samantha, aged 28 years, presents to you with her son Dillon, aged 10 days, as she is concerned that he has a tongue-tie. Samantha has had difficulty breastfeeding since Dillon's birth and her nipples are very damaged. In addition, he does not settle well and is much more difficult to look after than her first child, a daughter who is now aged three years. Samantha asked for advice in an online chat group, and many participants suggested that she go to her doctor to have Dillon assessed for oral ties.

**Question 1** 

What further history would you take from Samantha?

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**Further information**

Samantha's pregnancy was uncomplicated, and Dillon was born by spontaneous vaginal birth at term. He stayed on her chest for the first hour and breastfed in that time. He breastfed every 3-4 hours while in hospital, but Samantha always needed a midwife to assist her in latching Dillon. She was discharged on day three. Neither Samantha nor Dillon are taking any regular medications. Samantha felt that her milk came in on day three. She had breast engorgement and pain, but this soon settled. She feels that she has enough milk, and her breasts leak milk as soon as she uncovers them. Dillon now feeds every 3-4 hours, but it is very painful for Samantha, particularly on her right nipple, which is now bleeding. Samantha has not fed on this side for 24 hours because of the severe pain and concern about Dillon swallowing blood. Samantha stopped breastfeeding her daughter, who is now aged three years, when she was aged approximately two weeks because of similar issues.

**Question 2** 

What examinations would you perform?

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**Further information**

On examination, Samantha has bilateral nipple trauma with no signs of infection or abscess in either breast. Her right nipple is inverted but she is able to evert it with minimal manual stimulation. Her vital signs are within normal ranges.

Dillon weighs 2.90 kg (11th centile), which is just below his birth weight of 2.94 kg. On oromotor assessment, Dillon's labial frenulum looks normal and you note to Samantha that it is very stretchy and flexible and he has excellent lip mobility. His palate is normal and, with a tongue depressor, you visualise the soft palate and confirm that there is no cleft. Dillon's tongue protrudes to the inner side of his bottom lip and there is a mucosal lingual frenulum that is quite thin and extends down to approximately 90% of the lower tongue (Figure 1). Finally, his sucking reflex on your finger is normal.



**Figure 1.** Mucosal lingual frenulum extending to approximately 90% of the lower tongue

Photo courtesy of Janelle Aby MD (<https://med.stanford.edu/newborns/professional-education/photo-gallery/mouth.html#ankyloglossia>). Reproduced with permission.

**Question 3** 📖

With the information obtained on history and examination, what is your working diagnosis?

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**Question 4** 📖

Would you like to order any investigations?

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**Question 5** 📖

What would you do now?

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**Further information**

Samantha finds that with improved positioning and some micromovements, her pain reduces by 80–90%. She is willing to continue working on this at home and has agreed to see you in 3–4 days' time for another consultation.

You have a follow-up appointment with Samantha four days later. Samantha continues to exclusively breastfeed, but she is teary and tells you that she cannot do this much longer. She has been trying hard to implement the improved positioning techniques when breastfeeding, but she is still experiencing significant pain and feels that Dillon's fit and hold remains suboptimal. She thinks that she will probably stop breastfeeding after this consult unless you can offer significant help.

**Question 6** 📖

How would you assess the presentation now?

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**Further information**

With consent, you watch Samantha breastfeeding once again. She is implementing the gestalt breastfeeding method well,<sup>7</sup> and Dillon's milk transfer is very good. His positioning is stable, but it is clear that he is not achieving a deep face/breast bury despite a stable position, particularly on the right breast, as you can still see his lips at times.

You repeat the oromotor assessment of Dillon, which is unchanged, but Samantha is experiencing ongoing and, if anything, worsening nipple trauma, despite the improvement in breastfeeding technique.

**Question 7** 📖

What is the next step?

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**CASE 7** Answers**Answer 1**

Further history would include:

- brief pregnancy history
- mode of delivery and any complications
- past medical or surgical history, especially any past breast surgery
- current medications
- breastfeeding history – what day Samantha’s milk ‘came in’, whether she feels she has had enough/too much milk, a discussion about pain, if Dillon settles after a feed
- Dillon’s feeding habits – number of times in 24 hours, duration of each feed
- Dillon’s output – urine and stools
- Dillon’s medical history and any complications or illnesses so far
- breastfeeding and health history of Samantha’s older daughter.

**Answer 2**

Recommended examinations would include:

- examination of Samantha’s breasts and nipples, assessing the nipple trauma that Samantha mentioned
- Samantha’s vital signs
- oromotor assessment of Dillon, assessing tongue mobility and palate (a description of how to perform an oromotor assessment can be viewed online at <https://education.possumsonline.com/video/dr-krystyna-demonstrates-infant-romotor-assessment>)<sup>1</sup>
- Dillon’s weight and length.

**Answer 3**

A combination of issues is likely to have resulted in Samantha’s current feeding difficulties.

Samantha has one inverted nipple, Dillon’s fit and hold when breastfeeding is likely poor and he has a 90% anterior membrane. Stress that the ‘lip tie’ is normal and many babies successfully breastfeed with a residual anterior membrane.

The definition of tongue-tie, or ankyloglossia, varies widely, but it is generally agreed that a tongue-tie exists when the lingual frenulum limits tongue movement in a way that negatively affects function.<sup>2</sup>

**Answer 4**

No further investigations are necessary at this time. A diagnosis has been made through history and clinical examination.

**Answer 5**

It is important to reassure Samantha that all examination findings are essentially normal, but when looking at her and Dillon as a breastfeeding dyad, you can see why she has been having difficulties. Because Samantha’s nipple will evert with stimulation, working on fit and hold during breastfeeding will almost definitely improve the pain and nipple damage that she has experienced so far.

In cases of classic anterior tongue-tie, a scissors frenectomy can be performed to resolve breastfeeding problems. Although this procedure is associated with reduced nipple pain and an improved breastfeeding experience, studies investigating the results of frenectomies are largely inconsistent.<sup>3</sup> Moreover, the procedure can be associated with risks such as oral aversion, breast refusal and bleeding.<sup>4</sup> Therefore, it is recommended to first consider less invasive interventions.

It is important to note that there is no quality evidence supporting laser frenectomy for so-called ‘posterior’ tongue-tie, which is not easily visible. The studies that have been conducted suggesting a benefit are methodologically flawed and do not consider the improvement of symptoms expected over time and the role of placebo.<sup>3</sup>

The biomechanical model of infant suck, based on ultrasound studies, demonstrates that milk transfer is a result of an increased intraoral vacuum.<sup>5</sup> This conflicts with the ‘stripping action model’, which overestimates the role of tongue movement in extracting milk from the breast.<sup>6</sup> Dillon’s lip frenulum is normal, and it would not be advised for him to have a lingual frenectomy performed at this point, as improving the fit and hold has a high chance of fixing the issues.

**Answer 6**

It would be recommended to observe another breastfeed to assess whether Samantha’s breastfeeding technique remains effective, and if Dillon is able to latch and transfer milk successfully. It may also be worthwhile to repeat the oromotor assessment for Dillon.

**Answer 7**

Although Samantha is implementing the gestalt breastfeeding method well,<sup>7</sup> Dillon is not achieving a deep face/breast bury, and Samantha has worsening nipple trauma. At this point, a scissors frenectomy procedure may be considered to release the membranous tongue-tie. It is important to confirm that Dillon received his vitamin K injection at birth, and discuss the risks of frenectomy with Samantha. As a GP, you can arrange for this to be performed as soon as possible with your local expert.

It is also helpful to talk to Samantha about acceptance and commitment therapy (ACT) techniques,<sup>8</sup> as these are likely to help Samantha during the times of painful breastfeeding and exhaustion.

**Conclusion**

You review Samantha and Dillon one week after the scissors frenectomy is performed. Dillon’s mouth is healing well

(Figure 2). Samantha is calmer and is still breastfeeding. She is finding breastfeeding is easier and less stressful now, though she is still having to concentrate and make sure that her fit and hold is optimised. She will continue to work on the breastfeeding relationship and plans to breastfeed for as long as possible.

### Summary

Frenectomy may improve breastfeeding for some dyads but it is not an instant solution and not without risk.

The mother and baby must be assessed as a pair – some babies may have a tongue-tie, but if the mother has everted nipples and a pain-free latch can be achieved, there is no indication for frenectomy.

Frenectomy should be performed in conjunction with ongoing fit and hold adjustments, mental health support for the mother, and ongoing support from the GP or a lactation consultant.

### Resources for doctors and patients

- The Royal Women's Hospital – Tongue-tie, [www.thewomens.org.au/health-information/breastfeeding/breastfeeding-problems/tongue-tie/](http://www.thewomens.org.au/health-information/breastfeeding/breastfeeding-problems/tongue-tie/)
- Centre of Perinatal Excellence, [www.cope.org.au/](http://www.cope.org.au/)
- Possums for Parents with Babies – Example of excellent milk transfer in breastfeeding, <https://possumsonline.com/video/baby-transfers-milk-beautifully>
- Possums for Parents with Babies – Paced bottle feeding technique, <https://possumsonline.com/video/renee-keogh-demonstrates-paced-bottle-feeding>
- Possums for Parents with Babies – Acceptance and commitment therapy for parents with babies, <https://possumsonline.com/act-mental-health-strategies-parents-babies>

### Resources for doctors

- The Royal Women's Hospital – Infant Feeding – Breast and Nipple Thrush, [https://thewomens.r.worldssl.net/images/uploads/downloadable-records/clinical-guidelines/breast-and-nipple-thrush\\_160517.pdf](https://thewomens.r.worldssl.net/images/uploads/downloadable-records/clinical-guidelines/breast-and-nipple-thrush_160517.pdf)
- Black Dog Institute – Edinburgh Postnatal Depression Scoring scale, [www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/edinburgh-postnatal-depression-scale.pdf?sfvrsn=8](http://www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/edinburgh-postnatal-depression-scale.pdf?sfvrsn=8)
- Possums for Parents with Babies – Infant oromotor assessment, <https://education.possumsonline.com/video/dr-krystyna-demonstrates-infant-ormotor-assessment>

### Resources for patients

- Australian Breastfeeding Association, [www.breastfeeding.asn.au](http://www.breastfeeding.asn.au)
- Perinatal Anxiety & Depression Australia (PANDA), national helpline 1300 726 306 and website [panda.org.au](http://panda.org.au)



**Figure 2.** Tongue immediately after frenectomy

Photo courtesy of Janelle Aby, MD (<https://med.stanford.edu/newborns/professional-education/photo-gallery/mouth.html#ankyloglossia>). Reproduced with permission.

- What Were We Thinking, [www.whatwerewethinking.org.au/](http://www.whatwerewethinking.org.au/)
- MumMoodBooster, <https://mummoodbooster.com/public/>

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**ACTIVITY ID 184101****Mothers and babies**

This unit of *check* is approved for six CPD Activity points in the RACGP CPD Program. The expected time to complete this activity is three hours and consists of:

- reading and completing the questions for each case study
  - you can do this on hard copy or by logging on to the *gplearning* website, <https://racgp.litmos.com.au>
- answering the following multiple choice questions (MCQs) by logging on to the *gplearning* website, <https://racgp.litmos.com.au>
  - you must score  $\geq 80\%$  before you can mark the activity as 'Complete'
- completing the online evaluation form.

You can only qualify for CPD points by completing the MCQs online; we cannot process hard copy answers.

If you have any technical issues accessing this activity online, please contact the *gplearning* helpdesk on 1800 284 789.

If you are not an RACGP member and would like to access the *check* program, please contact the *gplearning* helpdesk on 1800 284 789 to purchase access to the program.

**Case 1 – Catuscia**

Catuscia, aged 33 years, arrives to see you with her newborn Maeve, aged 10 days. Last week she was visited by the maternal and child health nurse, who noted that Maeve had lost weight since being discharged from hospital. Catuscia is concerned because Maeve has only produced 2–3 wet nappies each day since then, and she wants to make sure Maeve's weight gain is as expected.

**Question 1**

What percentage loss of birthweight is considered normal in the first few days following birth?

- A. 0–2%
- B. 3–6%
- C. 7–10%
- D. 11–15%

**Question 2**

Based on the World Health Organization weight-for-age charts, what would be the nearest percentile for a baby girl aged three weeks who weighed 3 kg?

- A. 85th
- B. 50th
- C. 15th
- D. 3rd

**Question 3**

It is recommended that babies gain how much weight per week as a minimum?

- A. 50 g
- B. 100 g
- C. 150 g
- D. 200 g

**Further information**

After further discussion, Catuscia says that she has had trouble with breastfeeding since birth, and that Maeve is often crying. You offer to observe a breastfeed to assess Catuscia's technique with Maeve, and she agrees. You identify some aspects of her technique that could be improved and explain the gestalt feeding method to Catuscia.

**Question 4**

Ensuring the infant's abdomen and chest are flat against the mother's body when feeding is part of which step of gestalt breastfeeding?

- A. Turning on the baby's breastfeeding reflexes
- B. Preparing the mother's body for breastfeeding
- C. The biomechanics of breastfeeding
- D. The power of micromovements

**Case 2 – Mikaela**

Mikaela, aged 25 years, comes to see you with Inez, aged seven weeks. Mikaela thinks Inez is sick, as she has been vomiting after feeds and her stools are green. Inez has also been crying continuously and has become very resistant to being placed in her cot. As part of your differential diagnosis, you consider the possibility that Inez may have functional lactose overload.

**Question 5**

Functional lactose overload in a breastfed baby is characterised by which one of the following?

- A. Poor weight gain
- B. Explosive stools
- C. Complete drainage of the breast
- D. Infrequent feeding

**Further information**

You identify that Inez is receiving too much lactose-rich milk during each feed and advise Mikaela on breastfeeding techniques she could use to address this issue.

### Question 6

Which one of the following best describes the breastfeeding technique characterised by offering one breast for all feeds over a period of 2–3 hours?

- A. Cluster feeding
- B. Block feeding
- C. Gestalt feeding
- D. Alternative feeding

### Case 3 – Soraya

Soraya, aged 38 years, is a first-time mother who comes to you with her baby boy, Tasman, aged 12 weeks. Tasman is growing and developing well, but Soraya says she has struggled with the transition from being a full-time office worker to being a stay-at-home mother. Soraya lacks family support and she is feeling lonely and overwhelmed by the daily tasks involved in looking after Tasman. She begins to cry during the consultation and you consider the possibility that Soraya has postnatal depression.

### Question 7

Which one of the following is an example of a **behavioural** symptom related to postnatal depression?

- A. Severe mood swings
- B. Exhaustion
- C. Poor memory
- D. Insomnia

### Question 8

Approximately what percentage of mothers have a persistent and disabling mood disturbance following childbirth?

- A. 0–5%
- B. 6–9%
- C. 10–15%
- D. 16–20%

### Further information

Soraya also says that, while Tasman has been feeding well, he continues to wake several times throughout the night, which makes her feel anxious. You suggest implementing Acceptance and Commitment Therapy (ACT) strategies may help to alleviate Soraya's anxiety.

### Question 9

At the age of 12 months, what percentage of babies will still wake at least once overnight?

- A. 50%
- B. 40%
- C. 30%
- D. 20%

### Question 10

Anxiety about the baby waking during the night could **first** be best addressed with which of the following ACT strategies?

- A. Contact with the present moment
- B. Self-compassion
- C. Cognitive defusion
- D. Experiential acceptance

# check

Independent learning program for GPs