

NEWBORN QUERIES

Learners Guide

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Topic: **Newborn Queries**

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Duration: **1-2 hours**

Facilitator Level: **Senior trainee/ANP and above**

Learner level: **Junior trainee/ANP/staff nurse**

Target audience : **This module is aimed at junior paediatric trainees, as well as trainees of any level who are involved in the care of newborns and want to build their confidence in identifying and managing common conditions with which neonates may present to a healthcare setting.**

PRE-READING FOR LEARNERS

Learners should read the following links prior to the session:

<https://dontforgetthebubbles.com/performing-the-newborn-check/>

[GeekyMedics Babycheck outline](#)

<https://dontforgetthebubbles.com/whats-formula-formula/>

https://www.youtube.com/watch?v=dJ_dasmimE4

OUTLINE

- **Main session – 4 x case studies including basic knowledge and key learning**
- **Quiz (10 mins)**
- **Take home learning points**

CASE 1 - A BUMP TO THE HEAD

You are the SHO on the postnatal ward. The NIPE midwife comes to you concerned about a lump she has felt on a baby's head. She asks you to review the lump. She reports that otherwise there are no other concerns with baby.

What are the important points to cover in history and examination?

What are your main differentials?

What red flag features should you examine/look out for?

Assuming there are no red flags, how would you manage this patient?

CASE 2 – FEEDING DIFFICULTIES

You are a junior doctor working in ED. Thomas, a 3 week old baby, is brought in by his parents with concerns that he is vomiting after every feed

What are the important points to cover in the history?

What would be your initial steps in assessing this baby?

You find that Thomas examines well, weighs 4.1kg which plots on the 50th centile (birth centile was 75th, weights at 5 days and then 2 weeks were both 50th centile), and is currently having 105ml formula every 3 hours. No red flags were identified in the history or examination.

How would you manage this baby?

What safety netting advice would you give parents?

As Thomas' parents are leaving, they ask your advice about what milk is best.

What advice would you give them regarding breastfeeding and formula feeding?

CASE 3 - UMBILICAL CORD ISSUES

Grace, a 7 day old baby is brought to ED by her parents as they are concerned about her umbilical cord, reporting that it looks a bit red. They also report that she has been a bit fussy today, and think she felt a bit warm earlier on in the day. Grace's parents are worried about whether they have been caring for the cord correctly and ask you for some advice.

What are your main differentials?

You take a history and examine Grace. You find that she was well after birth, although Mum mentions a history of prolonged rupture of membranes for 48 hours. (PROM – the time between maternal waters breaking and delivery of the baby should be less than 24 hours in terms babies, and less than 18 hours in preterm babies. Longer than this increases infection risk for the baby). Grace's symptoms started this morning. She hasn't been feeding as well in the last 24 hours as she had been the previous couple of days. Parents describe her umbilical cord as always being a bit oozy. The cord separated on Day 6. Grace examines well with normal observations, her temperature is 37.4°C. The skin surrounding her umbilical is erythematous, and the cord stump is oozing a yellow discharge.

What investigations would you want to perform?

What would your next steps in management be?

Grace's parents mentioned they had some queries about how to care for the umbilical cord.

What is the umbilical cord, and what advice would you give to parents about good cord care?

CASE 4 – JAUNDICE

You're the paediatric registrar on call, and receive a phone call from a community midwife. She has been to see Anisa, a 2 day old baby girl, at home with her parents. The midwife felt that Anisa looked a bit jaundiced so performed a transcutaneous bilirubin (TCB) measurement which has plotted above the phototherapy line. She is referring Anisa in for assessment in the Children's Assessment Unit.

You examine Anisa and agree she looks jaundiced so therefore decide further investigations are needed.

What initial investigations would it be important to perform?

The investigations are sent, and Anisa's bilirubin level is 235micromol/L.

Using the correct graph, plot Anisa's serum bilirubin level. She was born at 37+4 weeks, is currently 51 hours old and was born at 9:30am.

<https://www.nice.org.uk/guidance/cg98/resources>

What are your main differentials for the possible causes of Anisa's jaundice?

What would your next steps in managing Anisa's jaundice be?

Anisa's parents ask you why she needs to be treated for jaundice.

What are the risks of untreated jaundice?

QUIZ QUESTIONS: (10 MINUTES)

Question 1.

Which swelling is bound by suture lines and presents as a firm, fluctuant swelling that can result in jaundice?

- A. Caput Sucedaneum
- B. Cephalhaematoma
- C. Subgaleal haemorrhage
- D. Chignon

Question 2.

**Which of the following is a red flag feature for subgaleal (subaponeurotic) haemorrhage?
Select all that apply:**

- A. Boggy, fluctuant swelling
- B. Swelling restricted by suture lines
- C. Prolonged capillary refill time and pallor
- D. Swelling changes with position or has a fluid thrill

Question 3.

Which of the following is not a proven benefit of breastfeeding?

- A. Lower risk of NEC in preterm babies
- B. Increased risk of Type 1 diabetes
- C. Decreased risk of SIDS
- D. Protection against ear infections

Question 4.

How much formula should a newborn receive on Day 3 of life?

- A. 60ml/kg/day
- B. 90ml/kg/day
- C. 120ml/kg/day
- D. 150ml/kg/day

Question 5.

List two important symptoms parents should look for that would warrant urgent medical review in a vomiting newborn.

Question 6.

Which of the following about umbilical hernias is true?

- A. They are usually painful.
- B. They rarely close spontaneously.
- C. They require urgent surgical referral and review.
- D. They often close spontaneously by 4 years of age.

Question 7.

Describe two key pieces of advice you would give parents about caring for a newborn's umbilical cord.

Question 8.

Which of the following is most likely to cause early-onset jaundice (within the first 24 hours of life)?

- A. Breastmilk jaundice
- B. Physiological jaundice
- C. ABO incompatibility
- D. Cephalhaematoma

Question 9.

Which test is used to confirm haemolytic disease of the newborn due to rhesus incompatibility?

- A. Coombs (Direct Antiglobulin) test
- B. FBC including a blood film
- C. Serum bilirubin
- D. Glucose-6-phosphate dehydrogenase test

Question 10.

In Rh incompatibility, which maternal and foetal blood types are most likely involved?

- A. Mother Rh+ and fetus Rh-
- B. Mother Rh- and fetus Rh+
- C. Mother Rh- and fetus Rh-
- D. Mother Rh + and fetus Rh+

Question 11.

What is kernicterus?

- A. Jaundice limited to the skin
- B. A benign condition requiring no treatment
- C. Bilirubin-induced neurological dysfunction due to deposition in the brain
- D. A type of bacterial meningitis in neonates

Question 12.

Which of the following is NOT a typical clinical feature of kernicterus?

- A. Hypotonia and lethargy
- B. Irritability and a high pitched cry
- C. Hyperreflexia and arching of the head and back (opisthotonus)
- D. Bradycardia and temperature instability

Take home tips (learning points)

- 1 Jaundice presenting before 24 hours of age is pathological and requires further investigation.
- 2 Severe untreated jaundice can lead to kernicterus. Prompt recognition and management is essential to prevent encephalopathy and brain injury.
- 3 Jaundice, pale stools and a raised (>25micromol/L) conjugated bilirubin level are concerning for underlying liver or biliary system disease which require urgent specialist input and management.

REFERENCES

<https://perthcdc.net.au/resources/birth-injuries-to-scalp-in-newborns/>

<https://www.rch.org.au/uploadedFiles/Main/Content/piper/PIPER%20Neonatal%20-%20Management%20of%20Subgaleal%20Haemorrhage%20in%20Neonatal%20Transport.pdf>

<https://www.nice.org.uk/guidance/ng194/chapter/Recommendations#planning-and-supporting-babies-feeding>

<https://www.cdc.gov/infant-toddler-nutrition/breastfeeding/index.html>

<https://www.cdc.gov/infant-toddler-nutrition/breastfeeding/how-much-and-how-often.html>

<https://www.nhs.uk/start-for-life/baby/feeding-your-baby/breastfeeding/the-benefits-of-breastfeeding/>

<https://dontforgetthebubbles.com/navel-gazing/>

<https://www.nice.org.uk/guidance/cg98/chapter/recommendations#management-and-treatment-of-hyperbilirubinaemia>

<https://www.nice.org.uk/guidance/ng195/resources/neonatal-infection-antibiotics-for-prevention-and-treatment-pdf-66142083827653>

<https://www.rcemlearning.co.uk/foamed/when-weight-loss-isnt-a-good-thing-neonates-in-the-ed-growth-feeding/>

<https://dontforgetthebubbles.com/and-they-were-all-yellow/>

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