

Overview of the scenario	Postnatal seizure caused by hyponatraemia
Learners	All members of the obstetric MDT. Obstetricians, anaesthetists, midwives, recovery staff, neonatal team
Suggested clinical learning outcomes	<p>Increased awareness of the importance of fluid balance monitoring in labour.</p> <p>Understanding of the effects on hyponatraemia both maternal and neonatal.</p> <p>Knowledge of local guidelines on management of hyponatraemia.</p> <p>Knowledge of the differential diagnosis of seizures.</p>
Suggested non-clinical learning outcomes	<p>Software: Guidelines on the management of hyponatraemia in labour.</p> <p>Consider the fluid balance charts used on your unit. Are they filled in accurately for all mothers? If not, what are the barriers to accurate fluid balance monitoring? Are they paper based or electronic? Do fluid balance charts from the antenatal wards continue on labour ward?</p> <p>Guidelines for care in labour – including when to check U&Es when on IV syntocinon.</p> <p>Hardware: Point of care testing including blood gas machines with Na measuring and blood sugar testing equipment.</p> <p>Sufficient IV fluid pumps for labouring mothers.</p> <p>Presence of emergency algorithms for seizures.</p> <p>Environment: Sufficient spaces around beds for managing maternal collapse and resuscitation.</p> <p>What is the culture like for monitoring fluid balance? Is it discussed at MDT ward rounds?</p> <p>Teamworking:</p> <p>Clear leadership</p> <p>Rapid institution of early ABCDE management of seizure</p> <p>Sharing of mental model with the team about the differential diagnosis for post-partum seizure</p> <p>Consider communication aids / prompts e.g. emergency algorithms</p> <p>Closed loop communication used.</p>
Scenario	<p>The NHS resolution 2019 case story (see link in relevant recent publications) is a good scenario to run.</p> <p>Or you can use this one which is slightly more complicated!</p> <p>Po 40 weeks admitted via triage in early labour with mildly elevated BP and + proteinuria. Given 200mg labetalol PO and sent to antenatal ward.</p>

	<p>3 hours later, her observations are 90/40 HR 100 RR 18 Sats 98% air. She is encouraged to drink 'plenty of fluids'. She drinks approximately 2.5 litres of water overnight. Observations remain stable overnight – scoring 0 on a maternal early warning score.</p> <p>The following morning, she is taken to delivery suite. Progression of labour is slow, and she is started on IV syntocinon with a background maintenance of IV fluids, 125ml/hr. She is noted to have ketones in her urine and is encouraged to drink sugary drinks, she drinks over 1L. She is using remifentanil PCA for analgesia in labour. She complains of some fatigue, dizziness and a headache. Observations are normal.</p> <p>She has a normal vaginal delivery in the room. Shortly after delivery, the Mother becomes disorientated and agitated. If examined everything is normal except for depressed reflexes. She then commences fitting. Blood glucose is 6.5 mmol/L. No proteinuria Serum Na 115mmol/L</p> <p>Running this scenario in combination with the neonatal team is very useful. The baby will be born with low Apgar scores and may also present with seizures.</p>
<p>Debrief topics</p> <p>Following your simulation, consider how you will disseminate crucial learning points with the wider MDT.</p>	<p>Were differential diagnosis for the seizure considered and treated?</p> <p>Was the Mother's fluid balance reviewed / discussed?</p> <p>Did the team feel well able to manage this situation?</p> <p>Did they think anything could have made the management of this case easier?</p> <p>If they came across this scenario again what would they do differently? How was the communication across the neonatal and adult teams? Did the adult team communicate the low Na with the neonatal team?</p>