

CLINICAL SCENARIO

Glucometer 1

NAME: _____ DATE: _____

PURPOSE: Teaching / Practice
 Test Result: Pass / Fail / Retest

Scenario Overview

A sleepy 7-day old baby is brought into outpatients. The participant should assess the baby, check blood glucose using a glucometer, treat and monitor appropriately, and know the complications of a heel prick.

Reminder to Facilitator

Facilitator team to decide what is essential for participants' understanding; we suggest facilitator team underline or mark these essential items in the **INFORMATION/RESULT** column before beginning the session to ensure these are highlighted in that section.

ALWAYS REMEMBER THE CANDIDATE SHOULD START WITH THE 4 Ss

Safety of the staff and patient

Setting for the environment and patient

Stimulate the patient for response

Shout for help

Begin Scenario

SETTING THE SCENE: You are asked to see a baby aged 7-days in outpatients' because he is very sleepy. **WHAT DO YOU DO?**

#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
1	Observe the baby in his mother's arms	The infant is very drowsy	
2	Ask the mother to stimulate the baby	The baby makes a weak cry but does not open his eyes and seems floppy	
3	(Setting) take the baby to a resuscitation area of the ward and stimulate the baby	The baby makes no response	
4	Call for help	Help is on the way	
5	Look in the mouth to check for obstruction	There is nothing in the mouth	
6	Open the airway (neutral position) and Look, Listen and Feel for breathing	The baby is breathing; the breathing is not noisy	
7	Check for other signs of respiratory distress: Head nodding Crackles Grunting Nasal flaring Cyanosis Respiratory rate Pulse oximetry Indrawing / acidotic breathing	<ul style="list-style-type: none">• There are no signs of respiratory distress• RR is 48 b/min• There is no pulse oximeter	
8	Assess large pulse, warmth of hand	<ul style="list-style-type: none">• There is a fast pulse, PR = 150 bpm• The baby's colour is good, his hands are warm	

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#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
9	Check for other signs of circulation: Pallor Peripheral pulse Cold hands Capillary refill time	<ul style="list-style-type: none"> • There is no palmar pallor • The peripheral pulse is easy to feel • The capillary refill time is 1 second 	
10	Coma convulsions: establish level of consciousness (AVPU)	<ul style="list-style-type: none"> • Baby makes no response to his mother's voice and makes a weak cry to a painful stimulus • AVPU = P 	
11	What do you do now?	<ul style="list-style-type: none"> • Establish IV access • Measure weight: weight is 3.0 kg • Take bloods: blood sugar, MPs (blood culture, FBC, U&Es, if possible) 	
12	What do you need to be able to measure the blood glucose?	<ul style="list-style-type: none"> • Gloves • Alcohol • Cotton swab • New lancet • Glucometer • Glucometer strips 	
13	Before pricking the baby, what do you check concerning the glucometer?	<ul style="list-style-type: none"> • Check that the strips are in date • Switch the glucometer on and put a strip into the strip slot on one end of the glucometer • The screen should light up with text 	
14	Where on the baby will you take the blood sample?	Outer side of the heel of the foot	
15	Please show me how you measure the blood glucose	<ul style="list-style-type: none"> • Put on gloves • Clean the skin to be punctured with an alcohol swab, let the skin dry • If not already done, insert glucometer strip into glucometer and ensure it is turned on • Prick the swabbed outer edge of the heel • Collect the blood drop on the tip of the glucometer strip • Apply pressure to stop the bleeding • Read the result 	
16	The reading is glucose 1 mmol/L. What do you do?	The baby weighs 3.0 kg and needs an IV bolus of 2 mL/kg 10% glucose	
17	What do you do now?	<ul style="list-style-type: none"> • Dispose of used glucose stick and wash hands • In the patient's notes document: the date, time, and blood glucose result, and, if appropriate, how much 10% glucose has been given 	
18	What do you do next?	Full history and examination	
19	When will you recheck the glucose?	After 15 minutes <ul style="list-style-type: none"> • Glucose is now 10 mmol/L – This is OK 	
21	Now, when will you recheck the glucose?	Every 4 hours	
22	This baby has just had his glucose checked What complications should you look for?	<ul style="list-style-type: none"> • Bruising • Bleeding • Infection • (nerve, bone injury) 	
23	Please show me how to clean the glucometer	Wipe down the glucometer with 70% alcohol (be careful not to drip alcohol in the glucometer strip reading slot)	

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#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
24	Please show me how to calibrate this glucometer	<ul style="list-style-type: none"> Collect glucometer calibration strip (provided within set of glucometer strips) Insert glucometer calibration strip into glucometer The glucometer will automatically read this strip and calibrate itself 	
25	The glucometer does not come on What do you do?	Change the batteries or recharge the device	
26	You use the glucometer and it records a blood glucose of 24 mmol/L, but the baby looks very well to you What do you do?	<ul style="list-style-type: none"> Check the date of the glucose strips Check that the tube of unused strips if kept tightly shut between use Consider recleaning the patient's skin and retaking the measurement 	
27	What do you do if the reading is surprisingly low?	<ul style="list-style-type: none"> Check the date of the glucose strips Repeat the test 	

THANK YOU

⚠ INFECTION PREVENTION AND CONTROL

Be sure to wash your hands thoroughly and to put on gloves before handling the baby or any equipment. After every use, remember to disinfect all consumables and equipment before using them again.

Scenario end

CLINICAL SCENARIO

Glucometer 2

NAME: _____ DATE: _____

PURPOSE: Teaching / Practice
 Test Result: Pass / Fail / Retest

Scenario Overview

A 3-day old baby in the nursery has just had a seizure. The participant should assess the baby, do a blood glucose test using a glucometer, and on finding a bulging fontanelle consider an LP.

Reminder to Facilitator

Facilitator team to decide what is essential for participants' understanding; we suggest facilitator team underline or mark these essential items in the **INFORMATION/RESULT** column before beginning the session to ensure these are highlighted in that section.

ALWAYS REMEMBER THE CANDIDATE SHOULD START WITH THE 4 Ss

Safety of the staff and patient

Setting for the environment and patient

Stimulate the patient for response

Shout for help

Begin Scenario

SETTING THE SCENE: You are asked to see a 3-day old baby girl in the nursery who has had a seizure. **WHAT DO YOU DO?**

#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
1	Observe the baby in the warming cot	The infant is very drowsy	
2	Stimulate the baby	The baby makes no cry, does not open her eyes, and seems floppy	
3	(Setting) take the baby to a radiant heater and stimulate the baby	The baby makes no response	
4	Call for help	Help is on the way	
5	Look in the mouth to check for obstruction	There is nothing in the mouth	
6	Open the airway (neutral position) and Look, Listen and Feel for breathing	The baby is breathing; the breathing is not noisy	
7	Check for other signs of respiratory distress: Head nodding Crackles Grunting Nasal flaring Cyanosis Respiratory rate Pulse oximetry Indrawing / acidotic breathing	<ul style="list-style-type: none">• There are no signs of respiratory distress• RR is 60 b/min• SpO₂ = 93%	
8	Assess large pulse, warmth of hand	<ul style="list-style-type: none">• There is a fast pulse, PR = 150 bpm• The hand is hot	

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#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
9	Check for other signs of circulation: Pallor Peripheral pulse Cold hands Capillary refill time	<ul style="list-style-type: none"> • There is no palmar pallor • The peripheral pulse is easy to feel • The capillary refill time is 2 seconds 	
10	Coma convulsions: establish level of consciousness (AVPU)	<ul style="list-style-type: none"> • She makes no response to her mother's voice nor to a painful stimulus • AVPU = U 	
11	What do you do now?	<ul style="list-style-type: none"> • Establish IV access • Measure weight: weight is 2.5 kg • Take bloods: blood sugar, MPs (blood culture, FBC, U&Es, if possible) 	
12	What do you need to be able to measure the blood glucose?	<ul style="list-style-type: none"> • Gloves • Alcohol • Cotton swab • New lancet • Glucometer • Glucometer strips 	
13	Before pricking the baby, what do you check concerning the glucometer?	<ul style="list-style-type: none"> • Check that the strips are in date • Switch the glucometer on and put a strip into the strip slot on one end of the glucometer • The screen should light up with text 	
14	Where on the baby will you take the blood sample?	Outer side of the heel of the foot	
15	Please show me how you measure the blood glucose	<ul style="list-style-type: none"> • Put on gloves • Clean the skin to be punctured with an alcohol swab, let the skin dry • If not already done, insert glucometer strip into glucometer and ensure it is turned on • Prick the swabbed outer edge of the heel • Collect the blood drop on the tip of the glucometer strip • Apply pressure to stop the bleeding • Read the result 	
16	The reading is glucose 2 mmol/L. What do you do?	The baby weighs 2.5 kg and needs an IV bolus of 2 mL/kg 10% glucose	
17	What do you do now?	<ul style="list-style-type: none"> • Dispose of used glucose stick and wash hands • In the patient's notes document: the date, time, and blood glucose result, and, if appropriate, how much 10% glucose has been given 	
18	What do you do next?	Full history and examination	
19	On full examination you find the baby has a full fontanelle and an axillary temperature of 38°C. On re-listening to the chest, there are fine crepitations in the lungs What does this baby need?	This baby needs a lumbar puncture and IV antibiotics	
20	What do you do next?	<ul style="list-style-type: none"> • Check glucose • Glucose is now 5 mmol/L – This is OK • Put the baby on IV maintenance fluids of 10% glucose 	
21	When will you recheck the glucose?	Every 4 hours	
22	This baby has just had her glucose checked What complications should you look for?	<ul style="list-style-type: none"> • Bruising • Bleeding • Infection • (nerve, bone injury) 	

continue to the following page 

#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
23	Please show me how to clean the glucometer	Wipe down the glucometer with 70% alcohol (be careful not to drip alcohol in the glucometer strip reading slot)	
24	Please show me how to calibrate this glucometer	<ul style="list-style-type: none"> Collect glucometer calibration strip (provided within set of glucometer strips) Insert glucometer calibration strip into glucometer The glucometer will automatically read this strip and calibrate itself 	
25	The glucometer does not come on What do you do?	Change the batteries or recharge the device	
26	You use the glucometer and it records a blood glucose of 30 mmol/L, but the baby looks very well to you What do you do?	<ul style="list-style-type: none"> Check the date of the glucose strips Check that the tube of unused strips is kept tightly shut between use Consider recleaning the patient's skin and retaking the measurement 	
27	What do you do if the reading is surprisingly low?	<ul style="list-style-type: none"> Check the date of the glucose strips Repeat the test 	

THANK YOU

INFECTION PREVENTION AND CONTROL

Be sure to wash your hands thoroughly and to put on gloves before handling the baby or any equipment. After every use, remember to disinfect all consumables and equipment before using them again.

Scenario end

CLINICAL SCENARIO

Glucometer 3

NAME: _____ DATE: _____

PURPOSE: Teaching / Practice
 Test Result: Pass / Fail / Retest

Scenario Overview

A 4.5 kg baby born by caesarean section to a diabetic mother is brought to the nursery. The participant should assess the baby, do a blood glucose test, and clean the glucometer after use. A glucose monitoring plan is discussed.

Reminder to Facilitator

Facilitator team to decide what is essential for participants' understanding; we suggest facilitator team underline or mark these essential items in the **INFORMATION/RESULT** column before beginning the session to ensure these are highlighted in that section.

ALWAYS REMEMBER THE CANDIDATE SHOULD START WITH THE 4 Ss

Safety of the staff and patient

Setting for the environment and patient

Stimulate the patient for response

Shout for help

Begin Scenario

SETTING THE SCENE: A 4.5 kg baby is brought to the nursery for observation. He was born by LSCS to a diabetic mother, you are asked to examine him. **WHAT DO YOU DO?**

#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
1	Observe the baby lying in the cot	The infant is very pink and looks very large compared to the other babies on the ward	
2	Stimulate the baby	The baby is active and opens his eyes	
3	(Setting) the baby seems settled in the cot	The baby makes no response	
4	Call for help	No help is needed	
5	Look in the mouth to check for obstruction	There is nothing in the mouth	
6	Open the airway (neutral position) and Look, Listen and Feel for breathing	The baby is breathing; the breathing is not noisy	
7	Check for other signs of respiratory distress: Head nodding Crackles Grunting Nasal flaring Cyanosis Respiratory rate Pulse oximetry Indrawing / acidotic breathing	<ul style="list-style-type: none">• There are no signs of respiratory distress• RR is 45 b/min• SpO₂ = 94%	
8	Assess large pulse, warmth of hand	<ul style="list-style-type: none">• PR = 140 bpm• The hand is warm	

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#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
9	Check for other signs of circulation: Pallor Peripheral pulse Cold hands Capillary refill time	<ul style="list-style-type: none"> • There is no palmar pallor • The peripheral pulse is easy to feel • The capillary refill time is 1 second 	
10	Coma convulsions: establish level of consciousness (AVPU)	<ul style="list-style-type: none"> • She makes no response to her mother's voice nor to a painful stimulus • AVPU = A 	
11	What do you do now?	<ul style="list-style-type: none"> • Establish IV access • Measure weight: weight is 4.5 kg • Take bloods: blood sugar, MPs (blood culture, FBC, U&Es, if possible) 	
12	What do you need to be able to measure the blood glucose?	<ul style="list-style-type: none"> • Gloves • Alcohol • Cotton swab • New lancet • Glucometer • Glucometer strips 	
13	Before pricking the baby, what do you check concerning the glucometer?	<ul style="list-style-type: none"> • Check that the strips are in date • Switch the glucometer on and put a strip into the strip slot on one end of the glucometer • The screen should light up with text 	
14	Where on the baby will you take the blood sample?	Outer side of the heel of the foot	
15	Please show me how you measure the blood glucose	<ul style="list-style-type: none"> • Put on gloves • Clean the skin to be punctured with an alcohol swab, let the skin dry • If not already done, insert glucometer strip into glucometer and ensure it is turned on • Prick the swabbed outer edge of the heel • Collect the blood drop on the tip of the glucometer strip • Apply pressure to stop the bleeding • Read the result 	
16	The reading is glucose 3 mmol/L. What do you do?	<ul style="list-style-type: none"> • The baby weighs 4.5 kg and is well • Encourage frequent breast feeds 	
17	What do you do now?	<ul style="list-style-type: none"> • Dispose of used glucose stick and wash hands • In the patient's notes document: the date, time, and blood glucose result 	
18	What do you do next?	Full history and examination	
19	When will you recheck the glucose?	After 2 hours <ul style="list-style-type: none"> • Glucose is now 4 mmol/L – This is OK • Encourage breast feeding 	
20	On full examination of this child of a diabetic mother what are you looking for?	Look for other problems that infants of diabetic mothers can have such as infection, polycythaemia, jaundice	
21	When will you recheck the glucose?	4 hourly for 24 hours	
22	If the baby remains well with normal blood sugars, what will you do?	Check blood glucose every 8 hours for next 24 hours, and if remains well, give the baby to mother after 48 hours	
23	This baby has just had his glucose checked What complications should you look for?	<ul style="list-style-type: none"> • Bruising • Bleeding • Infection • (nerve, bone injury) 	

continue to the following page 

#	ACTION REQUIRED	INFORMATION / RESULT	COMMENTS:
24	Please show me how to clean the glucometer	Wipe down the glucometer with 70% alcohol (be careful not to drip alcohol in the glucometer strip reading slot)	
25	Please show me how to calibrate this glucometer	<ul style="list-style-type: none"> Collect glucometer calibration strip (provided within set of glucometer strips) Insert glucometer calibration strip into glucometer The glucometer will automatically read this strip and calibrate itself 	
26	The glucometer does not come on What do you do?	Change the batteries or recharge the device	
27	You use the glucometer and it records a blood glucose of unrecordable, but the baby looks very well to you What do you do?	<ul style="list-style-type: none"> Check the date of the glucose strips Check that the tube of unused strips is kept tightly shut between use Consider recleaning the patient's skin and retaking the measurement 	
28	What do you do if the reading is surprisingly low?	<ul style="list-style-type: none"> Check the date of the glucose strips Repeat the test 	

THANK YOU

INFECTION PREVENTION AND CONTROL

Be sure to wash your hands thoroughly and to put on gloves before handling the baby or any equipment. After every use, remember to disinfect all consumables and equipment before using them again.

Scenario end

Disclaimer

Newborn Essential Solutions and Technologies–Education Clinical Scenarios:
Glucometer

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