

## Nursing questionnaire

**General instructions:** If answers are given but none of them appear on the list then select ‘none of the above’. In some cases, as specified in specific instruction, ‘none of the above’ should also be selected when the correct answer is given but along with incorrect answers (i.e. one correct answer was required, several answers were given, only one of which was the correct answer). If the nurse says that they do not know then select ‘Don’t know’. Introduce each section before you begin.

**Explain:** There are four sections to this interview. I will begin with asking a few questions about you: your position and training. There will then be questions about guidelines for how care should be given in different situation. This section will have a mixture of specific questions and scenarios. This second section will be followed by two shorter sections: one asking for your experience of which interventions are used at this facility and the final section will ask about the availability of equipment. Please feel free to ask for a break or ask questions at any point.

**Prompting and clarification:** For questions and vignettes in section 2, we are interested to know if the nurse has the knowledge. It is therefore important that they are clear about the question. We want to avoid incorrect answers being given due to confusion over the question rather than inability to correctly answer. However, it is also important that we don’t over-explain or prompt such that we give the answer away or help the nurse to get the correct answer. Therefore, instructions about prompting are given throughout this SOP. For neutral prompts, please consider the following phrases: ‘What do you mean by x’, ‘Please elaborate on what you mean’, ‘Tell me about x’.

In cases where you are unsure if the answer provided by the nurse is the same as the answer in your list or if they provide a vague answer, ask for clarification. Do not presume that they know the correct answer when they have said something vaguely similar to the answer in the list. It is always possible to ask them to clarify what they mean until you are confident of how their response matches to the answer options.

**Vignettes/scenarios:** Please refer to SOP5.2. Where you have described a scenario to the nurse, emphasis the key details of the scenario and ask the nurse to repeat the scenario back to you to ensure that they understand.

### Section 1: Personal details

**Explain:** I will begin by asking a few questions about yourself.

Field	Instruction
Unique ID	This is an eight digit number that acts as a unique identification number for each record. It is composed of the hospital ID, the data clerk ID, and then the first record to be entered at each facility proceeds from 0001. You will only have to enter this number for the first record at each hospital, starting with [hospital ID][clerk ID][4-digit number starting with 0001], RedCap will then auto-generate the unique ID for subsequent records
Today’s date	Press the button ‘Today’ and the date will be automatically generated
Nurse on duty on the maternity ward?	When you identify the nurses to be interviewed, you should have a selection of nurses from the maternity ward and from the newborn unit/those caring for sick inpatient newborns. Select ‘yes’ to indicate the category of nurse you are interviewing. This should represent their primary responsibilities on the day of selection for the interview.  If the interview is started on a day that they are on duty on the maternity ward but you come back to complete the interview on another day when they have moved to the newborn unit, maintain to consider them as a ‘maternity ward nurse’ (and vice versa).
Nurse on duty to care for sick inpatient newborns?	For some smaller facilities, the same nurse may have dual responsibility for the maternity ward and newborn unit *at the same*. In this case, select yes for both maternity ward and care for sick inpatient newborns. Note: this does not apply to nurses who rotate between different shifts, only if they have dual responsibility during the same shift.  How these answers are selected will determine what questions in the questionnaire they are asked, so choose carefully.

Question	Instruction
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1.1	Sex	Select whether the nurse is male or female
1.2	Age	Ask the nurse which age bracket she falls into and select appropriately
1.3	Type of nurse currently practicing as	Ask the nurse what type of nurse he/she is currently practicing as. Select only one option unless they are a student. If student, also tick the course for which they are training. E.g. select 'student' and 'Diploma nurse' if they are a student training to become a diploma nurse or if they are a midwifery nurse then select 'student' and 'specialist nurse' and 'midwifery nurse' from the type of specialist nurse field below. However, if the nurse already is qualified (e.g. diploma) and a student doing further training for a higher qualification (e.g. degree), then select the qualification that they have completed and are thus practicing as (i.e. diploma).  Prompt to ask if they are a specialist nurse. If so, select the level of education they have (e.g. diploma, degree, etc) and 'specialist nurse' and then select the type of specialty from the list below.
1.4	Other, please specify	If you select 'other' for 1.3 then please specify the type of nurse here.
1.5	Type of specialist nurse	If you select 'specialist nurse' for 1.3 then please specify the type of specialist nurse here. If the specialty is not on the list, then please make a note in the comment bubble.
1.6	Permanent staff?	If the nurse is a permanent member of staff then select 'yes', if they are instead locum/temporary then please select 'no'
1.7	Number of years of service as a nurse?	Specify the total numbers of years that the nurse has been working as a qualified (not student or intern) nurse of any type. For example, if the nurse first trained as a diploma nurse and worked for 2 years and then did further training to become a degree nurse and worked for 10 years, please enter 12. If the nurse is a student or intern and has never qualified as a nurse, please enter 0. If they cannot recall, ask them to approximate. You may enter this number with decimal places. E.g. two and a half then enter 2.5.
1.8	Number of years at current facility	Write in years. If they have worked there for less than a year then write 0.
<b>Have you received additional training in:</b>		Ask the nurse if they have received training in any of the following (1.7 to 1.11) AFTER they qualified as a nurse (/outside of the context of their original training). If they answer no they have not done the training, or if they do not know what the training is, then select 'no'. If they reply yes to any of the courses, then ask if the training was in the last 12 months. If the training was in the last 12 months then select 'Yes, in the last 12 months'. If it was not in the last 12 months then select 'Yes, since qualifying but more than 12 months ago'.
1.9	Newborn resuscitation?	
1.10	Essential newborn care?	
1.11	Emergency Triage Assessment and Treatment plus (ETAT+)?	
1.12	Emergency Obstetrics and Neonatal care (EMONC)?	
1.13	Advanced Life Support in Obstetrics (ALSO)?	

## Section 2: Knowledge of interventions

### 2A: Routine newborn care

*(only appears if nurse is on duty in the maternity ward)*

**Explain:** Since you are on duty in the delivery ward, I will ask you questions about the care that should be given to a newborn directly after delivery and to the mother. Please answer these questions in accordance to what you think **should** be done according to guidelines. Let's begin with questions about the routine care of newborns.

	Answer	Instruction
<b>Immediate postnatal care</b>		
2.1	<b><i>If a delivery is normal and the liquor is not stained with meconium, please tell me what steps you should take for immediate care of the baby within the first few minutes after delivery. Please focus on the baby, not the mother.</i></b>	Read the situation to the nurse. Ask them to repeat the situation back to you. Select the answers given.  For the APGAR elaboration, select 'reflex irritability' if the nurse responds that the baby reacts to a stimulus. So for example 'coughing, grimace, sneezing, etc' are ok answers but only if they are mentioned as reactions to a stimulus. If needs be, ask 'why'. E.g. if the response is 'check for coughing', ask them why they would check this. If you are confident that it is because they are looking for a reaction to a stimulus then select this answer.
2.2	Elaboration: How (else) do you check the baby's condition/APGAR	If, in answer to maintaining warmth, an answer of 'put the baby close to the mother' is given, then ask for elaboration i.e. tell me more about specifically what you mean.
2.3	Elaboration: What (other) steps should be taken to maintain warmth of a healthy newborn?	
2.4	<b><i>The baby appears to be entirely well, what routine care should be planned immediately and on the first day in your normal practice, including prophylactic treatment.</i></b>	
2.5	Elaboration: When should breastfeeding be initiated?	For vitamin K, there is an alternative guideline for an oral regime. If the nurse says that they use oral vitamin K then say you are interested to know if they know about the intramuscular dose. If they do not know and this is because they instead use the oral regime, then tick 'Don't know because we use oral vitamin K'  For 'types of vaccines' just 'polio vaccine' is acceptable for 'oral polio vaccine'
2.6	Elaboration: What is the recommended dose of intramuscular vitamin K for full-term appropriate weight baby?	You may find it easier to allow the nurse to tell you what they want to without interruption and then, when they have finished, ask for the elaborations that were not given. E.g. allow the nurse to say 'give vaccinations, initiate breastfeeding, and administer vitamin K' and then ask, 'you mentioned giving vaccinations, which ones would you give' etc.
2.7	Elaboration: What type of eye drops/ointment is recommended?	If the nurse replies that they are not responsible for this care, it is instead done on the postnatal ward, then ask them about what they know should be done according to their training. If they insist, then select 'don't know' and move on.
2.8	Elaboration: Which vaccines should be given?	
2.9	Elaboration: With what should the umbilical cord be cleaned?	
2.10	Other umbilical cord cleaning solutions	If other solutions are mentioned for cleaning the umbilical cord, please specify here. If you are unsure about what they said, ask them to repeat and spell if necessary. If there is more than one other solution, then be sure to separate each with a colon. E.g. solution1 : solution2 : solution 3 : etc

**If answers to any of the following questions have already been given during questions 2.1-2.10 then the question will not appear in RedCap.**

	Question	Instruction
<b>Immediate postnatal care</b>		
2.11	Immediately after birth, how should the baby's condition be checked?	Select answers provided. Select 'reflex irritability' if the nurse responds that the baby reacts to a stimulus. So for example 'coughing, grimace, sneezing, etc' are ok answers but only if they are mentioned as reactions to a stimulus. If needs be, ask 'why'. E.g. if the response is 'check for coughing', ask them why they would check this. If you are confident that it is because they are looking for a reaction to a stimulus then select this answer.
2.12	What steps should be taken to maintain warmth of a healthy newborn?	Accept answers which are in line with the general principle.
2.13	When should the cord be clamped?	The nurse should understand that the cord should not be clamped immediately after birth for the answer to be selected.
2.14	With what should the umbilical cord be cleaned?	Select the answer provided. If another cleaning solution is given then select 'other' and specify in the next field.
2.15	Other umbilical cord cleaning solutions	This will only appear if 'other' is selected for 2.14. Please specify the solution mentioned. If you are unsure about what they said, ask them to repeat and spell if necessary. If there is more than one other solution, then be sure to separate each with a colon. E.g. solution1 : solution2 : solution 3 : etc
2.16	What is the definition of low birth weight for a term newborn?	This is a strict answer. Only accept answers that explicitly mention that the threshold is 2.5kg (or 2500g) and the baby must be lower weight than the threshold. Note: less than 2.5kg DOES NOT mean that any answer under 2.5 (e.g. 1.5) is acceptable.
<b>Infection management</b>		
2.17	In what circumstance should you order a rapid (antibody) HIV test for a newborn or the mother?	You may need to explain what you mean by a rapid antibody test. 'It is the finger prick test where you get the answer straight away.'  If they answer that they wouldn't perform this test on a newborn but would instead test the mother, then say in a hypothetical situation where the mother is not available. If they press further to say that the test cannot be done without consent of the mother, then say that consent has been given by another appropriate family member e.g. the father.  Acceptable answers must show that the nurse understands that it is used when the status of the mother is unknown/the exposure status of the newborn is unknown/not sure if the mother may have infected the baby.
2.18	In what circumstance should you order a PCR HIV test for a newborn?	You may need to explain what you mean by a PCR HIV test. 'This is the blood test for HIV that you send to the lab for analysis.'  Acceptable answers must show that the nurse understands that this test is used when we know that the baby has been exposed to HIV from the mother because the mother is HIV positive or the rapid HIV test was positive (the test is used to confirm whether or not the baby has the virus in its blood – this information does not need to be specified).
<b>Breastfeeding</b>		
2.19	When is it most appropriate to initiate breastfeeding after birth?	Acceptable answers are 'as soon as possible', 'immediately' and 'within the first hour after birth' or similar interpretations. If asked, this is for healthy baby and mother.
2.20	If a newborn is unable to breastfeed but the mother is producing milk, what type of feed should the newborn be given?	Please select the answer if given by the nurse.
2.21	If a mother experiences that she is not producing enough breast milk during the first few days after delivery, what should you do for her and the newborn?	Please select the answers as given by the nurse, allowing for interpretation as follows:  'Assess her technique' includes mention of checking latching, position of baby or anything similar that would suggest that the nurse would check to see if the mother is trying to breastfeed properly.  'Examine the breasts and ensure there is no engorgement or infection' includes anything that would suggest that the nurse would make sure that the breasts are healthy and/or there is no obstruction to the milk flow.

		<p>'Help her with manual expression of breast milk' includes massage of the breast or anything that indicates that the nurse is physically trying to help with milk expression.</p> <p>'Give the newborn formula while waiting for milk production to start – as a last resort' must only be selected if you are confident that the nurse is suggesting milk formula only while they are trying to solve the problem of breastfeeding.</p> <p>If 'give formula' is provided as an answer and it appears that there is no indication that they mean that formula should only be given as they are trying to solve the problem of breastfeeding, and thus is not ideal, then select 'give formula (no indication that this should be as a last resort)'.</p>
2.22	For how long should a mother ideally continue to exclusively breastfeed her child?	The focus of this question is on 'ideally', so if the nurse starts to say that it depends on the situation, then ask what the recommendation is in an ideal situation with a healthy mother and baby.

## 2B: Newborn resuscitation – maternity ward

*(only appears if nurse is on duty in the maternity ward)*

**Explain:** I will now ask a set of questions about newborns with complications. Again, please answer these questions in accordance to what you think **should** be done according to guidelines.

	Answer	Instruction
	<p><i>I will tell you a situation and ask some step-wise questions, please respond by telling me what your normal practice is.</i></p> <p><b>A near or full term baby has just been delivered. There is no signs of meconium stained liquor, but the baby does not cry and makes no movements. The cord has just been clamped and cut but nothing else has yet been done.</b></p>	<p>Read the situation to the nurse. Ask them to repeat the situation back to you. Make sure to give the nurse time to consider the situation before beginning the questions.</p> <p>You can emphasis by saying that the newborn is completely flat.</p>
2.23	<p>What are the very first things you should do for this baby?</p>	<p>Acceptable answers for ‘stimulate the baby’ are also rub the chest, massage, or similar. Acceptable answers for ‘observe the baby’ include ‘check the baby’s condition’ and APGAR.</p> <p>If ‘observe the baby’ is mentioned, then select this answer, ask for elaboration, and select answers in the field below that will appear. If the nurse straight away mentions observe tone, colour, cry, or breathing effort, then select ‘observe the baby’ and then the specific observations from the elaboration field below.</p> <p>Only select ‘wrap in new/warm cloth/towel with chest exposed’ if the nurse includes the detail that the chest would be exposed/visible; just wrapping is not adequate.</p> <p>Skipped straight to ABC: Do not read out the next question, just tick ‘check the airways’ if this has been mentioned. If breathing was also straight away answered, then do not ask ‘what should you check after you have checked the airways’, just straight away tick ‘check the breathing’. Do ask for the airways and breathing elaborations.</p> <p>Skipped straight to resuscitation: If the nurse straight away starts to describe resuscitation or says ‘resuscitate’ then tick this option. The next question will now be ‘what should you do if the baby is not breathing at all but the airways are clear’. Do not read out this question, just select the answer option ‘resuscitate’ and continue with the questions.</p>
2.24	<p>Elaboration: What (else) should you observe the baby for?</p>	<p>Acceptable answers for ‘observe for muscle tone’ might be observe for tone, check if the baby is floppy, observe level of activity/movement, or similar. Acceptable answers for ‘observe colour’ might be ‘observe skin colour’, ‘check if the baby is pale’, or ‘look for pallor’. If ‘appearance’ is mentioned, ask for clarification.</p> <p>Acceptable answers for ‘observe for breathing effort’ include ‘check breathing’, ‘check respiration’, or similar.</p>
2.25	<p>You have dried, wrapped, stimulated, observed the baby and kept them warm, but the baby still seems to be unresponsive, what should you first check?</p>	<p>Select the answer if given.</p>
2.26	<p>Elaboration: How should the airways be checked?</p>	<p>Check the mouth/check for secretions may also be answered as ‘look to see if the mouth is clear/isn’t blocked’ or something that provides the same meaning.</p> <p>In order to select ‘open the airways by positioning the head in neutral position’ the detail of the positioning of the head must be given ‘open the airways’ is inadequate on its own and unessential to be mentioned with information about positioning.</p> <p>In order to select ‘suction the airways if visibly blocked’ it must be stated that this will only be done if the airways are blocked. ‘suction of the airways’ without reason to believe that they are blocked is wrong and must not be selected.</p>
2.27	<p>What should you check after you have checked the airways?</p>	<p>Select the answer if given.</p>

2.28	Elaboration: How should the breathing be checked?	Select the answers if the essence of what the nurse is describing is the same as the options provided. Either 'listen' or 'feel' for air movement is adequate.
2.29	What should you do if the baby is not breathing at all but the airways are clear?	If an answer that suggests that the nurse would resuscitate is given, then select the answer and move to the next question that will appear to request steps of resuscitation. If the nurse straight away described the steps of resuscitation, then select the answer here and move to selecting the answers given in the new field that appears below.
2.30	What steps should you take to resuscitate a baby that is not breathing at all but the airways are clear? Please list these steps in the correct order.	<p>For this question, the order to the steps must be retained. For example, if they answer with steps 2-6 and then say 'call for help' as the last answer, then do not select 'call for help' as having been provided as an answer. However, if the nurse corrects themselves while still addressing the same question, then accept the answer. It is ok if steps are skipped, as long as the order is maintained e.g. if they say steps 1,3,4, and 6. Then select these as answers even though 2 and 5 are missing. But if they answer 1, 4, 3, 6, 5, then select only 1, 3, and 5 (4 and 6 are in the wrong order).</p> <p>The nurse may answer 'get the resuscitation tray', you should prompt to ask what the resuscitation tray is for. Generally, prompting is allowed if you think that the answer being given may be the answer on your list but you want to be sure (in this case, they are likely looking for a mask from the resuscitation tray. However, you must not prompt them to provide answers that they have not mentioned or have only partially answered. Your prompt must be neutral and not lead them to the correct answer.</p> <p>For 'get a correct size mask', 'get a mask/Ambu bag' is not sufficient, reference must be made to the size of the mask. This can be 'the correct size' or 'infant size' or 'size 0' or 'size 1'. Alternatively, they may not mention the size of the mask but instead specify that it should fit. For 'Seal the mask...' all of these details need not be provided, however there should be indication that the mask will be sealed well to the face. Simply 'put mask on face' is not adequate, they must indicate that they would check the seal/fit or use the correct size mask. If the nurse replies only with 'use a mask/get a mask/mask and bag' without mention of fit then ask them to elaborate on what they mean and ask for details.</p> <p>For 'watch the chest rise', any explanation of checking that the air is going into the chest is ok. For example, observe if the breaths were successful.</p> <p>In order for 're-assess after 1 minute' to be selected, then the timeframe of 'after 1 minute' must be specified.</p>
2.31	During resuscitation, at what rate should you ventilate?	<p>This question is both an elaboration and a stand-alone question. If 'ventilate' is answered for 2.29 then ask this as an elaboration. If 'ventilate at 30-50 breaths per minute' is given for 2.29 then do not ask this question but select the answer. If 'ventilate' is not answered in 2.29, this will be a stand-alone question.</p> <p>Any answer within the range 30 to 50 (inclusive) is acceptable. Providing the range 30-50 is also acceptable.</p>

## 2C: Routine maternity care

(only appears if nurse is on duty in the maternity ward)

**Explain:** We will now move on to some questions about routine care of the mother during and after labour. As before, please answer these questions in accordance to what you think **should** be done according to guidelines.

	Question	Instruction
<b>Intrapartum care</b>		
2.32	How should a mother be actively managed immediately after the birth of a baby? i.e. What are the components of active management of third stage of labour, please list.	Explain what third stage of labour is: Third stage of labour is the time immediately after the baby is born to the birth of the placenta (after birth).  If the nurse immediately says "I don't know", then select 'don't know' and move on to the next question.  If an answer is given and you are unsure if they really mean 'uterine massage' then ask for clarification.
	Elaboration: How long after delivery should the uterotonic/oxytocin be given?	If there is mention of administration of an uterotonic drug/oxytocin/syntocinon, then ask for elaboration on how long after delivery it should be given. Select the reply to the elaboration is the field below, which will appear when you select 'administration of an uterotonic drug/oxytocin' in the main question. If they straight away specify administer an uterotonic drug/oxytocin within one minute, then select the answer from the main question and the elaboration without asking when the drug should be administered. If they straight away specify administer an uterotonic drug/oxytocin within two minutes (or another time), then select the answer from the main question but select 'none of the above' from the elaboration (because 2 minutes is incorrect).
	Elaboration: How should the placenta be delivered?	Similarly, if delivery of the placenta is mentioned then select the answer, ask how, and select the response from the elaboration that will appear below. (apply the same logic as above). Description of controlled cord traction is acceptable rather than the actual term being used, e.g. 'pull on the cord' is ok.
	Elaboration: How often and for how long should uterine massage be done?	Similarly, if uterine massage is mentioned then select the answer, ask how often and for how long, and select the responses from the elaboration that will appear below. (apply the same logic as above) If one detail of uterine massage is mentioned (e.g. uterine massage every 15 minutes) <u>without prompting</u> , then select 'uterine massage' from the main question, select the detail given (e.g. 'every 15 minutes') from the elaboration field below, and ask for elaboration on the missing detail (e.g. for how long the uterine massage is done).
2.33	How long after delivery should the uterotonic/oxytocin be given?	This will only appear if not answered above.
2.34	What is the recommended dose and route for oxytocin administration immediately after delivery of the baby?	Select '10 units' only if given as a singular answer. If multiple answers are given, even if 10 units is among them, then ask what the singular recommendation is. The same applies for the route, only accept 'intramuscular' as a singular answer.  Select 'None of the above' if the response(s) given do not include 10 units or intramuscular for dose and route, respectively.
<b>Management of post-partum haemorrhage</b>		
2.35	Please tell me all of the things you should do to manage severe post-partum haemorrhage. Please list..	Specify that the nurse is to list <b>all</b> interventions that should be done by the nurse or one of the nursing team members to manage severe post-partum haemorrhage.  Select each intervention listed if it is among the options provided, whether the intervention would be executed by the nurse or the nurse says he/she would request a team member to execute the intervention.  If the nurse just says they would call the doctor, ask how she would manage the mother while waiting for the doctor or if no doctor was available.



		<p>The order to the responses is not important; select all that are mentioned regardless of their order.</p> <p>If 'fix IV access' is mentioned, then ask for elaboration. Only select 'fix two large bore cannulae' if these details are given.</p> <p>If 'check haemoglobin' or another lab test is mentioned, then select 'draw samples for labs'.</p>
<b>Management of hypertension in pregnancy</b>		
2.36	Which drugs are recommended for lowering severely elevated blood pressure > 160/110mmHg in a pregnant women before labour?	<p>Ask the nurse to list all drugs he/she knows are used for treating severely elevated blood pressure in pregnant women. Brand names are also acceptable. The following are equivalent: [hydralazine=apresoline], [nifedipine=adalat=nifelat], and [labetolol=trandate=normodyne]. If you are unsure if the answer given might be a brand name for one of the answer options then note the response in the comment box.</p> <p>Emphasis if necessary that this women is not yet on the labour ward.</p>
2.37	What is the recommended drug for management of eclamptic convulsions?	If the answer 'magnesium sulphate' is selected then questions 2.38 to 2.41 will automatically appear, otherwise, they will not appear.
2.38	What is the recommended <b>*loading*</b> dose, route, and timeframe over which magnesium sulphate should be administered for management of eclampsia?	<p>The nurse may give two responses to this question without prompting, such as: 4 g intravenous infusion over 5-20 minutes or 4g intravenously followed by 5g intramuscularly in each buttock. In this case, select the third option 'both regimes'. If only one of these responses is given, ask if there is second way and dose for giving the magnesium sulphate loading dose. Select only the dose/route listed by the nurse.</p> <p>If only one or two sections of the answer (dose and/or route and/or timeframe) is correct but the other is incorrect, do not select the answer. If only one or two sections of the answer are given and the other(s) omitted, then ask again for the missing part (e.g. the dose and route are given, then ask again for the timeframe)</p> <p>The timeframe need not be explicitly given as '5-20' any timeframe within 5-20 minutes is fine. I.e. 5 minutes or 15-20 minutes are both correct.</p> <p>Be keen on units, the units here are grams, not milligrams. If units are given incorrectly then the answer is wrong and should not be selected.</p>
2.39	What is the recommended <b>*maintenance*</b> dose, route, and timeframe over which magnesium sulphate should be administered for management of eclampsia?	<p>If two correct responses are given, select the third option 'both regimes'. If only one correct response is given, such as 1-2g intravenously per hour or 5g intramuscularly 4 hourly, then ask if there's a second route /dose for administering the maintenance dose.</p> <p>If only one or two sections of the answer (dose and/or route and/or timeframe) is correct but the other is incorrect, do not select the answer. If only one or two sections of the answer are given and the other(s) omitted, then ask again for the missing part (e.g. the dose and route are given, then ask again for the timeframe)</p> <p>Be keen on units, the units here are grams, not milligrams. If units are given incorrectly then the answer is wrong and should not be selected.</p>
2.40	For how long should the maintenance dose of magnesium sulphate be given during management of eclampsia?	Select appropriately. If the response is 24 hours and no further details are given, then prompt by asking from when/what are these 24 hours counted.
2.41	What should be monitored while administering magnesium sulphate for eclampsia to check for magnesium sulphate toxicity?	<p>Select the answers that are given.</p> <p>If 'electrolytes' are said, ask for elaboration.</p>
<b>Maternal resuscitation</b>		
2.44	What 4 priority things should you do if you noted a pregnant mother who was severely ill has collapsed? Please list stepwise in the correct order.	For this question, the order to the steps must be retained. For example, if they answer with steps 2-4 and then say 'call for help' as the last answer, then do not select 'call for help' as having been provided as an answer. However, if the nurse corrects themselves while still addressing the same question, then accept the answer. It is ok if steps are skipped, as long as the order is maintained e.g. if they say steps 1 and 4. Then select these as answers even though 2 and 3

		<p>are missing. But if they answer 1, 4, 3, 2 then select only 1 and 4 (3 and 2 are in the wrong order). i.e. do not move backwards on the list.</p> <p>For each of the airways, breathing, and circulation answer options, all details must not be given, just an indication that they understand the principle of ABC is ok. If they just say check ABC, ask what they mean by that.</p>
2.45	How should the airway be kept patent for a collapsed pregnant women?	Ask the nurse to describe how the airway is kept patent. The head is tilted up and the chin lifted to achieve extension of the head. Refer to the appendix for an illustration.
2.46	What additional positioning is necessary during resuscitation for gravid mothers beyond 20 weeks gestation?	If the nurse does not know the answer <b>and asks you</b> , explain that pregnant women need a 15 to 30 degree left lateral tilt by placing a wedge under their right hip to release compression of the aorta and venacava by the pregnant uterus and therefore improve cardiac output.
2.47	When should cardiopulmonary resuscitation (CPR) be started?	Select appropriately. 'other sign of life' includes not breathing.
2.48	During cardiopulmonary resuscitation (CPR), what is the recommended target breaths and cardiac compresses per minute?	<p>If they do not know what you mean by 'target' specify that you mean 'how many compressions are given per minute during cardiopulmonary resuscitation and how many breaths per minute during cardiopulmonary resuscitation?</p> <p>Anything between 100 and 120 (inclusive) is acceptable for '100 to 120 compresses per minute'. E.g. 110 is ok.</p> <p>If instead of giving the targets per minute, a ratio of 30 compressions per 2 breaths is answered, select this answer and ask for elaboration of how many times this would be done within a minute. Select the answer from the field below</p>
3.49	Elaboration: How many times per minute should you do 30 compressions per 2 breaths during CPR?	Select the answer provided.

## 2D: Management of severely ill newborns

*(only appears if nurse is on duty in the newborn unit)*

**Explain:** Since you are on duty to look after sick newborns, I will ask you questions about the care that should be given to inpatient newborns. Please answer these questions in accordance to what you think **should** be done according to guidelines. I will begin with some specific questions and then move on to scenario questions.

	Question	Instructions
2.50	A baby 8 days old has been brought to your facility by its mother who is concerned about the babies health. What are the things you should ask the mother about regarding the illness history of the newborn to help you identify serious illness?	Read the situation to the nurse. Ask them to repeat the situation back to you. Select the answers given. If examination signs are mentioned, then prompt (only once) that you are interested to know about the history that the nurse would ask the mother about.
2.51	What are the key signs that you should be interested in during examination of this newborn patient to help you identify serious illness? Please list all that apply.	Emphasis *examination*. Clarify that you are not asking about the history but about what you would examine the baby for/look for. Select any of the answers provided. If 'difficulty breathing' is mentioned, then ask what they mean to see if they specifically mention 'severe chest wall indrawing' and/or 'fast breathing.
2.52	What should you do if jaundice is visible in a baby <12 hours old?	Select any of the answers provided.
2.53	A newborn is receiving phototherapy. The mother would like to breastfeed. Should you allow phototherapy to be temporarily stopped so that she can breastfeed her baby?	Select 'yes' if answered 'yes' or 'yes, when possible'.
2.54	A baby receiving phototherapy should be monitored, what should be checked and how frequently?	If temperature every 4 hours (or less) is answered, then select BOTH 'temperature' and 'temperature – every 4 hours'. If temperature every (e.g.) 6 hours is answered, then select 'temperature' but not the frequency as this was answered incorrectly.. The same principles apply for bilirubin and weight. If the frequency is not mentioned, prompt for the nurse to also tell you the frequency for each check they have mentioned
<b>For babies aged &lt;7 days old:</b>		<b>Explain to the nurse that the following set of questions will refer only to babies who are fewer than 7 days old.</b> Note, that answers to these questions are the same for pre-term and term newborns. If the nurse asks if you are talking about pre-term or term, reply 'either'.
2.555	How many times a day is it recommended that penicillin should be given?	Select the appropriate answer. If many answers are given, ask for the singular recommendation. Twice must be given as a singular answer to be correct.
2.56	How many times a day is it recommended that gentamicin should be given?	Select the appropriate answer. If many answers are given, ask for the singular recommendation. Once must be given as a singular answer to be correct.
2.57	On day 1 of life for a sick baby what IV fluid is recommended?	Select the appropriate answer If many answers are given, ask for the singular recommendation. 10% dextrose must be given as a singular answer to be correct.
2.58	How often should nasogastric feeds be given?	Select the answer given. If they say 2 or 3 hourly, then select both. If they say 1 or 2 hourly, then select 2 hourly, and so forth.
2.59	What should the nasogastric feed ideally be (type of feed)?	'breast milk' is adequate. If they list a number of things, then ask what should IDEALLY be given. If they still provide a list and 'expressed breast milk' is one of many answers then do not select it, instead select 'none of the above'
2.60	What is the recommended way to give oxygen to a sick baby when oxygen treatment is started?	Select the answer given. Only one answer should be accepted. If many answers are given then ask which one is recommended.

2.61	If you are using a nasal catheter / prong to give oxygen what flow rate should be used to start (in litres/min)?	Select the answer if given. As above, only a singular answer is acceptable. Any answer within the range 0.5 and 1.0 litres/minute are acceptable.
2.62	If a baby is having a convulsion and is not on treatment which anticonvulsant drug should be used first?	<p>Select the answers provided (all that apply). You may need to explain that by convulsion you mean 'fit'.</p> <p>The following drugs are equivalent: [diazepam=Valium], [phenobarbitone=solfoton=phenobarb], [phenytoin=epanutin], and [hydrocortisone=alacort=hydrocort=hydrocortin]</p>

## 2E: Infant resuscitation – newborn unit

*(only appears if nurse is on duty in the newborn unit)*

	Answer	Instruction
	<p><b><i>I will tell you a situation and ask some step-wise questions, please respond by telling me what you think should be done according to the national guidelines.</i></b></p> <p><b><i>A two week old baby is an inpatient being managed for neonatal sepsis. You find the baby not moving but does not appear to be sleeping. You realise that the baby has cardiorespiratory collapsed. Remembering that this is a two week old baby, not a fresh newborn, let's discuss how you would stepwise manage this cardiorespiratory collapse starting right from the beginning.</i></b></p>	<p>In the previous section you said that you were talking only about babies &lt;7 days old. Explain that you are back to talking about all neonates.</p> <p>Read the situation to the nurse. Ask them to repeat the situation back to you. Make sure to given the nurse time to consider the situation before beginning the questions.</p> <p>You can emphasis by saying that the baby is completely flat.</p>
2.63	<p>What are the very first things you should do when you find this baby? Please list.</p>	<p>The order of these answers is not strict. Select all that are answered.</p> <p>If 'assess breathing' is mentioned, then select and ask for how long. Select the answer given in the elaboration that appears below. If 'assess breathing for 5 seconds' is provided without asking for elaboration then select 'assess breathing' and '5 seconds' from the elaboration below. If 'assess breathing for (e.g.) 10 seconds' is provided then select 'assess breathing' and 'none of the above' from the elaboration below (because 10 seconds is wrong).</p> <p>Skipped to 'ventilate': If the nurse straight away says that they would ventilate then select this answer. Then, instead of reading the next question, ask for them to elaborate (as per instructions below)</p>
2.64	<p>Elaboration: For how long should you assess breathing?</p>	
2.65	<p>The airways are clear but the baby is still unresponsive and not breathing. What is the next step you should take? Please provide details.</p>	<p>If the answer provided is just 'give rescue breaths' or 'ventilate' then select 'give rescue breaths' but ask them to elaborate (do not prompt for specific details like 'how many', just ask them to explain further about giving rescue breaths/ventilating).</p> <p>Instead of '5 rescue breaths', 'at least 2 good breaths' is also acceptable</p>
2.66	<p>You have done initial ventilation with at least two good breaths, what should you do next?</p>	<p>If check pulse is mentioned without a duration, then ask for how long the pulse should be checked.</p> <p>Depending on the previous answer, you may need to reword this question to avoid confusion. If they have not got the previous question correct then you should explain this situation like e.g. 'this collapsed baby has received initial ventilation with at least two good breaths, what should you do next?'</p>
2.67	<p>You have done initial ventilation but there is still no pulse, what should you do next?</p>	<p>If only 'give compressions' is answered, then ask them to elaborate with details.</p> <p>If '15 chest compressions' is mentioned then tick BOTH 'give chest compressions' and '15 (chest compressions)'. Reassess ABC must be mentioned as something to be done AFTER the compressions, otherwise do not select. Note: ABC refers to airways, breathing, and circulation. Answers that refer to checking these individually are also acceptable but only if all A, B, and C are all mentioned.</p> <p>Depending on the previous answer, you may need to reword this question to avoid confusion. If they have not got the previous question correct then you should explain this situation like e.g. 'this collapsed baby has received initial ventilation with at least two good breaths but there is still no pulse, what should you do next?'</p>
2.68	<p>You have done initial chest compressions for 1 minute, reassessed ABC but there is no change, what should you do next? [Only ask if not already answered]</p>	<p>If only 'give compressions' is answered, then ask them to elaborate with details.</p> <p>If '15 chest compressions' is mentioned then tick BOTH 'give chest compressions' and '15 (chest compressions)'. If they say they would do compressions again/as before then select 'give 15 chest compressions' and 'for each 2 breaths' if these are the answers they provided for 2.67, but do not select 'for 2 minutes'.</p> <p>Depending on the previous answer, you may need to reword this question to avoid confusion. Explain the situation in its entirety if necessary.</p>

2.69	When resuscitating this infant, you should stop compressions when the heart rate is above how many beats per minute?	Select the appropriate answer.
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### Section 3: Interventions performed at the facility

In this section, you are no longer testing knowledge. Therefore, you should explain and clarify what interventions are where necessary. Be particularly aware of interventions that were previously answered incorrectly, be sure that these are explained in this section. E.g. explain what delayed cord clamping is, especially if they did not answer correctly previous about when the cord should be clamped.

#### 3A: Routine care

*(only appears if nurse is on duty in the maternity ward)*

**Explain:** Thank you, we have finished the section on knowledge. I now have some questions to try to better understand what the standard practice at this facility is. The following questions are about routine care provided at this facility for babies with normal births and no concerns.

	Question	Instructions
	<b>Are the following procedures performed at your facility for patients for whom you think the procedure is necessary? Please answer either always, sometimes, or never.</b>	Emphasise three points: We are referring to how frequently interventions are done (1) at this facility in which the nurse is being interviewed, (2) by all staff combined or delegated to mothers, not just the nurse being interviewed, and (3) for patients that require the intervention.  If the nurse says that they aren't responsible for doing that intervention, then ask them to think about if they have observed how frequently others do it in general. If they still don't know then select 'don't know'.
3.1	Immediate drying of the newborn after delivery?	
3.2	Skin-to-skin contact between newborn and mother immediately after delivery?	
3.3	Delayed cord clamping (clamping once the cord has stopped pulsating/>1 minute after birth) for babies who do not require resuscitation?	
3.4	Bathing of the newborn within the first 24 hours after birth?	In case the nurse asks, yes this is bad practice, whereas the other interventions are good practice.
3.5	Cleaning of the cord with chlorhexidine digluconate?	If the nurse doesn't know what chlorhexidine digluconate is then select 'don't know'. However, first clarify that this might also be known to them as 'chlorexidine'. Please note that this is not the same as hibitane.
3.6	Mother and baby kept as inpatients for 48 hour observation?	
3.7	Vitamin K administered to newborns?	
3.8	HIV exposure status testing for newborns when the status of the mother is known to be positive or unknown?	

**And the same for newborns with complicated births:**

3.9	Administering antibiotics for preterm or prolonged ROM to prevent infection?	
3.10	Dexamethasone given for threatened preterm labour?	If the nurse doesn't know what dexamethasone is then select 'don't know'. However, first clarify that this might also be known to them as 'betamethasone'.
3.11	Kangaroo mother care for preterm and small babies? <i>(Interviewer: Explain kangaroo mother care)</i>	Explain to the nurse what kangaroo mother care is. Do not first ask if they know what it is, go ahead and explain: 'by kangaroo mother care I mean the practice of holding the baby in skin-to-skin contact to the mother's chest and wrapped the baby in this position.'
3.12	Resuscitation for non-breathing babies in the delivery ward?	
3.13	Prophylactic surfactant for babies with respiratory distress syndrome? <i>(Interviewer: Explain prophylactic surfactant, ask if they have seen it or know what it is)</i>	Surfactant is used to open up the lungs and make it easier for the baby to breath. It is sometimes given to babies with respiratory distress syndrome as a preventative measure.

### 3B: Interventions for sick newborn inpatients

*(only appears if nurse is on duty in the newborn unit)*

**Explain:** Thank you, we have finished the section on knowledge. I now have some questions to try to better understand what the standard practice at this facility is. The following questions are about routine care provided at this facility for babies what are sick and require inpatient care.

	Question	Instructions
	<p><b>Are the following procedures performed at your facility for patients for whom you think the procedure is necessary? Please answer either always, sometimes, or never or let me know if the question is irrelevant because you don't have patients who need the intervention.</b></p>	<p>Emphasise three points: We are referring to how frequently interventions are done (1) at this facility in which the nurse is being interviewed, (2) by all staff combined or delegated to mothers, not just the nurse being interviewed, and (3) for patients that require the intervention.</p> <p>If the nurse says that they aren't responsible for doing that intervention, then ask them to think about if they have observed how frequently others do it in general. If they still don't know then select 'don't know'.</p>
3.14	Nasogastric feeding?	
3.15	Therapeutic use of surfactant to prevent respiratory distress in preterm babies?	Surfactant is used to open up the lungs and make it easier for the baby to breath. It is sometimes given to babies with respiratory distress syndrome.
3.16	Continuous positive airway pressure (CPAP) to manage pre-term babies with respiratory distress syndrome?	
3.17	Phototherapy for newborns with jaundice?	
3.18	Exchange transfusion for newborns with jaundice?	
3.19	Initiation of ART in babies born to HIV infected mother?	
3.20	Xray imaging?	



## Section 4: Availability of equipment

Be sure to clarify that you are interested in knowing about the availability of this equipment when it was **needed**, not in general.

**Explain:** We are now at the final part of the interview and almost finished. In this section, I'm interested to get some insight into the availability of equipment to when you are working.

### 4A: In the delivery ward

*(only appears if nurse is on duty in the maternity ward)*

	Question	Instruction
<b>Think of the last 10 times you needed these items, on how many occasions were they available to you:</b>		
4.1	Sterile cord clamp and sterile scissors	
4.2	Newborn resuscitation device (Ambu bag, bag-mask, and suction device)	Complete and working device only.
4.3	Clean warm towels for wrapping the newborn	If they answer that they use clean towels but they are not warmed, then select '0' but make a note in your study notebook with their answer for how often clean (not warm) towels are used.
4.4	Form of radiant warming (e.g. overhead warmer)	See appendix for example heater
4.5	Tetracycline eye ointment	
4.6	Vitamin K	

### 4B: In location where sick newborns are cared for

*(only appears if nurse is on duty in the newborn unit)*

	Question	Instructions
<b>Think of the last 10 times you needed these items, on how many occasions were they available to you:</b>		
4.7	Penicillin	
4.8	Gentamycin	
4.9	Sterile/new nasogastric feeding tube	
4.10	Blood sugar sticks	
4.11	HIV testing kit	
4.12	Clean feeding cups	
4.13	Breast pump <i>(Interviewer: provide a picture)</i>	Provide a picture (appendix) and explanation of what this is.
4.14	Surfactant	Explain surfactant again if necessary. Surfactant is used to open up the lungs and make it easier for the baby to breath. It is sometimes given to babies with respiratory distress syndrome.
4.15	Oxygen supply/concentrator	Explain that if there is a concentrator it must have an adequate oxygen supply.
4.16	Oxygen flow meter	
4.17	Nasal prong/catheter for oxygen	
4.18	Pulse oximeter	
4.19	Bilirubinometer or bilirubin lab test	
4.20	IV fluids	
4.21	Blood supply for transfusion	You may clarify that this refers to when the nurse needed a blood supply for transfusion and ordered/asked for it from the laboratory or blood unit, on how many occasions did they receive it in time for it to be of use for the patient.
4.22	Incubator (non-sharing with the exception of twins)	

## Appendix

Question 2.45: How to keep the maternal airway patent.



**Question 4.4:** Overhead radiant heater



**Question 4.13:** Breast pump

