HELPING BABIES SURVIVE LABOUR

An educational programme to empower Ugandan midwives to save mother's and baby's lives

A FACILITATOR'S GUIDE

PET Powerfree Technology Education

SAVING LIVES AT BIRTH: A GRAND CHALLENGE FOR DEVELOPMENT

Save the Children®

ASSOCIATION OF OBSTETRICIANS & GYNAECOLOGISTS OF UGANDA

How to use this guide

This is the facilitators guide to teach ‘Helping Babies Survive Labour’.

It comes with a learners guide and a booklet that you can make copies of for your learners to use during the sessions.

The guide is set up in such a way that people first learn why it is important to monitor well.Then they will learn what they are listening for when they are monitoring a baby during labour and how they should respond to what they hear.

Make sure you are well prepared when you are going to facilitate a session.

Learning space

- Make sure you have organised a place where you can do the session
- Make the space inviting for people to come so that they feel welcome
- Make sure that there is enough space for all the learners. There needs to be space to move around so that the learners can work both in small groups and in the big group

Teaching material

- Check the lesson overview and make sure that you have all the teaching material that you need for the session.
- For all the sessions you need:
  - Facilitators guide
  - Pens and paper
  - Copies from the copy book
  - Learner workbooks
  - Flipchart

Prepare yourself

- Read the session in both the facilitators and learners guide. If there is anything you are not sure of or something that you do different, discuss the material with a supervisor.

The learners

- Encourage the learners to come and make it exciting for them.
- Encourage people to take part actively in the sessions. Make time for questions and comments and let everybody feel included.
- Let people help you with writing on the flipchart during demonstrations.
- Give people opportunities to share their experiences. You are working with professionals who already know a lot, you need to respect that.

Explanation of the symbols

On most pages, you will find small icons that will help you to know what to do and how to prepare your session. Different people have different learning styles. Some people learn best when they hear something, others when they read about it and many people learn best when they talk with other people about what they have learned.This training is designed to facilitate for the different learning styles and it is important to not just ‘lecture’ this material but to really engage the learners to actively be part of each session through small group activities and classroom discussion.

Teaching

Classroom activity

Demonstrating

Individual learner activity

Question for the group

Very important information

Small group activity

Table of content

Module 1: Why monitor the baby?

MODULE 1: WHY MONITOR THE BABY?

Module 1: Why monitor the baby?			
Activity	**Duration**	**Aim**	**Material needed**
Pre test (optional)	20 minutes	Test the knowledge of the learners prior to taking part in the training	Pre test papers
Class room activity: 'How does it feel.'	10 minutes	*This activity will teach that it is easy to forget about the baby because you do not see him or her. But a delivery is the most dangerous time in a human life. For the baby, the only way to communicate is through his or her heartbeat. Therefore, listening to the baby and learning to understand what a slower or faster heart beat means is very important and can save lives!*	*Big pieces of fabric that can cover someone's head. Paper with emotions (optional)*
Small group discussion	10 minutes	*When the learners share their experiences, it will help them to become aware of the impact of the problem, but also on the difference they can make. Give the learners about 5 minutes to discuss and discuss the answers for 5 minytes in the big group*	-
Theory Time	15 Minutes	Teaching theory about how labour influences the oxygen supply to the baby and how the baby responds to this.	-
Test yourself	10 minutes	Giving the learners an opportunity to assess their knowledge and what they have learned	Question papers

How do you communicate without words?

ACTIVITY - How does it feel? (part 1)

Divide the group in pairs, give each pair a piece of fabric.

Say:
'One of you must put the piece of fabric over his head to cover his face and body. The person with the covered face must try to let the other person know how he or she is doing without using words or sign language. You can only tap on the table or on your chair. The person who is observing is not allowed to talk or tap. After you have done this switch roles.'

Goals and educational tips

For this activity you need:

- Big pieces of fabric that can cover someone's head.
- (optional) A paper with different emotions (Happy, angry, stressed, sad, etc,). Give the covered person the note and say 'Please express the 1st/2nd/..... emotion'.

This activity will teach people that it is easy to forget about the baby because you did not see him or her. But a delivery is the most dangerous time in a human life. For the baby, the only way to communicate is through his or her heartbeat.Therefore, listening to the baby and learning to understand what a slower or faster heart beat means is very important and can save lives!

How do you communicate without words?

ACTIVITY - How does it feel? (part 2)

After the activity, get the group together again and let the participants share experiences.

Here are some examples of questions you can use to help people to share:

- When you were covered, how did you try to communicate your feelings?
- How did it make you feel, was it hard? Easy?
- When you had to watch, did you understand what the other person was trying to say?
- What would have made it easier to understand the other person?

Background and educational tips

When you let people share, make sure that people feel included. Let everybody have their say and look out for the people in the group that are naturally more quiet.They are usually good observers who will have very valuable input.The conclusion should be that it would have been easier if the teams had agreed on codes to communicate certain things.The good thing is that midwives and doctors have figured out what a baby is trying to communicate with his/her heartbeat.This training will help to understand what the fetal heart rate that you hear means.

For the baby, the only way to communicate is through his or her heartbeat!

ACTIVITY - How does it feel? (part 3)

Say:

'During the delivery **you can see the mother** but you **can not see the baby**. It is fairly easy to see how the mother is doing, but harder to know if the baby is well.The mother can shout for your attention but the baby can't do this. **It is easy to forget about the baby because you did not see him or her**. But a delivery is the most dangerous time in a human life. **For the baby, the only way to communicate is through his or her heartbeat**. Therefore, listening to the baby and learning to understand what a slower or faster heart beat means is very important and can save lives, you can make the difference!'

Background and educational tips

Put an emphasis on the fact that the health care worker can make a difference and can save lives! It is important that this training makes people aware of a problem, but it should also make them feel empowered.

Small group discussion

- *Do you know somebody who is disabled? Or who has a disabled child? How does that affect their daily life?*

- *Do you know someone who's baby died during labour or in the late stages of pregnancy? How was that?*

SMALL GROUP DISCUSSION

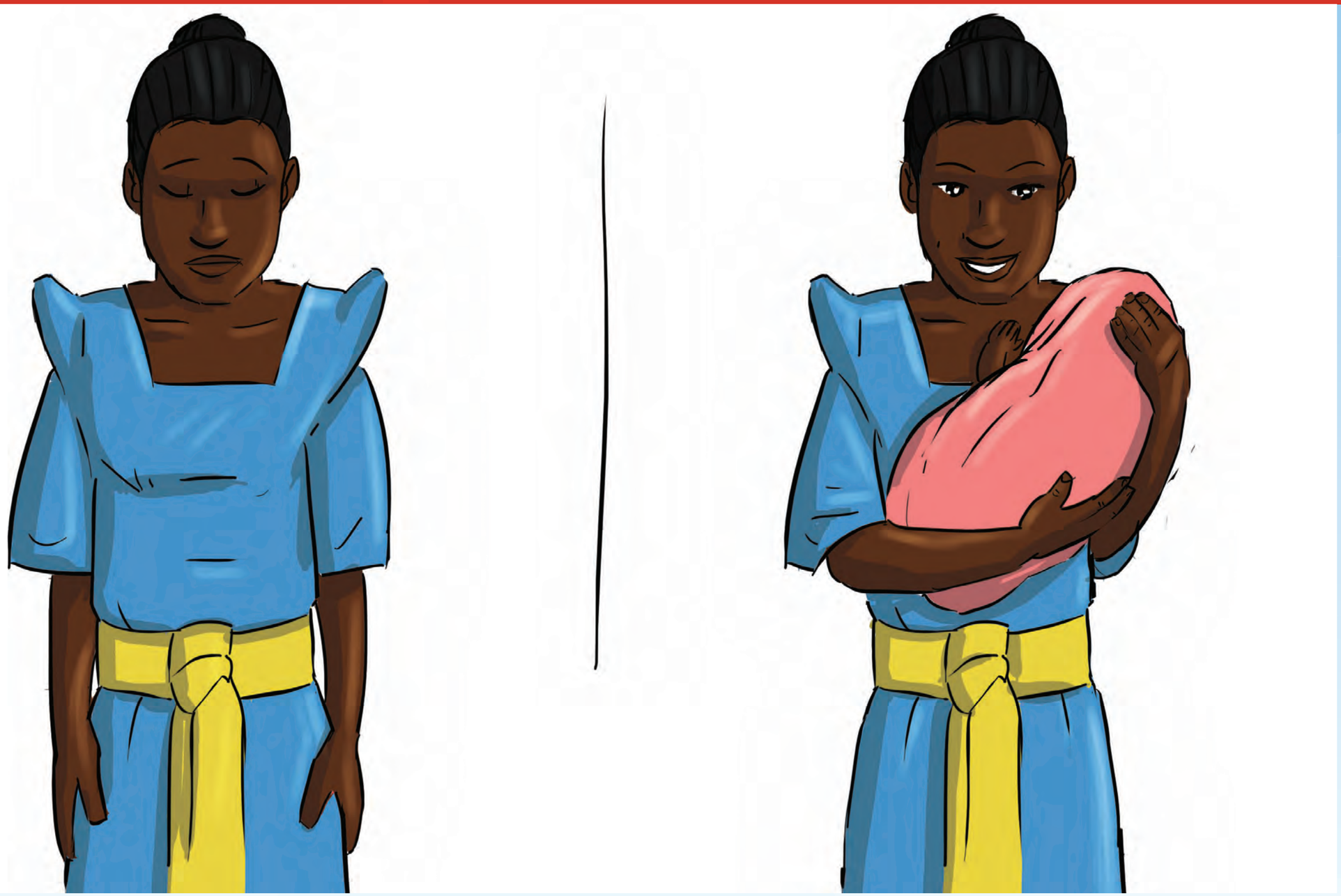
Divide the group into groups or 4 or 5 learners. They have to discuss the following questions.

- Do you know somebody who is disabled? Or who has an disabled child? How does that affect their daily life?
- Do you know someone who's baby died during labour or in the late stages of pregnancy? How was that?

Background and educational tips

When the learners share their experiences, it will help them to become aware of the impact of the problem, but also on the difference they can make. Give the learners about 5 minutes to discuss.

You can make the difference!



SMALL GROUP DISCUSSION WRAP UP

Say:

'You probably all know people with a disabled family member and you have seen that it affects their daily life in a big way.You probably also know families who lost a baby during labour or in the late stages of pregnancy and you have see that this was very difficult. If you monitor well, you can make a big difference for mothers and babies.You can save a life or prevent serious brain damage when you detect problems with the baby in an early stage and when you know how to act.'

Background and educational tips

It is important that the learners understand that is not only important to be able to recognize a baby in distress but that they know how to act when distress is detected. Many causes of deaths or events that caused a baby to get brain damage are avoidable.When you do your work as a midwife well, you save lives!

The mother can talk, but how does the baby communicate?

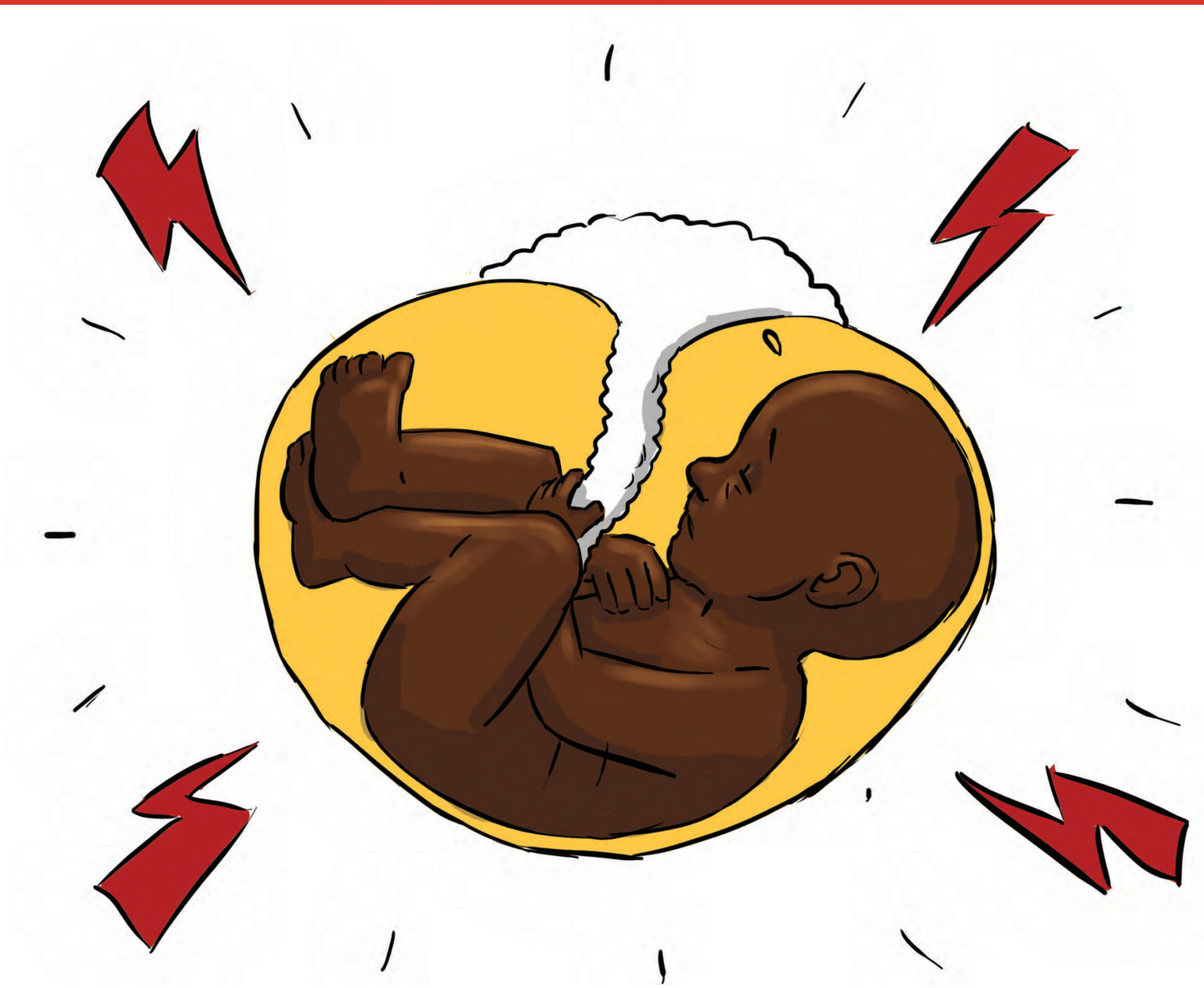
PRESENTING THEORY

It is most of the time easy to see when a mother is in labour.
There will be painful uterine contractions every ten minutes which cause cervical changes.
During labour, the condition of the mother and the progress of labour should be monitored.
It is also very important to monitor the condition of the baby.

Ask:
'How can you monitor the baby during labour?'

Answers:
CTG
Pinard/fethoscope
Doppler/Doptone
looking if the liquor is clear
asking the mother if she has felt fetal movements.

What do you think will cause stress for the baby during labour?



CAUSES OF STRESS FOR THE BABY DURING LABOUR

Ask:
'What do you think will cause stress for the baby during labour?'

(Give the learners time to come up with answers.Write them down and explain later on why they were right or wrong.)

Say:
'The two main causes of stress for a baby are compression of the head during a contraction and a decrease in oxygen supply. The contractions of the uterus can squeeze the head of the baby.This may cause a slowing of the babies heart (a deceleration) during the middle of a contraction, when the pressure of the uterus is the highest. This is called an early deceleration, this is a normal response.

Why do you think contractions reduce the supply of oxygen?

HOW DO CONTRACTIONS REDUCE THE SUPPLY OF OXYGEN?

Ask:
'Why do you think contractions reduce the supply of oxygen?'

(Give the learners time to come up with answers.Write them
down and explain later on why they were right or wrong.)

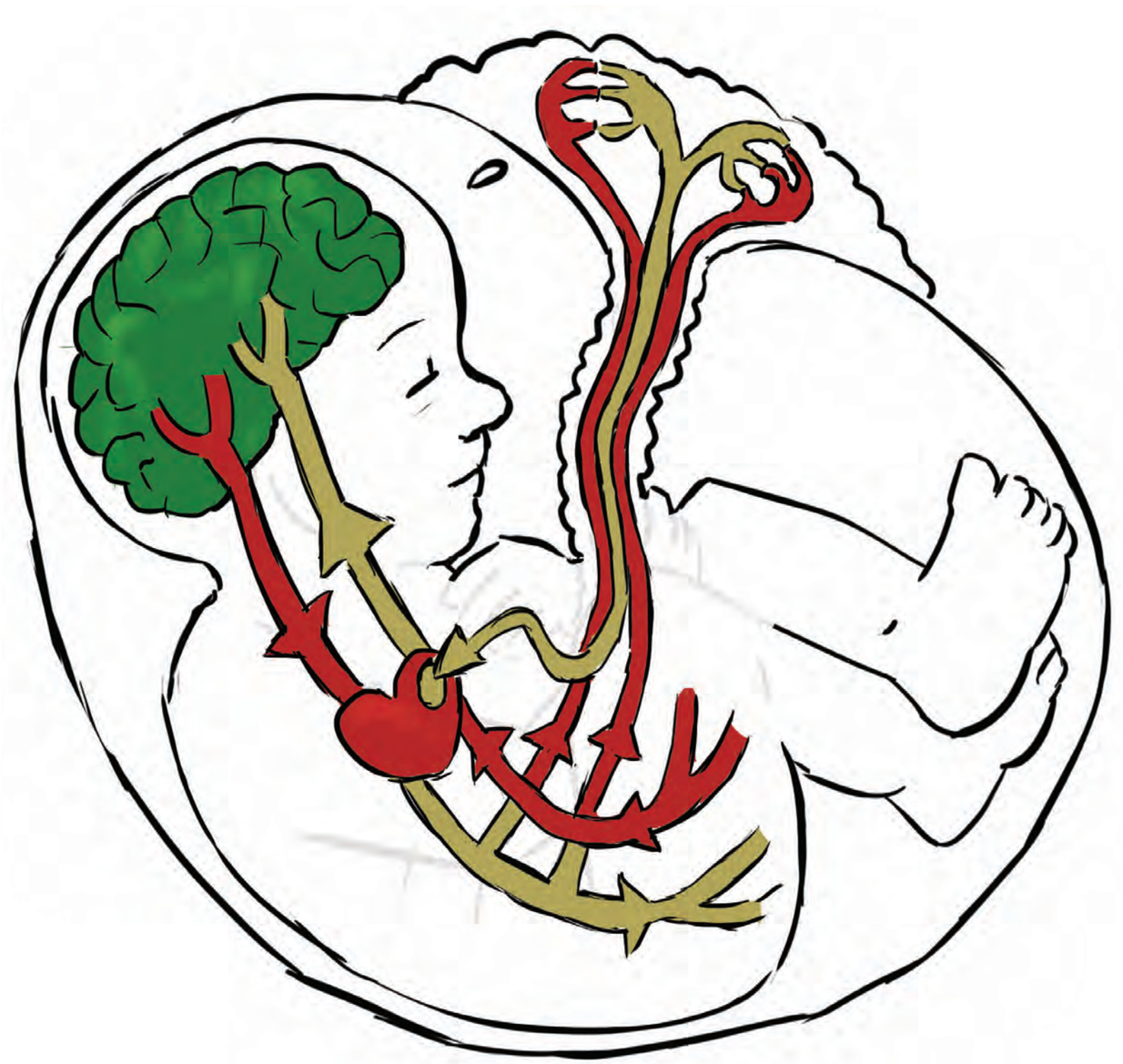
Explain:
'It can affect the blood supply to the baby in several different ways.
1. Increase in intra-uterine pressure, caused by the contraction.
2. A contraction of the uterus can compress the maternal vessels that supply blood to and from the placenta.
3. A contraction can compress the umbilical cord through which the blood flows from the placenta to the baby.'

How does a baby respond to contractions?

Normal circulation in a baby:

- Oxygen-rich blood flows from the placenta to the baby's heart (green).

- After using all the nutrients and oxygen, the blood flows back to the placenta where it will be 'filled up' for a new round (red).



HOW DOES A BABY RESPOND TO CONTRACTIONS?

Say:

'Normally oxygen-rich blood flows from the placenta to the baby's heart (green in the picture). After using all the nutrients and oxygen, the blood flows back to the placenta where it will be 'filled up' for a new round (red in the picture). Normal contractions in labour usually do not affect the oxygen supply to a healthy baby with a normally functioning placenta. It is different when uterine contractions reduce the oxygen supply to the baby.This can happen when:

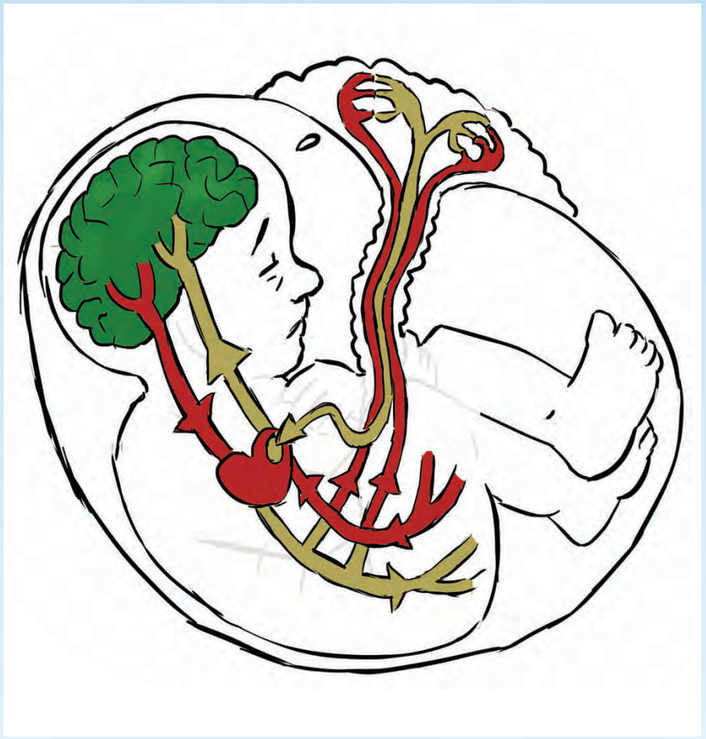
1.There is placental insufficiency.
2.The contractions are prolonged
3.The contractions are very frequent.
4.There is compression of the umbilical cord.

Through monitoring the baby during labour, a midwife or other front line worker can find out that a baby has too little oxygen during a contraction. A baby who has too little oxygen will usually have a decrease in the fetal heartrate so that less oxygen is used. This is a mechanism the baby uses to protect itself.

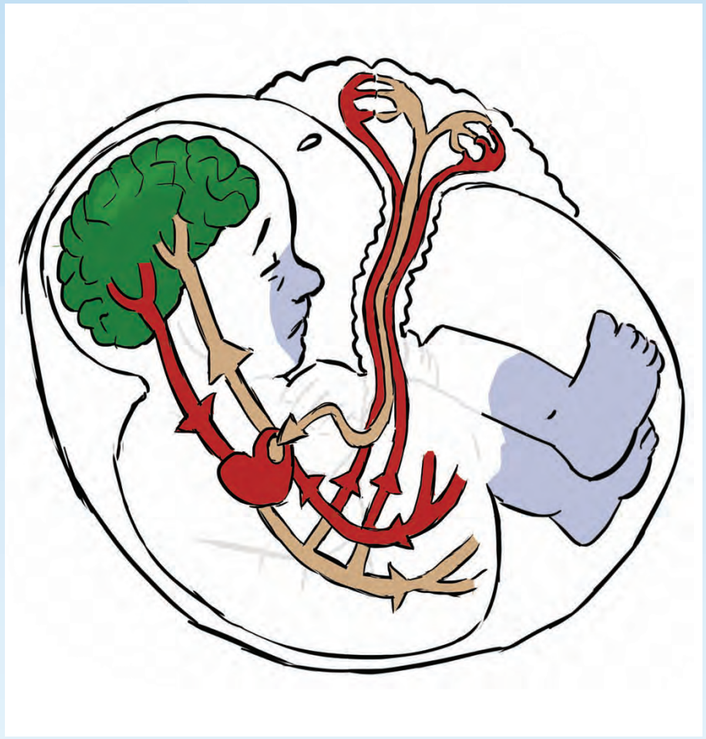
Background and educational tips

This part of the theory is not easy to understand. If you feel that the learners do not grasp the concept yet; call one of the learners to the front and let them, with your help, explain it to the other learners.

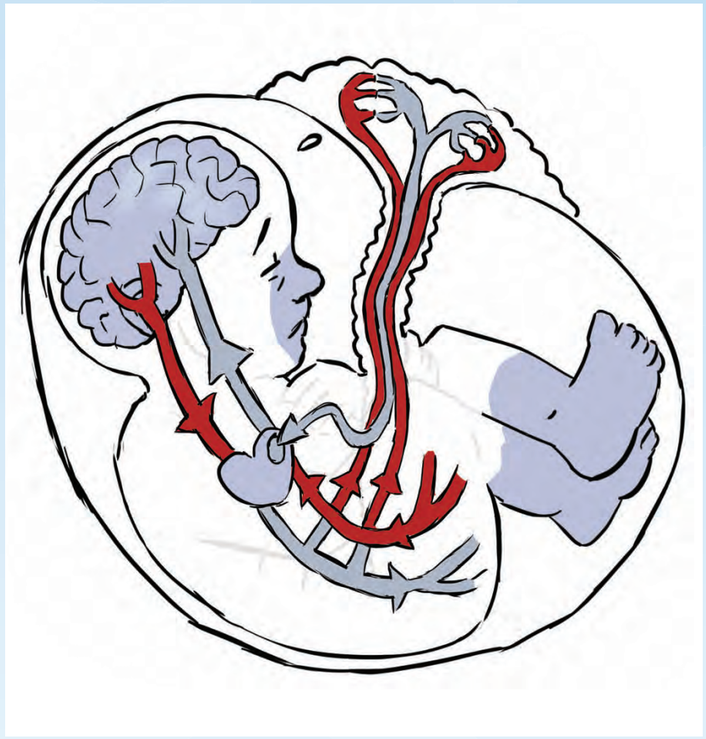
How does a baby respond to lack of oxygen?



Hypoxemia
- Low oxygen in arterial blood



Hypoxia
- Low oxygen in peripheral tissue



Acidosis
- Failure of central organs

HOW DOES A BABY RESPOND TO CONTRACTIONS?

Say:

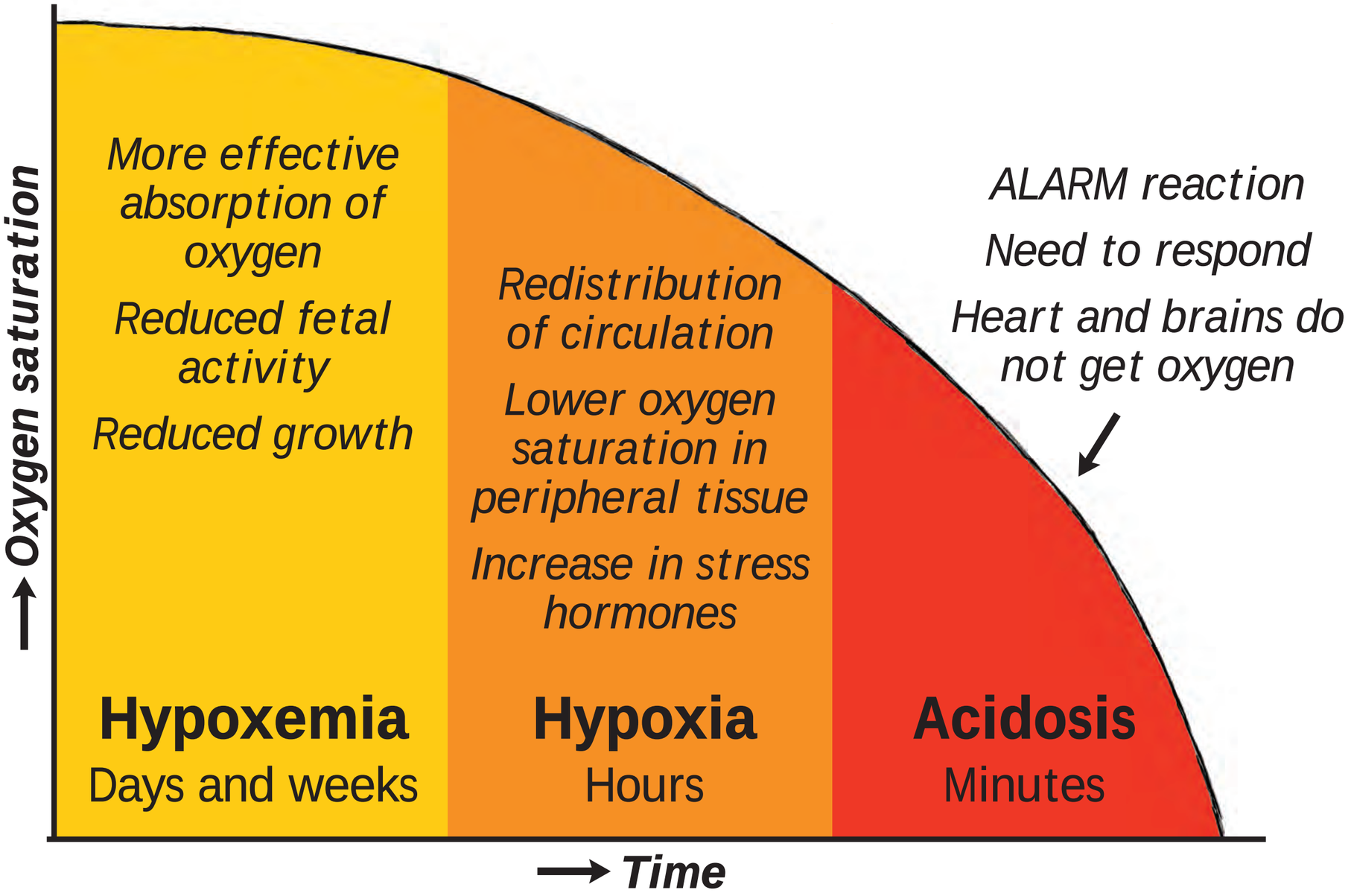
A reduction in the normal supply of oxygen to the baby causes hypoxemia, a shortage of oxygen in the arterial blood. This can lead to fetal hypoxia.This is a lack of oxygen in the cells of the baby. If the hypoxia is mild the baby will be able to compensate and not become distressed. However, moderate or severe fetal hypoxia will result in fetal distress and acidosis, an increased acidity in the blood and other body tissue. Fetal acidosis can lead to fetal brain damage or even fetal death.

Look at the picture, what is the difference between the 3 pictures?

Background and educational tips

It is very important that every learner understands what fetal distress is and what it can cause. Hypoxemia can stay for weeks and makes the baby less active and can cause growth restriction. Hypoxia is a lack of oxygen in the cells (mainly peripheral) of the baby.This situation can be survived for several hours. There will be redistribution of oxygen and the fetus will produce stress hormones.A condition of acidosis can only be survived without lasting damage for a few minutes.

How does a baby respond to lack of oxygen?



HOW DOES A BABY RESPOND TO CONTRACTIONS?

Ask:
Ask learners to explain hypoxemia, hypoxia and acidosis with this graph.

Leading questions that can help are:

- What is hypoxemia and how long can it be survived?
- What is hypoxia and how long can it be survived?
- What is acidosis and how long can it be survived?

Background and educational tips

A baby can be in a mild state of hypoxemia for days or even weeks.This occurs for example when there are problems with the placenta. The baby will develop a more effective absorption of oxygen and be less active. When hypoxemia lasts for a long time, there will be reduced growth. It is important to correct this hypoxemia since the baby will be negatively affected.When the baby is in a state of hypoxia, action is required within hours or else the baby will have serious damage.There is redistribution of blood and the fetus will produce stress hormones. However, when the fetus gets to a state of acidosis IMMEDIATE action is required since the brain and the heart get less, or even no oxygen at all.The fetus can only survive in this situation if the correct action is immediately undertaken.

Test yourself

TEST YOURSELF

Give each learner a paper with the questions, they have to answer all the multiple choice questions.

Say:

'This test is not going to be marked, it is just to help you to see if you understood the theory in this session.You have 5 minutes to answer the questions, after that we will discuss the answers.'

Compare the answers afterwards and make sure that everybody knows the correct answers. Read out all the questions and all the options and let learners respond and motivate their answers.

Question 1: C
Question 2: B
Question 3: A
Question 4: B
Question 5: B

Background and educational tips

For this activity you need:

- A copy of the paper with the multiple choice questions of Module 1 for each learner.

Module 2: How to monitor the fetal heart rate

MODULE 2: HOW TO MONITOR THE FETAL HEART RATE

Module 2: How to monitor the fetal heart rate			
Activity	**Duration**	**Aim**	**Material needed**
Small group discussion	10 minutes	Get the learners to share their experiences and knowledge so that they start focusing on the topic.	
Theory sharing	5 minutes	*Make the learners understand that they should look at the condition of the mother to understand the fetal heart rate*	-
Activity	15 minutes	*This activity will teach the learners about the different devices to do fetal heart rate monitoring and will help them to look at each of them in a critical way.*	*-Paper* *-Pens* *- Flipchart*
Theory Sharing	10 minutes	Teach learners methods for correct monitoring	-PET hand crank device - Pinard/ Fethoscope
Exercise	10 minutes	Give people a chance to put in practice what they have just learned.	This activity can also be done on the end of the session. Depending on logistics
Self testing time	10 minutes	Giving the learners an opportunity to assess their knowledge and what they have learned	Question papers

Small group discussion

- ***How do you monitor a baby during labour?***
- ***How does a baby 'communicate' that he or she is not doing well during labour?***

SMALL GROUP DISCUSSION

Divide the group into groups or 4 or 5 learners. They have to discuss the following questions.

- How do you look after a baby during labour?
- How does a baby ‘communicate’ that he or she is not doing well during labour?

Discuss the answers afterwards

Background and educational tips

Sharing helps the learners to focus on the problem. Give the learners about 5 minutes to discuss the topic.

What factors can influence the baby's heart rate and how?

- ***Changes in perfusion of placenta***
- ***Normal changes in fetal activity***
- ***Hypoxia***
- ***External stimuli***
- ***Maternal fever***
- ***Medication***

MONITORING THE MOTHER

Say:
'Before you even listen to the fetal heart rate, it is important to do some key assessments on the mother. Some important factors may be abnormal and influencing the babies heart rate.'

Ask:
'Which observations on the mother can influence the babies heart rate and how?'

Let the learners discuss.

The answers are: Gestational age, ruptured membranes and maternal fever.

Background and educational tips

Gestational age: The fetal heart matures as the weeks of pregnancy go by and this will reflect in the fetal heart rate.The younger the baby, the faster the heart rate.
Ruptured membranes:The longer the membranes are ruptured before delivery of the fetus, the higher the risk of an infection for both mother and baby.An infection will increase the fetal heart rate.
Maternal fever:When the mother has fever, the fetal heart rate will be higher.

Activity

- ***Write down the devices you can think of.***

ACTIVITY - Different devices (part 1)

Divide the learners in groups of 4. Give each group a pen and a paper.

Say:

‘ There are different devices that you can use to monitor the baby during labour.Write down the devices you can think of and list for each of them the advantages and disadvantages.’

Goals and educational tips

For this activity you need:

- Paper and pens
- A flip chart or other big paper

This activity will teach learners about the different devices they can use to monitor the fetal heart rate. It also teaches them to look critically at each device so that they can assess which one would be best for them.
Depending on the setting you work in, people may or may not come op with the CTG, this is ok. Just inform the learners about the different devices in the group discussion.

Activity

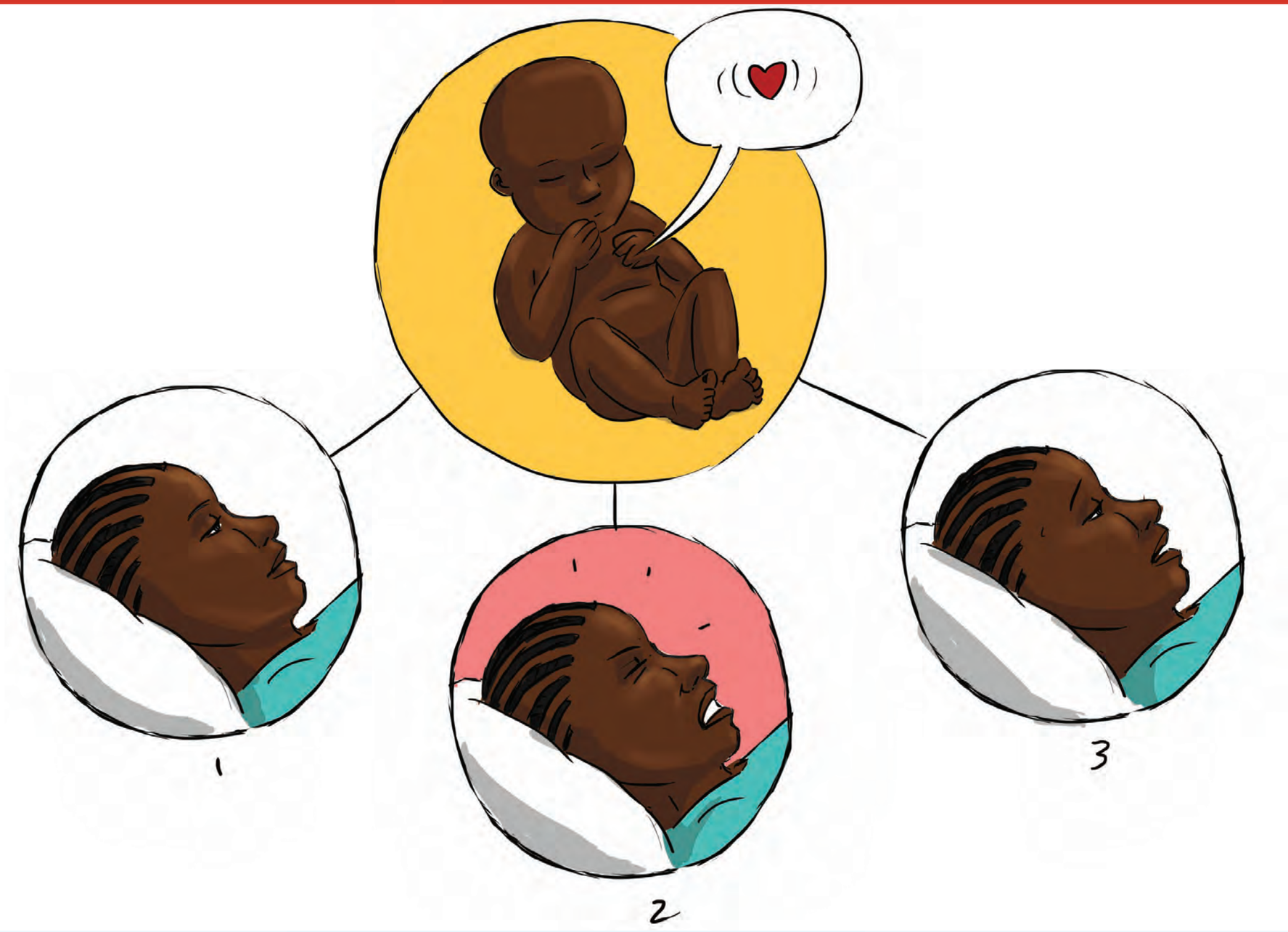
- *List the advantages and disadvantages of each device.*

ACTIVITY - Different devices (part 2)

Get the learners back in the big group. Let each group share their conclusions. Write everything down on the flipchart and give comments when necessary.

	Pinard/ Fethoscope	Doppler fetal heart rate monitor	Cardio tocography
Advantages	✓ Cheap ✓ Simple ✓ Easy to obtain ✓ No maintanance	✓ Easy to find and accurately count the fetal heart rate ✓ Comfortable for the mother ✓ Pet Hand cranked doptone can be used without depending on power from batteries or mains.	✓ Presents more information ✓ Provides a paper record ✓ Continuous fetal monitoring ✓ Easy to identify different types of fetal heart rate deceleration
Disadvantages	× Often difficult to find and hear the fetal heart × Often difficult to count the fetal heart rate × Uncomfortable for the mother, especially during a contraction	× Expensive × Requires disposable batteries or mains electricity source (exception is the PET hand cranked Doptone) × Often difficult to obtain and service × Monitoring is intermittent, not continuous	× Expensive to buy and maintain. × Recording paper is expensive. × Difficult to use and often not used correctly × Difficult to interpret the tracing correctly. Needs trained and experienced staff. × Mother has to remain in bed × Requires reliable mains electricity source

When and how do you assess the fetal heart rate?



UNDERSTANDING THE FETAL HEART RATE

Say:
‘Meconium-stained amniotic fluid does not indicate fetal stress but warns that there is a high risk of fetal distress.’

Ask:
‘When and how do you assess the fetal heart rate?’

Say:
‘Fetal heart rate must be checked before, during and after a contraction since you want to know how the baby copes with the contractions.The fetal heart rate on its own has vary little value if you do not know when the measurements are taken.
The fetal heart rate assessed before, during and after a contraction is called the fetal heart rate pattern.This provides important information on the fetal condition.

Goals and educational tips

It is very important that the learners understand that a fetal heart rate count on its own does not mean anything. It only has value when it is assed in relation with the contraction. Example:When I say the heart rate was 120 bpm but it was 120 bpm the whole time, it would be a good fetal heart rate. But if it dropped to 120 bpm in a deceleration while it was 150 the whole time, that is bad news.

Steps to correct monitoring

1. ***Ensure that the PET hand crank Doppler has enough energy, when you don't have access to batteries or main power, crank the handle for a minute.***
2. ***Find the fetal presentation and position by feeling for the baby through the mothers belly.***
3. ***Place the Doppler probe over the area where you expect to hear the baby's heart best, usually over the baby's back.***
4. ***Place your finger on the mothers pulse to differenciate the mothers heartbeat from the baby's.***
5. ***To determine the baseline, listen for a full minute between contractions.The baseline rate is written down as a number, not a range.***

STEPS TO CORRECT MONITORING

1. Ensure that the PET hand crank Doppler has enough energy, when you don't have access to batteries or main power, crank the handle for a minute

2. Find the fetal presentation and position by feeling for the baby through the mothers belly

3. Place the Doppler over the area where you expect to hear the baby's heart best, usually there where the babies back is

4. Place your finger on the mothers pulse to differentiate the mothers heartbeat from the baby's

5. To determine the baseline, listen for a full minute between contractions.The baseline rate is written down as a number, not a range.

When you are monitoring a twin pregnancy, it is important to assure that you are not twice listening to the same baby. If possible, monitor with two midwives and two devices at the same time. Both midwives can tap the fetal heart rate they hear to assure that they are listening to the different babies.

Monitoring twins

MONITORING TWINS

Ask:
'How do you think you can monitor twins best?'

When you are monitoring a twin pregnancy, it is important to assure that you are not twice listening to the same baby. If possible, monitor with two midwives and two devices at the same time. Both midwives can tap the fetal heart rate they hear to assure that they are listening to the different babies.

Late decelerations are due to fetal hypoxia or hypoxaemia

WHY DOES THE FETUS GET DISTRESSED?

Say:

'Late decelerations occur towards the end of a contraction and are caused by hypoxia.

Fetal distress is a protective response whereby the baby attempts to prevent brain damage. Fetal distress, caused by a lack of oxygen, results in a slowing of the fetal heart rate. Unlike early decelerations, when the fetal heart rate slows during head compression, hypoxia causes the fetal heart rate to slow towards the end of the contraction.The slow fetal heart rate only speeds up again **after** the contraction has ended.This is known as a late **deceleration**. Therefore, late decelerations are due to fetal hypoxia.

Ask:

'Do you see the hypoxic baby? What is wrong? What do you think you need to do?'

Exercise

- ***Look at the different devices. Can we go to the labour ward and work with the different devices?***

- ***Otherwise it is very important that the midwives get a chance to 'play' around with the hand crank fetal heart rate monitor.***

EXERCISE

Look at the different devices. If possible, go at this point to the labour ward to demonstrate the different devices.

Otherwise it is very important that the midwives get a chance to ‘play’ around with the hand crank fetal heart rate monitor.

Background and educational tips

This activity is important but when and how you do it depends on where you do the training.When you do the training on the ward, it will be quite easy to find a woman in labour to practice on but when you do this at a training centre, you could move this activity to later.

Test yourself

TEST YOURSELF

Give each learner a paper with the questions, they have to answer all the multiple choice questions.

Say:

'This test is not going to be marked, it is just to help you to see if you understood the theory in this session. You have 5 minutes to answer the questions, after that we will discuss the answers.'

Compare the answers afterwards and make sure that everybody knows the correct answers. Read out all the questions and all the options and let learners respond and motivate their answers.

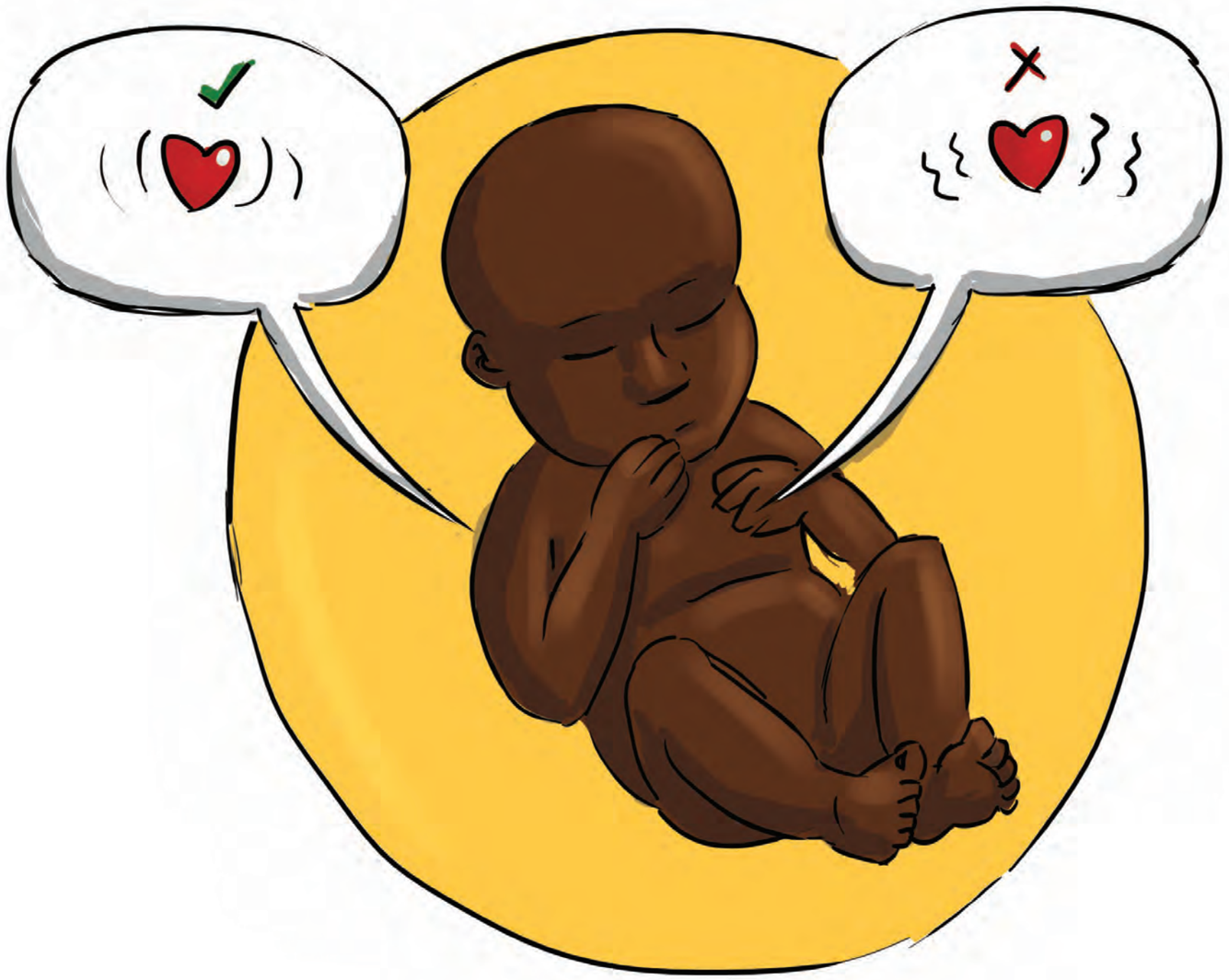
Question 1: B
Question 2: B
Question 3: C
Question 4: C
Question 5: A

Background and educational tips

For this activity you need:

A copy of the paper with the multiple choice questions of Module 2 for each learner.

Module 3: What is an abnormal fetal heart rate?



MODULE 3: WHAT IS AN ABNORMAL FETAL HEART RATE?

Module 3: What is an abnormal fetal heart rate?			
Activity	**Duration**	**Aim**	**Material needed**
Small group discussion	10 minutes	Get the learners to share what they already know about the topic	
Theory sharing	15 minutes	Look at different aspects of the fetal heart rate	-
Exercise	15 minutes	Give the learners an opportunity to put in practice what they have learned but also to communicate it with their peers	Papers with cases for each learner
Self testing time	10 minutes	Giving the learners an opportunity to assess their knowledge and what they have learned	Question papers

Small group discussion

- ***How do you know that a fetal heart rate pattern is not normal?***
- ***What do you do when you discover a deceleration?***
- ***Discuss how you monitor the baby when the mother is pushing.***

SMALL GROUP DISCUSSION

Divide the group into groups or 4 or 5 learners. They have to discuss the following questions.

- How do you know that a fetal heart rate pattern is not normal?
- What do you do when you discover a deceleration?
- Discuss how you look after a baby when the mother is pushing.

Background and educational tips

When you let people share, make sure that people feel included. Let everybody have their say and look out for the people in the group that are naturally more quiet.

Which questions do you ask yourself when monitoring?

MINISTRY OF HEALTH

LABOUR PROGRESS CHART (PARTOGRAM)

THE REPUBLIC OF UGANDA

Hospital or Health Centre: IP no:

Name: Date of admission: Time of admission:

Age: Gravida: Para:

LNMP: EDD: Weeks of Gestation:

Risk Factors: Membranes ruptured at:

PMTCT code:

FETAL HEART RATE — 180, 170, 160, 150, 140, 130, 120, 110, 100

MEMBRANES LIQUOR MOULDING

CERVICAL DILATATION IN CM X — 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0 (ALERT, ACTION)

DESCENT OF HEAD O

HOURS TIME — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

CONTRACTIONS PER 10 MINUTES: FREQUENCY DURATION — 5, 4, 3, 2, 1

PULSE
BP
TEMPERATURE
URINE
DRUGS GIVEN OR IV FLUIDS

URINE TEST: ALBUMIN SUGAR ACETONE

CONTRACTION KEY: LESS THAN 20 SECONDS | BETWEEN 20-40 SECONDS | MORE THAN 40 SECONDS

ASPECTS OF THE FETAL HEART RATE

Say:
'The fetal heart rate has different aspects that you need to look at in order to evaluate it.'

Ask:
'Which questions do you ask yourself when monitoring?'

The following questions must be answered and recorded on the Partograph:

- What is the baseline fetal heart rate?
- Are there any decelerations?
- If decelerations are observed, what is their relation to the uterine contractions? ▫If the fetal heart rate pattern is abnormal, how must the patient be managed?

Aspects of the fetal heart rate: Causes for change in fetal heart rate

- ***Changes in perfusion of placenta***
- ***Normal changes in fetal activity***
- ***Hypoxia or hypoxaemia***
- ***External stimuli***
- ***Maternal fever***
- ***Medication***

ASPECTS OF THE FETAL HEART RATE -- BASELINE

Ask:

‘We looked at factors that can influence the fetal heart rate, do you remember some?’

Say:

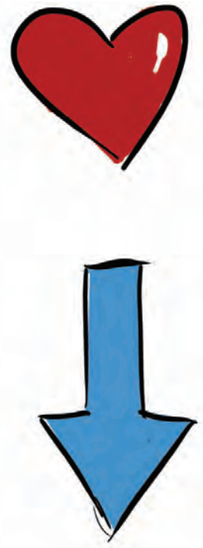
‘The baseline of the fetal heart rate, is the rate just before the start of a contraction when the uterus is relaxed.

- BaselineTachycardia - A baseline higher than 170 bpm
- Baseline Bradycardia▫A baseline lower than 100 bpm

Background and educational tips

Cardiotocograph tracings can be used to learn how to recognise different fetal heart rate patterns.This knowledge is very useful when using a fetal stethoscope or fetal heart rate monitor.

Aspects of the fetal heart rate: Decelerations



ASPECTS OF THE FETAL HEART RATE - DECELERATIONS

Say:

'Early deceleration - occur only during a contraction.
Late deceleration - occur during and after every contraction.
Variable deceleration - no fixed relation to contractions.'

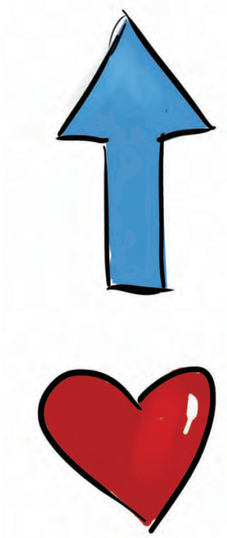
Ask:

'Can someone explain in his or her own words the three different kind of decelerations?'

Background and educational tips

Early decelerations are characterised by a slowing of the fetal heart rate starting at the beginning of the contraction, and returning to normal by the end of the contraction. Early decelerations are usually due to compression of the fetal head during contractions.This causes the heart rate to slow during the contraction only.
Early decelerations do not indicate the presence of fetal distress. However, they may indicate cephalopelvic disproportion (CPD). Therefore, these babies must be carefully monitored as they are at an increased risk of fetal distress.When early decelerations occur, normal variability is reassuring that the baby is not hypoxic.
A late deceleration is a slowing of the fetal heart rate during a contraction, with the rate only returning to the baseline 30 seconds or more after the contraction has ended.They are present with every contraction.
Late decelerations are a sign of fetal distress and are caused by fetal hypoxia.The degree to which the heart rate slows is not important.The timing of the deceleration is what must be carefully observed.
Variable decelerations have no fixed time relationship to uterine contractions. Therefore, the pattern of decelerations changes from one contraction to another.They often do not occur after every contraction. Variable decelerations are usually caused by compression of the umbilical cord and do not indicate the presence of fetal distress. However, these babyes must be carefully monitored as they are at an increased risk of fetal distress.
Variable decelerations are not easy to identify when a fetal stethoscope or fetal heart rate monitor is used.Variable decelerations can be easily recognised on a CTG trace.When accompanied by loss of variability they may indicate fetal distress.

Aspects of the fetal heart rate: Accelerations



ASPECTS OF THE FETAL HEART RATE - ACCELERATIONS

Say:

'An acceleration is a speeding up of the heart rate.

Accelerations are almost always normal and do not indicate fetal distress. During pregnancy they usually occur with fetal movements. During labour, accelerations usually occur during a contraction.'

Assessing your findings

	Baseline	***Decelerations***	***Reactivity***	***Action***
Reassuring fetal heart rate pattern	✓ 120-160 bpm	✓ No decelerations	✓ 5-25 bpm variability (CTG) ✓ Accelerations	Continue to monitor according to guidelines
Non reassuring fetal heart rate patterns	✓ 100-120 bpm ✓ 160-170 bpm ✓ Mild baseline tachycardia or bradycardia	✓ Early decelerations ✓ Variable decelerations	✓ Uncomplicated variable decel. Less than 60 seconds and a loss of more than 60 bpm ✓ 5-25 bpm variablity	If any other features (Meconium stained liquor, prolonged labour, etc) prepare to deliver, otherwise monitor closely.
Abnormal fetal heart rate pattern	✓ A persistent severe baseline bradycardia (less than 100 bpm) ✓ Above 170 bpm	✓ Late decelerations	✓ Less than 5 bpm variability	***ACT NOW! Deliver as soon as possible***
	A combination of more uncertain fetal heart rate patterns result in an abnormal fetal heart rate pattern.			

ASSESSING YOUR FINDINGS

Say:
'The fetal condition is good (reassuring) if a normal fetal heart rate pattern is present.

The fetal condition is suspicious (uncertain) if the fetal heart rate pattern indicates that there is an increased risk of fetal distress.

The fetal condition is poor (abnormal) if the fetal heart rate pattern indicates fetal distress.

Background and educational tips

Teach the students how to read the table.
A baseline tachycardia and early decelerations indicate that the baby has an increased risk of distress during labour. These fetal heart rate patterns do not indicate fetal distress but warn that the patient must be closely observed as there is an increased risk that fetal distress may develop.
Late decelerations and a baseline bradycardia indacte fetal distress during labour.
Monitoring the fetal heart rate stays important during the second stage of labour, even then abnormal fetal heart rate patterns that require special attention may occur. Decelerations occurring while the mother is pushing are common and do not necessarily indicate fetal distress. However, the baseline rate should be normal. A baseline bradycardia between contractions and before the mother pushes suggests fetal distress and is an indication for urgent delivery. The fetal heart rate should be normal before each bout of pushing.

Case studies

EXERCISE - Case studies (part 1)

Give each of the learners a set of cases.

They have to answer the following questions:

- How do you assess this fetal heart rate?
- How will you monitor this case?

Let small groups come together and let them discuss their findings.

Each group has to present a case

Background and educational tips

For this activity you need:

- Cases
- Assessment cards for each learner

Test yourself

TEST YOURSELF

Give each learner a paper with the questions, they have to answer all the multiple choice questions.

Say:

'This test is not going to be marked, it is just to help you to see if you understood the theory in this session.You have 5 minutes to answer the questions, after that we will discuss the answers.'

Compare the answers afterwards and make sure that everybody knows the correct answers. Read out all the questions and all the options and let learners respond and motivate their answers.

Question 1: C
Question 2: A
Question 3: A
Question 4: B
Question 5: A

Background and educational tips

For this activity you need:

A copy of the paper with the multiple choice questions of Module 3 for each learner.

Module 4: What do I do if the fetal heart rate is abnormal?

MODULE 4: WHAT DO I DO IF THE FETAL HEART RATE IS ABNORMAL?

Module 4: What do I do if the fetal heart rate is abnormal?			
Activity	**Duration**	**Aim**	**Material needed**
Small group discussion	10 minutes	Get the learners to share about the topic	
Small group discussion Wrap up	10 minutes	Motivate the learners to use the partograph and encourage them to think critically about it	Flip Chart
Theory sharing	10 minutes	Teach about management of different fetal heart rate patterns	-
Exercise	10 minutes	Practise with Partographs	Papers with case studies and Partographs
Post test	10 minutes	Assess the learners on the improvement of their knowledge	Question papers

Small group discussion

- ***Discuss the way you use a partogram or partograph at the place where you work.***
- ***How can a partograph help you to look after a baby during labour?***

SMALL GROUP DISCUSSION

Divide the group into groups or 4 or 5 learners. They have to discuss the following questions:

- Discuss the way you use a partograph at the place where you work.
- How can a partograph help you to look after a baby during labour?

Discuss the answers from the small groups in the big group of learners.

Background and educational tips

This activity will help the learners to focus on the Partograph and see why it is useful. It will also help them to reflect on the challenges and how to overcome them.

Using the partogram or partograph

MINISTRY OF HEALTH

LABOUR PROGRESS CHART (PARTOGRAM)

THE REPUBLIC OF UGANDA

Hospital or Health Centre: IP no:

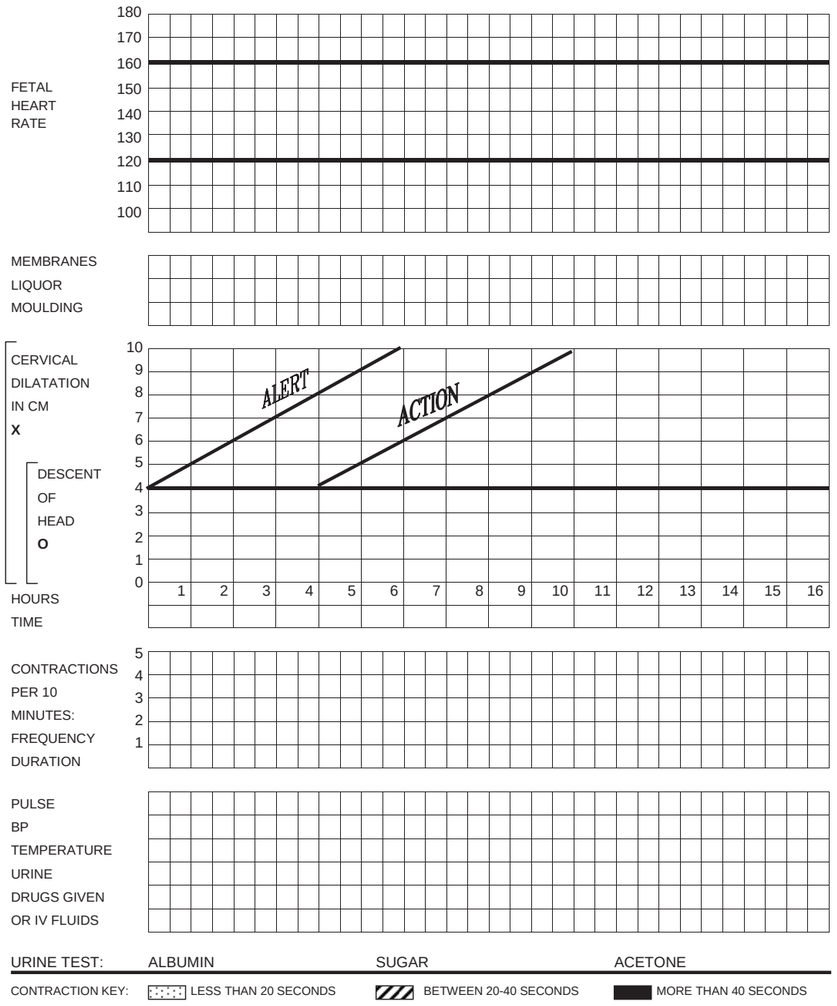
Name: Date of admission: Time of admission:

Age: Gravida: Para:

LNMP: EDD: Weeks of Gestation:

Risk Factors: Membranes ruptured at:

PMTCT code:



URINE TEST: ALBUMIN SUGAR ACETONE

CONTRACTION KEY: LESS THAN 20 SECONDS BETWEEN 20-40 SECONDS MORE THAN 40 SECONDS

SMALL GROUP DISCUSSION WRAP UP

Discuss the partograph with the group and write the answers on the flip chart.

- What is the Partograph
- Why would you use it?
- When do you use it?
- What are the benefits?
- What are the challenges?

Background and educational tips

For this activity you need:

- A flip chart

This activity will help the learners to focus on the Partograph and see why it is useful. It will also help them to reflect on the challenges and how to overcome them.
A Partograph is a simple tool which has proven to reduce prolonged labour, the need for augmentation, emergency cesarean sections and intrapartum stillbirth rates. It is a graphic representation of the course of dilatation of the cervix and decent of the baby which helps the healthcare worker to assess the progress of labour. It has also space to mark most other observations concerning the maternal and fetal condition during labour. The correct use of a partograph is one of the most important steps in the safe management of labour.The partograph helps to identify problems and plan further management. It should be used in all labour wards and centers for maternity care.
A health professional should start a partograph for all women in active labour, provided that they do not have a complication that requires immediate action. However, a partograph should only be started in the active phase when there is at least 4 centimeter dilatation of the cervix. Starting it earlier is of no use and will create false alarms.

Monitoring the duration with the partogram or partograph

MINISTRY OF HEALTH

LABOUR PROGRESS CHART (PARTOGRAM)

THE REPUBLIC OF UGANDA

Hospital or Health Centre:		IP no:
Name:	Date of admission:	Time of admission:
Age:	Gravida:	Para:
LNMP:	EDD:	Weeks of Gestation:
Risk Factors:		Membranes ruptured at:
PMTCT code:		

FETAL HEART RATE — 180, 170, 160, 150, 140, 130, 120, 110, 100

MEMBRANES LIQUOR MOULDING

CERVICAL DILATATION IN CM **X**

DESCENT OF HEAD **O**

ALERT

ACTION

10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0

HOURS TIME — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

CONTRACTIONS PER 10 MINUTES: FREQUENCY DURATION — 5, 4, 3, 2, 1

PULSE
BP
TEMPERATURE
URINE
DRUGS GIVEN OR IV FLUIDS

URINE TEST: ALBUMIN SUGAR ACETONE

CONTRACTION KEY: LESS THAN 20 SECONDS | BETWEEN 20-40 SECONDS | MORE THAN 40 SECONDS

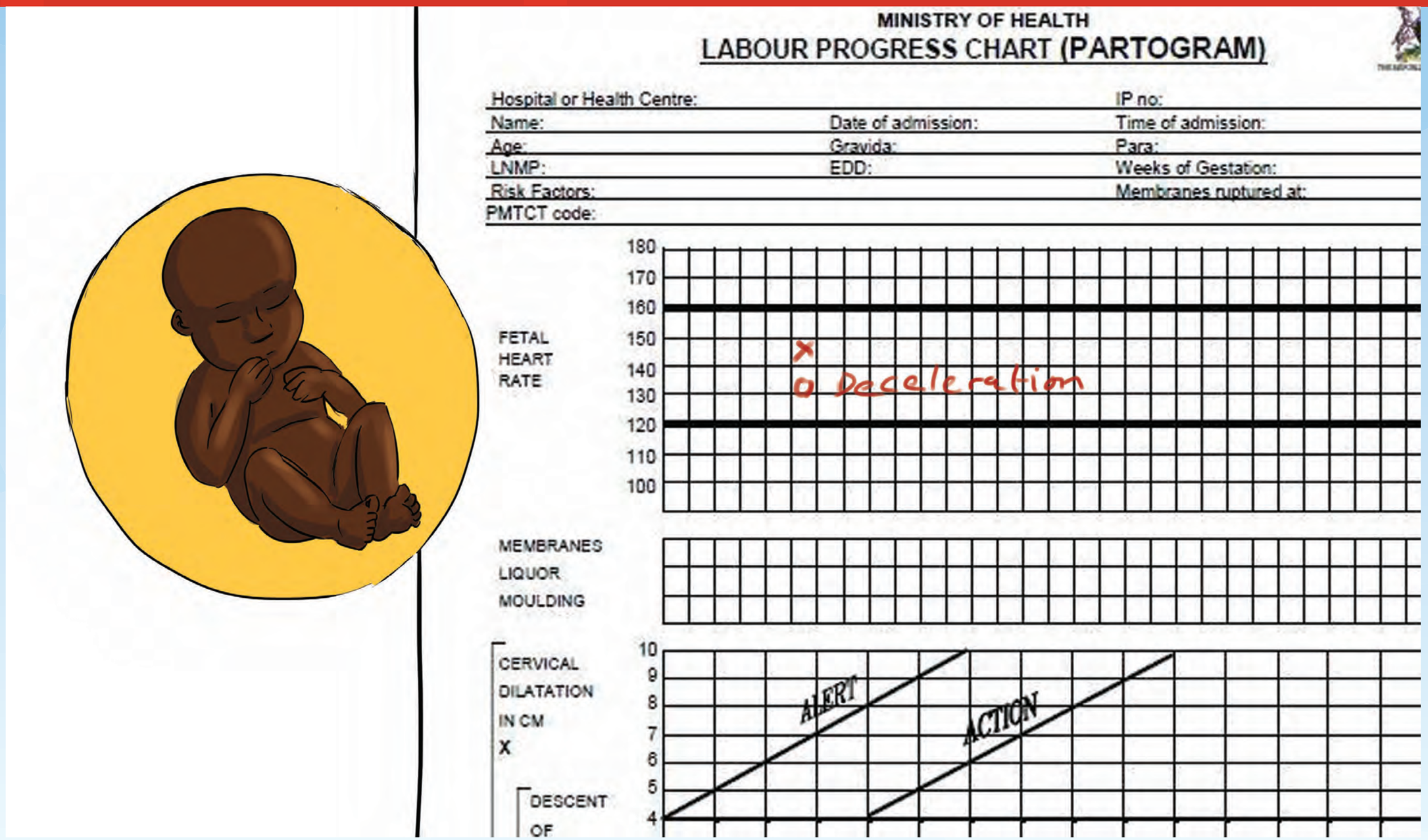
MONITORING THE DURATION WITH THE PARTOGRAPH

Say:
Sometimes labour takes longer than expected. It is very important to keep the wellbeing of both mother and child in mind before you do something.

- The plotted line can cross the ‘alert line’. A mother in labour should be referred from a health centre to a hospital when the plotted line which illustrates the cervical dilatation moves to the right of the alert line.

- The plotted line can cross the ‘action line’. Labour is taking too long and active intervention is needed to prevent negative outcomes for both mother and child.As long as there is no evidence of fetal distress or obstructed labour, the active intervention includes rehydration, the start of an intravenous line, bladder catheterization or encouraging the mother to empty her bladder, providing analgesia and augmentation of contractions with oxyticin.

Monitoring the fetus with the partogram or partograph



MINISTRY OF HEALTH

LABOUR PROGRESS CHART (PARTOGRAM)

Hospital or Health Centre: IP no:

Name: Date of admission: Time of admission:

Age: Gravida: Para:

LNMP: EDD: Weeks of Gestation:

Risk Factors: Membranes ruptured at:

PMTCT code:

FETAL HEART RATE

180 170 160 150 140 130 120 110 100

x o Deceleration

MEMBRANES LIQUOR MOULDING

CERVICAL DILATATION IN CM X

10 9 8 7 6 5 4

ALERT

ACTION

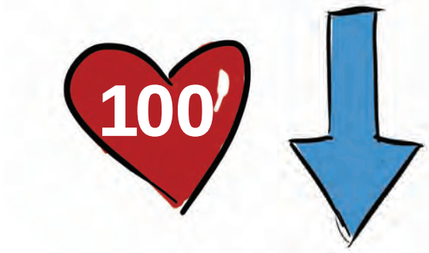
DESCENT OF

MONITORING THE FETUS WITH THE PARTOGRAPH

Say:
The fetal heart rate measurement done during the contraction is marked with an X, the measurement that is taken right after the contraction is marked with an O.This way, it is very easy to observe whether there was a deceleration. In case of a deceleration it is important to mark I it was an early, a late or a variable deceleration.

Once the fetus shows an abnormal fetal heart rate pattern, emergency response is needed. Baby could be dead in 30 minutes!

Fetal bradycardia



- ***How do you recognise it?***
- ***What is the baby trying to communicate?***
- ***What are the actions?***

MONITORING THE FETUS WITH THE PARTOGRAPH

Ask the learners to describe fetal bradycardia

- How do you recognise it?
- What is the baby trying to communicate?
- What are the actions?

Background and educational tips

Fetal bradycardia is when the baseline fetal heart rate drops below 100 beats per minute.A baseline bradycardia of less than 100 beats per minute usually indicates fetal distress which is caused by severe fetal hypoxia. If decelerations are also present, a baseline bradycardia indicates that the baby is at great risk of dying. When you observe fetal bradycardia, fetal distress due to severe hypoxia is present. Therefore, you should immediately do the following: •Turn the mother onto her side to correct any supine hypotension (a low blood pressure which some pregnant women can develop in late pregnancy when they lie flat on their back).

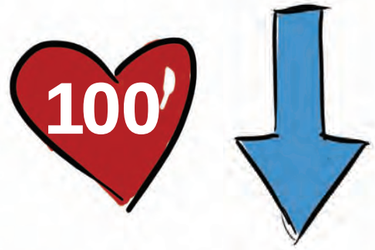
•If the woman is receiving an oxytocin infusion, this must be stopped immediately to prevent any uterine overstimulation.

•Do a vaginal examination to investigate if the baby's head is already deeply engaged and ready to be delivered and to make sure there is no cord prolapse

•If the fetal heart rate returns to normal, allow labour to proceed, but monitor the fetal heart rate very carefully and frequently.

•If the fetal bradycardia persists, the baby must be delivered as soon as possible.Attempt fetal resuscitation.

Fetal decelerations



- *How do you recognise it?*
- *What are the different kinds of decelerations?*
- *What is the baby trying to communicate?*
- *What are the actions?*

MANAGEMENT OF FETAL DECELERATIONS

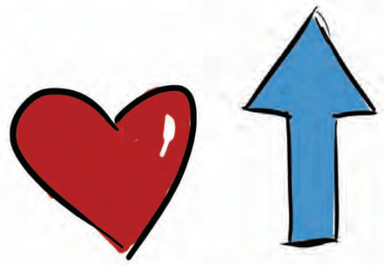
Ask the learners to describe fetal decelerations

- How do you recognise it?
- What are the different kinds of decelerations?
- What is the baby trying to communicate?
- What are the actions?

Background and educational tips

A deceleration is a temporary slowing down of the fetal heart rate.
There are different kinds of decelerations, how they are called and their level of danger depend on when they occur in relation to the contractions. An early deceleration is a deceleration that occur only during a contraction.
A late deceleration is a deceleration that occur during and after every contraction.
A variable deceleration is a deceleration that has no fixed relation to contractions.
The first thing you need to do when you observe fetal deceleration is observe the relation of the decelerations to the uterine contractions to determine the type of deceleration (early, late or variable).Then manage the patient as follows:
If the decelerations are early, the fetal heart rate pattern warns that there is an increased risk of fetal distress and, therefore, the fetal heart rate must be checked every 15 minutes. The condition of the mother and the progress of labour must also be regularly assessed.
If late decelerations are present, the management will be the same as that for fetal bradycardia:
Exclude reversible causes of fetal distress like supine hypotension (mother lying on her back) and overstimulation of the uterus with oxytocin. Resuscitate the baby and then deliver the baby as soon as possible.

Fetal tachycardia



- *How do you recognise it?*
- *What is the baby trying to communicate?*
- *What are the actions?*

MANAGEMENT OF FETAL TACHYCARDIA

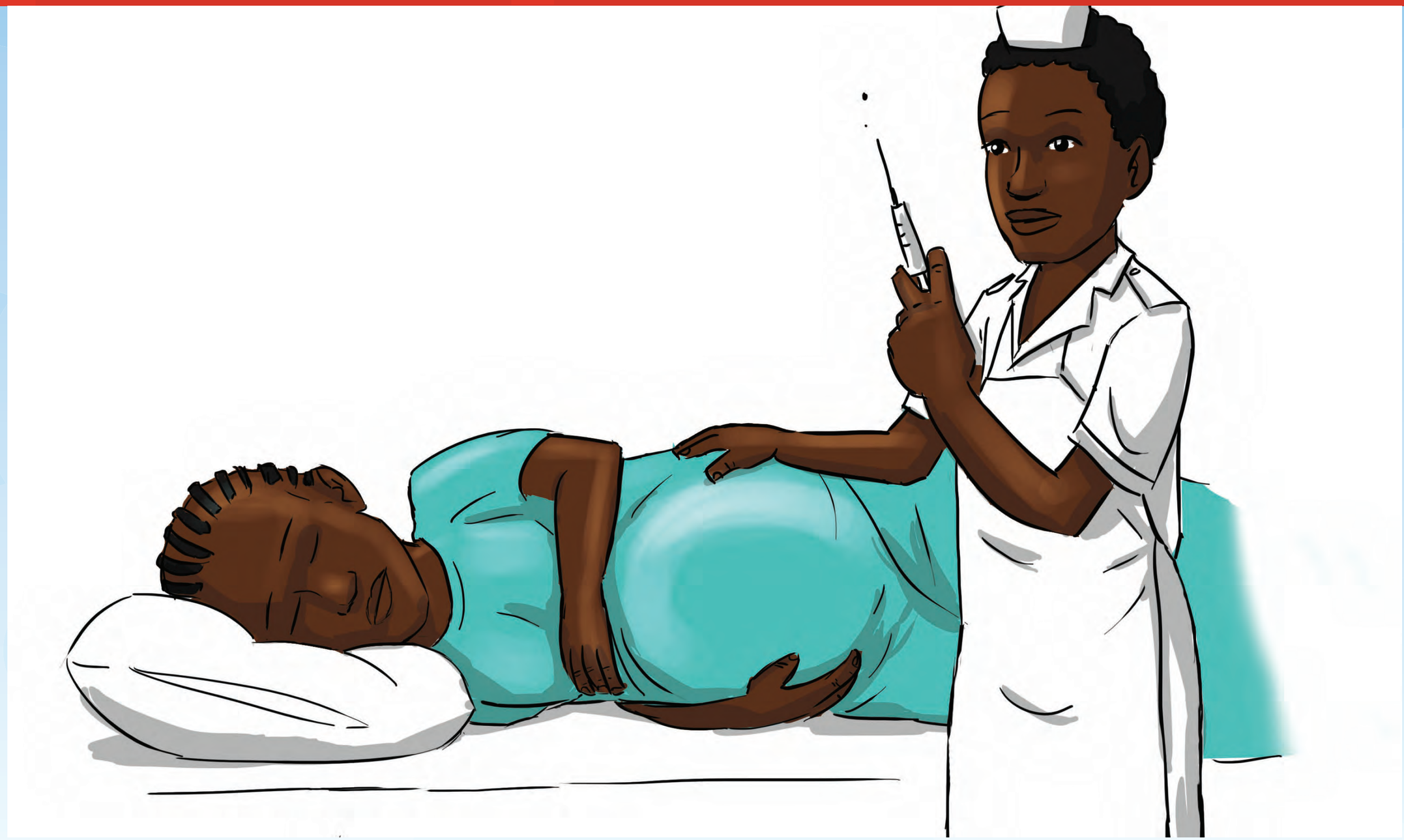
Ask the learners to describe fetal tachycardia

- How do you recognise it?
- What is the baby trying to communicate?
- What are the actions?

Background and educational tips

A baseline tachycardia is a baseline fetal heart rate (between contractions) of more than 160 beats per minute. This can be caused by maternal pyrexia, maternal exhaustion, chorioamnionitis (infection of the placenta and membranes) or fetal haemorrhage or anaemia. You must undertake the following steps:
•Assess the maternal temperature
•Make sure the mother is not dehydrated
•Assess the mothers heart rate. If her heart rate is not faster, the tachycardia should be considered to be a symptom of fetal distress.
•Assess the risk of fetal infection (duration of membrane rupture, group B streptococcus status) •Investigate what kind of medication the mother has taken and if this could influence the fetal heart rate •If it is impossible to confirm the fetal wellbeing, deliver the baby as soon as possible.

Fetal resuscitation



FETAL RESUSCITATION

What is fetal resuscitation? When do you use it?

It is important that you know how to give fetal resuscitation as it buys you time to prepare for an emergency assisted delivery or caesarean section.

- Turn the woman onto her side.
- Give her 40% oxygen through a face mask
- Start an intravenous infusion of Ringer's lactate and give 250□g (0,5ml) salbutamol (Ventolin) slowly intravenously, after ensuring that there is no contraindication to its use. (Contraindications to salbutamol are heart valve disease, a shocked patient or patient with tachycardia).The 0,5 ml salbutamol is diluted with 9,5 ml sterile water and given slowly intravenously over five minutes.
- Deliver the baby by the quickest possible route. If the woman's cervix is 9 cm or more dilated and the head is on the pelvic floor, proceed with an assisted delivery (forceps or vacuum). Otherwise, perform a Caeserean section.
- If the baby cannot be delivered immediately (for example when there is another patient in theatre) the dose of salbutamol can be repeated if contractions start again, but not within 30 minutes of the first dose or if the maternal pulse is 120 or more beats per minute

Care during labour

Every labour, you need:


Partogram


Monitoring device


Access to assisted delivery

Monitor the fetal heart rate every 30 minutes and record your findings on the partogram

Reassuring fetal heart rate

Continue monitoring mother and baby

Proceed to normal vaginal delivery

Prepare for low risk birth:


Gloves


Timer (Watch or clock)


Scissors


Cord ties


Suction device


Ventilation bag and mask


Head covering


Cloths

⚠ *Increased monitoring*

FHR 160-170 beats per minute

FHR 100 to 120 beats per minute

Early deceleration

Meconium stain liquor

Pre or post term baby or prolonged pregnancy

Two or more danger signs

⚠ *Immediate assisted delivery*

FHR less than 100 beats per minute

FHR greater than 170 beats per minute

Late deceleration

Slow progress or failure to progress (Crossing the Action line)

Prepare for high risk birth:

Same as low risk birth, plus:


Second person to assist with resuscitation

- Prepare resusciation station


Follow *'Helping Babies Breathe'* action plan

Explain poster

Care during labour

Every labour, you need:


Partogram


Monitor the fetal heart rate every 30 minutes and record your findings on the partogram


Access to assisted delivery

Reassuring fetal heart rate

Continue monitoring mother and baby

Proceed to normal vaginal delivery

Prepare for low risk birth:


Gloves


Timer (Watch or clock)


Scissors


Cord ties


Suction device


Ventilation bag and mask


Head covering


Cloths

⚠ *Increased monitoring*

FHR 160-170 beats per minute

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Early deceleration

Meconium stain liquor

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⚠ *Immediate assisted delivery*

FHR less than 100 beats per minute

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Late deceleration

Slow progress or failure to progress (Crossing the Action line)

Prepare for high risk birth:

Same as low risk birth, plus:


Second person to assist with resuscitation

- Prepare resusciation station


Follow *'Helping Babies Breathe'* action plan

Case studies

EXERCISE - Case studies (part 1)

Give each of the learners a Partograph and one of the case studies. Let them fill everything out.

Let groups come together with the same case and let them discuss problems they discovered and challenges they faced.

Test yourself

END EVALUATION

Give each learner a paper with the questions, they have to answer all the questions.

They get 20 minutes time to answer all the questions. After that they can relax and you can start working. Try to mark the learner's answer sheets as quick as possible so that they get their results right away. This is also the moment to hand out the certificate if you have organised for this.

Background and educational tips

For this activity you need:

Evaluation paper.

Make sure the set up in the classroom is as in a test so that the learners will take it serious and have no opportunity to cheat.