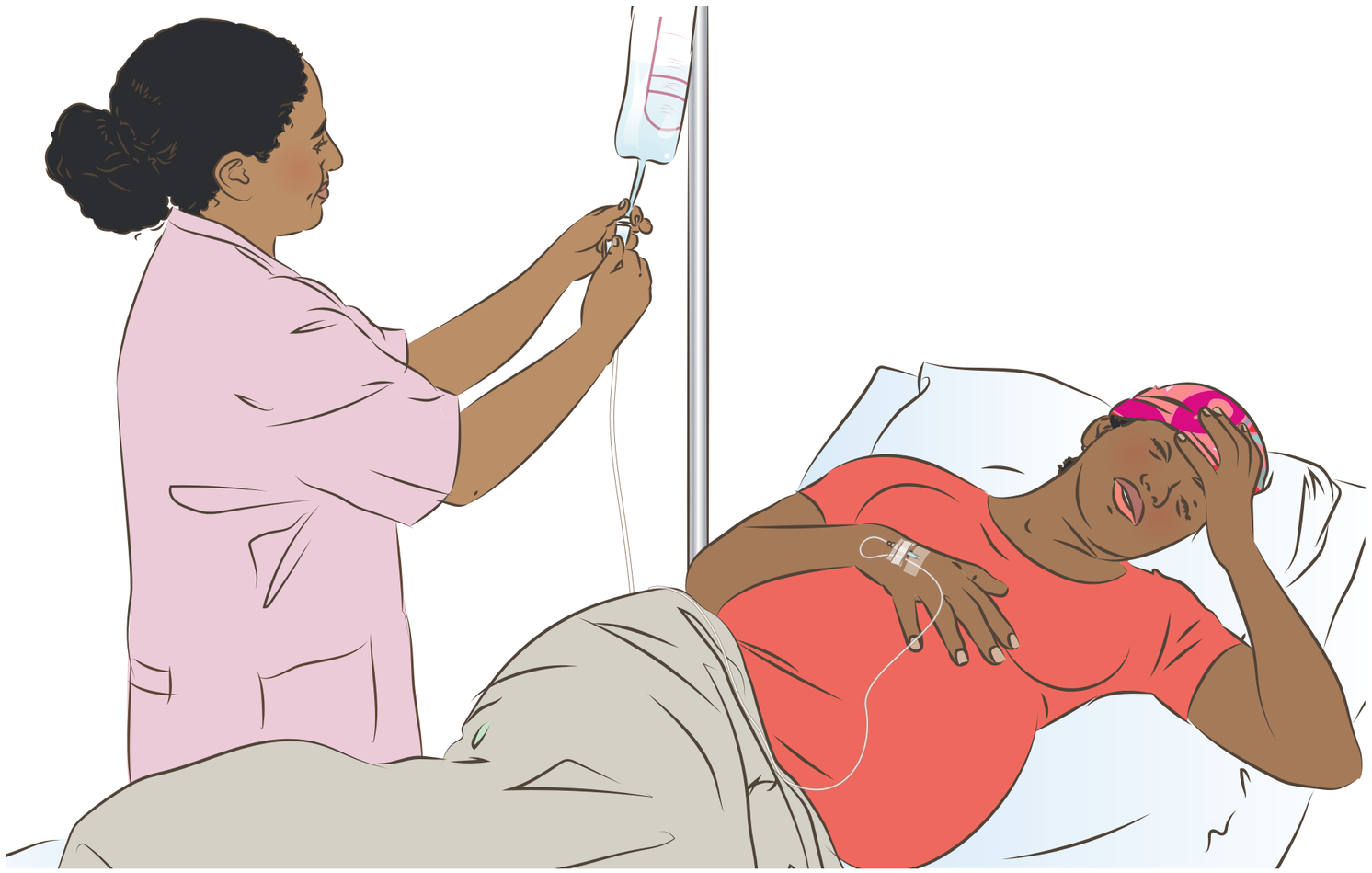
December 2022

Helping Mothers Survive

Prolonged & Obstructed Labor

Flip Chart - Part 2 of 2: Management



FIGO International Federation of Gynecology and Obstetrics
the Global Voice for Women's Health

International Confederation of Midwives
Strengthening Midwifery Globally

UNFPA

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

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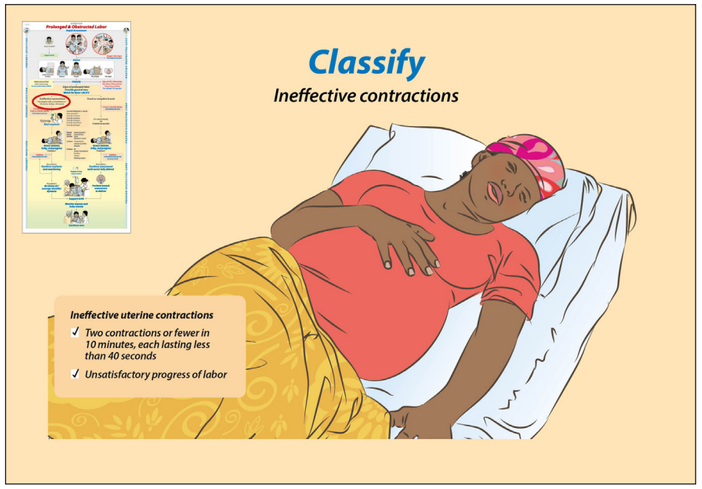


Explain

If labor is prolonged because contractions are not frequent enough or strong enough to cause dilatation and descent, augmentation by oxytocin infusion can stimulate contractions and improve progress.

Augmentation of labor with oxytocin must only be done in settings that can manage complications and only by staff who are trained and competent to manage augmentation.

Women whose labor has been augmented with oxytocin are at increased risk of:

- Uterine rupture. This risk is even higher for women who have already given birth or have had a previous cesarean.
- Fetal distress and newborn asphyxia
- Postpartum hemorrhage
- Shoulder dystocia

Only augment labor with oxytocin if <u>all</u> of the following apply:

- Ineffective contractions are the most likely cause of poor progress when the cervix is **5 or more cm dilated** OR during second stage of labor.
- The facility can manage maternal and fetal complications of augmentation, can perform cesarean birth, has oxytocin that is kept in cold chain of 2-8 °C for distribution and storage, the staff who can titrate the infusion and closely monitor the woman, fetus, labor.
- **No signs of CPD or obstruction.**
- Cephalic presentation and a malpresentation/malposition requiring cesarean birth has been ruled-out.
- Only one fetus.

Use caution when augmenting labor with oxytocin if the woman has had a prior cesarean birth. Follow local protocols.

Consider performing an amniotomy when augmentation is started, however:

- Do not perform an amniotomy if the presenting part is not well applied to the cervix to avoid umbilical cord prolapse!

Perform an amniotomy with caution if the woman has HIV or hepatitis B or C OR if these diseases are common to prevent transmission to the baby.

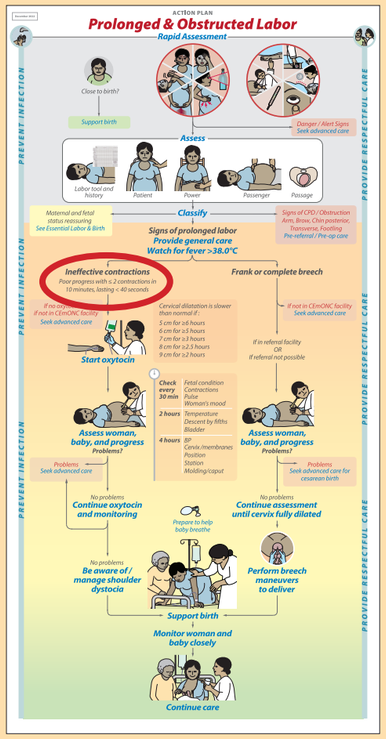
Advanced Care Note

Refer the woman for advanced care if poor progress of labor is most likely due to ineffective contractions and any of the following apply:

- Signs of obstructed labor / CPD
- Non-cephalic presentation, malpresentation/malposition requiring cesarean birth, multiple pregnancy
- The facility does not have the capacity to conduct a cesarean birth
- Betamimetics are not available to treat hyperstimulation
- Oxytocin is NOT available or is NOT managed in a cold chain of 2-8 °C .
- The facility does not have staff to:

- provide continuous supportive care to the woman
- calculate and control the oxytocin rate
- closely monitor the woman and fetus
- identify and manage both maternal and fetal complications of oxytocin augmentation

Depending on local guidance, refer women with a previous cesarean birth.



Classify

Ineffective contractions

Ineffective uterine contractions

- ✓ *Two contractions or fewer in 10 minutes, each lasting less than 40 seconds*
- ✓ *Unsatisfactory progress of labor*

EXERCISE

Is augmentation needed?

Have learners turn to page 4 in PG2 for case studies to decide if augmentation is appropriate. Ask participants to work in groups of 2 to 4 to answer questions for each scenario. Circulate among the groups to provide support. After 20 minutes, review answers together.

SCENARIO 1:
Ms. W. is a 24 year old G2P1 who arrived at the facility with painful contractions:

02:00: Cervix 5 cm dilated, soft, effaced at 80%. Descent: 2/5. Contractions in 10 min each lasting between 30-40 seconds. The baby is in OA position.

06:00: Cervix 6 cm dilated, soft, and 100% effaced. Descent: 2/5. She has no danger signs, she is tolerating contractions, vital signs are within normal limits, and FHR is 132-146 bpm. There are no signs of CPD or obstruction.

Ask,
Is augmentation with oxytocin needed?
Why or why not?
Will depend on national protocols. While contractions are less than three in 10 minutes and lasting only 30-40 seconds and labor has progressed only 1 cm in 4 hours, fetal and maternal conditions are reassuring.
Is advanced care needed?
No.

SCENARIO 2:
Ms. X. is a 22 year old G1P0 who arrived at the facility with painful contractions:

16:00: Cervix 6 cm dilated, soft, and fully effaced. Descent: 2/5. Two contractions in 10 min each lasting between 30-40 seconds. The baby is ROA position.

24:00: Cervix 7 cm dilated, not edematous, the fetal head was well applied to the cervix. She is tired but coping. She has her companion at her side, is well hydrated with sweetened fluids and she has been alternating between walking and resting. BP is 122/78, Pulse 82 bpm Respirations 16 / min, temperature 37.6°C. FHR 144-152 bpm.

Ask,
Is augmentation with oxytocin needed?
Why or why not?
Yes. Cervical dilatation has only progressed 1 cm in 8 hours. There are no signs of maternal or fetal distress and no signs of obstruction or CPD. She has already been hydrated and has her companion to help her cope.

Ask,
Is advanced care needed?
No, unless the facility does not meet requirements for augmenting labor with oxytocin.

SCENARIO 3:
Ms. Y. is a 32 year old G6P4 who arrived at the facility with painful contractions:

20:00: Cervix 6 cm dilated, slightly edematous. Descent: 3/5. Two contractions in 10 minutes each lasting between 30-40 seconds. The baby is in occiput anterior position.

00:00: Cervix 6 cm dilated, very edematous. She is exhausted and anxious. BP is 108/58, Pulse 102 bpm Respirations 22 / min, temperature 38.1°C. FHR 162-182 bpm.

Ask,
Is augmentation with oxytocin needed?
Why or why not?
No. While there has been no cervical change at all in 4 hours and contractions are less than 3/10 min and lasting only 30-40 seconds, there are signs of maternal and fetal distress and obstructed labor.

Is advanced care needed?
Yes.

EXERCISE

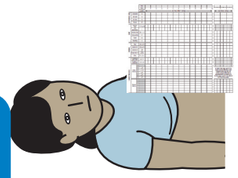
Is augmentation needed?

PREVENT INFECTION

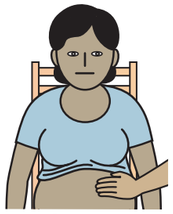
PROVIDE RESPECTFUL CARE

Seek advanced care

Assess


Labor tool and history


Patient


Power


Passenger


Passage

Classify

al and fetal
eassuring
l Labor & Birth

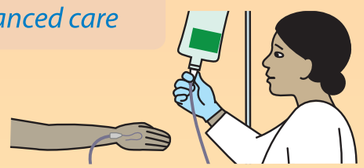
Signs of CPD / Obstruction
Arm, Brow, Chin posterior,
Transverse, Footling
Pre-referral / Pre-op care

Signs of prolonged labor
Provide general care
Watch for fever >38.0°C

Ineffective contractions

Poor progress with ≤ 2 contractions in 10 minutes, lasting < 40 seconds

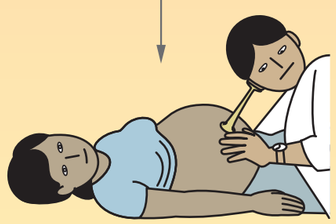
If no oxytocin OR
if not in CEmONC facility
Seek advanced care



Start oxytocin

Cervical dilatation is slower than normal if :

5 cm for ≥6 hours
6 cm for ≥5 hours
7 cm for ≥3 hours
8 cm for ≥2.5 hours
9 cm for ≥2 hours



Assess woman, baby, and progress
Problems?

Problems
Seek advanced care

No problems

Continue oxytocin and monitoring

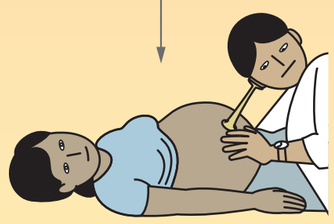
Check every 30 min	*Fetal condition* *Contractions* *Pulse* *Woman's mood*
2 hours	*Temperature* *Descent by fifths* *Bladder*
4 hours	*BP* *Cervix /membranes* *Position* *Station* *Molding/caput*


Prepare to help

Frank or complete breech

If not in CEmONC facility
Seek advanced care

If in referral facility
OR
If referral not possible

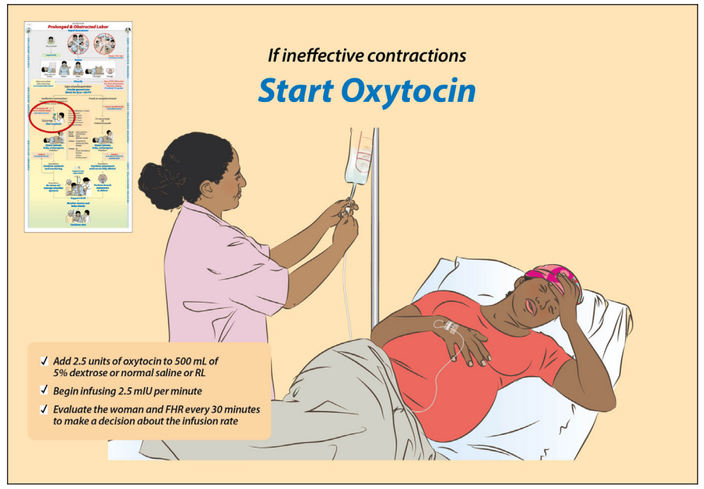


Assess woman, baby, and progress
Problems?

Problems
Seek advanced care for cesarean birth

No problems

Continue assessment until cervix fully dilated



Facilitation note:

Before reviewing augmentation, be sure you have seen the IV perfusion sets available at the facility to understand the drop factors used.

Explain

Explain to the woman and her companion why she needs oxytocin to augment her labor. Tell her what to expect and that her contractions will become stronger. **Obtain her consent**.

- **Never leave the woman alone!**
- **Monitor the woman, fetus, and labor progress** and record on the labor record. Use your assessments to decide if the infusion rate should be maintained, increased, or stopped.

Every 30 minutes:

- Coping, pulse, contractions, and FHR
- Liquor if membranes are ruptured

Every 2 hours:

- Temperature, descent by abdominal examination, bladder

Every 4 hours:

- BP
- Vaginal examination: cervical dilatation and condition, station, position, molding and caput

- If the woman is lying down, ensure she is in any position of her choice except flat on her back. She may walk and move around if the baby is doing well.
- Provide pain relief as needed.
- Let the woman and her companion know how she and her baby are doing and how her labor is progressing.
- **Immediately assess vital signs, contractions, and FHR if the woman appears distressed and respond based on findings.**

Demonstrate

▶ Using oxytocin to treat prolonged labor

Ask participants to refer to the following job aids in PG2 as you demonstrate or while they watch the video:

- *Page 7: Oxytocin infusion rates for augmentation of labor*
- *Page 8: Calculating oxytocin drip rates based on the drop factor*
- *Page 9: Increasing oxytocin infusion*
- *Page 10: Monitoring and decision-making during oxytocin infusion*

When video is not available

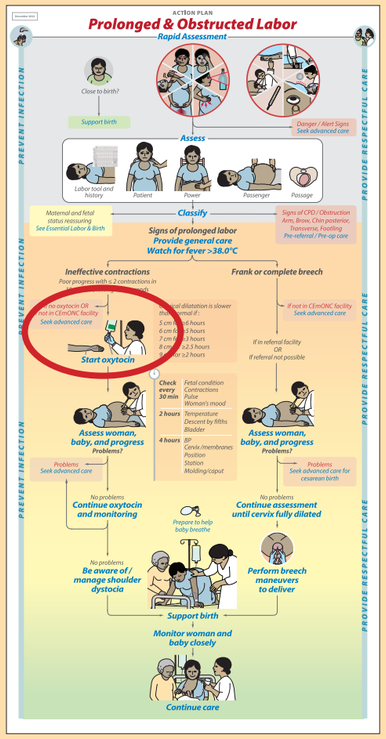
Demonstrate starting an oxytocin infusion using the checklist on page 6 of the PG for "Starting oxytocin with 2.5 IU/mL".

Practice

Use the IV perfusion set available in the facility to calculate the drip rate. Point to where the drop factor or the number of drops/mL is on the package. Have providers refer to the table for oxytocin infusion rates for augmentation of labor on page 7 and drop factor calculation on page 8 of PG2.

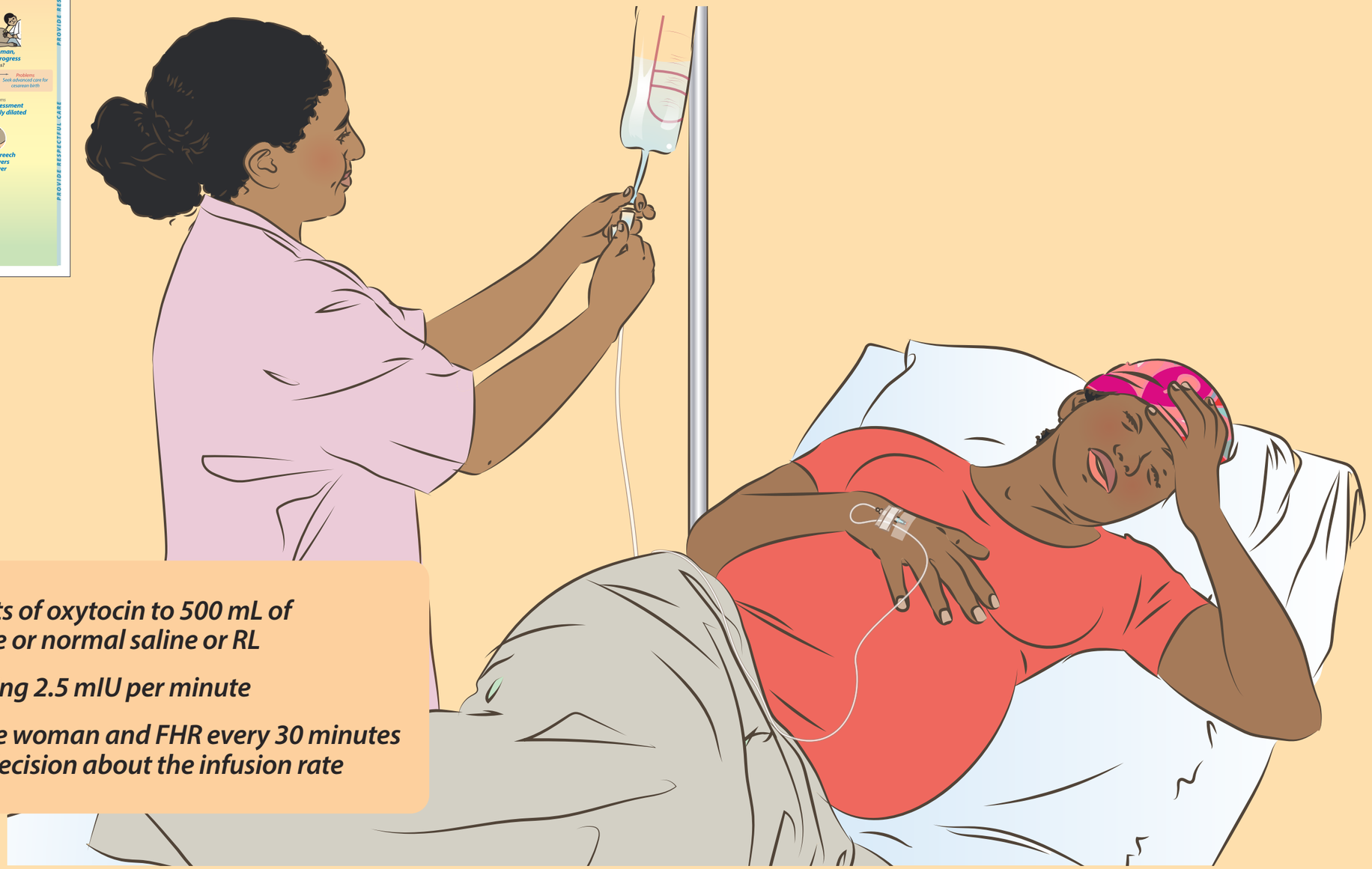
Working in groups of 2 or 3, ask participants to regulate the IV perfusion and verify the drip rate, holding a watch with a second hand behind the drip chamber, for the following doses:

- *5 mIU/min with a concentration of 2.5 IU in 500 mL*
- *10 mIU/min with a concentration of 2.5 IU in 500 mL*
- *15 mIU/min with a concentration of 2.5 IU in 500 mL*

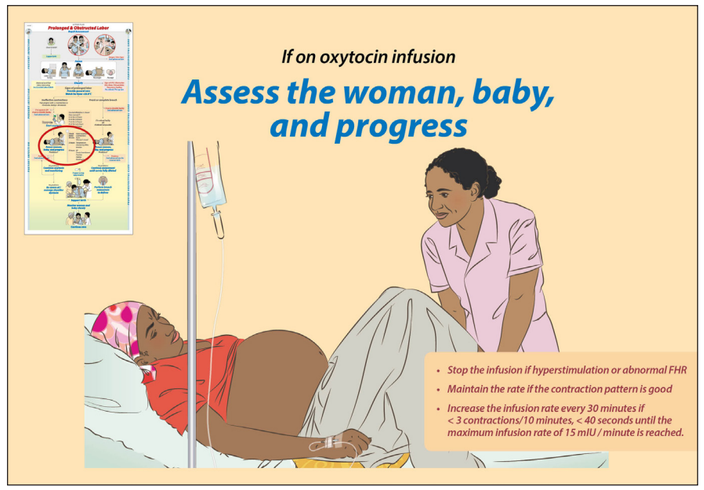


If ineffective contractions

Start Oxytocin



- ✓ *Add 2.5 units of oxytocin to 500 mL of 5% dextrose or normal saline or RL*
- ✓ *Begin infusing 2.5 mIU per minute*
- ✓ *Evaluate the woman and FHR every 30 minutes to make a decision about the infusion rate*



Explain

Closely monitor the woman, fetus, and labor progress. Act fast if there are signs of fetal or maternal distress or signs of hyperstimulation! Continue to provide general labor support and never leave the woman alone.

Learning activity

Have learners refer to pages 9 & 10 of PG2 on how to increase oxytocin until contractions are adequate and how to monitor and make decisions during augmentation to answer the questions:

"What will you monitor and record every 30 minutes?"

- Coping, pulse, contractions, and FHR
- Amniotic fluid if membranes are ruptured

"What findings should be present to increase the perfusion rate?"

- Maternal and fetal status are reassuring
- Contractions are not yet effective

"What findings will indicate that you should maintain the rate and not continue to increase it?"

- Maternal and fetal status are reassuring
- Effective contraction pattern (3 contractions/10 minutes, each lasting more than 40 seconds) is reached.

"When should you stop the infusion and what should you do in each case?"

- If the FHR is abnormal, stop the infusion and manage for fetal distress: give oxygen, fluids, and have the woman turn on her left side.
- If there are more than five contractions in 10 minutes, or if any contraction lasts longer than 60 seconds, or if the uterus does not relax between contractions, stop the infusion and manage hyper-stimulation. We will review this shortly.

"If the woman's pulse is rapid, what should you do?"

- If the maternal pulse is rapid and weak, perform a rapid evaluation of the general condition of the woman including re-checking pulse, blood pressure, respiration, temperature, and manage based on findings.

"Could augmentation be the cause of the rapid pulse? If so, how?"

- Yes, it could be from uterine rupture.

"What is the maximum infusion rate when using a concentration of 2.5 units of oxytocinin in 500 mL of an IV solution?"

- **The maximum infusion rate is 15 mIU / minute** (i.e. 3 mL per minute or 60 drops per minute if the giving set has a drop factor of 20 drops/mL).

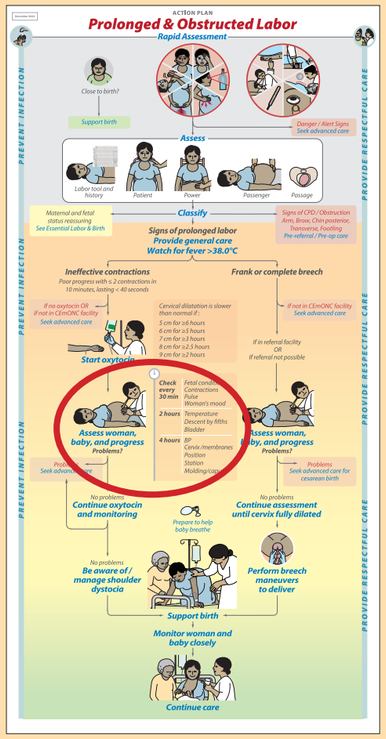
"What will you do once the maximum infusion rate is reached using a concentration of 2.5 units oxytocin/500 mL of an IV solution and contractions are not yet effective?"

- Begin using a concentration of 5 IU/500mL.

Advanced Care Note

Based on local protocols and standards, refer the woman for advanced care if any of the following apply:

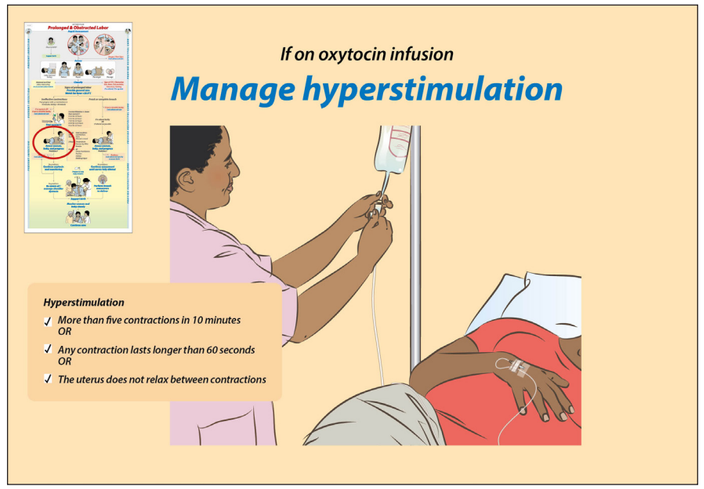
- Their is fetal distress
- There is hyperstimulation



If on oxytocin infusion

Assess the woman, baby, and progress

- *Stop the infusion if hyperstimulation or abnormal FHR*
- *Maintain the rate if the contraction pattern is good*
- *Increase the infusion rate every 30 minutes if < 3 contractions/10 minutes, < 40 seconds until the maximum infusion rate of 15 mIU / minute is reached.*



Explain

Hyperstimulation can happen with or without fetal distress. However, if not corrected, it can lead to fetal hypoxia and uterine rupture.

Make sure the woman has adequate pain relief – hyperstimulation is very painful!
If there is evidence of fetal distress, use non-pharmacologic means to provide emotional support and pain relief.

Never leave the woman alone!

Demonstrate

With a volunteer wearing the simulator demonstrate how you would respond to hyperstimulation. Ask participants to refer to page 11 in PG2 as you demonstrate. Explain what is happening and what you need to do as you:

- **Stop the oxytocin infusion.**
- Position the woman on her left side.
- Seek advanced care by a senior provider right away.
- Assess the FHR:
  If the FHR is normal:
  - Observe for improvement in uterine activity and monitor the FHR.
  - If normal uterine activity is not established within 20 minutes, relax the uterus using betamimetics.

If the FHR is abnormal:
- Manage fetal distress: change the woman's position, give IV or oral fluids and oxygen.
- Relax the uterus using betamimetics- Terbutaline 250 mcg added to 9 mL of sodium chloride 0.9 % - give slowly by 50 mcg IV boluses up to 250 mcg in total OR 250 mcg by subcutaneous injection

OR
- Salbutamol 10 mg in 1 L IV fluids (normal saline or Ringer's lactate) at 10 drops per minute.
  - Observe for improvement in uterine activity and FHR.
  - Consider the need for caesarean birth if fetal distress persists despite emergency treatment
- If the FHR becomes reassuring or normal and normal uterine activity is established for a period of at least 30 minutes, cautiously restart oxytocin infusion if you are in an advanced care facility. Otherwise, seek advanced care.

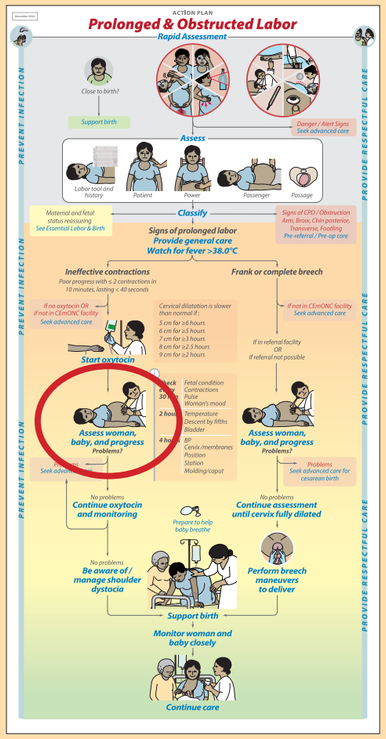
Discuss

Ask learners, ***"What betamimetics do you use at this facility?"***

Advanced Care Note

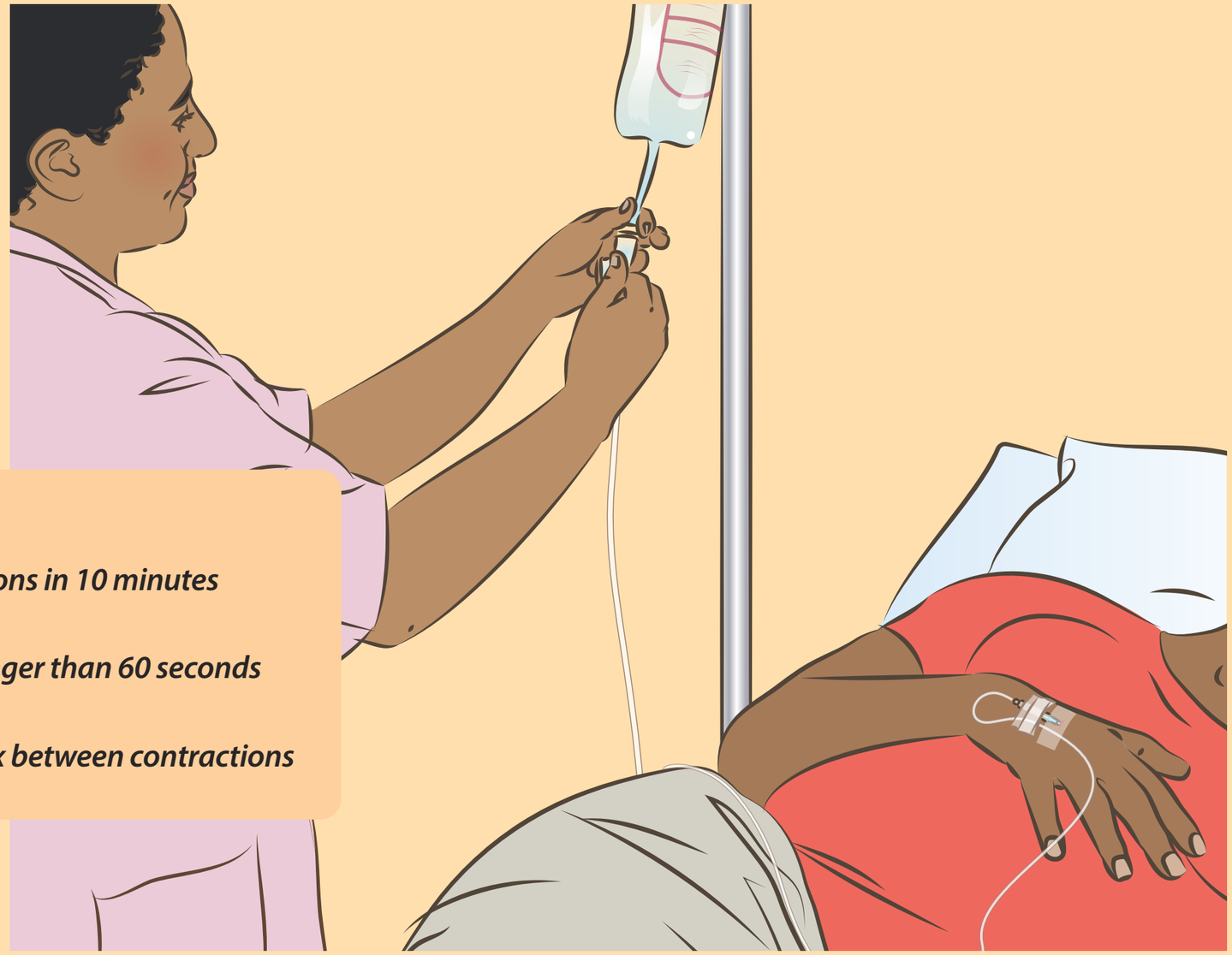
Based on local protocols and standards, seek advanced care by a senior provider if any of the following apply:

- There is hyperstimulation.
- Betamimetics are indicated.
- The baby is distressed and not recovering after treatment with betamimetics.
- Betamimetics have not succeeded in managing hyperstimulation.



If on oxytocin infusion

Manage hyperstimulation



Hyperstimulation

- ✓ *More than five contractions in 10 minutes*
  OR
- ✓ *Any contraction lasts longer than 60 seconds*
  OR
- ✓ *The uterus does not relax between contractions*

EXERCISE

Manage oxytocin infusion (1)

Divide learners into groups of 2 - 4 and have them turn to scenarios on page 12 of PG2. Ask learners to refer to pages 7-10 of PG2 to help them answer questions for each augmentation scenario. Circulate to facilitate discussion.

SCENARIO 1:
Ms. E. is a 19 year old G1P0 who arrived in labor:

09:00: Cervix 7 cm, 3 uterine contractions in 10 min lasting 20-30 seconds.

13:00: Cervix 7 cm, 2 contractions in 10 min each lasting 30-40 seconds.

- CPD and obstruction have been ruled out. FHR 152 bpm.
- Augmentation started: oxytocin drip with a concentration of 2.5 units in 500 mL of Ringer's Lactate, perfusing 2.5 mIU per min.

13:30: 2 contractions in 10 min each lasting 30-40 seconds; FHR 138 bpm.

Ask,
How will you manage the oxytocin infusion?

- Increase the infusion rate by 2.5 mIU per min.

How you will care for the woman?

- Continue monitoring uterine contractions, FHR, and maternal pulse every 30 min.
- Provide general care and support.

SCENARIO 2:
Ms. F. is a 32 year old G6P5 who arrived in labor:

17:00: Cervix 5 cm, 2 contractions in 10 min each lasting 30-40 seconds.

21:00: Cervix 5 cm, no change in frequency and length of contractions.

01:00: Cervix 6 cm, no change in contractions.

- CPD and obstruction have been ruled out. FHR 136 bpm.
- Augmentation started: oxytocin at a concentration of 2.5 units in 500 mL of Ringer's Lactate, perfusing 2.5 mIU per min.

03:00: 6 contractions in 10 min each lasting 70-80 seconds; FHR 172 bpm.

Ask,
How will you manage the oxytocin infusion?

- Turn of oxytocin!

How you will care for the woman.

- Treat hyperstimulation and fetal distress: after oxytocin is off, turn woman to her side, give oxygen and plain IV fluids, give betamimetics, continue monitoring and supportive care.

Debrief

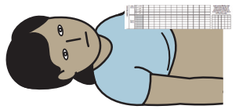
Ask one group to share their answers on scenario 1 with the group. After one group has given their answer, ask if others have additions or comments. If needed, provide the correct answers and feedback. Repeat for scenario 2.

EXERCISE

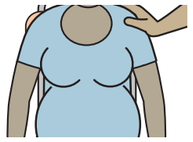
Manage oxytocin infusion (1)

PREVENT INFECTION

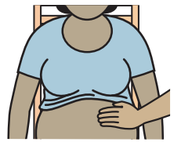
PROVIDE RESPECTFUL CARE



Labor tool and history



Patient



Power

Passenger

Passage

Classify

Maternal and fetal status reassuring
Essential Labor & Birth

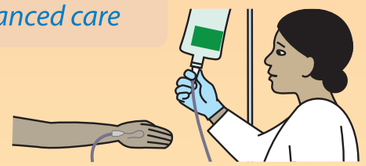
Signs of CPD / Obstruction
Arm, Brow, Chin posterior, Transverse, Footling
Pre-referral / Pre-op care

Signs of prolonged labor
Provide general care
Watch for fever >38.0°C

Ineffective contractions

Poor progress with ≤ 2 contractions in 10 minutes, lasting < 40 seconds

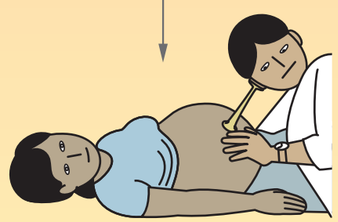
If no oxytocin OR if not in CEmONC facility
Seek advanced care



Start oxytocin

Cervical dilatation is slower than normal if :

5 cm for ≥6 hours
6 cm for ≥5 hours
7 cm for ≥3 hours
8 cm for ≥2.5 hours
9 cm for ≥2 hours



Assess woman, baby, and progress
Problems?

Check every 30 min	*Fetal condition* *Contraction* *Pulse* *Woman's mood*
2 hours	*Temperature* *Descent by fifths* *Bladder*
4 hours	*BP* *Cervix /membranes* *Position* *Station* *Molding / caput*

Problems
Seek advanced care

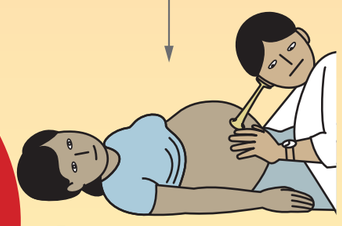
No problems

Continue oxytocin and monitoring

Frank or complete breech

If not in CEmONC facility
Seek advanced care

If in referral facility
OR
If referral not possible



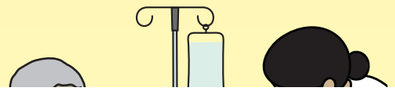
Assess woman, baby, and progress
Problems?

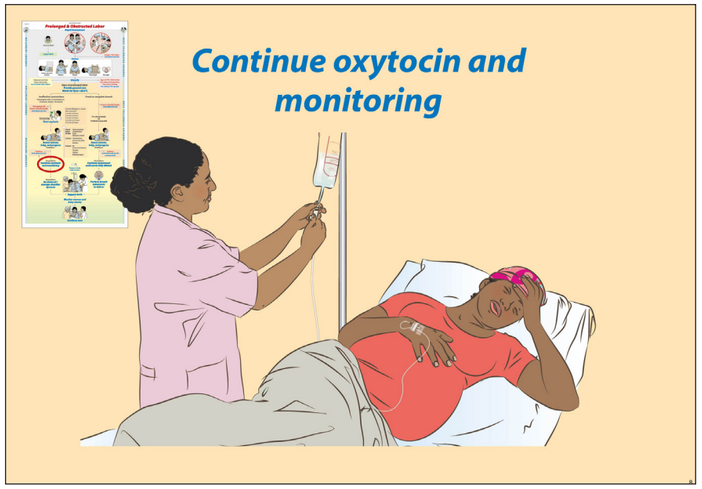
Problems
Seek advanced care for cesarean birth

No problems

Continue assessment until cervix fully dilated

Prepare to help baby breathe





Explain

The oxytocin dose should never be more than:

- *30 mIU/minute using a concentration of 5 IU/500 mL in multigravida and in women with prior caesarean birth AND*
- *60 mIU per minute using a concentration of 10 IU/500 mL in a primigravida*

Once these limits are reached and contractions are not effective OR labor does not progress, augmentation has failed. Seek advanced care!

Learning activity

Ask learners to refer to pages pages 9 & 10 of PG2 on how to increase oxytocin and how to monitor and make decisions during augmentation to answer the following questions:

"How will you prepare the oxytocin concentration with oxytocin 5 IU in 500 mL to continue the oxytocin infusion?"

- Use a **new IV bag** to make the new concentration.
- Add 5 units of oxytocin to 500 mL of IV fluid.
- Adjust the infusion rate to 15 mIU per min.

"If a good contraction pattern is not established after 30 min and maternal and fetal status is reassuring, by how much will you increase the rate, using a concentration of 5 IU/500 mL?"

- Increase the infusion rate by 5 mIU every 30 minutes

"What is the maximum infusion rate using a concentration of 5 IU/500 mL?"

- The maximum infusion rate is 30 mIU/minute using a concentration of 5 IU/500 mL.

Warning! Never use oxytocin 10 units in 500 mL in multigravida or women who had a previous cesaean birth.

"In a primigravida, what will you do when the maximum infusion rate of 30 mIU/min using a concentration of 5 IU/500 mL has been reached and a good contraction pattern has not been established?"

- In a primigravida, increase the oxytocin concentration to 10 IU per 500 mL (use a new IV bag to make the new concentration.

"In a primigravida, at what infusion rate will you start the infusion using a concentration of 10 IU/500 mL?"

- Start the new infusion to a rate of 30 mIU per minute.

"What is the maximum infusion rate using a concentration of 10 IU/500 mL?"

- The maximum rate is 60 mIU per minute.

"***What are signs that augmentation has failed?"***

- Once the limit for primigravidas of 60 mIU/minute of oxytocin or 30 mIU/minute in multigravidas has been reached and contractions are not effective OR labor does not progress, augmentation has failed.

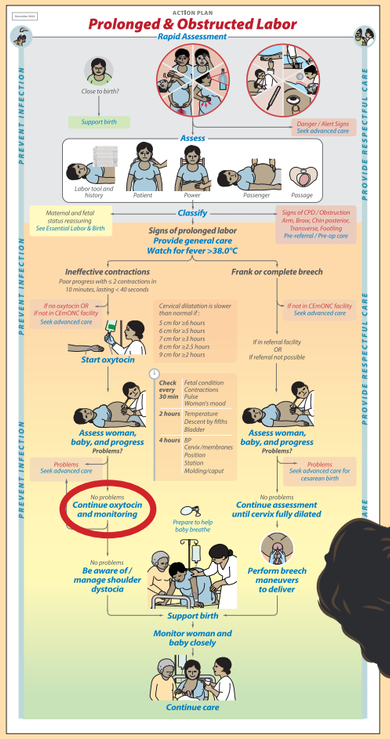
Advanced Care Note

Refer the woman for advanced care if any of the following apply:

- The maximum dose of oxytocin is reached and a good contraction pattern has not been established.
- The baby is distressed and not tolerating augmentation.

Guidance should be adapted based on local protocols and standards.

Continue oxytocin and monitoring



EXERCISE

Manage oxytocin infusion (2)

Divide learners into groups of 2-4 and have them turn to scenarios on page 13 of PG2. Ask learners to refer to pages 7-10 of PG2 and answer questions for each augmentation scenario. Circulate to provide help as needed.

SCENARIO 1:
Ms. G. is a 21 year old G1P0 who arrived in labor:

04:00: Cervix 5 cm; 3 contractions in 10 min lasting 20-30 seconds; FHR 144

08:00: Cervix 6 cm; 2 contractions in 10 min lasting 30-40 seconds; FHR 132 bpm.
- CPD and obstruction have been ruled out.
- Augmentation started: oxytocin 2.5 units in 500 mL of RL, starting at 2.5 mIU per min.

11:00: 2 contractions in 10 min lasting 30-40 seconds; FHR is 146 bpm
- Oxytocin concentration increased to 5 IU oxytocin / 500 mL of RL starting at 15 mIU/ min.

12:00: Cervix 6 cm; 2 contractions in 10 min lasting 30-40 sec; FHR is 138 bpm
- Oxytocin drip rate: 25 mIU/min of 5 IU oxytocin/500 mL of RL

13:00: 2 contractions in 10 min lasting 30-40 sec; FHR 142 bpm
- Oxytocin augmentation for 5 hours. Current drip rate is 30 mIU/min for the last 30 min with a concentration of 5 units of oxytocin in 500 mL.

Ask,
How will you manage the oxytocin infusion?
- Increase the concentration of oxytocin to 10 units / 500 mL: Add 10 units of oxytocin to a **new bag** of 500 mL of 5% glucose, RL, or normal saline to equal 20 mIU per mL.
- Adjust the infusion rate to 30 mIU per min.

How you will care for the woman?
- Continue monitoring uterine contractions, FHR, and maternal pulse every 30 min.
- Provide general care and support.

SCENARIO 2:
Ms. H. is a 30 year old G5P3 who arrived in labor:

20:00: Cervix 5 cm; 2 contractions in 10 min lasting 30-40 sec; FHR 132 bpm

00:00: Cervix 6 cm; 2 contractions in 10 min lasting 30-40 seconds; FHR 136 bpm
- CPD and obstruction have been ruled out.
- Augmentation started: 2.5 units oxytocin in 500 mL of RL, starting at 2.5 mIU per min.

03:00: 2 contractions in 10 min lasting 30-40 seconds; FHR 142 bpm
- Oxytocin concentration increased to 5 IU oxytocin / 500 mL of RL starting at 15 mIU/min.

04:00: Cervix 7 cm, 2-3 contractions/10 min lasting 20-30 seconds; FHT 140

05:00: 3 contractions in 10 min lasting 30-40 sec; FHR 156 bpm
- Oxytocin augmentation for 5 hours. Current drip rate is 30 mIU/min for the last 30 min with a concentration of 5 units of oxytocin in 500 mL

Ask,
How will you manage the oxytocin infusion? Why?
- Stop the infusion because augmentation has failed.

How you will care for the woman.
- Prepare the woman and her companion for a caesarean birth.

Debrief

Ask one group to share their answers with the group After one group has given their answer, ask if others have additions or comments. If needed, provide the correct answers to the group.

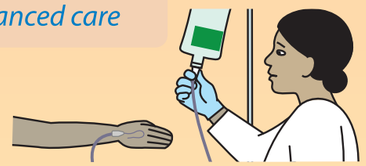
EXERCISE

Manage oxytocin infusion (2)

PREVENT INFECTION

PROVIDE RESPECTFUL CARE

If no oxytocin OR if not in CEmONC facility
Seek advanced care



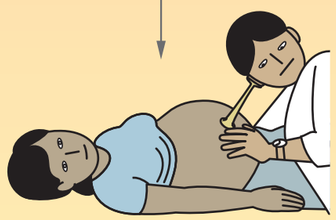
Start oxytocin

Cervical dilatation is slower than normal if :

5 cm for ≥6 hours
6 cm for ≥5 hours
7 cm for ≥3 hours
8 cm for ≥2.5 hours
9 cm for ≥2 hours

If not in CEmONC facility
Seek advanced care

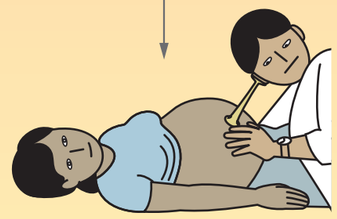
If in referral facility
OR
If referral not possible



Assess woman, baby, and progress

Problems?

Check every 30 min	*Fetal condition* *Contractions* *Pulse* *Woman's mood*
2 hours	*Temperature* *Descent by fifths* *Bladder*
4 hours	*BP* *Cervix /membranes* *Position* *Station* *Molding/caput*



Assess woman, baby, and progress

Problems?

Problems
Seek advanced care

Problems
Seek advanced care for cesarean birth

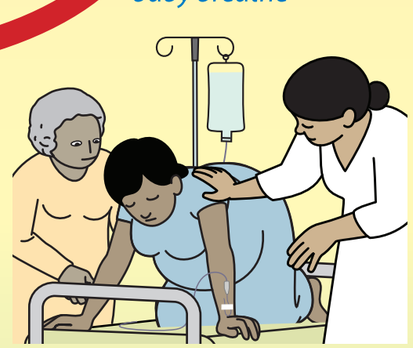
No problems

Continue oxytocin and monitoring

No problems

Continue assessment until cervix fully dilated

repare to help baby breathe



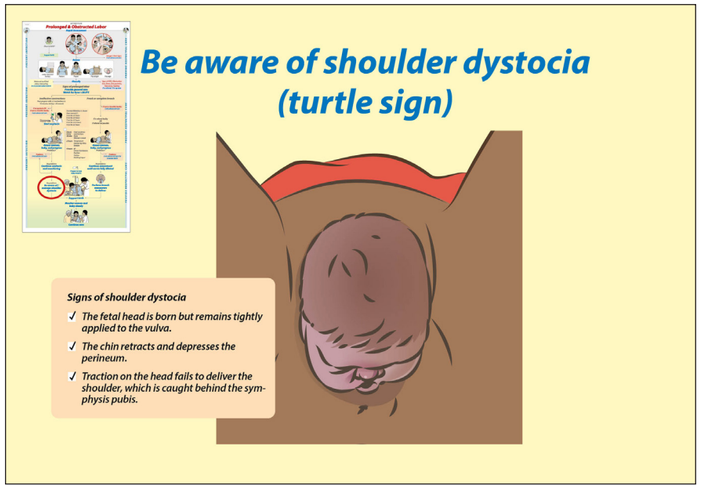
No problems

Be aware of / manage shoulder dystocia

Perform breech maneuvers to deliver

Support birth

Monitor woman and baby closely



Explain

Shoulder dystocia cannot be predicted.
Be prepared and watch for signs of shoulder dystocia at all births. Remember, a woman who experiences shoulder dystocia has an increased risk for PPH.

When labor is augmented there is an increased risk for should dystocia.

Cesarean birth should not be done only because a woman may be at higher risk of shoulder dystocia if her labor is progressing.

Shoulder dystocia is an emergency. You have about five minutes to complete the birth before asphyxia and permanent damage can occur. There are specific, important steps you can take to save the baby.

Risk of shoulder dystocia is increased with:

- shoulder dystocia in a prior birth
- large baby
- diabetes
- prolonged 1st or 2nd stage of labor with or without augmentation
- vacuum or forceps birth

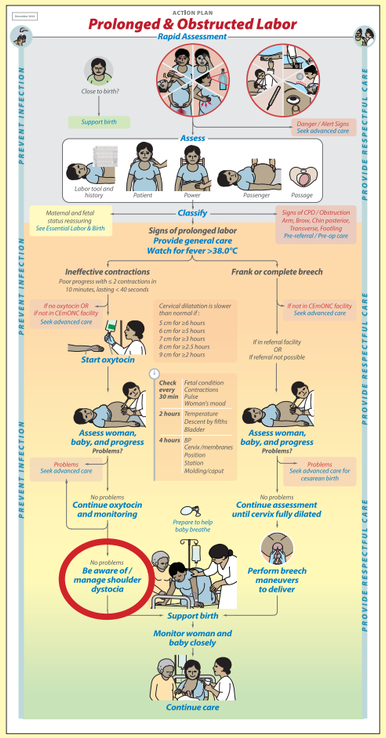
Signs of shoulder dystocia;

- The head delivers but remains tightly against the vulva.
- The chin retracts and depresses the perineum.
- Traction on the head fails to deliver the shoulder, which is caught behind the symphysis pubis.

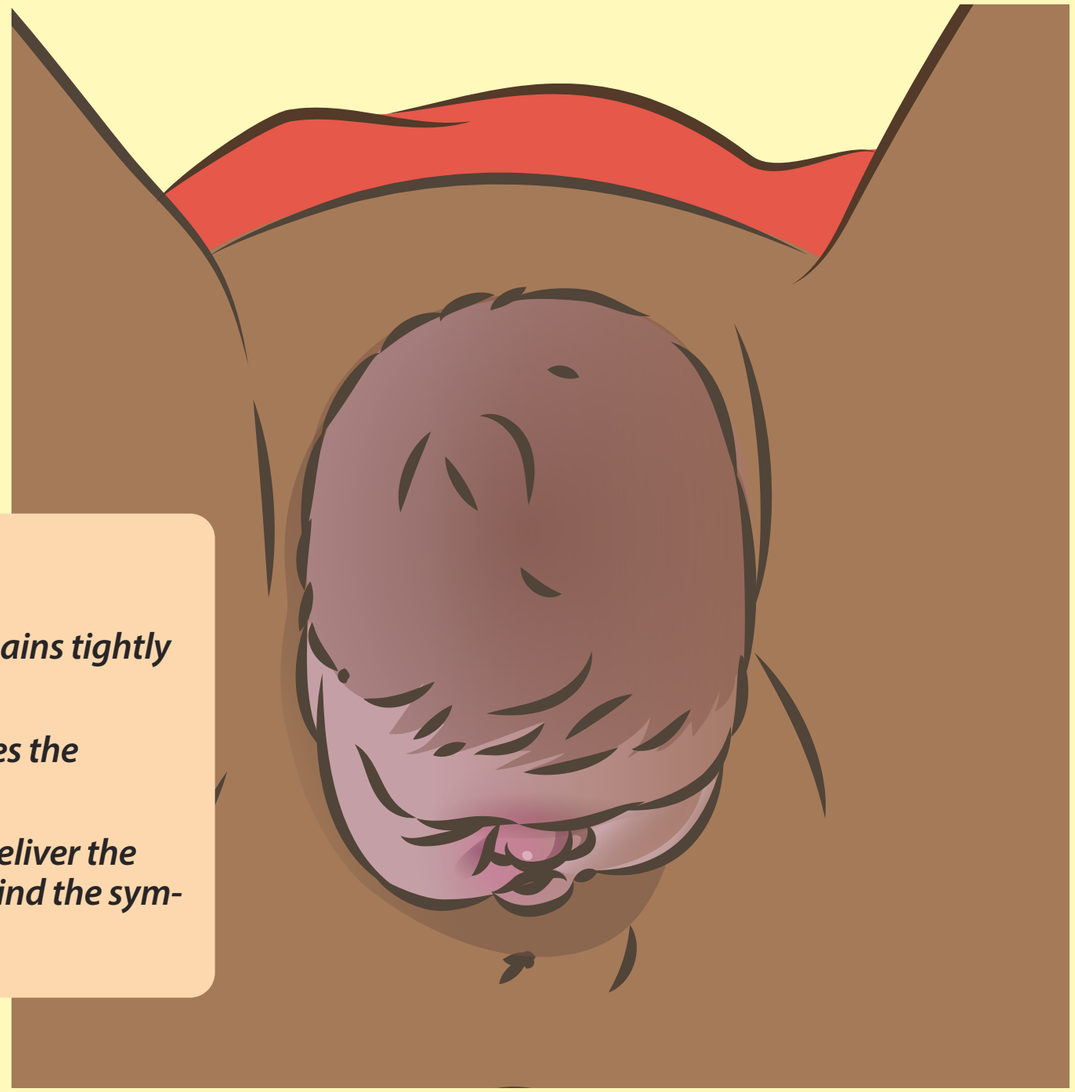
If you see these signs, Act Fast!
Call for several people to help!

- For all women who have labor augmented, be sure you have help in case of shoulder dystocia or a newborn who needs help to breathe.
- Shoulder dystocia increases the risk for uterine rupture. Signs of rupture include: intra-abdominal or vaginal bleeding, severe abdominal pain which may decrease after rupture, rapid maternal pulse, signs of shock, abnormal uterine contour, tender abdomen, easily palpable fetal parts, absent fetal heart sounds.

We will discuss how to manage shoulder dystocia and practice maneuvers later.

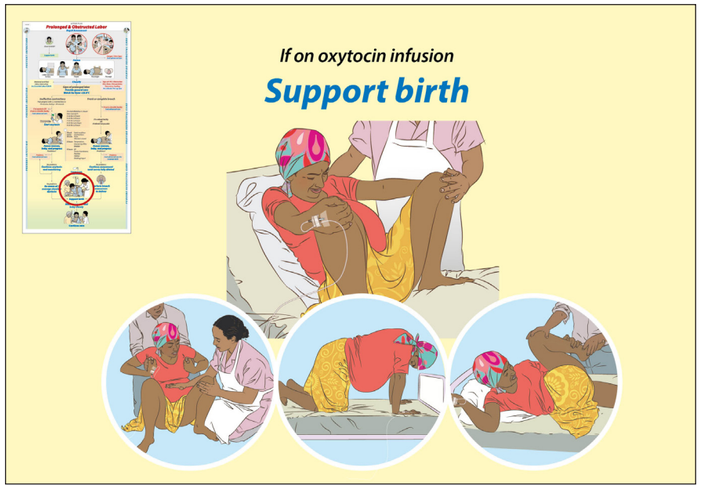


Be aware of shoulder dystocia (turtle sign)



Signs of shoulder dystocia

- ✓ *The fetal head is born but remains tightly applied to the vulva.*
- ✓ *The chin retracts and depresses the perineum.*
- ✓ *Traction on the head fails to deliver the shoulder, which is caught behind the symphysis pubis.*



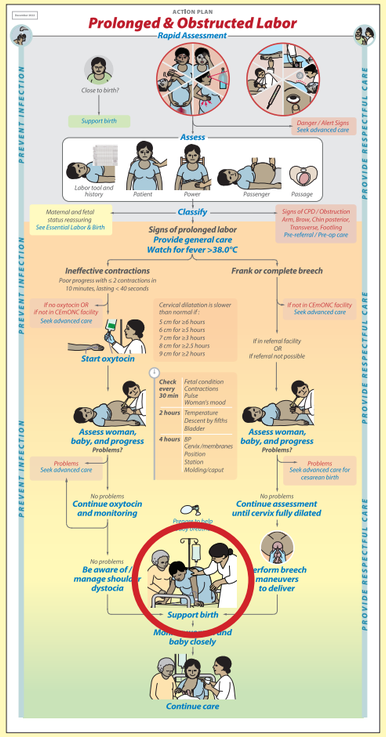
Explain

Provide essential care for all women during childbirth and immediately postpartum.
Provide special care for women whose labors are augmented.
Continue the IV oxytocin infusion and close monitoring during second stage.

- Act fast if there you suspect any problem!
- Women with prolonged labor and who are receiving oxytocin for augmentation need closer monitoring during second stage. They are at risk for:
  - Fetal distress and uterine rupture from oxytocin
  - CPD or obstruction – Carefully monitor descent with each contraction!
  - Shoulder dystocia
- The length of the second stage varies from one woman to another. In first labors, second stage will usually not last more than 3 hours, while in subsequent labors, second stage will usually not last more than 2 hours.
- If the second stage of labor is not progressing normally, do a quick check, verify vital signs and FHR, and reassess the 4 Ps to determine the cause and manage problems.
- In most cases, second stage will progress normally once prolonged first stage has been managed. Only use additional medical interventions if there is a clear indication.
- Whenever possible and even if she has an IV oxytocin infusion, encourage and help the woman choose the position at birth that she prefers, including upright positions.
- Make sure that you have at least one assistant available to help in case of shoulder dystocia or newborn asphyxia.
- Alert the operating theater that the woman is now in second stage, so they are ready in case an emergency cesarean is needed.
- After checking for a second baby, offer a uterotonic drug to all women to actively manage the third stage of labor.
- Give 10 IU oxytocin by slow IV push over 1 minute for active management of the third stage of labor (AMTSL). In addition, give the equivalent of 10 IU of oxytocin over 3.5 hours to keep the uterus contracted. If her bleeding is normal, you can stop the IV oxytocin after that.
- Be particularly vigilant about the woman's uterine tone and vaginal bleeding as she is at greater risk for PPH. Teach her to monitor her bleeding and uterus and to massage her uterus if it is soft.
- Tell the woman and her companion to call you immediately if her uterus is soft or she feels her bleeding has increased.

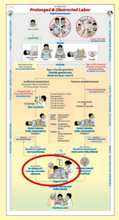
Demonstrate

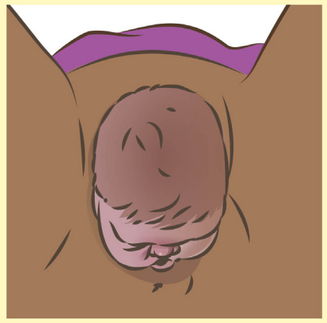
Ask a volunteer to wear the simulator and another to act as the companion. Tape an IV with a bag of IV fluid on the "woman" and demonstrate assisting the woman during birth in different positions with the IV in place.



If on oxytocin infusion

Support birth





Explain

We are now going to go through a series of maneuvers that we can use to manage shoulder dystocia. We'll go through each one in order and then we will practice.

If you see signs of shoulder dystocia, call for at least two people to help. Act fast but be careful!

Avoid the 4 P's!

- **Do NOT Panic**
- **Do NOT Pull**
- **Do NOT Push**
- **Do NOT Pivot**

Shoulder dystocia can cause:

- Injury to the baby's shoulders, arms, or hands.
- Asphyxia, which can lead to brain damage or death. If the cord is cut before birth of the body, the flow of oxygen to the baby is stopped. This increases the risk of asphyxia, cerebral palsy and death during shoulder dystocia.
- Injury to the woman such as tearing of a her cervix, rectum, uterus, or vagina, which may lead to hemorrhage.

NOTE:

- Do NOT perform routine episiotomy. Cut an episiotomy only if needed to reduce soft tissue obstruction and to allow space for maneuvers.
- Do not jerk or pull on the head or use strong downward traction until the shoulder is freed from the pubic bone. This may cause permanent damage to the baby's neck and shoulder by causing damage to the brachial plexus nerve. This damage is sometimes called Erb's palsy. These nerves provide feeling and movement in the shoulder, arm and hand.
- **Keep the cord intact as long as possible.** Try to avoid cutting a nuchal cord.

Discuss

Ask learners to refer to "Key Actions" on page 16 in PG2 and answer the following:

"Who do you need to notify when you first call for help with shoulder dystocia?"

- Staff to help you with manage shoulder dystocia.
- The operating theater for emergency cesarean in case attempts to deliver the baby fail.
- Staff to be ready to resuscitate the newborn if needed.

"What will you need help with to manage shoulder dystocia?"

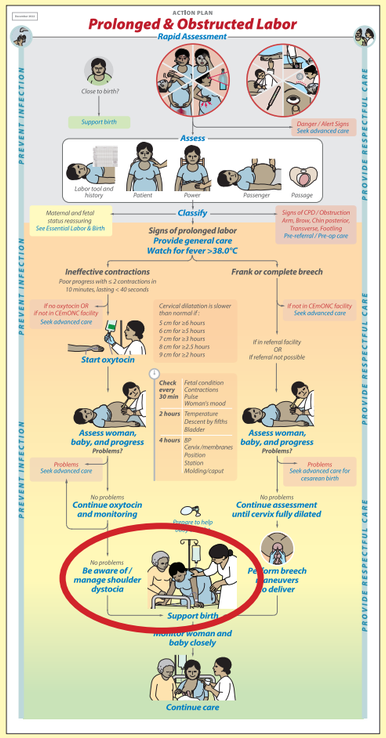
- Assistance to: 1) keep time; 2) help with maneuvers; 3) care for the newborn.

"How will you prepare the woman?"

- Quickly explain to her what is happening.
- Ask her to listen closely and to stop pushing.
- Ensure her bladder is empty.

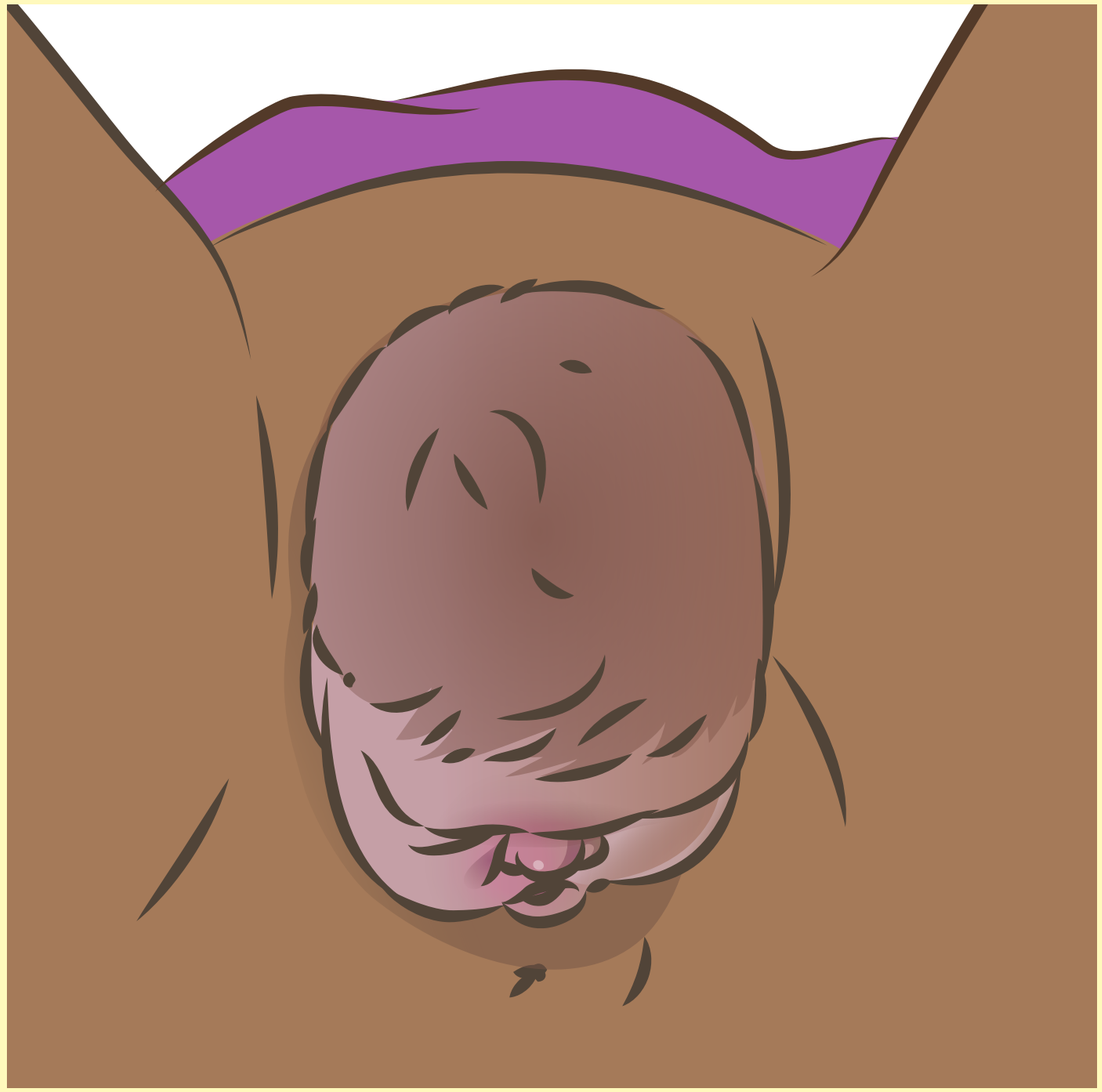
"How will you let team members know what maneuvers you are attempting?"

- Announce out loud each maneuver you will try. Tell each person what you need them to do.



Manage shoulder dystocia

Get ready



Explain

Once you have called for help, move quickly from one maneuver to the next.
Be ready for a baby that may need help to breathe.

- **NEVER apply fundal pressure.** This will make the shoulder more stuck and can result in uterine rupture.
- When helpers arrive, they should wash hands and put on sterile gloves and other PPE before assisting.
- Having the woman's knees flexed to her chest increases space in the pelvis and applying suprapubic pressure helps dislodge the stuck shoulder (McRoberts maneuver).

Demonstrate

Demonstration 1

To demonstrate how suprapubic pressure works, have a learner create a "bony pelvis" with their hands (see below). As facilitator, put the baby's head through the "pelvis" and apply pressure on the anterior shoulder.

Demonstration 2

Ask participants to refer to page 17 in PG2 to follow the demonstration. Ask a volunteer to wear the birth simulator with the fetal simulator in OA position with only the head delivered. Have them hold the body back to simulate shoulder dystocia until the shoulder is delivered. Ask another volunteer to be your helper.

As you demonstrate, explain what you are doing and why.

1. *First demonstrate the shoulder successfully dislodged.*
2. *Then demonstrate how to proceed when this maneuver has not resulted in birth of the shoulder after attempting the maneuver for 60 seconds.*

For each scenario:

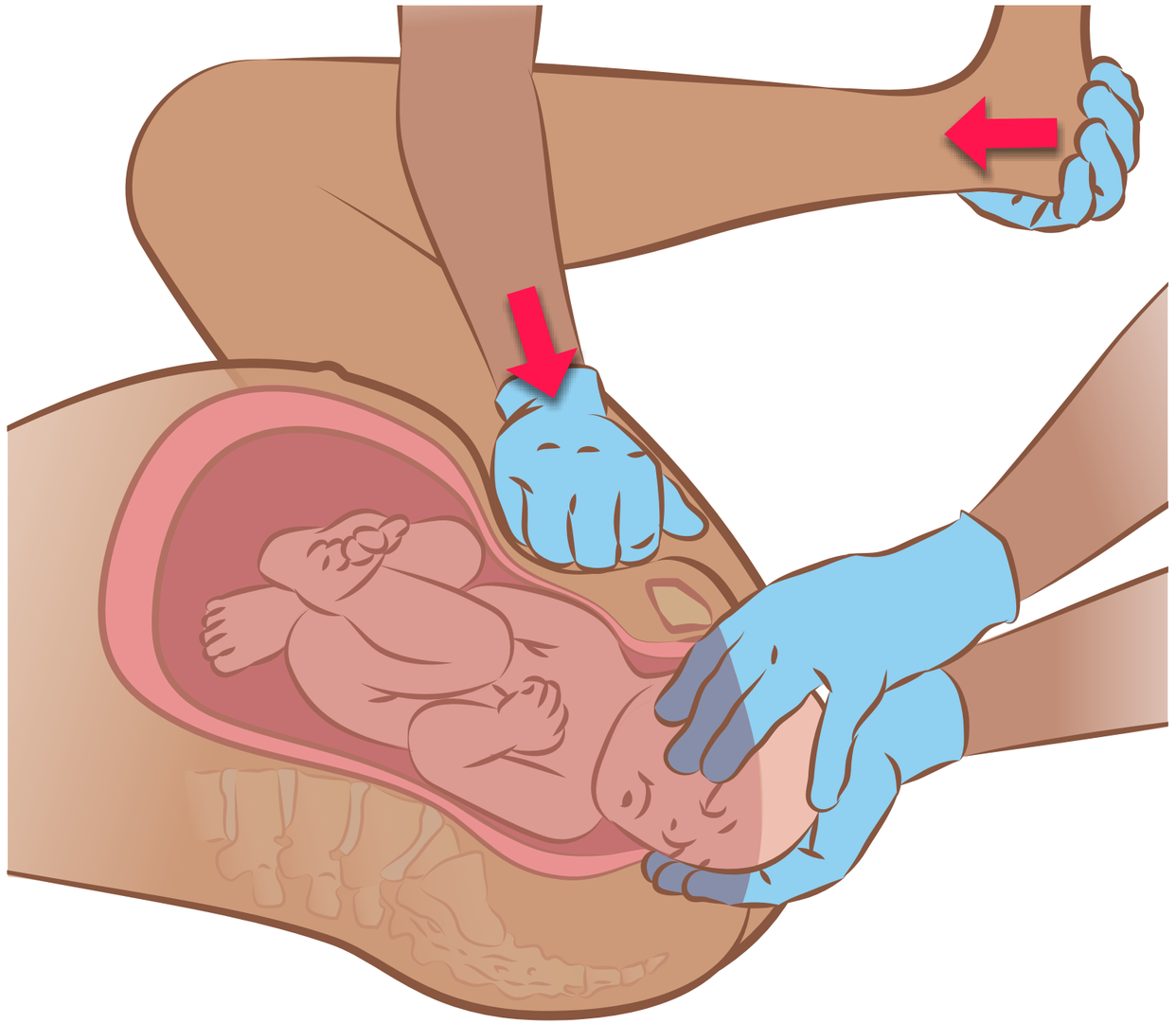
- Assign roles, including a time keeper to tell you to move on to the next maneuver after 60 seconds.
- With the woman on her back, ask her to bring her knees as far up as possible towards her chest.
- Ask two assistants to push her flexed knees firmly up onto her chest.
- Have one helper that is pushing her flexed knee to apply suprapubic pressure downwards to help the shoulder dip below the pubic bone.
- Consider episiotomy if space is needed to perform internal maneuvers.
- Apply firm, continuous traction downwards on the fetal head to move the shoulder that is anterior under the symphysis pubis. Avoid excessive traction on the head as this may result in Erb's palsy!

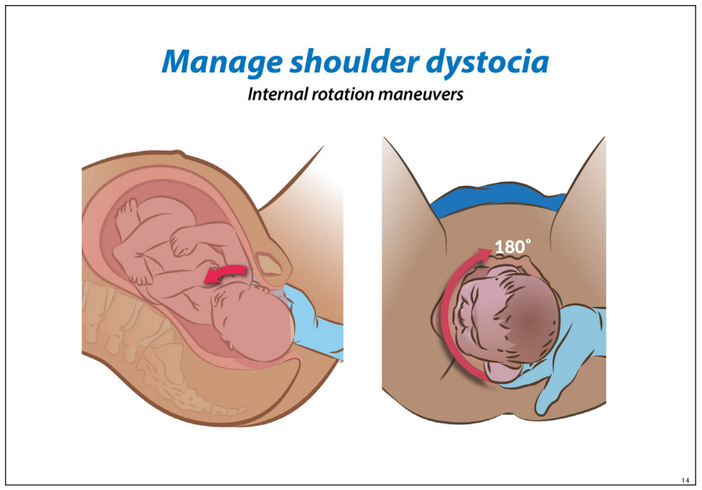
When the shoulder is born, proceed with birth and provide care after birth.

When the shoulder is not born after 60 seconds, tell your team it is time to try the next maneuver.

Manage shoulder dystocia

Hyperflex both legs and apply suprapubic pressure





Explain

When hyperflexion of the legs and suprapubic pressure have not resulted in birth of the shoulder, begin internal rotation maneuvers. You may need to do an episiotomy to allow your hands to fit.

There are two internal rotation maneuvers:

1. Apply internal pressure to the shoulder that is anterior, sometimes called the Rubin II maneuver. The McRoberts maneuver can also be applied now to help dislodge the shoulder.
2. Place a hand behind the posterior shoulder and rotate the shoulder in a corkscrew maneuver until the impacted shoulder is released, sometimes called the Woods Corkscrew Maneuver.

Demonstrate

Demonstration 1

Ask participants to refer to pages 18 in PG2 to follow the demonstration for applying internal pressure to the anterior shoulder. Ask a volunteer to wear the simulator with the fetal head delivered. Have them hold the body back to simulate shoulder dystocia until the shoulder is delivered. Ask another volunteer to be your helper.

As you demonstrate, explain what you are doing and why.

1. *First demonstrate the shoulder successfully dislodged.*
2. *Then demonstrate how to proceed when this maneuver has not resulted in birth of the shoulder after attempting the maneuver for 60 seconds.*

For each scenario:

- Explain that you will now use internal pressure on the anterior shoulder. Assign roles to team members, including the timekeeper.
- Keep the woman's legs hyperflexed.
- Wearing a sterile glove, insert a hand into the vagina along the baby's back.
- Apply pressure to the anterior shoulder in the direction of the baby's sternum to rotate the shoulder.
- If needed, you or a helper can apply pressure to the shoulder that is posterior in the direction of the sternum

Demonstration 2

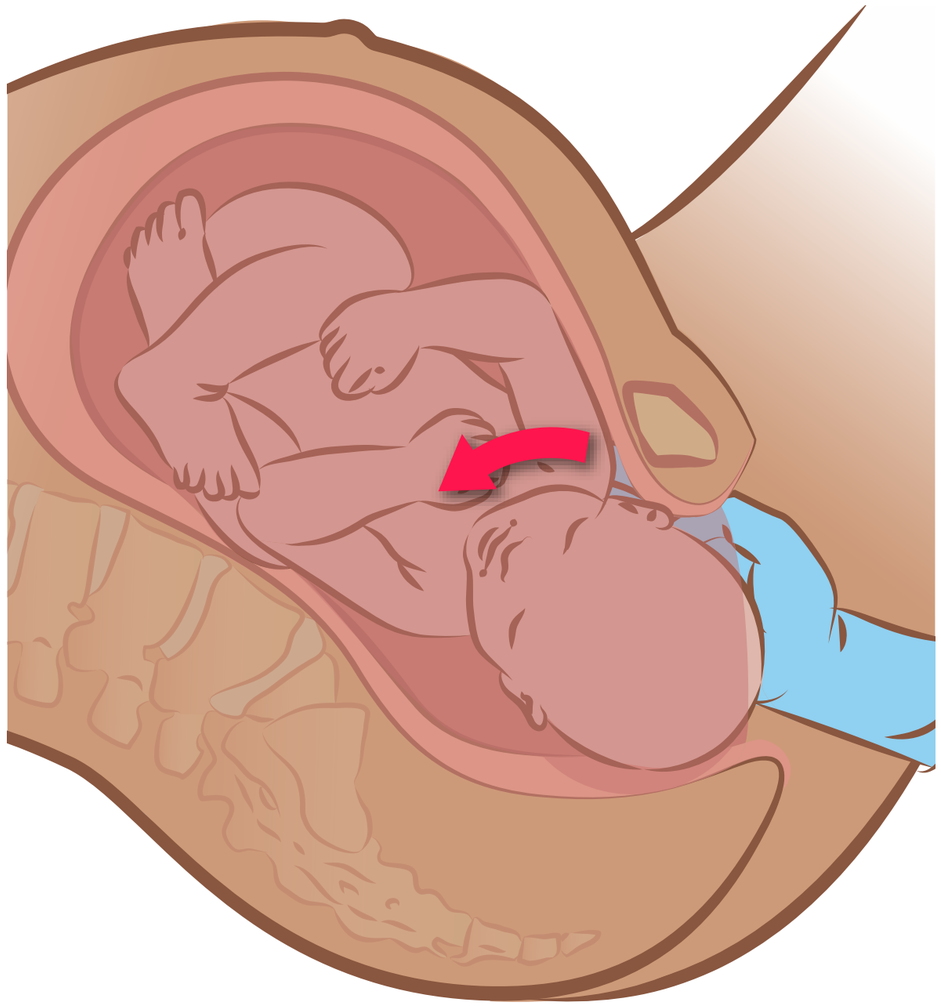
Ask participants to refer to page 19 in PG2 to follow the demonstration for the Woods corkscrew maneuver. Ask a volunteer to wear the birth simulator with the fetal simulator in occiput anterior. Have them hold the body back to simulate shoulder dystocia until the shoulder is delivered. As you demonstrate, explain what you are doing and why. Again, demonstrate both successful birth and failure of the shoulder to dislodge.

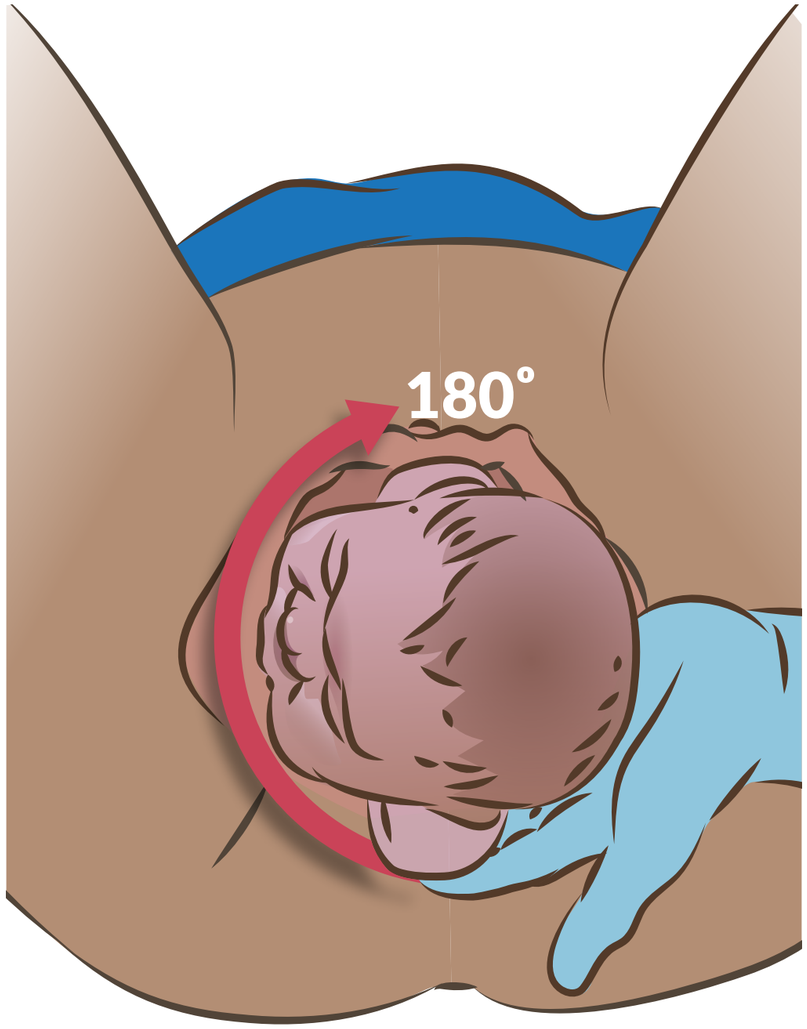
For each scenario:

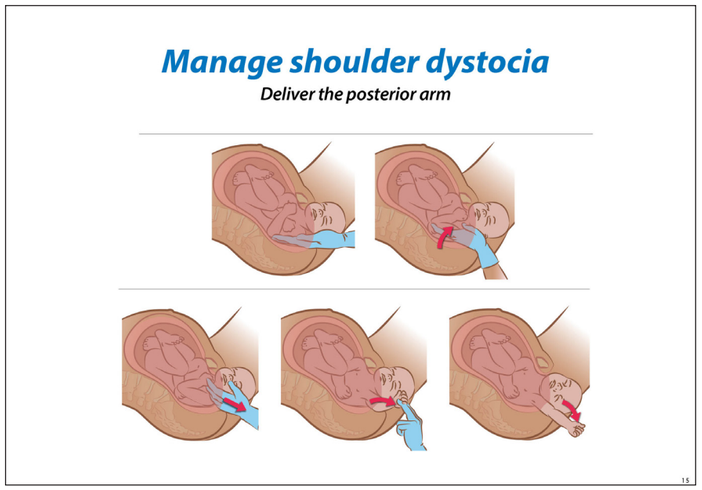
- Place at least two fingers on the anterior aspect of the fetal posterior shoulder.
- Apply pressure to rotate the posterior shoulder and body 180°.
- After 90° the provider may need to switch hands in order to complete the full 180° turn.

Manage shoulder dystocia

Internal rotation maneuvers







Explain

If internal rotation maneuvers fail, next try to deliver the posterior arm, which is sometimes called the Mazantte maneuver.

When the posterior arm is born, often the baby will spontaneously rotate. The anterior shoulder will then dip under the pubic bone and deliver.

Be careful! If the upper part of the baby's arm is grasped and pulled directly, this may result in a fracture of the humerus.

Demonstrate

Ask participants to refer to page 20 & 21 in PG to follow the demonstration for delivering the posterior arm. Ask a volunteer to wear the birth simulator with the only the head of the fetal simulator delivered. Have them hold the body back. Ask another volunteer to be your helper.

As you demonstrate, explain what you are doing and why.

1. *First, demonstrate the shoulder being successfully born after delivering the posterior arm with the elbow flexed.*
2. *Then demonstrate the shoulder being successfully born after delivering the posterior arm with the arm extended.*
3. *Finally, demonstrate delivering the posterior arm but with the shoulder not being born and preparing for the next maneuver.*

For each scenario:

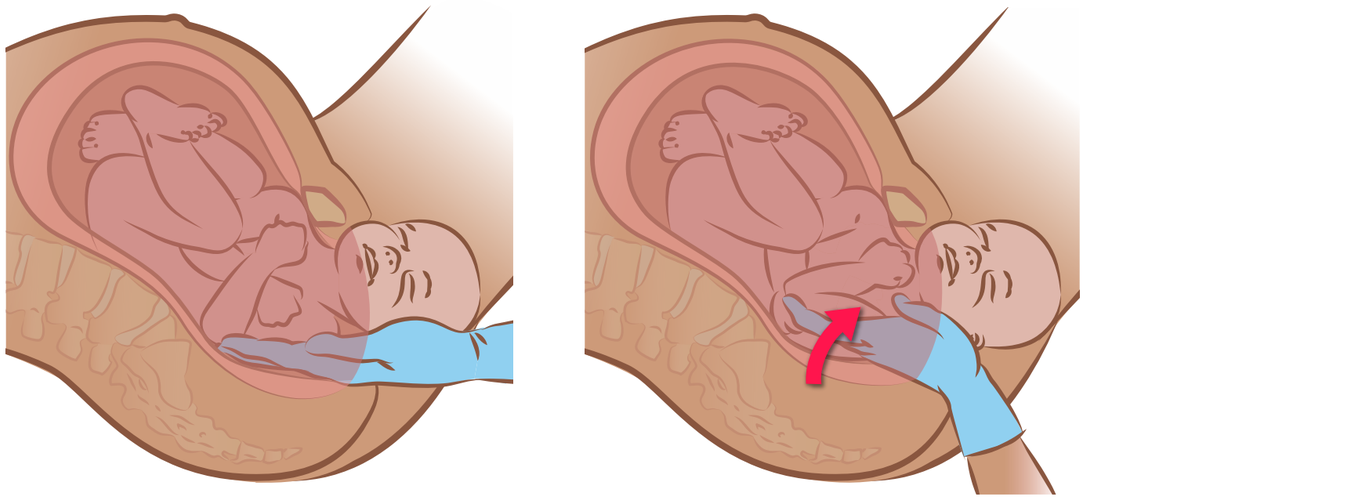
- Explain that internal rotation maneuvers failed and you will now try to deliver the posterior arm. Assign roles.
- Remind the person watching the clock to tell you when 60 seconds have passed so you can proceed to the next maneuver.
- Consider episiotomy if space is needed to perform maneuvers.
- With sterile gloves on, insert a hand into the posterior part of the vagina.
- Identify the posterior arm and follow it to the elbow.
- If the elbow is flexed, grasp the forearm and hand and pull out the arm.
- If the arm is extended, apply pressure to the antecubital space (elbow pit) to assist with flexion.
- Carefully and gently grasp the forearm or hand and then pull the arm out of the vagina, which also delivers the posterior shoulder and reduces the shoulder diameter.
- If the shoulder is born, proceed with birth.

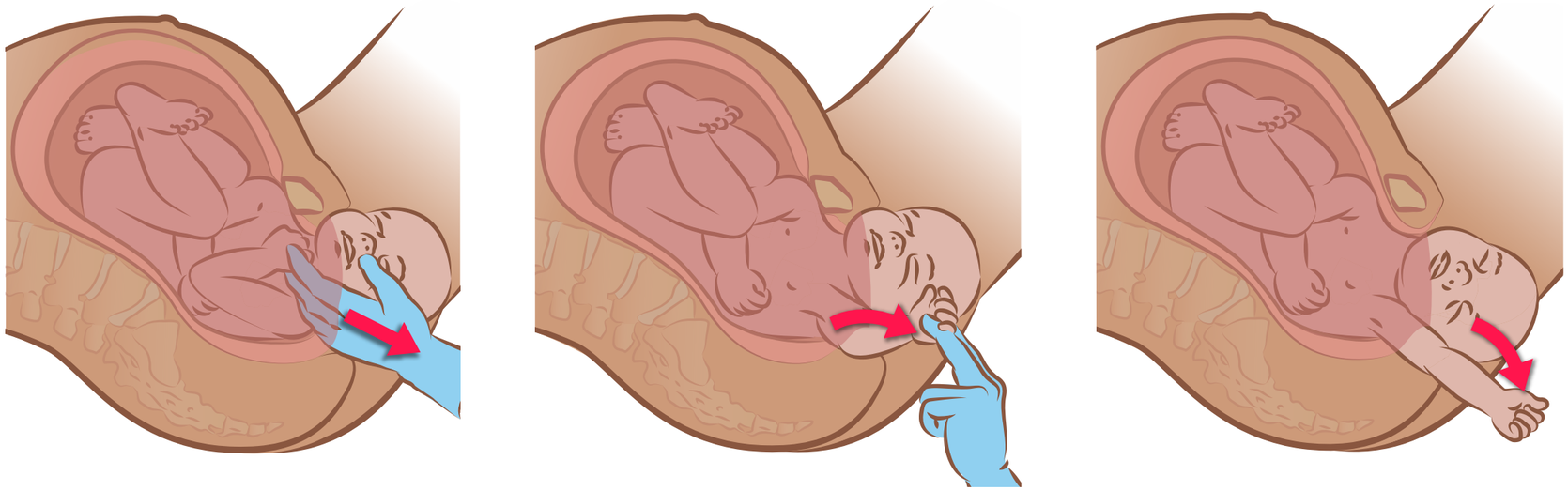
OR

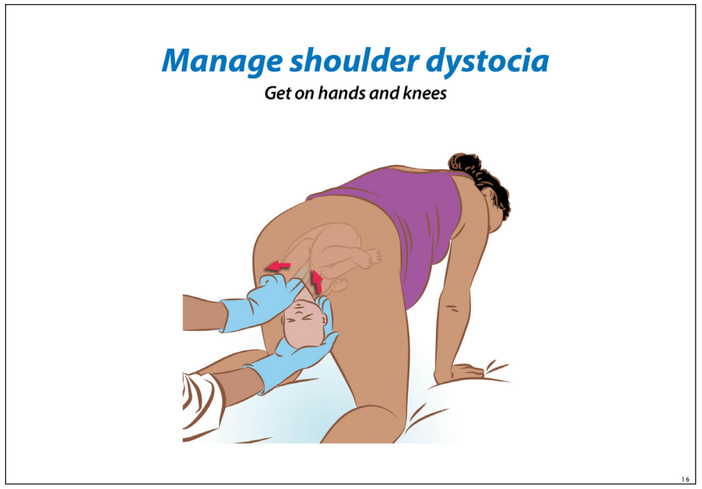
- If the shoulder still is not born despite the above measures, tell your team that you will move on to the next maneuver.

Manage shoulder dystocia

Deliver the posterior arm







Explain

Moving the woman onto her hands and knees, sometimes called the Gaskin maneuver, is a safe, quick, and effective technique to manage shoulder dystocia.

It has been shown by x-ray that room in the pelvis increases when a woman moves from lying down to hands and knees.

Demonstrate

Ask participants to refer to page 22 in PG2 to follow the demonstration. Ask a volunteer to wear the birth simulator with the fetal head delivered. Have them hold the body back until the maneuver is completed. Ask another volunteer to be your helper. As you demonstrate, explain what you are doing and why.

1. *First, demonstrate the shoulder being successfully born after the Gaskin maneuver.*
2. *Then demonstrate the maneuver, but without the shoulder delivering.*

For each scenario:

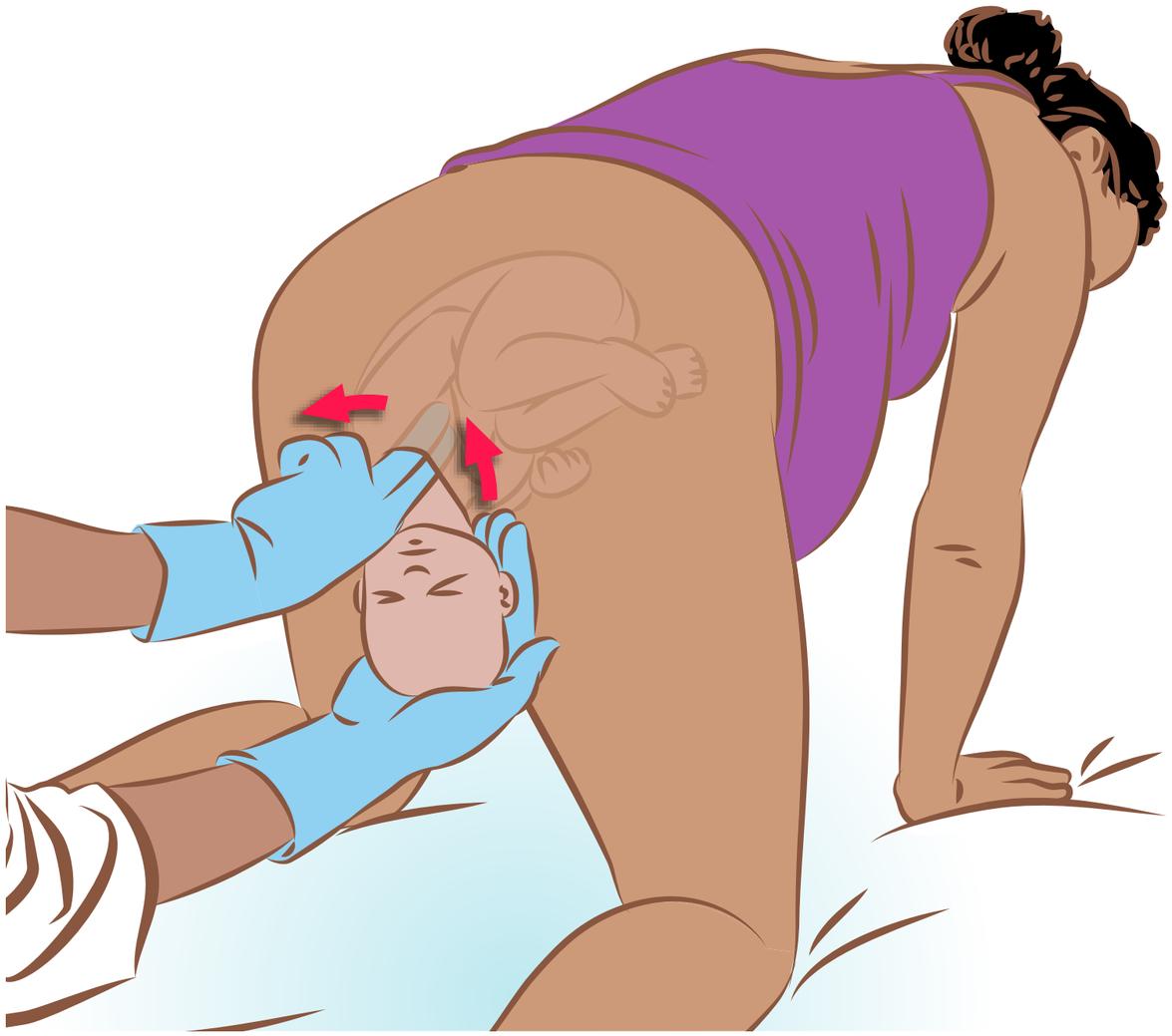
- Explain to team members that delivering the posterior arm has failed and you will now move on to the all-fours or Gaskin maneuver. Assign roles to team members.
- Remind a team member to tell you when 60 seconds have passed so you can proceed to the next maneuver.
- Help the woman into hands and knees position. The woman arches her back, and the pelvis is widened.
- Apply gentle traction on the head towards the floor to deliver the posterior shoulder.
- If needed, apply pressure to the shoulder that is posterior in the direction of the sternum.
- Once the shoulder is born, proceed with birth.

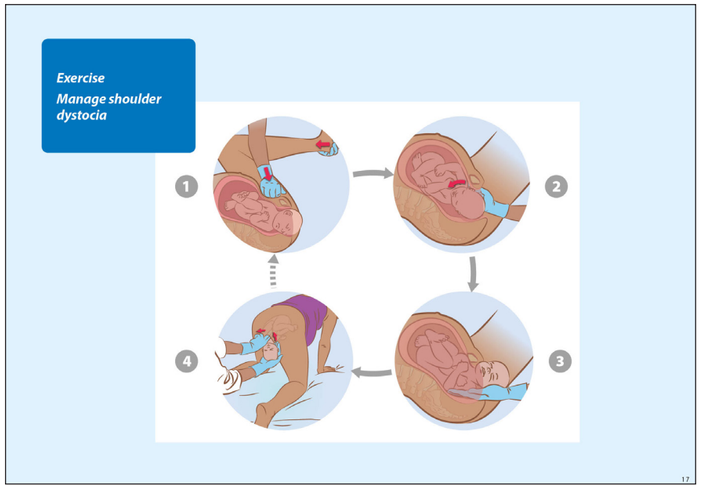
If the baby is not born after attempting all of the maneuvers once, begin again with hyperflexion of the legs and supra-pubic pressure. Have someone alert the theater that the first round of maneuvers has failed and an emergency cesarean birth may be needed.

If the baby is still not born after attempting all of the maneuvers twice, perform the Zavanelli maneuver and prepare the woman for cesarean birth.

Manage shoulder dystocia

Get on hands and knees





Before starting to practice, ask learners the following questions:

Knowledge check

What are the signs of shoulder dystocia?
- *The head is born but remains tightly applied to the vulva.*
- *The chin retracts into the perineum.*
- *Traction on the head fails to deliver the shoulder, and the head does not turn on its own.*

When should you prepare for shoulder dystocia?
Be prepared for shoulder dystocia at all births, but especially if you think the baby is large or if labor has been prolonged or augmented.

Should you cut the cord as soon as you identify shoulder dystocia? Why or why not?
Do not cut the cord unless you cannot get the baby delivered by slipping it over the head or by doing the somersault maneuver. Cutting a nuchal cord before the birth of the shoulders increases the risk of asphyxia, cerebral palsy and even death if shoulder dystocia takes a long time to resolve. Keep the cord intact as long as possible.

For how long should you attempt each maneuver?
Try each maneuver for no more than 60 seconds before quickly moving to the next one.

How many times will you attempt the 4 maneuvers?
After trying all 4 maneuvers, repeat them one more time. This means you will go through them twice.

What will you do if the baby is still not born after attempting each of the four maneuvers twice?
Perform the Zavanelli maneuver and prepare the woman for cesarean birth.

Demonstrate

Stuck shoulders

If you can, show the video demonstrating how to manage shoulder dystocia. Tell learners that the video will show some techniques that have not been covered in the session.

The HELPERR Mnemonic:

H Call for **h**elp
E Evaluate for **e**pisiotomy
L **L**egs (McRoberts maneuver)
P Suprapubic **p**ressure
E **E**nter maneuvers (internal rotation)
R **R**emove the posterior arm
R **R**oll the patient

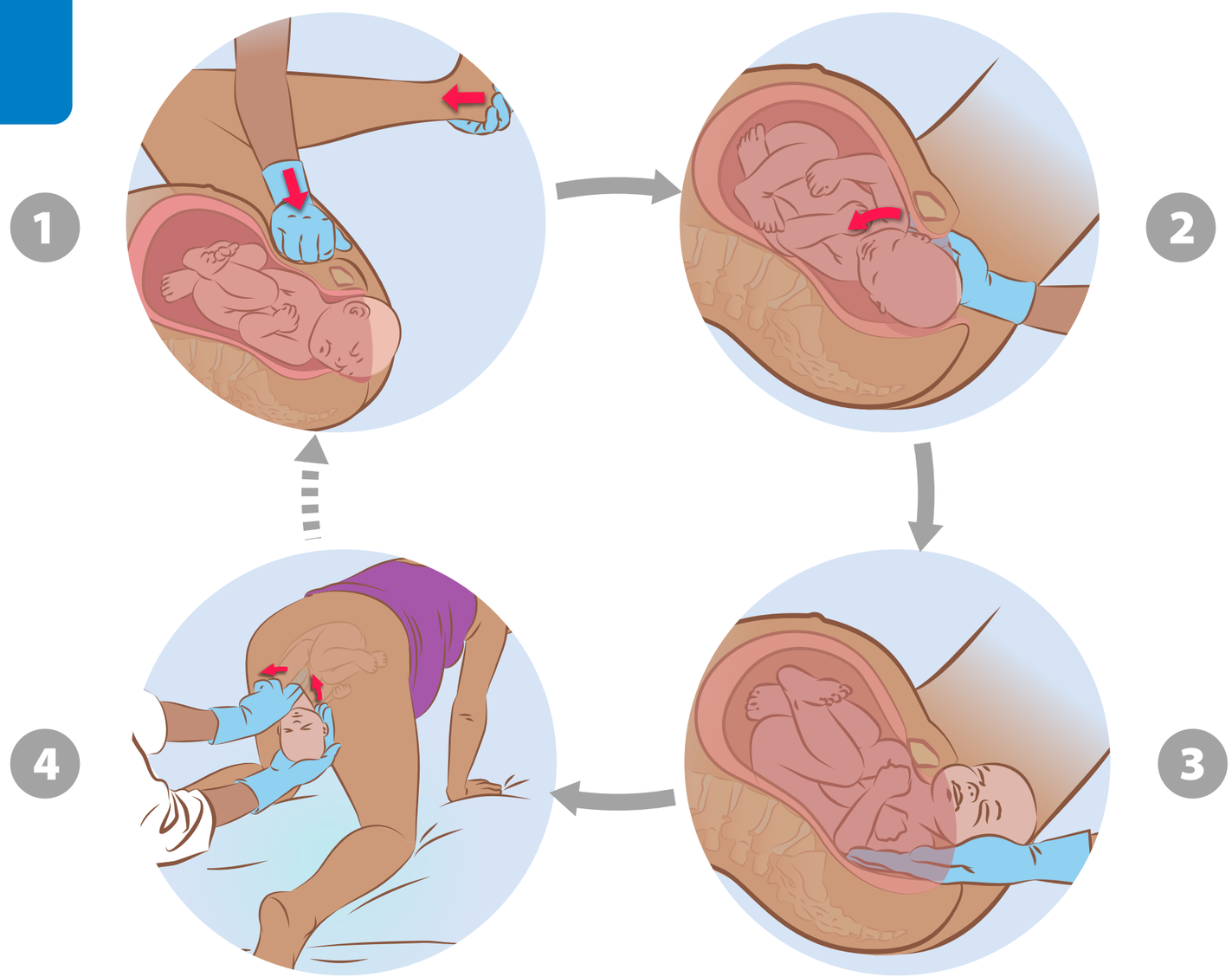
Practice

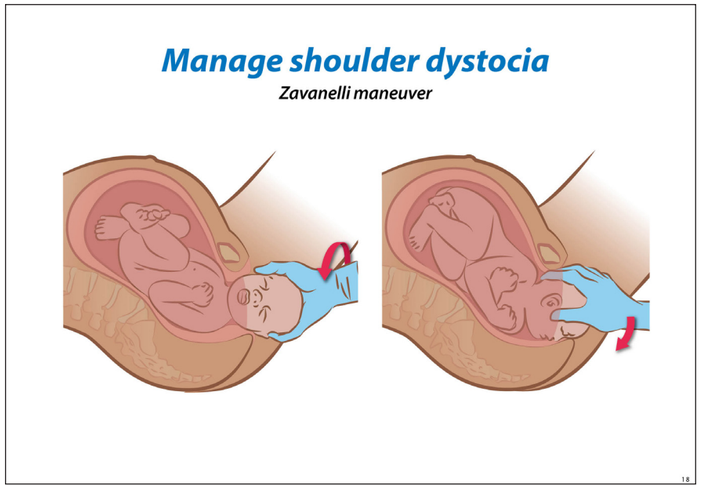
Have learners turn to pages 16-24 of PG2. In groups of 3 or 4, have learners practice the maneuvers as a team starting at the beginning and going through each maneuver. The facilitator operating the simulator should decide which maneuver is successful for each learner; with at least one learner having to go through all of the maneuvers. One person should time the maneuvers and one person should serve as the lead provider.

Provide supportive feedback.

Exercise

Manage shoulder dystocia





Explain

Zavanelli maneuver is a difficult maneuver used only when all other attempts to manage shoulder dystocia have failed.

It involves reversing all the cardinal movements of labor, flexing the fetal head and attempting to reinsert it back into the maternal pelvis, then performing an emergency cesarean section as quickly as possible to deliver the baby.

Risks of the maneuver to the woman include soft tissue damage and sepsis. Risks to the newborn include injury and asphyxia.

Demonstrate

Ask participants to refer to page 25 in PG2 to follow the demonstration. Ask a volunteer to wear the birth simulator with the fetal simulator in occiput transverse position and the head delivered. Ask a helper to assist you.

As you demonstrate, explain what you are doing and why.

If possible, give tocolytic medications (terbulatine, salbutamol, or nifedipine) to facilitate the process. Use local guidelines.

Step 1: Reverse restitution
With the woman's legs flexed, turn the head to direct OA or OP position depending on which position it had rotated from.

Step 2: Manually flex the head
Push the fetal head towards the baby's chest to flex the head. If needed, apply direct pressure on the chin towards the baby's chest.

Step 3: Push the head back into the vagina
Apply upward pressure on the head to replace the head in the vagina. Hold the head in position and proceed with emergency cesarean birth.

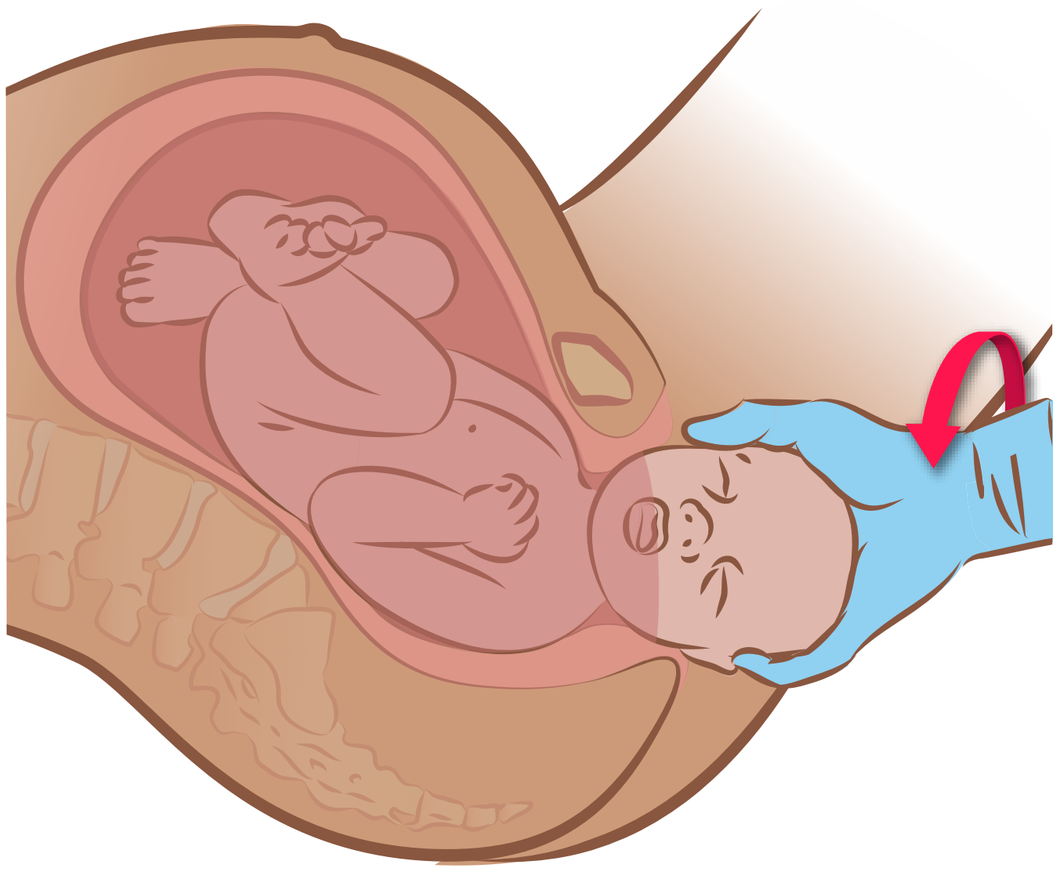
Practice

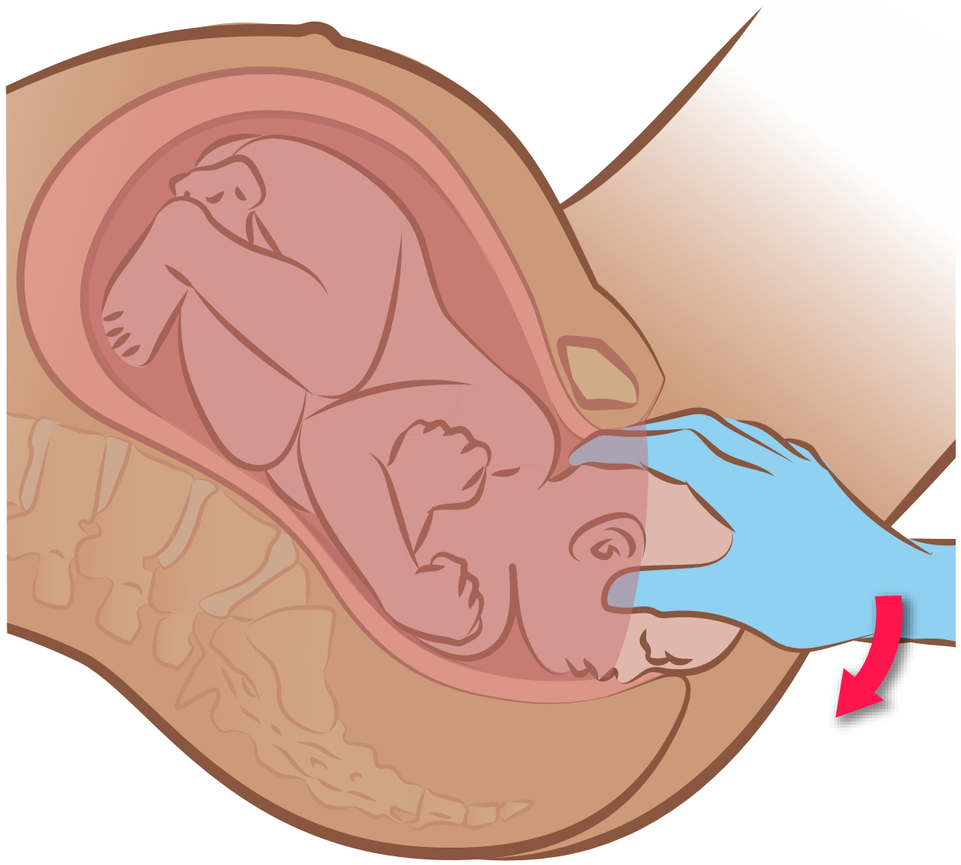
In groups of 3 or 4, have learners practice the maneuver as a team.

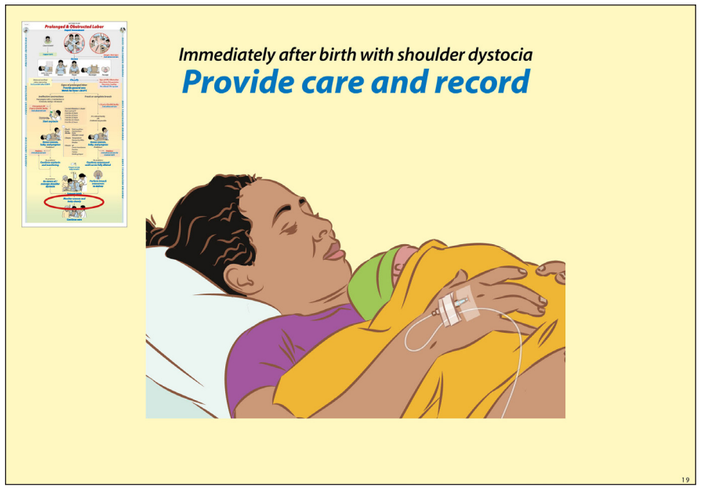
Provide supportive feedback.

Manage shoulder dystocia

Zavanelli maneuver







Explain

Provide immediate care for the woman and newborn, including resuscitation if needed.

As with every birth:

- Use active management of the third stage of labor.
- Keep the woman and her baby in skin-to-skin contact for at least one hour if they are stable.
- Encourage the baby to breastfeed within one hour of birth.

Newborn:

- Begin resuscitation immediately if the baby does not breathe at birth. *See **Helping Babies Breathe**.*
- Immediately examine the newborn for any injuries from shoulder dystocia such as Erb's palsy, broken clavicle, or broken humerus.

Woman:

- The woman is at higher risk for postpartum hemorrhage due to atony and trauma. Be prepared! *See **Helping Mothers Survive Bleeding after Birth Complete 2.0**.*
- Examine the woman carefully for injuries. Deep genital tears may cause hemorrhage. The woman may need surgery if the tears are beyond your ability to repair.
- The woman is at higher risk for uterine rupture. Signs of rupture include intra-abdominal and/or vaginal bleeding, rapid maternal pulse, signs of shock, abnormal uterine shape, and tender abdomen.
- If the woman or her baby are not stable, stabilize them and then refer immediately for advanced care.

Documentation

Ask participants to refer to page 27 in PG2 and review the checklist on what to document after shoulder dystocia, in addition to routine documentation.

Discuss

Ask learners to refer to pages 26-27 in PG2 to answer the following questions about the newborn.

"How will you check the baby for Erb's palsy?"

- Look for absent or weak movement in one arm compared to the other.
- Check if an arm is bent at the elbow and held against the body.
- Check to see if an arm flops when the baby is rolled from side to side.
- Check if the moro or startle reflex is absent or poor on one side.
- Check if the grasp reflex is absent or poor on one side.

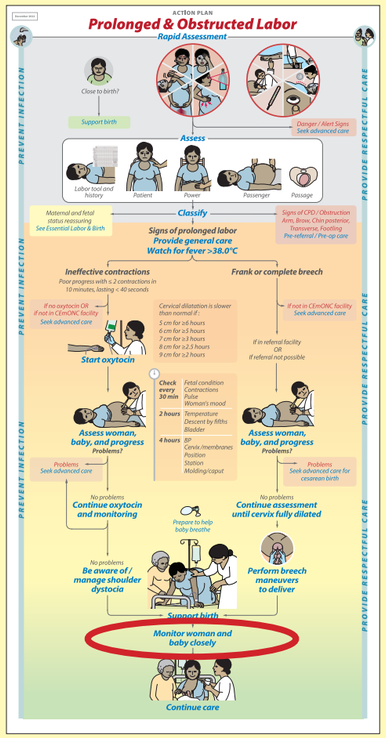
"How will you check the baby for a broken arm or clavicle?"

- Check if the baby is fussy or cries when an arm is moved or when lifting her under the arms.
- Feel the collarbones for crepitus which may mean a fracture to the collarbone or arm.

Advanced Care Note

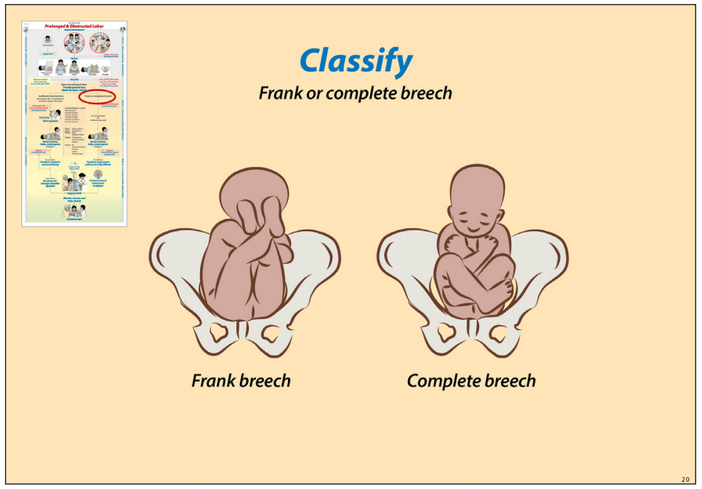
Based on local protocols and your scope of practice, seek advanced care immediately if:

- The baby needs an ultrasound, X-ray, or MRI to diagnose the problem.
- The baby has problems your facility cannot manage.
- The woman has third or fourth degree tears.



Immediately after birth with shoulder dystocia

Provide care and record



Explain

Breech presentations are associated with higher risk of injury and death of the newborn.

A baby in breech presentation is more likely to have a congenital malformation or be premature.

Have a senior provider confirm the presentation. If possible, confirm by ultrasound.

Ideally, every breech birth should take place in a hospital with the ability to perform an emergency cesarean.

If a woman presents in latent phase of labor with breech presentation, offer external cephalic version (ECV) if: 37 weeks or more; vaginal birth is possible; facilities for emergency cesarean are available; membranes are intact, amniotic fluid is adequate AND someone is trained to do ECV.

A planned breech birth should only occur in facilities with:

- A clinician trained, experienced, and competent in conducting breech birth
- An ultrasound to confirm position
- An operating theater to perform an emergency cesarean
- Facilities and providers to care for an asphyxiated baby with birth injuries

Women who present too late for transfer, must be managed where they are.

- **Maternal conditions needed to attempt breech birth:** No history of cesarean birth.
- **Fetal conditions needed to attempt breech birth:**
  - Frank or complete breech - no footling breeches!
  - Head is flexed – ideally confirmed by ultrasound
  - Estimated size does not seem large meaning an estimated weight of <4kg
  - The baby is neither premature nor growth restricted. These babies are at higher risk for the head to be trapped.

NOTE: If you have doubts about the size of the pelvis, have someone who is trained to do clinical pelvimetry to assess the pelvis or seek advanced care.

Advanced Care Note

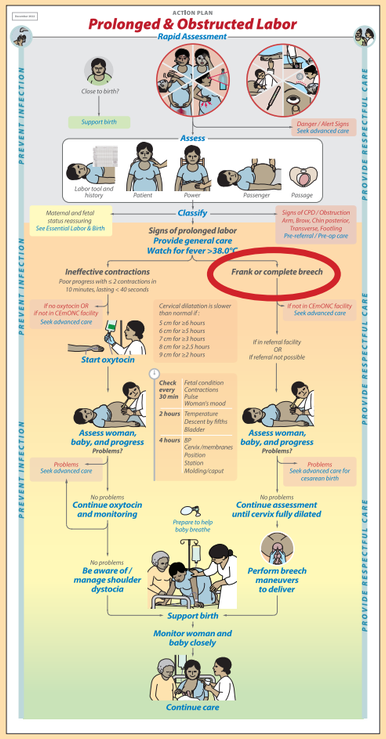
Based on local protocols and standards, seek advanced care immediately if:

- You suspect a contracted pelvis
  OR
- There is a large baby (>4000 g)
  OR
- The baby is growth restricted (<2000 g) or premature
  OR
- You cannot confirm flexion of the head or the neck is hyperextended
  OR
- The woman had a previous cesarean birth
  OR
- The facility does not have:
  - A clinician trained and experienced to conduct breech vaginal birth.
  - An ultrasound to confirm position.
  - Capacity to perform an emergency cesarean and care for an asphyxiated baby with birth injuries.

Demonstrate

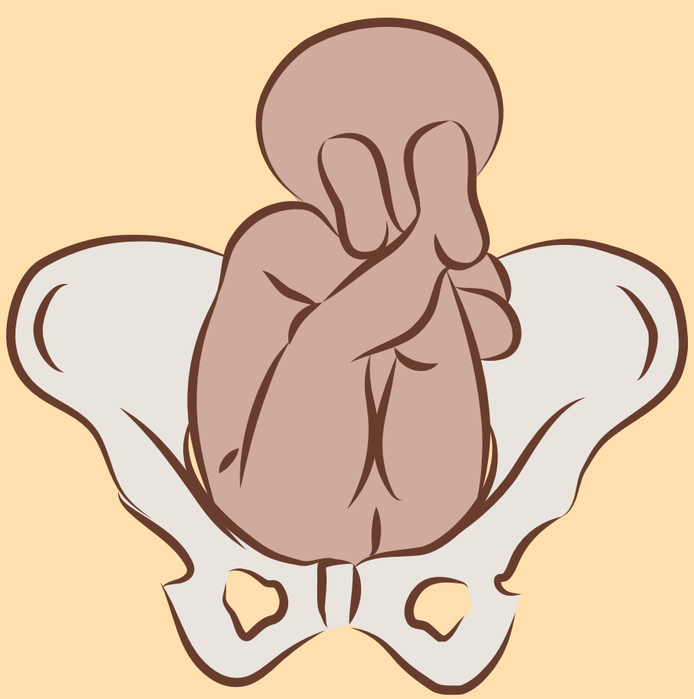
▶ The breech birth

Show the video on how to diagnose and manage a breech birth. If the video is not available, go to the next page.



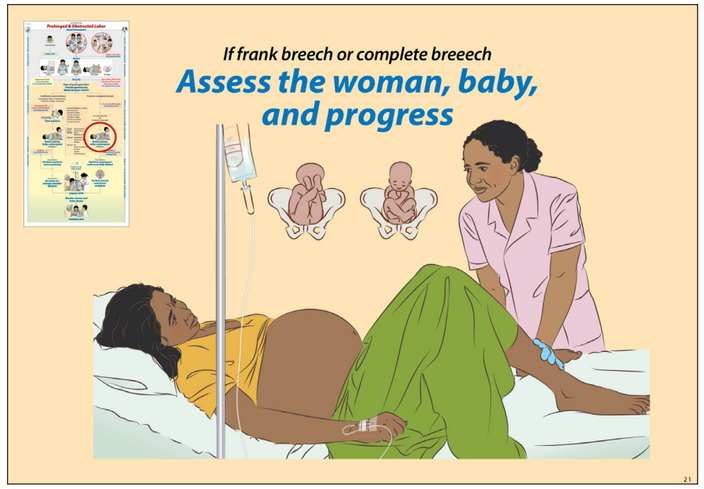
Classify

Frank or complete breech



Frank breech

Complete breech



Explain

Close monitoring is even more important for breech births.

- The woman is at risk for prolapsed cord. When the membranes membranes rupture, check her cervix immediately for a prolapsed cord!
- If FHR is slower than 110 bpm, do a vaginal exam to check for prolapsed cord.
- Ensure she has an IV line.
- If you suspect poor progress in a breech labor:
  - Do not augment labor.
  - Transfer her if at all possible, if you are not in an advanced care facility.
  - Ask a senior provider to help manage her labor.
- Have a plan in place and act promptly if the head becomes trapped or there are nuchal arms.

NOTE: meconium is common with breech labor and is not a sign of fetal distress if the FHR is normal.

Demonstrate

Ask participants to turn to page 29 in PG2 to follow the demonstration. Ask a volunteer to wear the simulator with a breech baby and the cord prolapsed.

Demonstrate how to manage prolapsed cord in the first stage of labor:

- Call for help!
- Explain to the woman and her companion what is happening and what you need to do.
- Give oxygen at 4–6 L per minute by mask or nasal cannula.
- Check if the cord is pulsating to know if the fetus is alive or not.
- Confirm first or second stage of labor by an immediate cervical examination.

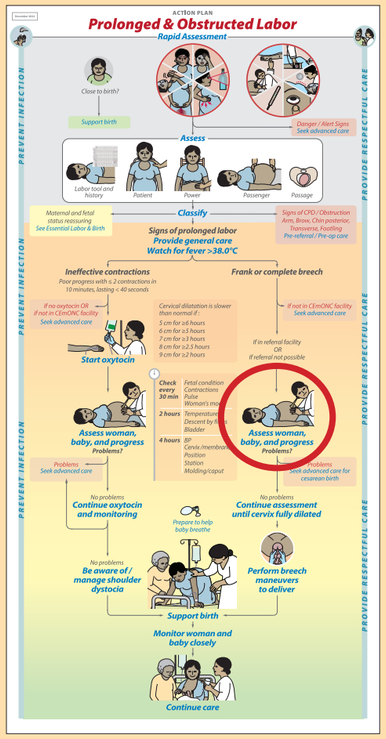
If the cord is pulsating and the woman is in the first stage of labor:

- Call the operating theater for an emergency cesarean birth.
- Wearing sterile gloves, insert a hand into the vagina.
- Push the presenting part up to decrease pressure on the cord and dislodge the presenting part from the pelvis.
- Place the other hand on the abdomen in the suprapubic region to keep the presenting part out of the pelvis.
- Once the presenting part is firmly held above the pelvic brim, remove the other hand from the vagina.
- Keep the hand on the abdomen until a cesarean can be performed.
- If available, give tocolytics to reduce contractions.
- Perform an immediate caesarean.

If the cord is pulsating and the woman is in the second stage of labor:

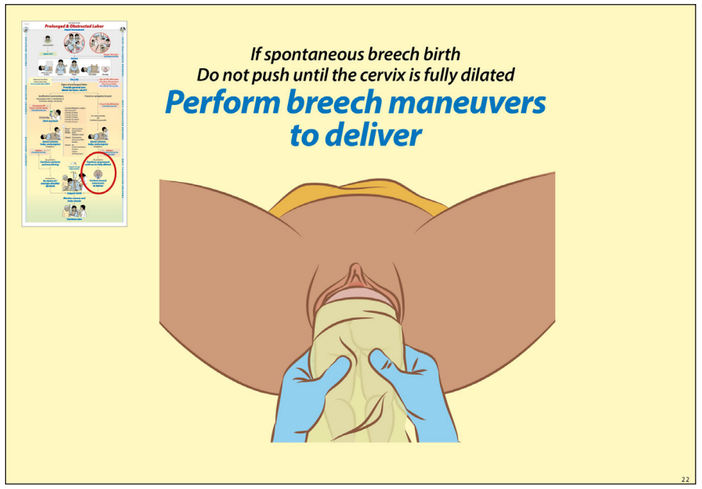
- Perform breech extraction and apply Piper or long forceps to the after-coming head if this is within your scope of practice.
- Prepare for resuscitation of the newborn

If the cord is NOT pulsating, proceed with birth of the baby in the manner that is safest for the woman. Provide emotional care to the woman and her companion and prepare for birth of a stillborn baby.



If frank breech or complete breeech

Assess the woman, baby, and progress



Explain

In most cases, the baby will deliver spontaneously. Once birth begins, the most important principles are to:

- gently support the body
- avoid pulling on the baby

Pulling on the baby causes the neck to extend making it impossible to lift the body and deliver the head by flexion.

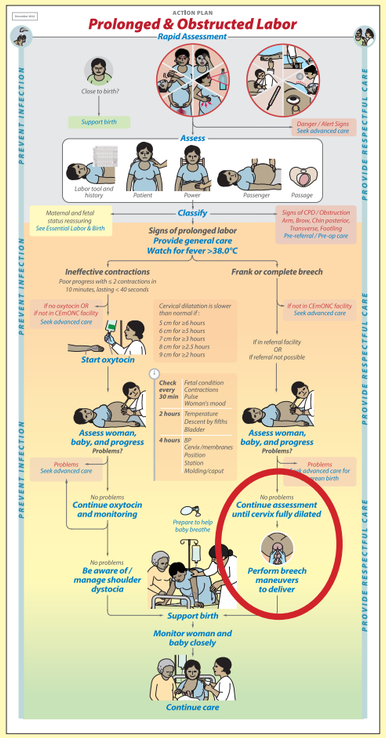
Demonstrate

Ask participants to refer to pages 30-31 in PG2 to follow the demonstration. Say, ***"The illustrations here show a woman lying on her back. Note that these maneuvers can be safely performed in any position."***

Have a volunteer wear the birth simulator with the baby in right sacrum anterior position for frank breech. For this demonstration, have the baby ***deliver spontaneously.***

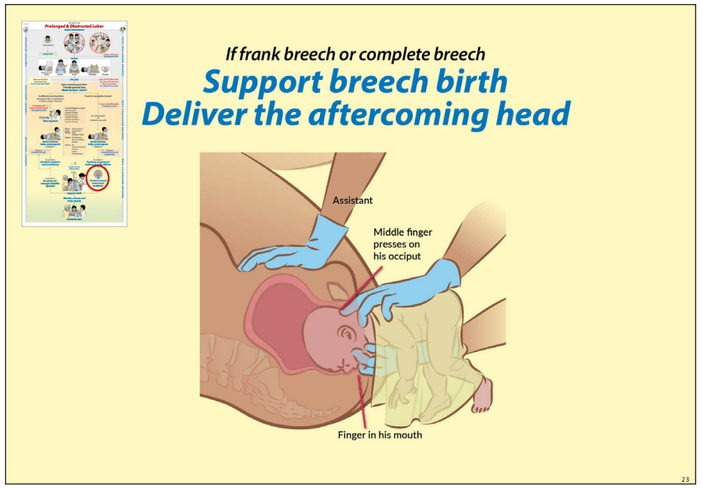
Describe each step as you do it.

- Do a VE to confirm the cervix is fully dilated and the position of breech.
- Call for assistance.
- Confirm IV access.
- Provide emotional support and encouragement.
- Use a pudendal block if you are trained and the woman needs it to help her relax.
- If the buttocks have not entered the vagina, encourage the woman not to push if she has the urge, but have her pant to avoid pushing.
- Once the buttocks have entered the vagina, have her follow her urge to push in the **position of her choice.**
- Allow natural descent of fetal buttocks – **keep your hands off the baby!!!!**
- If there is obstruction due to lesions or scar tissue in the perineum, you may need to perform an episiotomy. Wait until the fetal anus is visible at the vaginal opening.
- Encourage the woman to actively push in the **position of her choice**, to aid the baby's natural descent.
- Let the buttocks deliver until you can see the lower back and then the shoulder blades. Make sure the fetal spine rotates anteriorly. The baby should be looking toward the woman's tailbone.
- Gently hold the buttocks in one hand, but do not pull on the baby's body or legs. The baby's flexed legs usually deliver on their own.
- Wrap the baby in a cloth to keep her warm. Hold the baby by the hips. Do not hold the baby by the flanks or abdomen as this may cause kidney or liver damage.
- Allow the arms to disengage spontaneously one by one. **Only assist if necessary.**
- After spontaneous delivery of the first arm, lift the buttocks towards the mother's abdomen to enable the second arm to deliver spontaneously.
- Cover the baby's body with a clean, dry cloth. Allow the baby to hang until the nuchal line is visible.
- Lay the baby face down with the length of her body over your hand and arm.
- Keep the baby's body at or below the horizontal plane or axis of the birth canal to avoid hyperextending the baby's spine.
- Only when the baby's nose and mouth are visible at the introitus is it wise to bring the body up.
- Slowly let the head deliver. Try not to let the head "pop" out of the birth canal.



If spontaneous breech birth
Do not push until the cervix is fully dilated

Perform breech maneuvers to deliver



Explain

The head may deliver spontaneously or with assistance using the Mauriceau-Smellie-Veit (MSV) maneuver.

With MSV, the combined neck flexion, traction on the fetus toward the hip/pelvis, and the suprapubic pressure keeps the head of a breech baby well flexed.

Demonstrate

Demonstrate the MSV maneuver to deliver the head with the fetal simulator outside the birth simulator. The MSV maneuver can be performed by placing a finger in the baby's mouth or not.

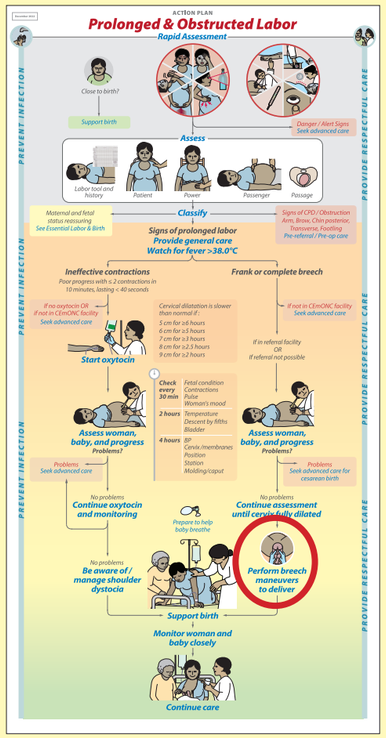
Demonstrate both methods

- *First demonstrate placing your first and third fingers on the baby's cheekbones and the second finger in the baby's mouth to pull the jaw down and flex the head.*
- *Next demonstrate placing your first and third fingers on the baby's cheekbones without placing a finger in the baby's mouth.*

Explain what you are doing and why as you demonstrate.

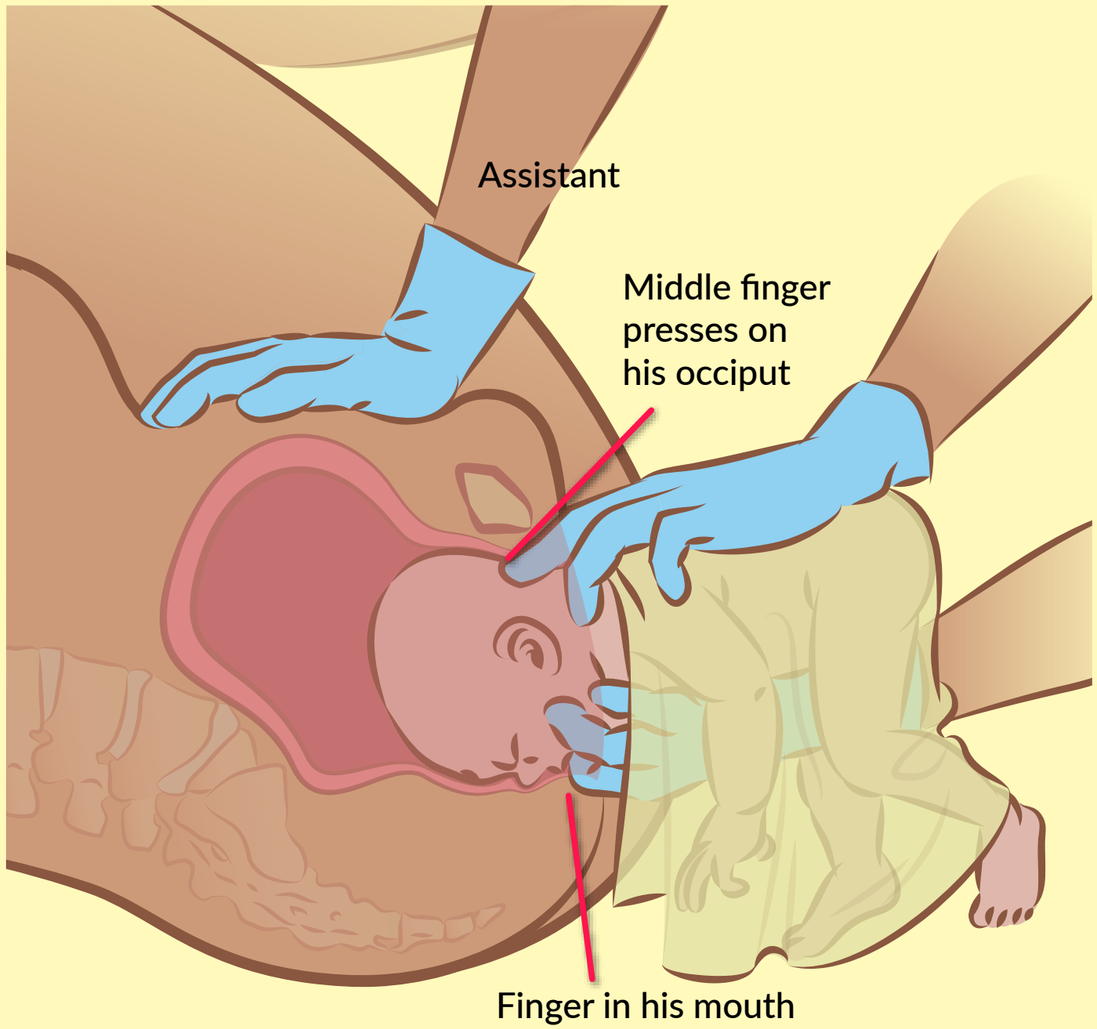
Ask participants to refer to page 32 in PG2 to follow the demonstration. Ask a volunteer to wear the simulator with the baby in breech presentation and demonstrate delivery of the head using the MSV maneuver.

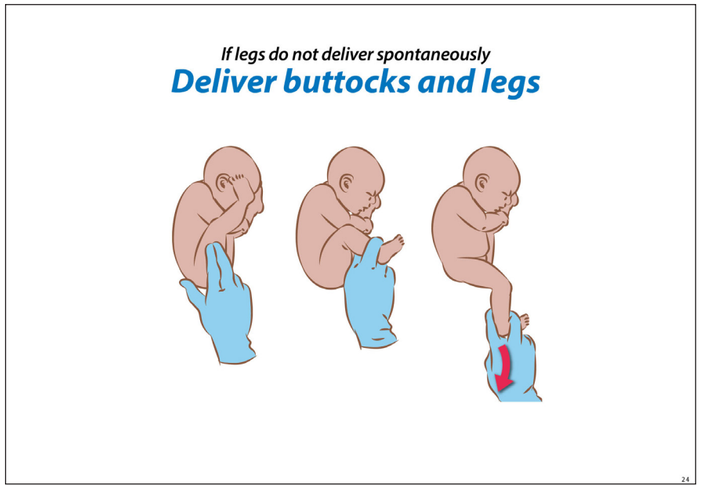
- Support the baby's body over your dominant hand and arm.
- Place your first and third fingers on the baby's cheekbones and place the second finger in the baby's mouth or not as you prefer.
- Use your other hand to grasp the baby's shoulders.
- With fingers of the first hand, gently flex the baby's head towards the chest while continuing to pull on the jaw to bring the baby's head down until the hairline is visible.
- Pull gently to deliver the head. Ask an assistant to give suprapubic pressure as the head delivers. This helps to keep the head flexed.
- Raise the baby, still lying across your arm, until the mouth and nose are free.
- Place the baby on the woman's abdomen, immediately dry the baby and assess the baby's breathing, remove the wet cloth, and cover the baby with a dry cloth and a cap.
- Actively manage the third stage of labor.
- Clamp and cut the cord 1-3 minutes after birth of the baby.
- Provide essential care for the woman and her baby.



If frank breech or complete breech

Support breech birth
Deliver the aftercoming head





Explain

In most cases, the buttocks and legs deliver spontaneously. If the legs do not deliver spontaneously, deliver one leg at a time using Pinard's maneuver.

Demonstrate

Ask participants to turn to page 33 in PG2 to follow the demonstration. Ask a volunteer to wear the birth simulator with the fetal simulator in breech position delivered up to the buttocks.

Explain what you are doing and why as you demonstrate.

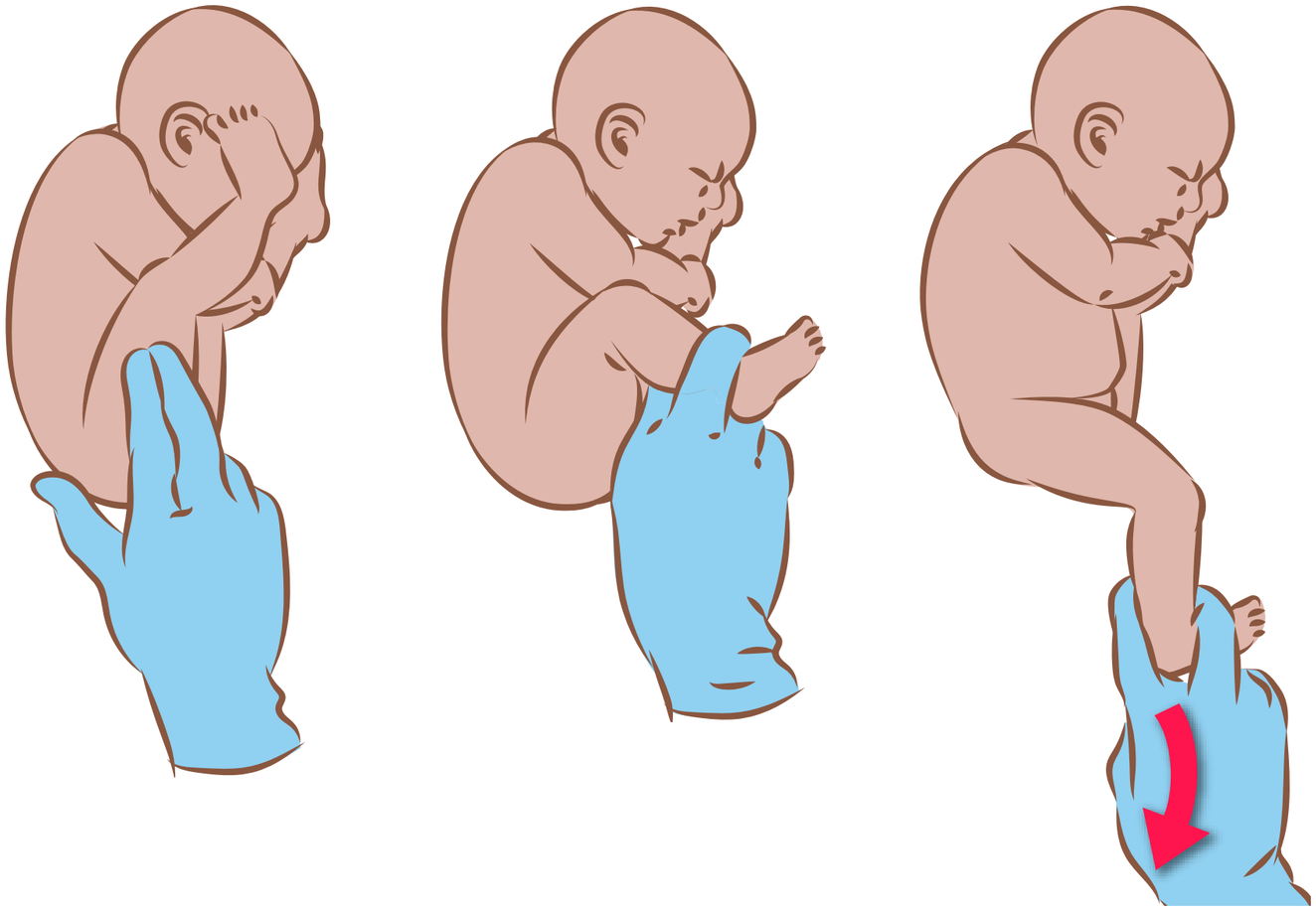
To use Pinard's maneuver:

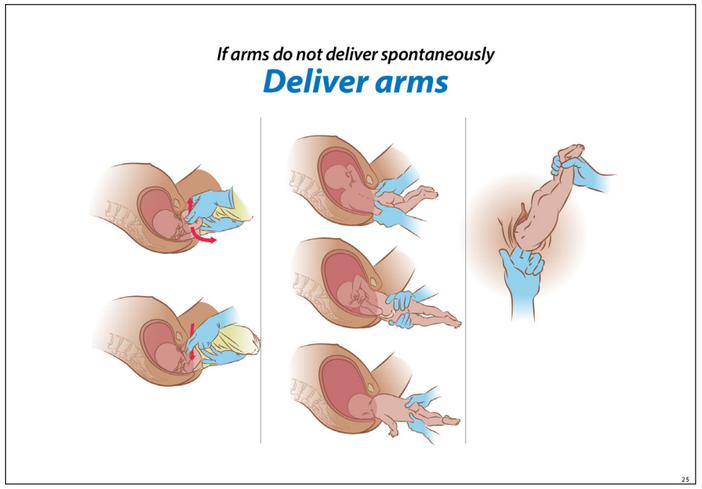
- Push behind the knee to bend the leg.
- Grasp the ankle and deliver the foot and leg.
- Repeat for the other leg.
- Gently hold the baby by the hips, but **do not pull.** Do not hold the baby by the flanks or abdomen as this may cause kidney or liver damage.

Do not pull the baby while the legs are being delivered. It may cause the neck to extend making it impossible to lift the body and deliver the head by flexion. This makes birth of the head more difficult and dangerous.

If legs do not deliver spontaneously

Deliver buttocks and legs





Explain

The arms usually deliver spontaneously however the shoulders can become stuck if the arms are raised as the shoulders pass through the pelvis.

There are 3 methods for lowering the arms so that the shoulders can descend:

1. If the arms are felt on the chest, you will need to bend the arm and bring the hand down over the baby's face.
2. If the arms are extended above the head or folded around the neck, use Lovset's maneuver.
3. If you cannot turn the baby's body, deliver the posterior shoulder first.

Demonstrate

Ask participants to refer to pages 34 & 35 in PG2 to follow the demonstration. Ask a volunteer to wear the birth simulator with the fetal simulator in breech and the body delivered up to the arms. Explain what you are doing and why as you demonstrate.

If the arms are felt on the chest:

- Place one or two fingers in the elbow and bend the arm, bringing the hand down over the baby's face.
- After spontaneous delivery of the first arm, lift the buttocks towards the mother's abdomen to enable the second arm to deliver spontaneously.

If the arms are stretched above the head or folded around the neck, use the Lovset's Maneuver:

- Hold the baby by the hips and turn the body half a circle. Be sure to keep the back uppermost or anterior and apply downward traction at the same time. This will make the arm that was posterior become anterior so it can deliver under the pubic bone.
- Assist delivery of the arm by placing one or two fingers on the upper part of the arm. Pull the arm gently down over the chest as the elbow is flexed. The hand will sweep over the face.
- To deliver the second arm, turn the baby back half a circle. Keep the back uppermost or anterior and apply downward traction at the same time. Deliver the second arm as you did the first.

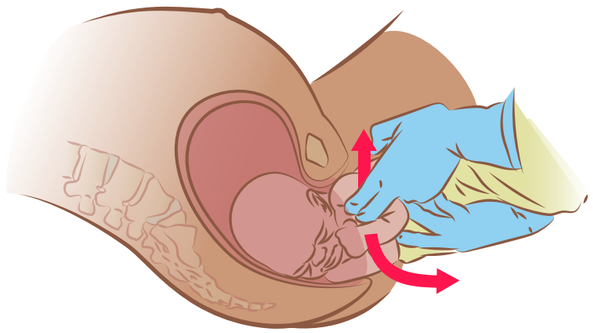
If the arms do not deliver spontaneously and you cannot turn the baby's body:

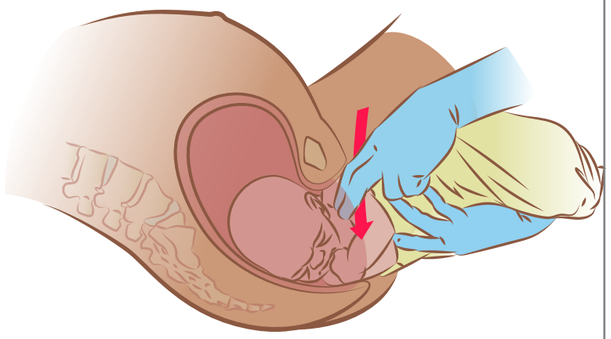
- Start with the posterior shoulder. Hold and lift the baby up by the ankles.
- Move the baby's chest towards the woman's leg. The shoulder that is posterior should deliver.
- Deliver the posterior arm.
- Lay the baby back down by the ankles. The shoulder that is anterior should now deliver.
- Deliver the anterior arm.

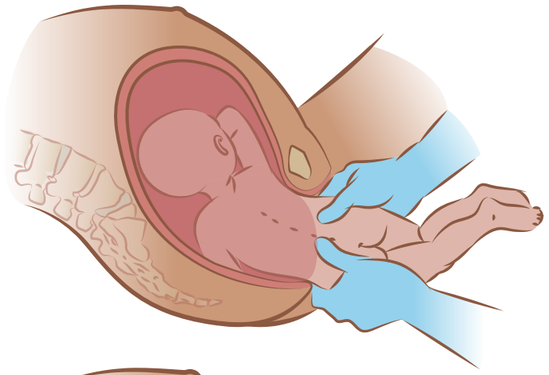
NOTE: If you cannot deliver the head and it is trapped, call for help from a senior, experienced provider who can use forceps or other advanced procedures and alert the operating theater.

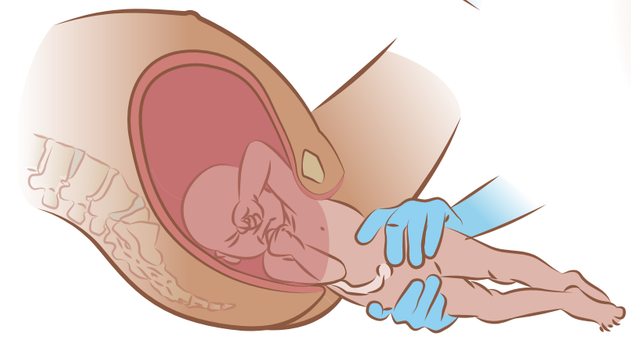
If arms do not deliver spontaneously

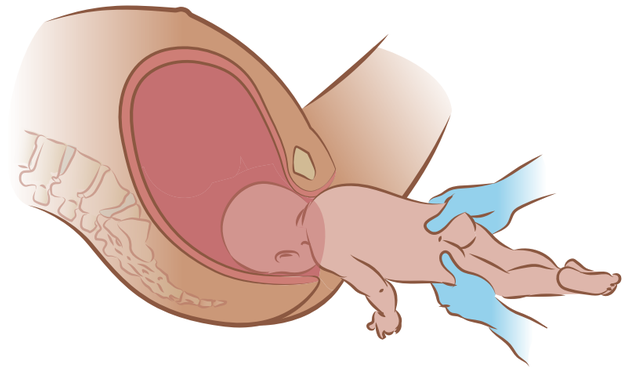
Deliver arms

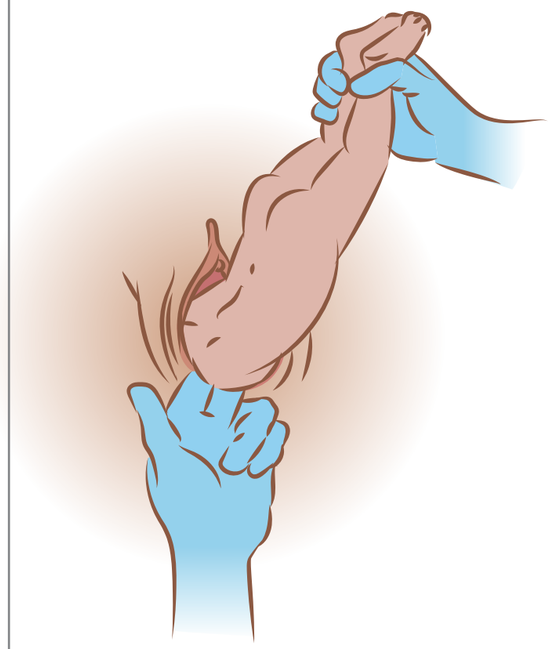


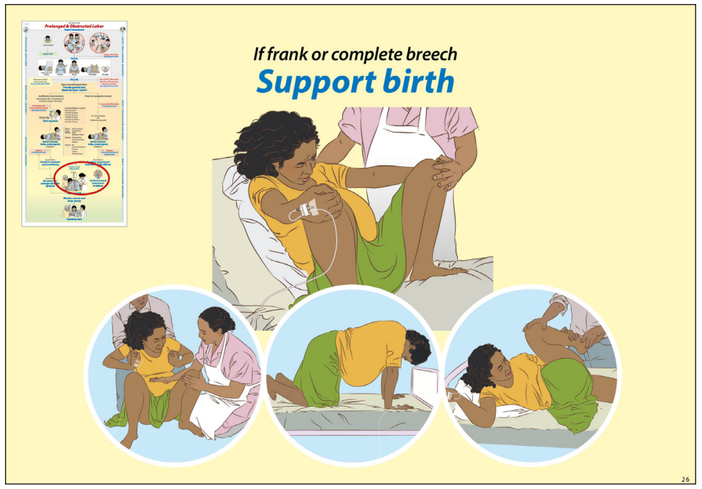












Explain

Continue close monitoring the woman, fetus, and labor progress during second stage.

Be sure you have an assistant to help with the birth and to be ready if the newborn needs resuscitation. Try to promote a sense that the birth is normal and only use medical interventions if there is a clear need.

Whenever possible, encourage and help the woman choose the position at birth that she prefers, including upright positions.

- Alert the operating theater that you have a woman in breech position in second stage so they are ready if an emergency cesarean is needed.
- Once the baby is born, ensure the newborn is breathing well and provide active management of the third stage of labor.

Act quickly if there are problems!

Breech presentation increases the risk of:

- Fetal distress
- Fetopelvic disproportion/obstruction
- Cord prolapse especially with complete breech
- Fetal head entrapment
- Rapid descent of fetal head which may cause intracranial hemorrhage
- Cervical spine injuries from hyperextension of the head
- Delayed birth of the head which can lead to asphyxia from cord compression or separation of the placenta
- Traumatic injuries to the baby including fractures of the humerus, femur or clavicle; dislocation of the hips
- Erb's palsy
- Traumatic injuries to the woman

Knowledge check

What do you need at your facility to attempt a vaginal breech birth?

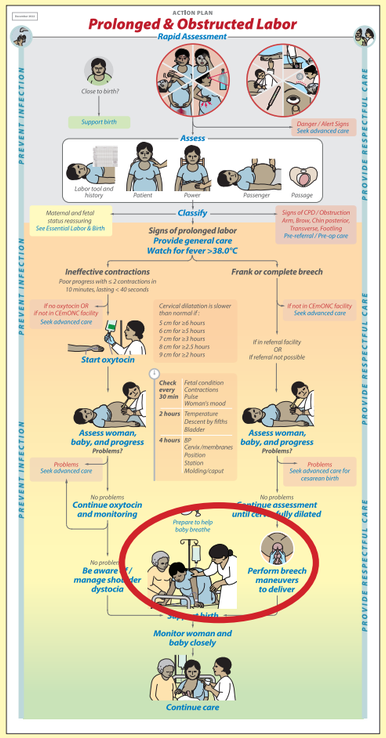
- *A trained and experienced clinician*
- *An ultrasound to confirm position*
- *Ability to do an emergency cesarean and care for an asphyxiated baby or one with birth injuries*

What maternal conditions are required to attempt a breech birth?

- *No history of cesarean birth for CPD/obstruction*

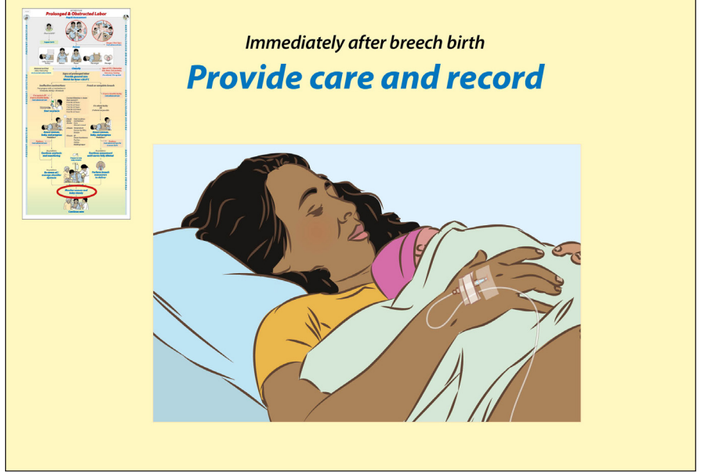
What fetal conditions are required to attempt a vaginal birth with a breech presentation?

- *Frank or complete breech*
- *Head is flexed*
- *Fetal size not too large (estimated fetal weight <4kg)*
- *The baby is neither growth restricted nor premature*



If frank or complete breech

Support birth



Explain

Provide immediate care for the woman and newborn, including resuscitation if needed.

If either the woman or her newborn are not doing well, stabilize then refer immediately for advanced care.

Examine the woman carefully

- Repair any tears to the cervix or vagina.
- Repair episiotomy if one was done.

Examine the baby carefully for injuries

- Intracranial hemorrhage
- Spinal cord injury
- Dislocation of the hips
- Fractures of the humerus, femur or clavicle
- Erb's palsy

- Babies in frank breech position may continue to hold their legs in this position for some days after birth.
- Due to the pressure during labor and birth, it is normal for the baby's leading hip to be bruised and genitals to be swollen.
- **Documentation:** *Ask participants to refer to page 37 in PG2 and read how to document after breech birth.*

Discuss

Ask learners to refer to page 37 in PG2 to respond to the following questions.

"What signs of intracranial hemorrhage will you look for in the newborn?"

- Lethargy, neonatal seizures, apnea, feeding difficulties, irritability, bulging fontanelle, shallow or strained breathing, abnormal tone, altered level of consciousness

"What are signs of a possible hip dislocation in the newborn?"

- A lack of movement or restricted motion in one leg
- Restricted abduction (when the femur moves outward to the side)
- Asymmetrical thigh or gluteal folds, or limb length discrepancy
  NOTE: In bilateral dislocations, symmetry is retained.

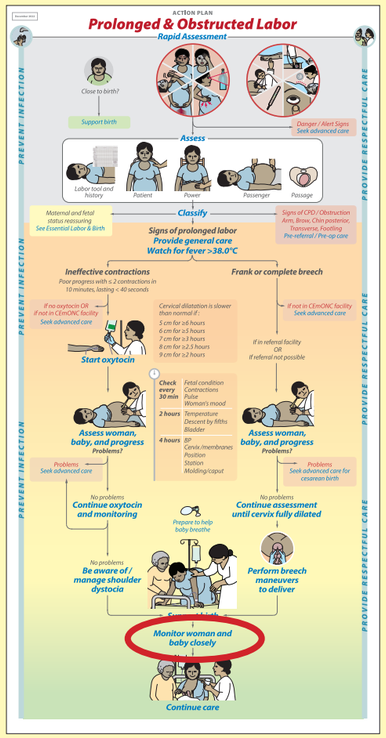
"What are signs of possible spinal cord injury in the newborn?"

- Restricted movement in both arms or legs

Advanced Care Note

Based on local protocols and standards, refer the following for advanced care:

- Women with suspected obstetric fistula.
- Women with third or fourth degree tears.
- Newborns with injuries or complications.



Immediately after breech birth

Provide care and record

EXERCISE
Breech maneuvers

Before beginning the activity, ask learners the following questions:

Knowledge check

What could happen if you pull on the baby when delivering a breech presentation?
It may cause the neck to extend making it impossible to lift the body and deliver the head by flexion. This makes birth of the head more difficult and dangerous.

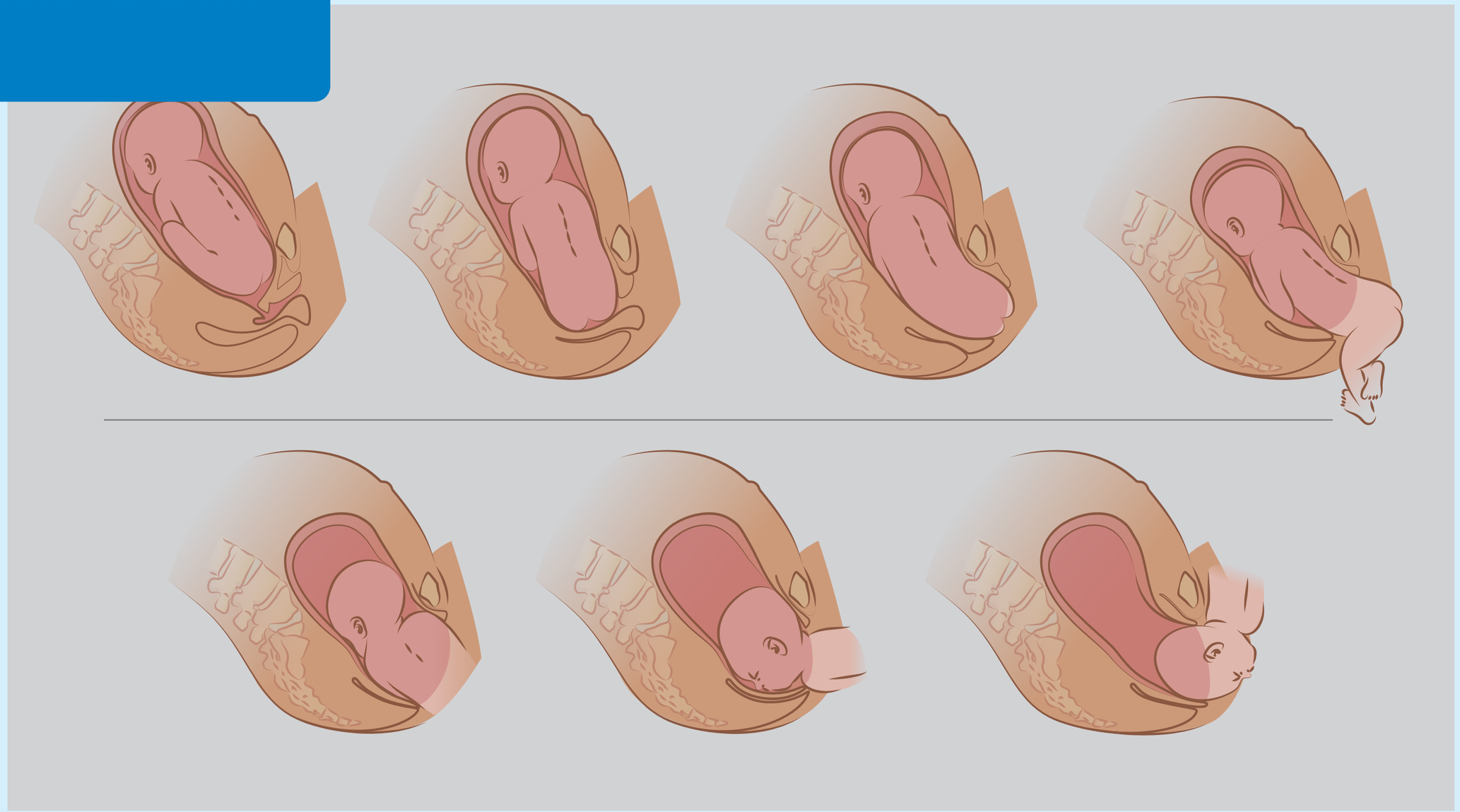
When you are assisting with a breech birth, when will you encourage a woman to push once she has the urge to push?
- *Once the buttocks have entered the vagina and the cervix is fully dilated.*

Divide learners into groups of 3-4.
Have learners turn to pages 30-35 in PG2 and practice the maneuvers as a team – starting at the beginning, and going through all maneuvers.

Provide supportive feedback when needed.

EXERCISE

Breech maneuvers



Explain

If a woman had complications during labor or birth, she and her baby need closer monitoring to identify if problems develop.

A woman with complications during labor may be at a higher risk of infection due to prolonged rupture of membranes and interventions such as IV and IM injections, catheterization, cesarean or instrumental birth.

Women who had an oxytocin infusion during labor are at higher risk for PPH. In addition to the standard unterotonic for prevention at all births, give the equivalent of and additional10 IU of oxytocin over 3.5 hours to keep the uterus contracted. Discontinue if she is stable.

A woman who had prolonged labor may be at an increased risk for obstetric fistula. Ask if she is having urinary or fecal incontinence, and refer her for specialist care if you suspect a fistula.

Women with uterine infection during labor are at risk for:

- Postpartum uterine infection
- Sepsis as are their newborns
- PPH
- Blood clots in the lungs and pelvis

If she was started on antibiotics during labor:

- Continue antibiotics after birth for 24-48 hours after the last clinical signs and symptoms (temperature >38 °C, uterine tenderness, foul-smelling discharge) have ended.
- Monitor the newborn carefully for signs of infection and sepsis and act quickly if there are problems!
- Treat the newborn with prophylactic antibiotics (IM or IV) for at least two days: ampicillin 50 mg per kg every 12 hours and gentamicin 5 mg per kg every 24 hours if the baby is at term / 4 mg per kg every 24 hours if the baby is premature.

Say, ***"Let us review immediate care after birth which we covered in Essential Care for Labor & Birth."***

Knowledge check

How often will you monitor the woman and newborn?

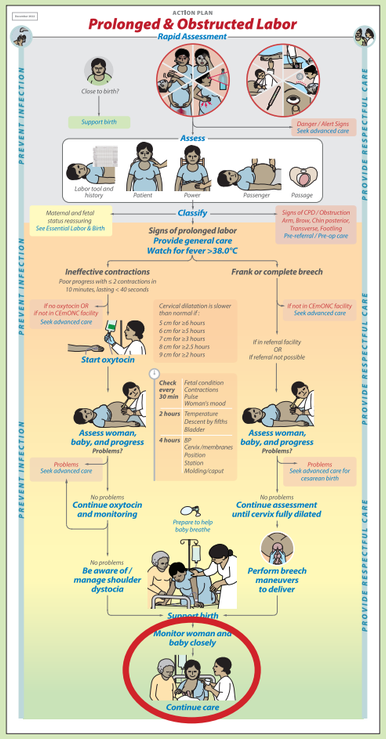
- *Every 15 min for the first 2 hours*
- *Every 30 min for the next hour then*
- *Every hour for 3 hours then*
- *Every four hours until discharge*

What will you monitor for the woman?

- *Vaginal bleeding, uterine tone, fundal height, pulse and BP*
- *Document that she empties her bladder within six hours.*

What will you monitor for the baby:

- *Breathing, temperature, color, and heart rate at the same time as monitoring the mother*



Monitor woman and baby closely
Continue care

Monitor woman and baby

Check every 15 min for 2 hrs

Woman	*Uterus* *Bleeding* *BP* *Pulse*
Baby	*Breathing* *Color* *Pulse*
Both	*Temperature, repeat if not normal*

EXERCISE

Preparing for LDHF Taking Action!

Preparing for LDHF

Ask,

"What is LDHF? Does anybody know?"

LDHF means, "low-dose, high- frequency". It is an approach to training where we do small amounts of learning and practice at our facilities and with our colleauges to make it easier to give the best possible care.

Have providers turn to page 41 of the Provider's Guide so they can see the skills practice and quality improvement activities they will do after today. These activities will be coordinated by a peer who will be asked to help. Explain that they will work as a team and help each other do the activities.

Ask that they include all staff in these sessions even if they were not part of the training today.

Taking Action!

What will I do to make a difference?

Have each participant take 5 minutes to think of one thing they learned that they will do differently after today. Ask them to write it down and put a time limit on how long it will take them to do it.

What will we do differently together?

Ask the group what they think they are doing well when they care for women with prolonged labor or obstructed labor, shoulder dystocia, and breech birth. Then ask the group to review the list of challenges they developed during discussions today.

Ask if there is anything they learned that will be easy to change. Ask what may be hard to change: Using SBAR? Conducting a complete assessment of women with suspected prolonged labor? Augmenting labor? Closely monitoring women on oxytocin? Managing breech birth? Encouraging choice of position for pushing and birth? Providing counseling for the mother/parents when there is fetal demise?

Ask learners to reflect on the following questions as they review their list:

1. Which of these items do we want to change?
2. Which are we able to change on our own?
3. How are we going to make this change?

If you are in a large group, divide the group so there are 6 or fewer participants. Based on the discussion above, ask them to come up with 3 - 5 SMART goals to answer the question, ***"What will we do differently tomorrow?"***

Give **SMART** *example below:*

- **S**pecific - Conduct a rapid assessment on all women with suspected prolonged labor.
- **M**easurable - 100% of women with suspected prolonged labor will receive a rapid assessment.
- **A**chievable - We have the staff and we have been trained to do a rapid assessment.
- **R**elevant - There is increased risk of maternal and fetal death if labor is prolonged and not managed.
- **T**ime limited - It will take us 3 months to ensure all staff are trained and we have the supplies we need.

Have the groups share their goals. Point out that the first LDHF exercise is putting their plans into action!

EXERCISE

Preparing for "LDHF"
Taking Action!

LDHF

Ongoing practice and quality improvement activities

Taking Action with S.M.A.R.T Goals

S*pecific*	*Conduct a rapid assessment (RA) on all women with suspected prologed labor.*
M*easurable*	*100% of women with suspected prolonged labor have a RA.*
A*chievable*	*We have the staff and can purchase other resources to conduct the RA.*
R*elevant*	*There is increased risk of maternal and fetal death if prolonged labor is not managed.*
T*ime limited*	*It will take us up to 3 months to train all staff and purchase needed equipment and supplies.*

Acknowledgments

Helping Mothers Survive Prolonged & Obstructed Labor

Facilitator Flip Chart

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Jhpiego is an international, nonprofit health organization affiliated with Johns Hopkins University. For nearly 50 years, Jhpiego has empowered frontline health workers by designing and implementing effective, low-cost, hands-on solutions to strengthen the delivery of health care services for women and their families. By putting evidenced-based health innovations into everyday practice, Jhpiego works to break down barriers to high-quality health care for the world's most vulnerable populations.

The Helping Mothers Survive Prolonged & Obstructed Labor module was conceived and co-developed by a team in the Technical Leadership Office of Jhpiego and the American College of Obstetricians and Gynecologists.

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We express our sincere gratitude to our partners and colleagues around the world who work with us to reduce the needless deaths of women and their babies. We would like to give special thanks to those who provided guidance in the development of these materials, the the International Federation of Gynecology and Obstetrics (FIGO), International Confederation of Midwives (ICM), the United Nations Population Fund (UNFPA), and the American Academy of Pediatrics (AAP).
We wish to thank our partner colleagues in Tanzania who supported testing of these materials.

This work was made possible through the generous support of Laerdal Global Health, the Laerdal Foundation for Acute Medicine, and Jhpiego, an affiliate of Johns Hopkins University.
Special thanks to Tore Laerdal for his never-ending dedication to the lives of women and their newborns around the globe.

20-20289 rev A
ISBN 978-82-8276-291-5