



VERSION 1.0 Sengerema | 2022

PartoMa

A Pocket Guide for Safe and Respectful Childbirth Care



CONTENT**PART 1 Routine care**

Rights of every woman and baby	page 2
Partograph and PartoMa use	page 3
Admission assessment	page 4
Surveillance during labour	page 5
Care after birth	page 6
Pain relief & Infection prevention	page 7

PART 3 Procedures

Induction of labour	page 17
Augmentation of labour	page 17
Vaginal breech birth	page 18
Vaginal twin birth	page 19
Vacuum extraction	page 20
Shoulder dystocia	page 21
Guarding and repair of perineum	page 22
Neonatal resuscitation	page 23

PART 2 Decision support

PROM, preterm birth & HIV prevention	page 8
Fetal distress & IUFD	page 9
Prolonged labour	page 10
MOYO	page 11
Hypertension, pre-eclampsia, eclampsia	page 12
Shock, fever, sepsis	page 13
Vaginal bleeding before birth (APH)	page 14
Vaginal bleeding after birth (PPH)	page 15
Decision on caesarean section (CS)	page 16

Colour codes and symbols

UNCOMPLICATED Routine care

WARNING Attention and treatment

DANGER **IMMEDIATE ACTION!**

 Special attention

* More information further down on the same page in a grey field

 Consider referral to higher-level hospital

Abbreviations

ANC antenatal care

APH antepartum haemorrhage

ARM artificial rupture of membranes

ART antiretroviral treatment

BP blood pressure

Bpm beats per minute

CS caesarean section

CTC care, testing and counseling

FHR fetal heart rate

GCS Glasgow Coma Scale

HIV human immunodeficiency virus

Hr hour

IM intramuscular

IV intravenous

Min minutes

MmHg millimetres of mercury

PPE personal protective equipment

PPH postpartum haemorrhage

PPROM preterm PROM

PROM prelabour rupture of membranes

PV per vaginal examination

RR respiratory rate

Sec seconds

SRM spontaneous rupture of membranes

Temp temperature

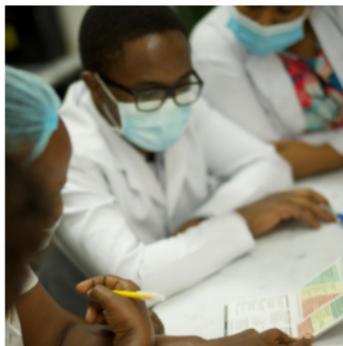
VBAC vaginal birth after CS



The PartoMa guidelines 2022 are approved by Tanzania's Ministry of Health, Community Development, Gender, Elderly and Children. The guidelines represent achievable essential care at Sengerema Designated District Hospital



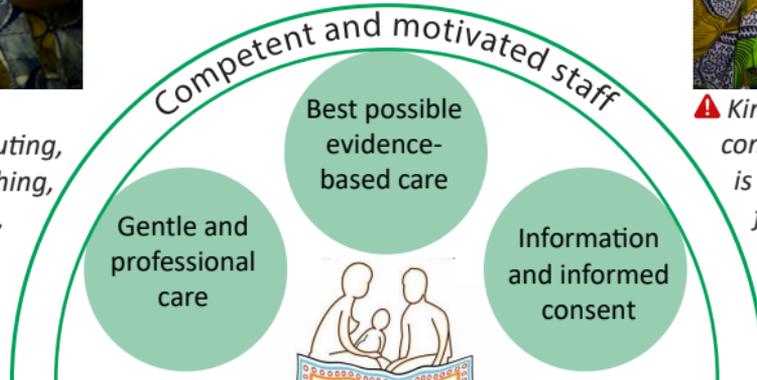
⚠️ No harm and no ill-treatment. No shouting, hitting, slapping, pushing, pinching, humiliation, threats or blaming

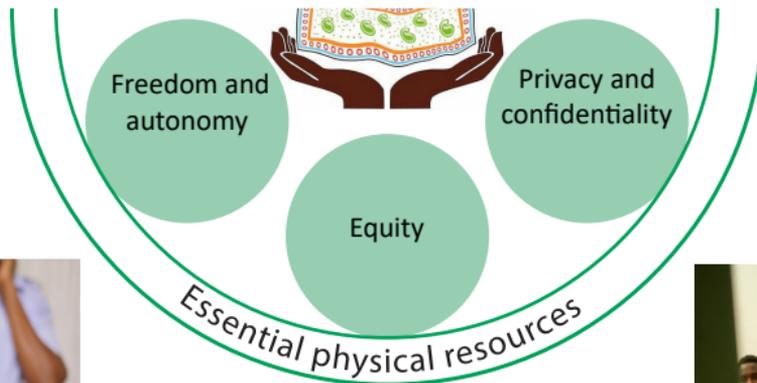


⚠️ If in doubt, consult with colleagues and use guidelines. Surgeries and maneuvers need hands-on training and supervision



⚠️ Kind, polite and truthful conversation about what is done and why. Honest feedback on findings. No procedures on mother or baby without mother's consent

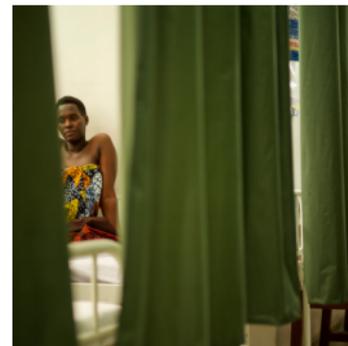




⚠ Encourage mother to choose position during labour and to have a birth companion. Encourage mother to drink and eat throughout labour.



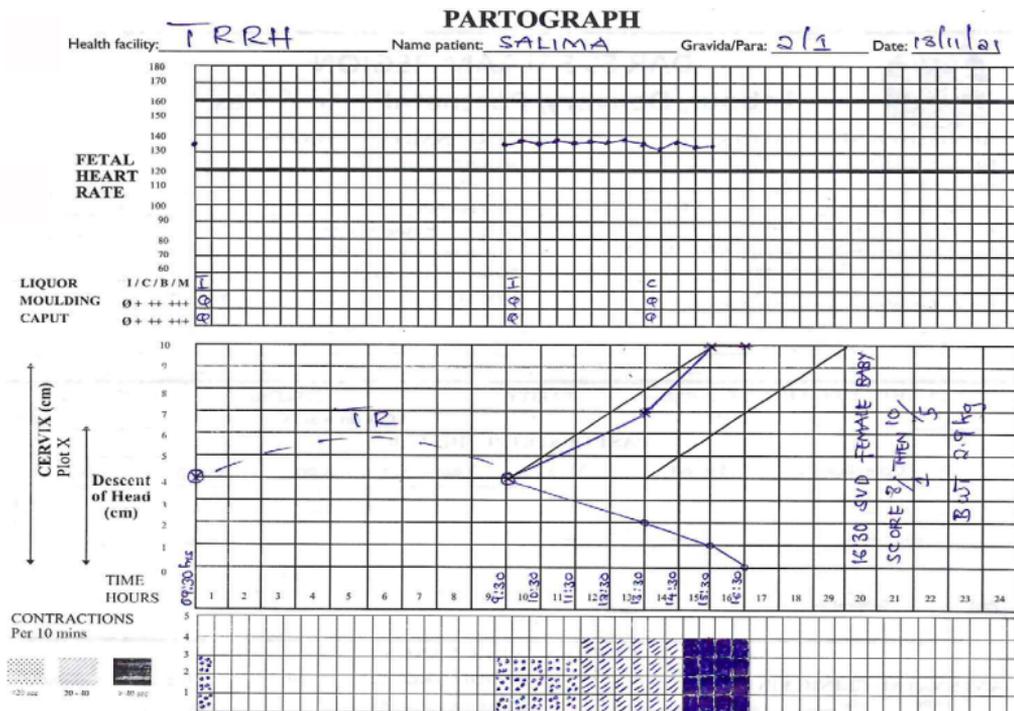
⚠ No discrimination. No detainment, extortion, bribes or denial of treatment. Keep mother and baby together



⚠ No exposure of mother's nakedness or disclosure of personal information. Cover woman and use screens during exams

AN EXAMPLE OF CORRECT PARTOGRAPH USE

⚠ *The partograph must be used for ALL women in active labour, and also in second stage. WHO (2018) recommends not to start active phase before 5 cm cervical dilatation.*



FHR and fetal distress:
page 10

PROM, preterm birth:
page 9

Bleeding before birth:
page 14

Prolonged labour:
page 11

⚠ *The weakening of contractions may for example be caused by the mother feeling anxiety, by dehydration, or tired uterus (see 5 Ps, page 11)*

ADMISSION ASSESSMENT FOR ALL WOMEN**Assess obstetric risks**

See the ANC card and ask the woman about:

- Vaginal bleeding in current or previous pregnancy
- Previous CS
- Gestational age (*preterm or postterm baby?*)

Estimated by ultrasound before 24 weeks gestation OR last menstrual period OR fundal height at ANC or on admission

- Other obstetric concerns

For example: Reduced or absent fetal movement in last 24 hrs, meconium if membranes ruptured, PROM, breech, twin pregnancy, hypertension, obesity, anemia, diabetes, HIV, TB or other infections, mother's age (less than 18 years or more than 40 years)

Assess symptoms and appearance of the mother

For example: Headache, blurred vision, severe general body weakness, jaundice, edema, cyanosis, difficulty in breathing, anaemia

Assess vital signs

RR, Pulse, BP, Temp, FHR, Oxygen saturation

Do abdominal exam***Do vaginal exam (page 5)****Start observation of mother, baby and progress:**

In latent phase of labour: Start observation sheet

In active labour: Start partograph (page 3)

Provide caring support**Inform the woman and start conversation:**

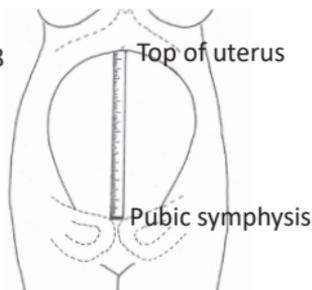
- The plan for her birth
- Alert staff if increased vaginal bleeding, pain between contractions, more painful contractions, rupture of membranes, absent fetal movement, other needs or concerns

▲ *If any fetal or maternal risk is identified, see the relevant pages of the PartoMa guidelines, and ensure that a senior doctor sees the patient*

*ABDOMINAL EXAM



Palpate top of uterus (fundus) to exclude breech presentation. If breech, see page 18



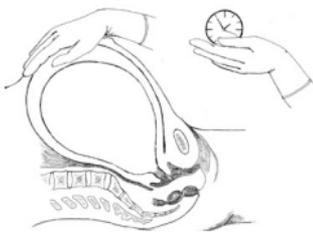
Measure symphysis fundal height to confirm size of uterus



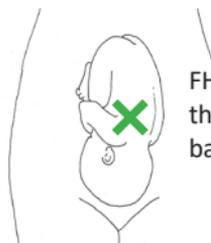
Palpate both sides of uterus to determine location of baby's back, and assess if it is twins



Determine presenting part (*for example vertex, breech or shoulder*), and descent (*level of head, in fifths of head above brim*)



Palpate abdomen for 10 minutes and assess duration and frequency of contractions. If too busy, then assess for 5 min. Also, train mother to assess herself



FHR is best heard at the top of the baby's back

Auscultate with handheld Doppler or Pinard at the end of a contraction for 1 min. Confirm that it is FHR and not maternal pulse

LATENT PHASE

*Regular painful contractions, cervix less than 4-5 cm.
Latent phase is documented on the observation sheet.*

Every 4 hrs AND when changes occur (for example SRM or increasing contractions):

BP, Pulse, FHR, Abdominal exam (*lie, presentation*),
contractions, PV*

Signs of infections? (*page 13*)

If obstetric risks (for example preterm or postdate, previous CS or poor fetal movements):

FHR every 1-2 hrs with MOYO fetal monitor

⚠ If latent phase longer than 12-24 hrs:

If any risk factors OR ruptured membranes, consider induction (page 17). If no risk factors, consider rest with pain relief. Also, false labour must be considered (urinary tract infection, sexual transmitted infection, abruptio placenta, uterotonics/herbs taken at home)

FIRST STAGE, ACTIVE PHASE

*Cervix 4-9 cm AND regular painful contractions
Active phase is documented on partograph (page 3)*

Every ½ hr (at least every 1 hr): FHR

Every 2 hrs: Urine output (*spontaneously is best*),
Contractions

Every 4 hrs: BP, Pulse, Temp, PV*

SECOND STAGE, ACTIVE PHASE

*Cervix fully dilated (10 cm)
Second stage is documented on partograph (page 3)*

FHR: Every 15 min before pushing has started
After every contraction when pushing

Contractions, PV: Every ½ hr*

BP, Pulse: Assess if 4 hrs since last assessment

⚠ *Urination before pushing to create space for baby, and guard perineum (page 21)*

⚠ *Do NOT use fundal pressure or routine episiotomy. It does not accelerate birth, but it causes harm*

*VAGINAL EXAM (PV)

It should preferably be the same health provider doing each of a woman's vaginal exams.

Tell the woman you are going to assess her before you touch her

What to assess:

1. Cervical dilatation
Do not stretch cervix more open than it is
2. State of cervix
Effacement, thin/thick, rigid/soft, oedematous
3. State of membranes (*intact or ruptured*)
If membranes have ruptured, assess colour and smell of liquor
4. Determining presenting part (*for example vertex, breech or shoulder*)
5. The presenting part's descent (*in relation to ischial spines, which is station 0*) and position (*for example*

⚠ *If vaginal bleeding, no digital vaginal exam before placenta praevia is ruled out by ultrasound (page 14)*

⚠ *Assessing pelvic adequacy has limited diagnostic value. True cephalopelvic disproportion (CPD) is diagnosed by trial of labour and is an uncommon condition (pages 11 and 16)*



IMMEDIATELY AFTER BIRTH OF BABY

Mother: **Active management of third stage**

(IM Oxytocin 10 units, controlled cord traction, uterine massage)

Bladder full? *(encourage empty bladder)*

Baby: **Not crying or not breathing?** *(page 22)*

Apgar score* *(after 1 min and 5 min)*

Cord clamping *(if baby is well, delay 2 min)*

Skin-to-skin with mother *(at least first hr)*

Breastfeeding *(should start within 1 hr)*

AFTER BIRTH OF PLACENTA

Mother: **Vaginal bleeding above 500 ml?** *(page 15)*

Perineal/genital tears? *(page 21)*

Placenta/membranes complete?*(page 15)*

1 HR AFTER BIRTH

Baby: **Head-to-toe examination**

Exclude malformations (cleft palate, spina bifida, anorectal malformation)

IM or PO Vitamin K 1 mg

(if weight less than 1500g, give 0.5 mg)

Ensure that breastfeeding has started

FIRST 6 HRS AFTER BIRTH

Mother: **General condition**

Pulse, BP, Temp

Palpate uterus *(uterine massage if needed)*

Vaginal blood loss (PPH, page 15)

Bladder full? *(encourage urination)*

Baby: **Breathing, colour and temperature**

Tetracycline eye ointment

Cord bleeding?

⚠ Teach mother to assist in observing, fundal height, vaginal bleeding and wellbeing of baby. Teach mother to do uterine massage

BEFORE DISCHARGE

Mother: **Pulse, BP**

Vaginal discharge *(blood loss and lochia)*

Ensure urination

Examine breast

Give instructions**

Baby: **General condition**

Birth weight

Assure timely and effective breastfeeding

⚠ Keep baby skin-to-skin as much as possible

*APGAR SCORE

	0	1	2
Appearance	Blue/pale all over	Blue/pale limbs and pink body	Pink body and limbs
Pulse (bpm)	Absent	Less than 100	100 or more
Grimace	No response to stimulation	Grimaces when stimulated	Cries when stimulated
Activity	None	Some flexion	All limbs flexed
Respiration	Absent	Weak	Strong



⚠ If not breathing, start bag-mask ventilation WITHIN the first minute (page 23)

To assess if the baby is pale or pink, look at oral mucosa, nail beds and palms and soles.

5 min Apgar score less than 7 indicates asphyxia and the baby should be transferred to NICU.

** INSTRUCTIONS TO MOTHER

1. Danger signs for mother

- severe bleeding OR severe abdominal pain
- fever OR foul smelling vaginal discharge
- difficult or fast breathing
- edema with headaches or blurred vision
- painful, red and severely swollen breasts
- leakage of urine OR painful urination
- signs of postpartum depression

2. Danger signs for baby

- not feeding well or vomiting
- inactivity (movement only when stimulated)
- excessive crying
- convulsions
- difficult or fast breathing
- fever or low temperature
- umbilical cord redness, bleeding, pus discharge
- jaundice
- diarrhea

3. Advice on breastfeeding and good hygiene

5. Family planning counselling

6. Summary of the birth (including interventions and their indications, test results etc.)

PAIN RELIEF DURING LABOUR

Respectful, caring and encouraging support and ambulation are often sufficient to cope with pain
(page 2)



If distressed by pain:

- Assess FHR, contractions, PV (*cervical dilatation*) (*if pain between contractions, see page 14*)
- Encourage walking or most comfortable position
- Encourage breathing techniques

If severely distressed by pain **AND** more than 4 hrs to birth: Offer IM Pethidine 100 mg, single dose

⚠ *If Pethidine is given within 4 hrs before birth, newborn baby may have poor breathing (page 22). Antidote: IV Naloxone 0.1 mg/kg body weight.*

PAIN RELIEF AFTER CS

Use a combination of:

Opioid **AND** NSAID **AND** Paracetamol

For example:

- IM Pethidine 100 mg 4-6 times daily or Tramadol 100mg 3 times daily **AND**
- IM Diclofenac 75 mg 2 times daily or ORAL Diclofenac 50 mg 3 times daily **AND**
- ORAL/RECTAL/IV Paracetamol 1g 4 times daily

⚠ *Opioid MUST be part of the combination for at least 24 hrs after CS. Optimal pain relief is a crucial part of respectful caring support, and it enables the mother to breastfeed.*

PAIN RELIEF DURING PERINEUM REPAIR

Ensure anaesthesia by local infiltration

Total maximum dosage must not exceed 20 mL of lidocaine 1%.

Local infiltration:

5-10mL 1 % lidocaine solution without adrenaline

⚠ *Never inject lidocaine IV. Therefore, do not inject if blood is aspirated.*



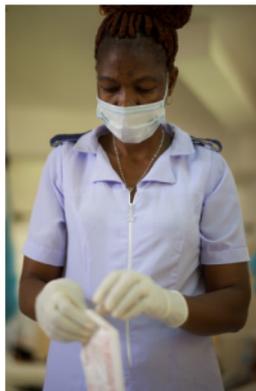
Screen for infections on admission

For example HIV*, COVID-19**, TB, malaria, urinary tract infection (*rule out pyelonephritis*)
If fever, see page 13



Clean hands

Handwashing OR alcohol-based handrub before touching patient, before procedures, after procedures, after touching patient, and after touching patient's surroundings



Personal protective equipment (PPE)

Staff must wear mask when dealing with patients, and face shield if available



Clean birthing area



Proper and immediate handling of waste

⚠️ Post-exposure prophylaxis within 2 hrs if exposed to blood OR other potentially infectious body fluids:
Wash exposed area and report to CTC for counseling

PRE-LABOUR RUPTURE OF MEMBRANES (PROM)**⚠ Limit PVs due to risk of infection****37 weeks gestation or more: (term PROM)**PROM less than 24 hrs in total:

Routine assessments and supportive care in hospital

PROM more than 24 hrs in total:

Start antibiotics, for example (*if not allergic*):

Oral Erythromycin 500 mg 8 hourly **AND**

Oral Metronidazole 400 mg 8 hourly until birth

Plan for birth within 12 hrs. Induce if necessary
(page 17).

⚠ *Women with preterm labour or PROM have increased risk of complications, such as hypertension, pre-eclampsia (page 12), placental abruption (page 14), cord prolapse and infection (page 13)*

⚠ *Newborns weighing 2000 g or less need to be transferred to NICU*

Less than 37 weeks gestation: (Preterm PROM)

1. Sterile speculum exam to confirm leakage
2. Ultrasound (fetal wellbeing, liquor amount and gestational age)
3. Urinalysis
4. Start antibiotics, for example (*if not allergic*):
Oral Erythromycin 500 mg 8 hourly for 10 days
AND Oral Metronidazole 400 mg 8 hourly for 10 days (*or until birth*)
5. If gestational age less than 34 weeks, start dexamethasone and magnesium sulphate (see below)

If high risk: Induce immediately (page 17)
(*high risk due to for example severe hypertensive disorder (page 12) or signs of infection (page 13)*)

If low risk: Plan for expectant management in hospital, with close observation until 37 weeks gestation: Monitor for maternal and fetal wellbeing (*BP, Pulse, Temp., fetal movement, FHR, full blood picture (FBP)*)

PRETERM BIRTH

Confirm gestational age:

Use all available information (*last menstrual period, physical exam in early pregnancy, ultrasound performed before 20 weeks, symphysis fundal height*)

If high chance of birth before 34 weeks:

- Improve **lung maturity** of the baby by giving mother: Dexamethasone 6mg IM 12 hourly for 48hrs
- Prevent **neurologic complications** to the baby by giving mother: Magnesium sulfate 4g loading dose followed by an IV infusion of 1 g per hr for 24 hours or until birth (whichever occurs first)

If PROM, start antibiotics (*see above*)

Assess mother carefully

(*pre-eclampsia page 12, maternal fever page 13, placental abruption page 14*)

Prepare for birth

(*routine CS is **not** recommended, avoid vacuum extraction, anticipate need for neonatal resuscitation*)

 **Consider referral to higher level hospital**

* HIV, prevention of transmission to baby

On admission

-HIV test of all women

-If HIV positive:

1. Continue current ART medication OR start TLD single pill regime (*Tenofovir, Lamivudine, Dolutegravir*)
2. Assess latest viral load results

During labour

 *Vaginal birth with all procedures deemed necessary is preferable, unless: viral load above 1000 copies/mL OR no ART OR poor ART adherence*

- Provide supportive care AND infection prevention
- Minimise invasive procedures (*for example vaginal examinations and ARM before 7 cm dilation*)
- Avoid severely prolonged labour (page 11)

Treatment of baby after birth

- If high risk baby (no ART OR ART less than 4 weeks OR viral load above 50 copies per ml): Enhanced postnatal prophylaxis (ePNP)
- If low risk baby: ORAL Nevirapine 1.5mls (15mg) for 6 weeks (*if birthweight below 2500g: 1.0ml (10mg)*)
- Counsel: ARV adherence, CTC visits, infant feeding (*exclusive breastfeeding OR exclusive replacement feeding in the first six months*)

FETAL DISTRESS & INTRAUTERINE FETAL DEATH

FETAL HEART RATE (FHR)

⚠ *Pushing is the most dangerous time for baby:
FHR at the end of each contraction*

FHR bpm	Abnormal FHR (<i>continuous FHR more than 180 bpm</i>) Suspect fetal distress and/or maternal infection: Pulse, BP, Temp (<i>fever: page 13</i>) Intrauterine resuscitation*, FHR continuous with MOYO, check every 15 min If no improvement after 1 hr: Immediate birth by vacuum extraction or CS (<i>pages 16, 20</i>)
180	
170	Borderline FHR (<i>continuous FHR 161-180 bpm</i>) Assess Pulse, BP, Temp - Intrauterine resuscitation* - FHR continuous with MOYO, check every 15 min
160	
150	Normal FHR (<i>FHR 110-160 bpm</i>) <i>Establish baseline FHR on admission</i>
140	First stage of active labour: FHR every 30 min (<i>every 1 hr as a minimum</i>)
130	Second stage: FHR every 15 min when descending to pelvic floor FHR at the end of every contraction when pushing
120	<i>If prolonged labour during pushing switch to MOYO</i>
110	
100	Borderline FHR (<i>FHR 100-109 bpm</i>) Intrauterine resuscitation* FHR continuous with MOYO, check every 15 min
90	Fetal distress (<i>FHR less than 100 bpm</i>) Intrauterine resuscitation* - Check FHR and Maternal heartrate with MOYO
80	After 5 min: If FHR still below 100 bpm: Immediate birth by vacuum extraction or CS (<i>pages 16, 20</i>) If FHR not heard, quickly confirm absent FHR**
70	

LIQUOR (amniotic fluid)

Clear (C)

Reassuring.

No specific actions to be taken.

Meconium, thin or thick (M)

Can be a sign of fetal distress:

- Monitor FHR with MOYO, check every 15-30 min

At birth: Immediate suction of mouth and nose if signs of obstruction. Do not suction if baby is nicely crying or breathing

Vaginal bleeding (B)

See page 18.

⚠ *No PV before placenta praevia is ruled out (by ultrasound, or in theatre where CS can quickly be performed)*

* INTRAUTERINE RESUSCITATION

- Woman to lie on left side (*if no improvement, then right side*)
- **Stop oxytocin if administered**
- Assess Pulse, BP, FHR, PV, Temp
- Start IV Normal Saline/RL
- Switch to MOYO continuous, check **FHR after 5 min**

⚠ *Always ensure that it is FHR and not maternal pulse, by checking FHR and maternal pulse at the same time*

** FHR NOT HEARD (IUFD)

Confirmation of absent FHR:

Ask colleague to reassess FHR (*with MOYO*) and perform ultrasound

If confirmed intrauterine fetal death, plan for vaginal birth:

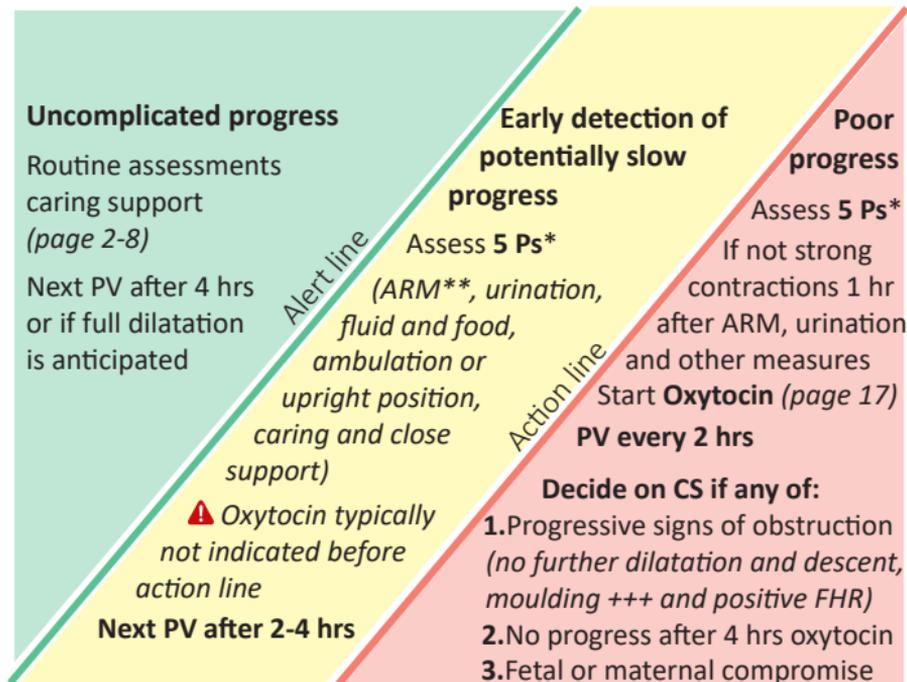
- Place canula (green or grey) and urine catheter
- Send IUFD labs: Hb, X-match, RPR, PMTCT, MRDT, RBG, Full blood picture (clotting time if indicated)
- If amniotic sac has been ruptured for more than 12hrs or signs of infection: start antibiotics (*page 13*)
- Induce or augment (*page 17*)
- Craniotomy (*if obstructed labour in second stage*)
- Provide emotional support (*page 2*)

⚠ *CS after fetal death is dangerous for the mother, and must only be performed as last option*

⚠ *Women with an IUFD are at higher risk of uterine-rupture and APH/PPH*

ACTIVE FIRST STAGE OF LABOUR (*Cervix 4-5 cm or more AND regular painful contractions*)

⚠ Cervical dilatation progresses in different speeds in uncomplicated births. But 95% of all women with uncomplicated birth dilate from 5 to 10 cm within 11 hrs



*** 5 Ps - why poor progress?**

Power: If less than 4 strong contractions per 10 min, enhance labour: ARM**, Oral fluid and food intake, Ambulation (upright position), Oxytocin (page 17)

Passenger: Consider: malposition, malpresentation, fetal weight (large baby?)

Pass urine: Encourage spontaneous emptying every 2 hrs (catheterize as last resort)

Psyche: Reduce anxiety (page 2)

Pelvis: Consider if the woman has severely contracted pelvis.

⚠ True cephalopelvic disproportion (CPD) is only rarely the cause of slow labour progress

.....4 hrs

SECOND STAGE OF LABOUR *(Cervix fully dilated)*

Duration less than 1 hr AND Pushing less than 30 min

Caring and continuous support
ARM if membranes still intact**
Encourage mother to choose position *(eg lateral recumbent)*

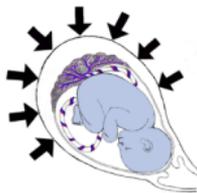
Duration 1-2 hrs OR Pushing 30-60 min

Exclude malposition
If presenting part not visible at vulva, consider 5 Ps* and oxytocin augmentation *(page 17)*
PV every 15-30 min

Duration more than 2-3 hrs OR Pushing more than 1-1½ hr OR signs of fetal distress

⚠️ *For nulliparous, normal second stage can last up to 3 hrs*
Vacuum extraction if possible *(page 20)*. CS as last resort.

⚠️ **Oxytocin augmentation causes risks of uterine hyperstimulation, uterine rupture and fetal distress. Therefore, oxytocin augmentation must only be started when indicated *(page 17)***



⚠️ **Pushing is the most dangerous time for the baby. Therefore, delay pushing until the woman feels urge to push OR head is on pelvic floor OR fully dilated for 1-2 hrs.**

** ARM

1. Ensure fetal head engaged in pelvis *(to avoid umbilical cord prolapse)*
2. On back, legs bent, feet together, knees apart
3. Place two fingers against membranes and GENTLY rupture membranes with hook
4. After rupture, fingers remain in place *(umbilical cord prolapse?)*
5. Remove fingers slowly, note colour of liquor *(page 10)*
6. Assess FHR after contraction

⚠️ **ARM should also be performed in HIV-positive women when action line is crossed**



Indication for use: all high risk births**High-risk factors**

Previous caesarean section
 Medical complications (e.g. hypertensive disorders, diabetes or fever)
 Prematurity (<37weeks)
 Post-term pregnancy (>42 weeks)
 Prolonged rupture of membranes (>24hours)
 Breech presentation
 Suspected fetal growth restriction

Intrapartum risk events

Meconium staining of amniotic fluid
 Abnormal vaginal bleeding
 Oxytocin or misoprostol use
 Maternal fever or suspected infection
 Non-reassuring or abnormal fetal heart rate

USE

- Check MOYO for cleanliness and battery duration
- Place the MOYO where fetal heart is best heard (fetal back)
- Compare fetal heart rate to maternal pulse
- Establish baseline of the FHR and write it on partograph

During labour

- Check monitor for FHR every 15-30 minutes as indicated
- When using MOYO FHR should still be written on the partograph



To check maternal pulse, instruct mother to hold the device with both hands

MOYO ALARM

FHR is communicated with 3 different colors:



Green is used when FHR is normal (between 110 - 160 bpm).



Yellow is used when FHR is abnormal (less than 110 or more than 160bpm).



Yellow color turns red when abnormal FHR over a period of time.

FHR below 100 bpm or above 180 bpm for more than 3 minutes or

FHR between 100 – 110 bpm or 160 – 180 bpm for more than 10 minutes

⚠ *If there is a drop in the baseline of more than 15bpm consider it as a danger sign*

SUSPECTED FETAL DISTRESS

- Woman on left side(*if no improvement, then right side*)
- During a contraction? Wait until after the contraction (*It is normal for a fetal heart to drop during contractions, as long as it is back to its baseline between contractions*)
- Ensure it is fetal heart rate and not maternal pulse, if needed reposition MOYO
- **Stop oxytocin if administered**
- Asses Pulse, BP, PV, temp

Confirmed fetal distress: take action (*page 9*)

After 5 min: If FHR still below 100 bpm: Immediate birth by vacuum extraction or CS (*pages 16, 20*)

MOYO should be used during first AND second stage of labour

⚠ *Remember: second stage is the most dangerous time for the baby*

HYPERTENSION AND PRE-ECLAMPSIA / ECLAMPSIA DURING LABOUR

Systolic BP
140-159
and/or
Diastolic BP
90-109

MILD-MODERATE Hypertension / Pre-eclampsia*:

Assess lungs, urine output, proteinuria, patellar reflexes
Pulse and BP every hr
FHR monitoring with MOYO, check every 30 min

⚠ **Pre-eclampsia can worsen after birth.** BP must be monitored regularly for at least 48 hrs postpartum. Consider ORAL antihypertensives for 3-6 days postpartum

Systolic BP
160 or more
and/or
Diastolic BP
110 or more
(mmHg)

SEVERE Hypertension / Pre-eclampsia*:

Medication (SLOWLY) (use specific treatment sheet):

Antihypertensive** AND Anticonvulsant***

Strict fluid balance: ⚠ Risk of pulmonary edema

- Restrictive IV fluid, catheterize bladder (intake-output)
- Full blood count, liver and renal tests, proteinuria
- If urine output less than 30mL/hr: Stop Magnesium Sulphate. Start IV Normal Saline OR Ringer Lactate

Plan for delivery within 12-24 hrs of ADMISSION:

- Vaginal birth is preferable (page 17)
- If preterm (below 34 weeks), see page 9

Assess every 30 min (use specific observation sheet):

- Pulse, BP, RR, Temp, FHR, GCS, signs of organ failure or Magnesium Sulphate toxicity*** (assess lungs, urine output, urine dipstick, patellar reflexes)

Convulsions OR unconsciousness

⚠ Convulsions or unconsciousness are always treated as **eclampsia** until other diagnosis is confirmed

1. CALL FOR HELP
2. Airway and Breathing
3. Position on left side and protect from injuries
4. Insert IV lines
5. Magnesium Sulphate SLOWLY**
6. Oxygen if available (mask or nasal)

← Additional management as for severe hypertensive disorders, but **plan for birth within 12 hrs** irrespective of gestational age

* DIAGNOSING PRE-ECLAMPSIA

MILD-MODERATE pre-eclampsia:

Hypertension on 2 consecutive readings **AND** Proteinuria 2+ or more (*dipstick*)

SEVERE pre-eclampsia:

Pre-eclampsia (*as above*) **AND**

Severe hypertension or signs of organ failure:

Persistent severe headache, blurred vision, persistent upper abdominal pain, urine less than 30 ml/hr, breathlessness, renal or liver impairment

** FAST ACTING ANTIHYPERTENSIVES

HYDRALAZINE:

Dose: IV 5 mg bolus **SLOWLY** over 5 min (*one vial of 20mg/2ml; take 1 ml add 9mls of NS/RL and give 5 mls slowly*)

Repeat: Every 20 min until SBP below 160 mmHg

Maximum dose: 20 mg per 24 hrs

NIFEDIPINE:

(*if Hydralazine not effective or not available*)

Dose: Oral or sublingual Nifedipine 10 mg

Repeat: Every 30 min until SBP below 160 mmHg

Maximum dose: 30 mg per 24 hrs

⚠️ Antihypertensives may cause low BP and fetal distress (DBP must stay above 80mmHg)

*** ANTICONVULSANT

MAGNESIUM SULPHATE:

Loading dose:

1. IV 4g (20mL of 20% solution) **SLOWLY** over 10 min (*mix 8mL 50% solution with 12mL Normal Saline or water for injection*)

2. IM 10g 50% solution **AND** 2mL 2% Lignocaine in same syringe: 5g in each buttock

Maintenance dose and duration:

IM 5g **AND** 1mL 2% Lignocaine every 4 hrs, in alternate buttocks. Continue dose for 24 HRS AFTER BIRTH OR LAST CONVULSION, whichever occurs last

If convulsions while on maintenance dose:

IV 2 g magnesium sulphate in 100mL Normal Saline **SLOWLY** over 10 min (*IV Diazepam 5-10mg as last resort*)

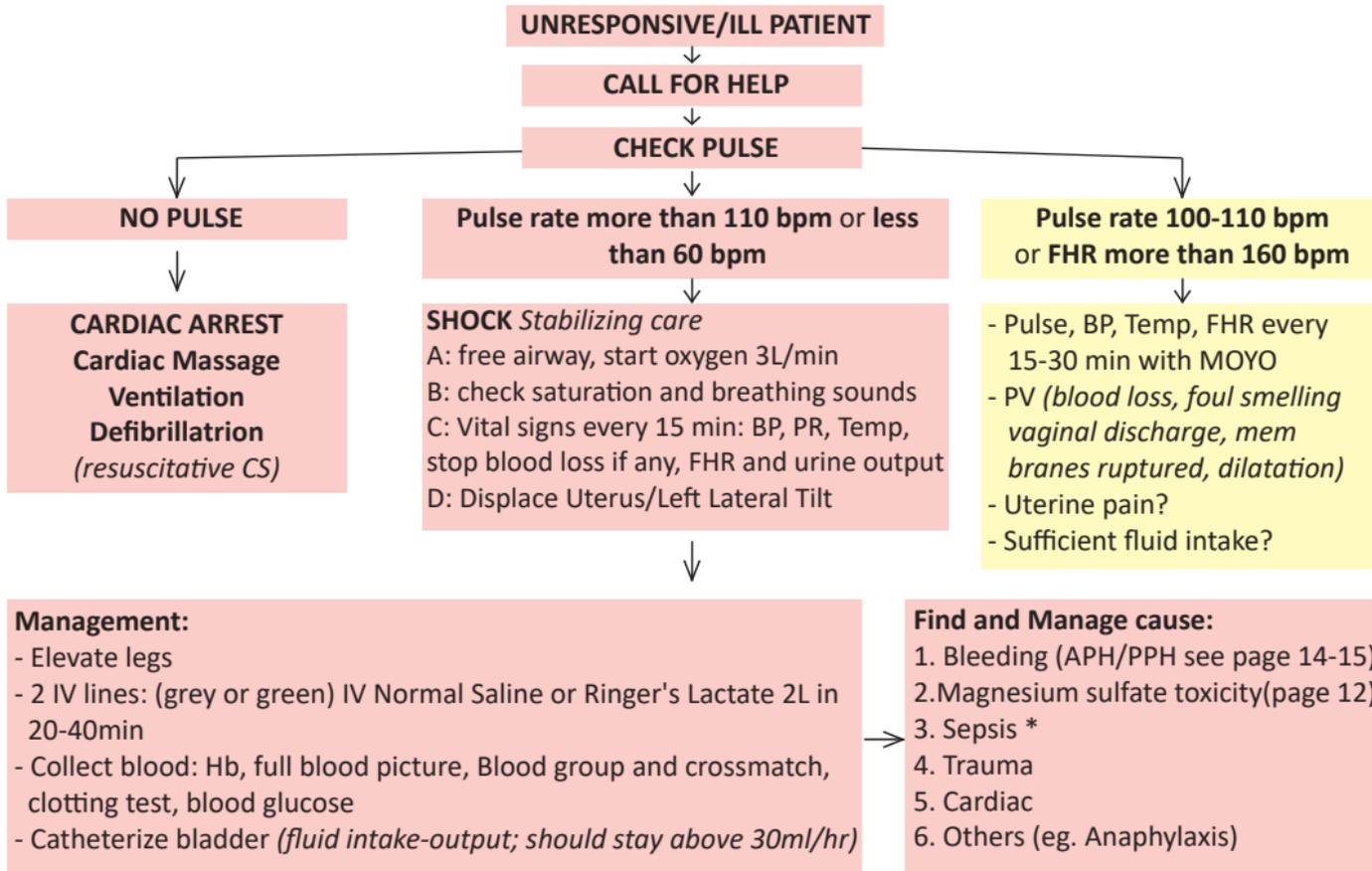
Check for signs of toxicity before each dose:

- Patellar reflexes diminished or absent

- RR less than 12 breaths per min

⚠️ Urinary output less than 30mL per hr increases risk of Magnesium Sulphate toxicity

In case of toxicity: Stop Magnesium Sulphate. IV Calcium Gluconate 1g (10 mL of 10% solution) over 3 min (immediately if heart arrest). Bag-mask ventilation if necessary.



HIGH TEMPERATURE DURING CHILDBIRTH (fever)

Temp 38°C or more

⚠️ *Chorioamnionitis causes risk of neonatal sepsis and maternal death*

Start broad spectrum intravenous antibiotics until birth, for example (*if not allergic*):

IV Ceftriaxone 1g once daily **AND** IV Gentamicin 5 mg per kg once daily **AND**
IV Metronidazole 500mg 3 times daily

Tablet Paracetamol 1 gram every 6 hrs (*to lower the temperature*)

Ensure hydration (*consider need for IV Normal Saline or Ringer's Lactate*)

Pulse, BP, RR, FHR monitoring with MOYO, check every 15-30 min. Temp hourly

Consider diagnosis and order relevant tests: (*adjust treatment accordingly*)

For example: Foul-smelling watery discharge, uterine tenderness (*chorioamnionitis*),
Urinary dipstick testing (*UTI*), Flank pain (*Acute pyelonephritis*),
Auscultation of lungs (*Pneumonia*), Malaria, Sepsis*

Plan for birth within 12 hrs: Induce or augment if necessary (*page 17*)

* MATERNAL SEPSIS

⚠️ *Call for HELP and consider referral to the Intensive Care Unit*

Symptoms: Slurred speech or confusion, Extrême shivering or muscle pain (fever), Passing NO urine all day, Severe breathlessness, It feels like dying, Skin mottled or discoloured

Management:

- Stabilizing care: Airway (*oxygen*), Breathing, Circulation
- IMMEDIATE identification of the cause (*remember blood cultures*)
- IMMEDIATE treatment of infection (*broad spectrum IV antibiotics*)
- IV lines (*wide bore cannula*): IV Normal Saline or Ringer's Lactate 2L in 20-40 min
- Catheterize bladder (*fluid intake-output*)
- Every 15 min: Pulse, BP, RR, FHR

BLEEDING IN LATE PREGNANCY OR DURING CHILBIRTH

⚠️ APH causes increased risk of PPH

1. Check maternal vital signs: Pulse, BP, Temp*See page 13 if:*

- Systolic BP less than 100 mmHg OR
- Pulse less than 60 bpm OR
- Pulse more than 100 bpm

2. Blood type, X-match, hemoglobin*Consider if full blood picture is needed***3. Determine the cause and manage accordingly***

- Blood volume?
- (if heavy bleeding, see also page 13)*
- Pain?
- FHR?
- Ultrasound to rule out placenta praevia
- ⚠️ *No digital vaginal exam before placenta praevia is ruled out (by ultrasound or gentle speculum exam)*

4. Measure blood loss and replace accordingly:

2-3 times estimated blood loss

⚠️ *Early blood replacement saves life***Placental abruption***

Concealed bleeding



Vaginal bleeding

Placenta praevia*

Partial



Complete

PLACENTAL ABRUPTION

(placenta separates too early)

Typical symptoms:

- Vaginal bleeding
(might be hidden in uterus)
- Intermittent or constant abdominal pain
- Tender uterus
- Low/absent FHR

Moderate-heavy bleeding OR fetal distress:

DELIVER IMMEDIATELY by vacuum extraction (*page 20*), otherwise CS

Mild bleeding AND normal FHR:

Vaginal birth within 12 hrs
ARM if membranes intact
FHR with MOYO, every 15-30 min
Augment if necessary (*page 17*), or consider CS

Order at least 2 units of whole blood

PLACENTA PRAEVIA

(placenta covers internal os of cervix)

Typical symptoms:

- Bleeding
- No pain
- Relaxed uterus
- Foetus not in pelvis, malpresentation
- Fetal condition may be normal

If 37 weeks gestation or more OR heavy bleeding:

DELIVER IMMEDIATELY

Order at least 2 units of whole blood

If preterm AND mild bleeding AND normal FHR:

Expectant management, admitted in hospital with close observation

RUPTURED UTERUS

Typical early symptoms:

- Low/absent FHR
- High maternal pulse
(might bleed in peritoneal cavity)
- Blood in urine
- Tender abdomen
- Vaginal bleeding

Typical late symptoms:

- Abdominal distension (*free fluid*)
- Abnormal shape of uterus
- Loss of station
(fetal head goes up)
- Fetal parts easily felt
- Shock

Resuscitate and restore blood volume: NS/RL 2-3 liters fast
Order at least 2 units of whole blood

THEATRE IMMEDIATELY:

Laparotomy (*delivery baby, uterine repair or hysterectomy*)

BLEEDING AFTER BIRTH (*exceeding 500 ml, or less if severe anaemia*)

⚠ *Stop bleeding while calling for help*

1 PERSON AT UTERUS:

- Rub-up contraction by **CONTINUAL UTERUS MASSAGE**
- **Catheterise bladder**
(leave catheter in place)
- If uterus still atonic, apply **BIMANUAL COMPRESSION** or aortic compression.**
- Review bleeding cause by **the 4 Ts*** (*consider intrauterine palpation*)
- **If bleeding continues: Transfer early to theater** (*with bimanual or aortic compression*)**

Examination under anaesthesia: remove retained placental parts, suture tears, balloon tamponade, laparotomy

1 PERSON AT HEAD:

- Lie woman flat
- Check **airway and breathing**
- Give oxygen if available
- Talk to woman, reassure

**1 PERSON AT ARMS:**

- At least **2 IV lines** (*large bore cannula*)
- **Blood group and crossmatching and order at least 2 units of whole blood**
- Start **IV fluids** immediately (*2L Normal Saline or Ringer's Lactate*)
- Give **3 drugs** at once (*not in sequence*):
 - IV Oxytocin** 20 IU in 500 ml Normal Saline, 250 ml per hr
 - IV Tranexamic acid** 1 gram slowly (*can be repeated after 30 min, 2g max.*)
 - Rectal Misoprostol** 600-800 microgram
- Check **pulse, BP**
- **Blood transfusion AND IV fluids** if blood loss 1 L or more (*2-3 times estimated blood loss*)
- If still bleeding, and BP below 140/90 mmHg, give bolus of **IV Ergometrine** 0.2 mg **SLOWLY** (*can be repeated after 15 min*)

* 4 Ts - WHY PPH?

TONE:

Atony of uterus is the most common cause

TISSUE:

Is placenta complete?

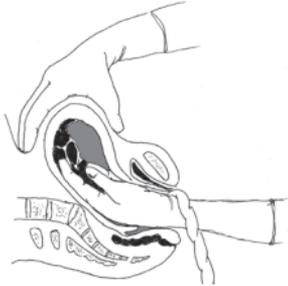
Always do intrauterine palpation if bleeding exceeds 1000 ml and continues

TRAUMA:

Tears or episiotomy (*page 21*), ruptured uterus (cervix)

THROMBIN:

Coagulation problems secondary to severe bleeding



Intrauterine palpation, manual removal of placenta

⚠ After bleeding stops: 24 hrs of close observation in ICU

** BIMANUAL AND AORTIC COMPRESSION

⚠ Keep compression until bleeding stops



Bimanual compression



Aortic compression at umbilical level



⚠ Palpate femoral pulse to assess effect of aortic compression: Femoral pulse must disappear

DECIDING ON MODE OF BIRTH

In sub-Saharan Africa, it is estimated that 1% of women and 10% of babies die during or after CS. Also, CS leaves women with increased risks in subsequent pregnancies. Therefore, benefits and risks of CS must be carefully considered for each woman and balanced against alternatives.

In case of fetal distress: See page 10

⚠️ CS after fetal death must only be performed as last option. Check FHR just before starting surgery.

In case of prolonged labour: See page 11

⚠️ True cephalopelvic disproportion (CPD) is diagnosed by trial of labour and is a rare condition (page 11).

Alternatives to other common indications for CS:

	VBAC (trial of scar)	Vaginal breech birth	Vacuum extraction
Requirements	Only 1 previous low segment CS AND no previous uterine rupture AND current pregnancy singleton, cephalic presentation AND surveillance possible every 15-30 min	Previous vaginal birth AND no previous caesarean section AND no footling breech AND estimated birthweight below 4 kilogram	Cervix fully dilated AND vertex presentation (membranes ruptured) AND fetal head at or below ischial spines AND gestational age 34 weeks or more
Management	<u>Due to risk of scar rupture:</u> 1 IV line, urinary catheter, FHR continuous with MOYO, NO Prostaglandin or Oxytocin ⚠️ CS if continuous scar pain, fetal distress, poor progress	See page 18	See page 20

<p>Benefits and risks</p>	<p>VBAC is estimated to be safer for both mother and child than CS (only when requirements above are met, and when it is possible to assess woman every 15-30 min throughout labour)</p> <p><i>In high-income countries, the risk of uterine rupture is less than 1%, and between 20%-40% of the women end up with emergency CS.</i></p>	<p>Vaginal breech birth is estimated to be safer for both mother and child than CS (only when requirements above are met)</p> <p><i>In high-income countries, 1-2 more babies die during or after vaginal breech delivery compared to CS. But this is not comparable to sub-Saharan Africa where the risk of death during or after CS is around 100-fold higher for the mother and 50-fold higher for the baby.</i></p>	<p>Vacuum extraction is safer for both mother and child than CS (only when requirements above are met)</p> <p><i>Compared with CS in second stage, vacuum extraction causes shorter time between decision and birth and lower risk of infection and bleeding. Therefore, studies from sub-Saharan Africa show that vacuum extraction is associated with lower rates of birth asphyxia, stillbirths and maternal complications.</i></p>
---------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

MAXIMUM TIME FROM DECISION TO BIRTH BY CS



If fetal or maternal compromise:

30 minutes

(for example fetal distress, cord prolapse with FHR present, severe bleeding)



If no maternal or fetal compromise, but early birth is needed:

75 minutes

(for example poor progress of labour, 2 or more previous CSs, placenta praevia without heavy bleeding)

INDUCTION OF LABOUR

(artificial stimulation of uterus to start labour)

Indication: Birth needed soon.

For example due to PROM (page 9), Intrauterine fetal death (page 10), Severe pre-eclampsia (page 12), Postdate (more than 42 weeks)

⚠ Always give mother at least 1 IV line, for if a CS is needed urgently during induction

Contra-indications:

Do not use Prostaglandin if: previous CS **OR** antepartum haemorrhage

Do not use Balloon catheter or vaginal misoprostol if: antepartum haemorrhage **OR** PROM **OR** obvious vaginal infection

Examine cervix and calculate Bishop score:

Cervix:	0	1	2	3
Dilatation (cm)	Closed	1-2	3-4	5 or more
Length (cm)	5 or more	3-4	1-2	Less than 1
Consistency	Firm	Average	Soft	Effaced
Position	Posterior	Mid	Anterior	Effaced

Score 5 or less (*cervix unfavourable*):

Induce by balloon catheter (OR misoprostol if balloon catheter is contraindicated)

Score 6 or more (*cervix favourable*):

ARM if possible and oxytocin (*see below*)

OXYTOCIN AUGMENTATION OF LABOUR

(artificial stimulation of uterus after onset of labour to increase frequency, duration and intensity of contractions)

Indications (all 3 must be met):

1. No previous scar
2. Less than 4 contractions per 10 min, each lasting less than 40 sec.
3. Labour truly prolonged, other options tried (page 11):

Active first stage: Action line crossed **AND**

membranes ruptured for at least 1 hr

Second stage: 1-2 hr or more **OR** pushing 30-60 min

⚠ **Oxytocin augmentation causes risk of uterine hyperstimulation, uterine rupture and fetal distress** (intrapartum stillbirth, neonatal death and low Apgar score). Therefore, oxytocin augmentation must only be started when indicated (page 10) and titrated carefully. Oxytocin augmentation must NEVER be given as IV or IM bolus

* PROSTAGLANDIN

Dose: Oral Misoprostol 25µg 4 hourly for 24 hrs **OR** PV Misoprostol 25µg 6 hourly for 24 hrs.

Administered by Medical Doctors only

Every 1 hr: FHR and contractions

PV before each dose:

If score 5 or less: Repeat Prostaglandin

If score 6 or more **OR** membranes ruptured: Stop Prostaglandin and consider Oxytocin

⚠ *Oxytocin should be started no earlier than 4 hrs after the last dose of prostaglandine*

If no progress after 24 hrs of Misoprostol: If birth needed fast, consider CS. Otherwise, repeat prostaglandine for 12 hrs
(immediately or the following day)

** BALLOON CATHETER

1. Balloon catheter (or foley catheter):

- Gently introduce balloon catheter through cervix (*inflatable bulb must be beyond internal cervical os*)
- Inflate bulb with 40 mL of water, add traction
- Leave catheter in place for 12 hrs or less

2. When catheter is removed or falls out:

ARM and start Oxytocin

*** OXYTOCIN AUGMENTATION

⚠ *Oxytocin should always be labelled and documented with time, dose, and drop rate.*

Start dose:

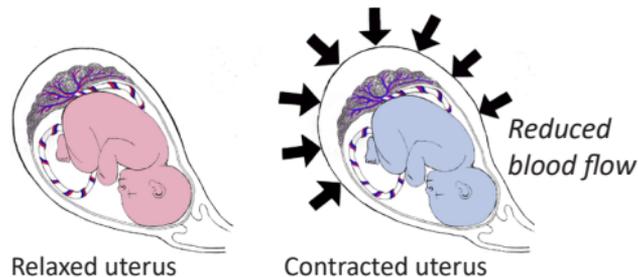
- Nullipara-para 3: IV Oxytocin 5.0 IU in 500 ml Normal Saline or Ringer's Lactate, 10 drops per min
- Para 4 or higher : IV Oxytocin 2.5 IU in 500 ml Normal Saline or Ringer's Lactate, 10 drops per min

Every 20-30 min:

- Assess FHR, contractions, oxytocin drops per min
- Increase by 5-10 drops per min until 4 contractions in 10 min, each lasting 40 sec or more. Maintain this rate until birth.

⚠ *Maximum 40 drops per min.*

Stop oxytocin: If more than 5 contractions in 10 min



VAGINAL BREECH BIRTH

Recommended if:

- Previous vaginal birth **AND**
- No previous caesarean section **AND**
- No footling breech **AND**
- Estimated birthweight below 4 kilogram **AND**
- A health provider experienced with the procedure present
- Always 2 skilled birth attendants in the room during second stage

Management of first stage of labour:

Routine management as for cephalic presentation (*page 3*), but FHR every 30 min.

Avoid Oxytocin augmentation in first stage of labour. If action line is crossed (*page 10*), decide on CS.

Make sure the bladder is empty before second stage

Management of second stage of labour:*

⚠ *Maximum 2 hrs duration of second stage (maximum 1 hr of pushing)*

- 1. Oxytocin augmentation should be ready** if contractions not strong in second stage (*page 7*)
- 2. Buttocks deliver spontaneously** (*hands off*)
- 3.** If legs not delivered spontaneously, deliver one leg at a time: Push behind knee to bend leg, grasp ankle, deliver foot and leg.
- 4. Hold baby by the hips** with thumbs along spine. Do not pull. No pressing on abdomen.
- 5. Allow arms to disengage spontaneously** one by one. After first arm, lift baby's belly towards mother's belly to enable second arm to deliver.
- 6. Let the head descend to pelvic floor for maximum 30 seconds** before assisting delivery of the head.
- 7. Deliver head:** Lay baby's face down with length of its body over your hand and arm. Place fingers on baby's cheekbones to **flex head**. Fingers of the other hand help to flex head from the occiput. Raise baby, until mouth and nose are free.

* VAGINAL BREECH BIRTH - OBSTETRIC MANEUVERS

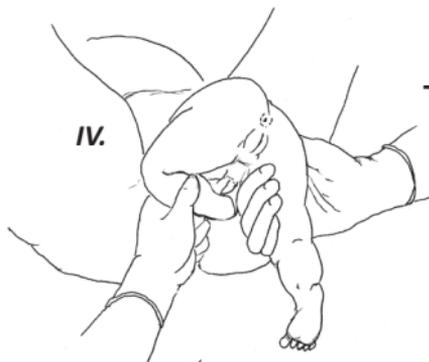


I.

HANDS OFF

(until umbilicus is seen)

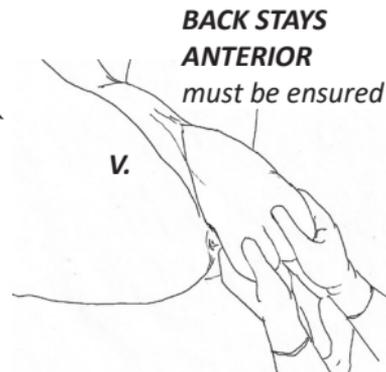
Buttocks deliver spontaneously



IV.

DO NOT PULL

baby while legs
are delivered



V.

BACK STAYS

ANTERIOR

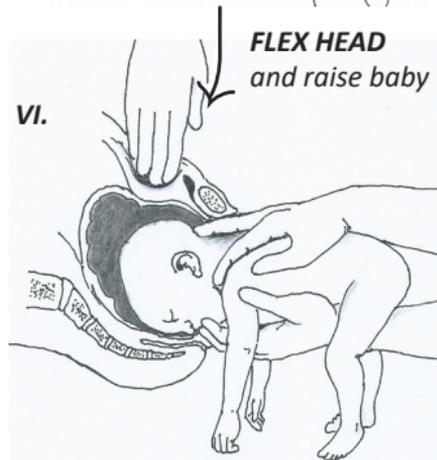
must be ensured



II.



III.



VI.

FLEX HEAD

and raise baby

VAGINAL TWIN BIRTH

Birth of first baby

If first twin in cephalic presentation:

Allow labour and birth to progress as for a single baby in cephalic presentation (*page 3 and 4*)

If first twin in breech presentation:

Allow labour and birth to progress as for a single baby in breech presentation (*page 18*). The small but severe risk of interlocking heads must be kept in mind

If first twin in transverse lie: Perform CS

⚠ Women with twin pregnancies have increased risks of obstetric complications, such as pre-eclampsia (*page 12*) and PPH (*page 15*)

Always 2 skilled birth attendants in the room during second stage

Birth of second baby (or additional babies)

1. Immediately after first baby is born:

- Palpate abdomen to determine lie
- If transverse, correct to longitudinal lie by hands on abdomen
- Assistant holds baby in position until birth
- Check FHR

2. Leave clamp on mother's end of umbilical cord

⚠ Do not deliver placenta until last baby is born

3. PV to assess if:

- Cord prolapsed?
- Presentation? If breech, vaginal breech delivery (*page 18*)
- Membranes ruptured? ARM if membranes are intact and presenting part well engaged (*page 11*)

3. If contractions not strong: Start oxytocin augmentation, with rapid titration (*page 17*)

4. FHR at the end of each contraction

⚠ If immediate birth needed: Internal podalic version*, or vacuum extraction (*page 20*). CS is last option and should be done IMMEDIATELY

* IMMEDIATELY AFTER BIRTH OF FIRST TWIN

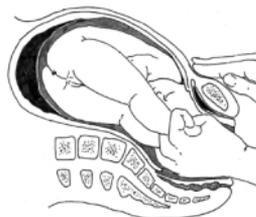


▲ Start pushing when baby's presenting part is well engaged

** INTERNAL PODALIC VERSION



Wear sterile gloves.
Insert a hand into the uterus
and grasp the baby's foot



Gently rotate the baby down

Proceed with breech
extraction (*page 20*)

VACUUM EXTRACTION

Most important indications:

Fetal distress in second stage (*page 10*)

Poor progress in second stage (*page 11*)

Severe hypertension in second stage (*page 12*)

Maternal exhaustion, anemia or heart failure

⚠ *If the procedure is not possible or fails, CS should be performed IMMEDIATELY*

Required beforehand:

1. Cervix fully dilated
2. Vertex presentation, membranes ruptured
3. Fetal head **at or below** ischial spines (*PV: stations 0, +1, +2, +3. Abdominal: levels 2/5, 1/5, 0/5*)
4. Gestational age 34 weeks or more
5. Birth attendant trained in vacuum extraction

The A-J approach to vacuum extraction:

A Ask for help

Address the woman

(inform that you need patient to cooperate and keep pushing when there is contraction)

Abdominal Palpation (*descent of head*)

B Bladder is empty?

C Cervix must be fully dilated

Contractions are needed (*Oxytocin needed? Page 17*)

D Determine position of the head assess Descent

(locate the posterior triangular fontanel)

E Equipment ready?

(delivery tray, towels, neonatal resuscitator, vacuum extractor)

F Flexion point* must be located

Feel for vaginal tissue between cup and fetal skull to avoid perineal trauma (*before and after suction*)

G Gentle, steady traction during contractions**

H HALT traction between contractions

HALT and STOP if: - 3 pop-offs
- 3 pulls with no progress
- After 20 min of use

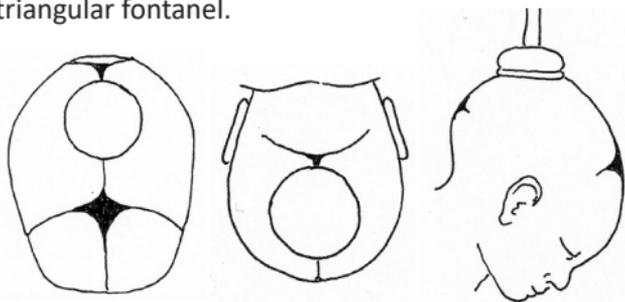
I Intact perineum! Protect perineum with one hand when head is delivered.

During last contraction: Hold back head with the other hand, and ask mother to push gently

J When reachable Jaw: Release vacuum, remove cup

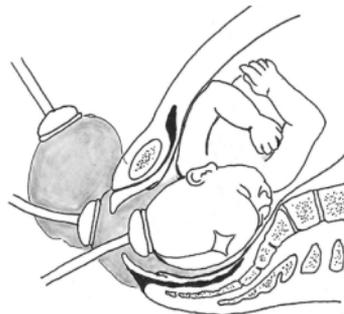
* FLEXION POINT

Place the edge of the cup at the tip of the posterior triangular fontanel.



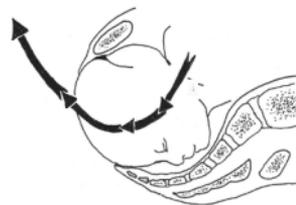
⚠ *To avoid perineal trauma and minor trauma to the head of the baby: Feel for vaginal tissue between cup and fetal skull, and protect perineum*

** TRACTION



Axis for traction changes according to the pelvic curve.

⚠ *Gentle, steady traction during contractions. **No rocking pulls***



For first contractions downward traction. During following contractions more upward.



One hand protects perineum while completing birth.

During last contraction, ask mother to push gently and hold back baby's head with other hand.

SHOULDER DYSTOCIA

HELPERR mnemonic*

- H** Call for HELP! Always at least **3 health providers**
- E** Evaluate if episiotomy is needed
- L** Legs up* (*McRoberts: 2 people push flexed knees firmly onto chest by flexion of hips*)
- P** Suprapubic Pressure* downwards to assist extraction of baby's shoulder
- E** Enter vagina and do rotational maneuvers:*
 - apply pressure to baby's anterior shoulder in direction of sternum
 - if not working, apply pressure to baby's posterior shoulder in direction of sternum
- R** Remove the baby's posterior arm*
 - grasp arm at humerus, keep arm flexed at elbow and sweep arm across baby's chest
- R** Roll patient to her hands and knees and repeat **E** and **R**

⚠ *Do not apply fundal pressure. This will further impact the shoulder*

Risk factors

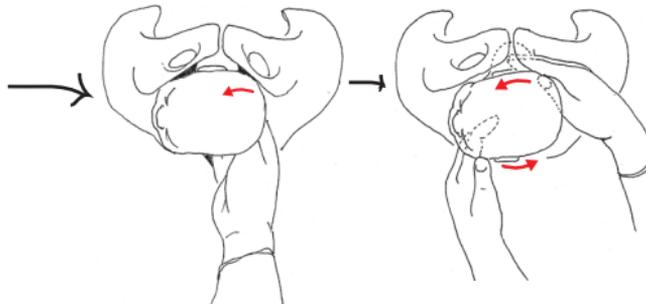
- Fetal macrosomia (maternal obesity or diabetes)
- Instrumental delivery
- Multiparity
- Postdate delivery
- Anencephaly
- Fetal ascites

*** SHOULDER DYSTOCIA - OBSTETRIC MANEUVERS**

L-P. Legs up and suprapubic



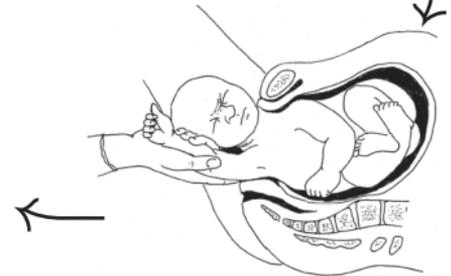
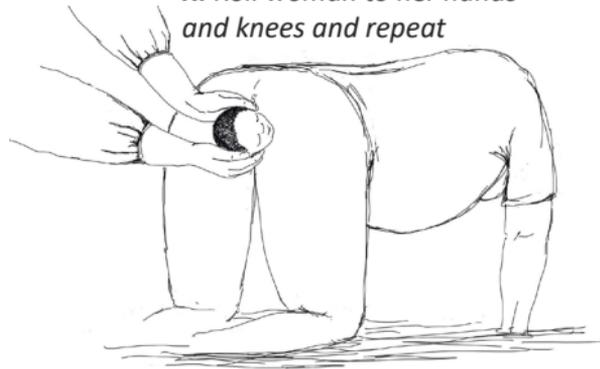
E. Rotational maneuvers



R. Remove baby's posterior arm

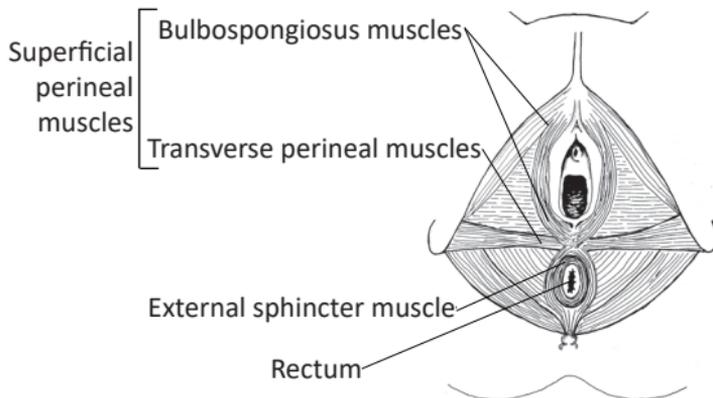
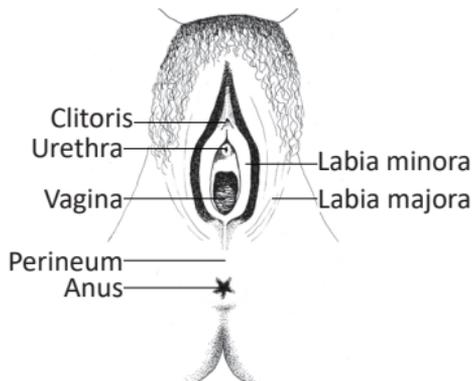


R. Roll woman to her hands and knees and repeat



⚠ An unrepaired or poorly repaired tear can lead to bleeding, anaemia, abscess formation, wound breakdown, loss of control over bowel movements and gas, and rectovaginal fistula. Therefore, ALWAYS guard perineum, inspect vagina/perineum/cervix routinely after birth, and carefully repair perineal tears

ANATOMY



GUARDING PERINEUM

ALWAYS guard perineum

Fingers of one hand support perineum, while second hand applies pressure to fetal head to control speed of crowning (*ask mother to stop pushing and breathe the head out*)

⚠ ONLY perform episiotomy when a too tight perineum prevents head to come after several pushes



REPAIR OF PERINEAL TEARS

Examination and classification

- Ensure good lightening and suitable position of the woman (*the entire genital tract must be visualized*)
- Classify perineal tear (*place a gloved finger in the anus: feel for tone or tightness of the sphincter, and look for protrusion of the finger into vagina*)



1st degree
Skin torn,
muscles
intact



**2nd degree
and
episiotomy**
Superficial
perineal
muscles torn



3rd-4th degree

Both superficial perineal muscles and anal sphincter torn. It is 4th degree if tear in rectal mucosa
⚠ All 3rd-4th degree sutures must be supervised by a specialist doctor and preferably in operating theater

Suturing

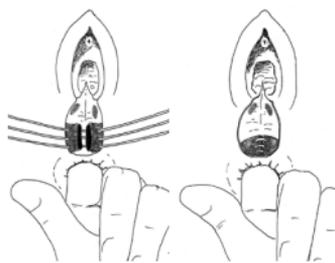
- Use absorbable sutures 2-0 (*3-0 for rectal mucosa*). Needle size depends on tissue thickness.
- Only provide antibiotic prophylaxis for 3rd-4th degree tears



**Vaginal
mucosa**
Start inside
above apex,
continue to
vaginal
opening



**Superficial
perineal
muscles**
2-4
interrupted
sutures

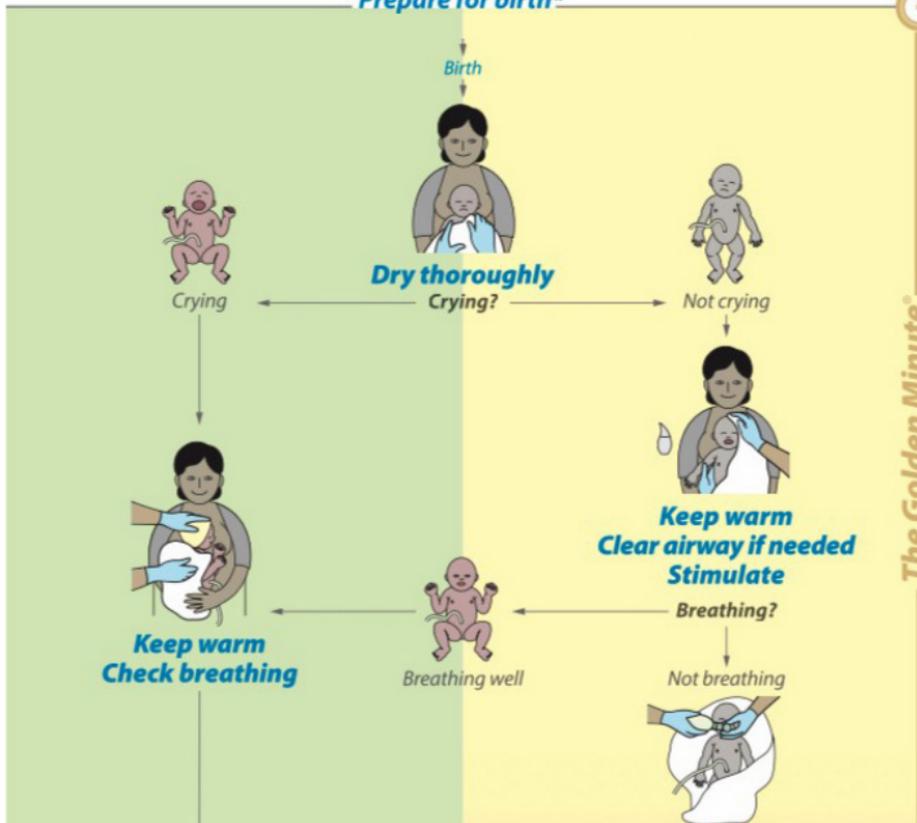


Anal sphincter
Insert finger into the
rectum to locate the 2
muscle ends and use
tissue forceps to grasp.
2-4 interrupted sutures

Second Edition

Helping Babies Breathe

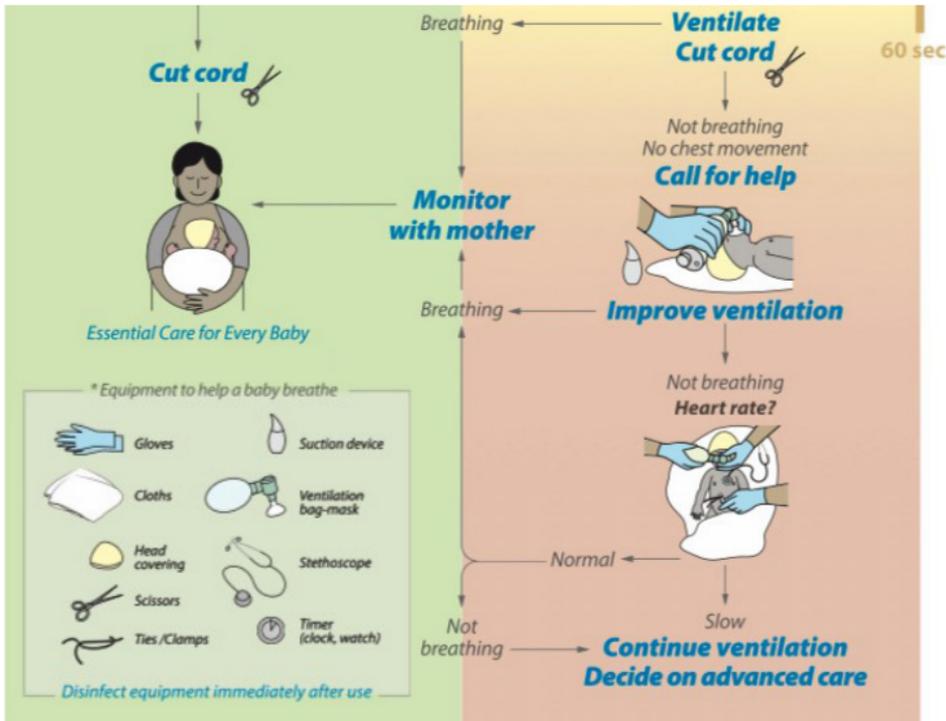
Prepare for birth*



⚠ CALL for HELP! Always be at least two health providers

⚠ For bag-mask ventilation, position of the head is slightly extended to open airway (if too extended, airway will not be open). If heart rate is increasing, bag-mask ventilation is working.





⚠ **How is the mother?** Mothers of asphyxiated babies are at increased risk of PPH (page 19)

🇨🇷 **Consider referral after successful resuscitation** (to higher level hospital with neonatal intensive care unit)

⚠ **After successful resuscitation, the baby is at risk of hypothermia and hypoglycemia.** Therefore, skin-to-skin with mother, and assure good breastfeeding (if not, give cup-feeding or insert nasogastric tube)

The PartoMa Pocket Guide 1.0 Sengerema (2022) has been adapted from the PartoMa Pocket Guide 1.0 Dar es Salaam (2022)

Guidelines co-creation team: Margreth Gadiye, Donatila Ngeleja, Pili Zuberi, Monica Mpejiwa, Musa Lubatula, Peace Kijanari, Muholana Lazaro, Simplice Harusha, Rian Jager, Fleur Gooren.

Editors: Fleur Gooren and Rian Jager

PartoMa review and advisory team: Richard Kiritta, Natasha Housseine, Nanna Maaløe, Thomas van den Akker, Jos van Roosmalen, Hussein Kidanto.

External Reviewers: PartoMa Pocket Guide 1.0 Dar es Salaam is reviewed by members of the Dar es Salaam Regional Health Management Teams, and externally peer-reviewed by a panel of 12 specialists in obstetrics, midwifery, neonatology and microbiology. 4 of these external peer-reviewers have also reviewed the PartoMa Pocket Guide 1.0 Sengerema.

References: To create the PartoMa guidelines, the World Health Organization's 'Managing complications in pregnancy and childbirth: a guide for midwives and doctors' (2017) and 'WHO recommendations: intrapartum care for a positive childbirth experience' (2018) were adapted. They were thoroughly supplemented by other clinical guidelines and evidence reviews, including the 'Standard treatment guidelines and national essential medicines list for Tanzania mainland' (2021). Based on a situational analysis conducted in Dar es Salaam of provided and experienced quality of care (2021), the guidelines were further adapted to represent best possible care in that setting. Locally in Sengerema Designated District Hospital, the guidelines have been further adapted through focus groups discussions. All references are listed in the 'PartoMa background document', as well as reasoning for and how guidelines have been modified to fit the clinical low-resource contexts. Mnemonics for shoulder dystocia and vacuum extraction are adapted with permission from ALSO guidelines (Copyright: © American Academy of Family Physicians. All Rights Reserved). The Helping Babies Breath Mnemonic is adapted with permission from American Academy of Pediatrics (Copyright: © American Academy of Pediatrics. All Rights Reserved).

Approval by health authorities: The PartoMa guidelines 2022 are approved by Tanzania's Ministry of Health, Community Development, Gender, Elderly and Children.

Illustrations: Randi Iversen (*except for page 2*); the majority are reprinted from 'Jette Led Sørensen et al. *Ars Pariendi* 2020', with permission from the editors and Munksgaard Publishing (Copyright: © Munksgaard Publishing. All Rights Reserved). The central illustration on page 2 is reprinted with permission from the illustrator Peter Bulugu and the Kanga Maternity Trust. The illustration on page .. is reprinted with permission from Laerdal Global Health (Copyright: © Laerdal Medical AS)

Photos: Lara Meguid, Lucianna Chamwi, Marwa and Jos Rooijackers. All identifiable people have given consent.

Graphics: Nanna Maaløe, Jos Rooijackers

Partners: Office of the Regional Administrative Secretary for Health in Dar es Salaam, Catholic University of Health and Allied Sciences, Aga Khan University, Comprehensive Community Based Rehabilitation in Tanzania (CCBRT), University of Copenhagen and Leiden University Medical Center.

Funding: Laerdal Global Health Fund, Danida, Ministry of Foreign Affairs of Denmark

For more information, please see the PartoMa website: publichealth.ku.dk/partoma

© 2022 The PartoMa Project, Aga Khan University East Africa, Catholic University of Health and Allied Sciences, University of Copenhagen and VU University of Amsterdam. All Rights Reserved. Requests for permission to reproduce or translate should be addressed by email to: techtrans@adm.ku.dk.

All reasonable precautions have been taken to verify the information contained in this publication, and both text and graphical presentations are internationally peer-reviewed. PartoMa guidelines are primarily developed to guide health providers in providing best possible care in the low-resourced maternity units in Dar es Salaam, Tanzania. The material is being



THE AGA KHAN UNIVERSITY



UNIVERSITY OF
COPENHAGEN



Leiden University
Medical Center



Achievable guidance should be a basic right for health workers holding the lives of others in their hands

PartoMa