Somaliland Ministry of Health

Emergency Obstetric and Newborn Care Protocols Training Course

FACILITATOR MANUAL

“The experiences of women and the outcomes of pregnancy will not improve until what is taught in the classroom and workshop becomes practised in the workplace.”

Acknowledgments
I wish to thank the EC through UNICEF for funding this project and THET for appointing me as Consultant for it.
In writing the protocols I have made extensive use of many relevant WHO and UNICEF publications. These have proved invaluable in this piece of work.
I also wish to thank colleagues in the Hargeisa and London offices of THET, and staff of SLNMA under the leadership of Executive Director Fouzia Mohamed Ismail, and her CPD coordinator, Mohamed Yusuf for their contribution and collaboration.
The interest, support and involvement of the Minister of Health Dr. Hussein Mohamed Muhumed, Director of Reproductive Health Dr Abdirizak Yusuf Abdulahi and Deputy Director, Mrs Amina Abdi Mohamed have been greatly appreciated.
Lastly thanks to my wife, Ruth, for her patience while I spent many hours at home working on this project then encouraging me in my trips to Somaliland in order to complete the task.

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May 2012
Hargeisa, Somaliland

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Background
An assessment of Maternity care by UNICEF in the Awdal Region of Somaliland was carried out in September 2011.(1)
A number of problems were identified and recommendations were made to address them. These included the development of Protocols to cover the 7 signal functions of BeMONC facilities and the 2 signal functions of a CeMONC facility together with several other topics. These are listed in Table 1.

Table 1
BeMONC Functions:
1. Administration of Parenteral Antibiotics
2. Administration of uterotonic drugs
3. Administration of parenteral Anticonvulsants
4. Manual removal of placenta
5. Removal of RPC
6. Assisted vaginal delivery (vacuum extractor or forceps)
7. Newborn resuscitation and immediate newborn care

CeMONC Functions:
8. Blood Transfusion
9. Caesarean Section

Other topics
10 Focused antenatal care (FANC)& identification of women needing a special care plan
11. Active Management of third stage of labour (AMTSL)
12. Use of Partograph
13. Prevention of infection
14. Antepartum Haemorrhage(APH)
15. Postpartum haemorrhage (PPH)

Following completion of the protocols training materials would be developed to support the protocols. A training course would thus be produced which could be in time taken to all regions of Somaliland.
Theses tasks were to be undertaken by THET in partnership with SLNMA. A consultant was appointed to lead in this project.

Process
The consultant produced draft protocols and presented them to a meeting of stakeholders on March 25th.(Table 2) From this a smaller Technical Working group (TWG) was selected. The TWG reviewed the draft protocols in detail and a number of changes were made. The revised protocols were submitted to a further meeting of all the stake holders on April 1st. Further submissions by e-mail were invited.

Following the second stakeholder meeting a curriculum of training modules to support the protocols was devised by the consultant with the SLNMA CPD team. A work plan was put in place to complete the training modules over the following 5 weeks after which time the consultant would return to help run an initial TOT course in which the participants were the CPD team and some additional midwives.
It was decided to adopt a model developed by the LSTM and RCOGIO for their Life saving Skills essential Obstetric and New born care course. This consists of an introductory lecture with a powerpoint presentation based on the protocol then a related breakout session appropriate to the content of the protocol.

Table 2.
Representatives of the following organisations attended the Stakeholder meetings:
Ministry of Health
UNFPA
UNICEF
WHO
SLNMA
SOFHA
HPA
Edna Adan University Hospital
Amoud University
BIOHS
HIOHS
Hargeisa group Hospital

Protocols

In recent years protocols have become an accepted part of healthcare worldwide. Sometimes the words “protocols” and “guidelines” are used interchangeably but they are different. A protocol may be defined as ” the accepted or established code of procedure or behaviour in any group, organization or situation” whereas a guideline is “a general rule, principle, or piece of advice”.
In the case of this project protocols were to be produced rather than guidelines.
The benefits of protocols may be summarized as follows:

1. They provide clarity of action in emergency situations thus improving care for patients.
2. They give uniformity which a. helps staff and b.helps teachers and trainers.
3. They ensure consistency of practice which helps in procurement and maintenance of equipment. It simplifies purchase of drugs.
4. They enable development of standards and facilitate monitoring and audit.
5. Regular review of protocols at fixed intervals ensures practice is updated in the light of new evidence based interventions.

The main disadvantage of protocols is that they may discourage the exercise of clinical judgment and innovation.

In developing the protocols in this project the template used was based on one from Surrey and Sussex Healthcare NHS Trust, UK.

In writing the protocols many sources were used to ensure that they were evidence based, practical, and appropriate to Somaliland.

The main resources used were:
WHO guidelines and recommendations on many aspects of maternity care
WHO (IMPAC): Managing Complications in Pregnancy and Childbirth
WHO (IMPAC): Pregnancy, Childbirth, Postpartum and Newborn Care
WHO Antenatal Care - Manual for the Introduction of the New Model
RCOG “Green Top” Guidelines

The main sources for each protocol are summarised in the document
All the protocols are to be reviewed after three years. That review process will be initiated by the SLNMA and MOH.

All the protocols are to be translated into Somali.

Introduction to the course

The course consists of 15 modules based on the 15 protocols. In turn these cover the 9 signal functions of EMONC plus 6 other topics.
Each module consists of an introductory lecture with a powerpoint presentation. The powerpoints have been prepared by the SLNMA CPD team and Peter Jackson. You may therefore be using a powerpoint prepared by someone else. Please do not change it without approval of the Director of SLNMA as they have been carefully prepared to link with the relevant protocol.

Giving a lecture

Prepare carefully. Know and understand the content of the powerpoint and related protocol.
Make sure the laptop and projector are working correctly and the right powerpoint is loaded.
If the group is larger than 10 people it is best to stand and position yourself halfway between the screen and the audience. Make sure you can easily reach the laptop to advance the slides or ask someone else to do it for you.
Don’t just read the slide - expand on the bullet points. Don’t look at the screen, look at your audience.
Greet the participants and briefly introduce yourself before you start.
Speak loudly enough to reach the back of the room.
Give an opportunity for questions at the end. If you don’t know the answer to a question see if one of your colleagues can help, otherwise make a note of the question and find out the answer later.

It is helpful to repeat a question so everyone can hear.

Breakout sessions
Participants should be divided into groups of 6 - 8 people for these, with a facilitator allocated to each group.
Each breakout session should last between 20 & 30 minutes.
Breakout sessions involve different activities including discussions, role plays, workshop, learning skills.
Each facilitator is responsible for preparing his/her breakout session. Check beforehand that all the necessary equipment is available.
The discussions should be “closed” ie all contributions are addressed to the facilitator. This ensures that the facilitator retains control of the discussion and all topics are covered.

Teaching a skill
One approach is as follows:
1. Demonstrate the skill
2. Demonstrate the skill and describe it
3. Demonstrate the skill and ask one of the participants to describe it
4. Get each member of the group to do it and describe what they are doing.

If time is short you may need to compress these steps.

In all the breakout sessions make sure the participants understand the protocol
Ask them if the protocol reflects current practice where they work.
If not could it be implemented. If not is it because of
1. Resistance to change
2. Lack of equipment
3. Lack of personnel
4. Lack of drugs
5. Other factors
Please make a note of any implementation problems indicating where the participant works

BeMONC Modules

Module 1: Administration of Parenteral Antibiotics

I. Definition and background: Infection during pregnancy and particularly following delivery or abortion is a significant cause of maternal morbidity and mortality. Therefore the availability and correct administration of parenteral antibiotics is extremely important. Laboratory services, especially the identification of the cause of the infection and determination of antibiotic sensitivities, are usually not available but hopefully that will change in the future. Infections are often caused by a combination of both aerobic and anaerobic cocci and the recommended antibiotics selected are therefore those which are the most likely to be effective.

J. Protocol; Before administering any antibiotic carry out skin testing for hypersensitivity as follows: Inject 0.1 ml. of antibiotic Intradermally
On the lower forearm and mark the injection site with date,time and
Name of drug. Wait 15-30 minutes to assess injection site
If any reaction do not give antibiotic.

Therapeutic antibiotics
Give Ampiciliin 2g I/V every 6 hours PLUS Gentamicin 80mg im or by slow i/v injection every 8hrs PLUS Metronidazole 500mg every 8hrs
If the woman is allergic to ampicillin use erythromycin 500mg im or iv every 6hrs
If staphylococcal infection is suspected, add:

- cloxacillin 1 g IV every four hours;
- OR vancomycin 1 g IV every 12 hours infused over one hour;
- If clostridial infection or Group A haemolytic streptococci is suspected, add penicillin 2 million units IV every four hours;

If neither of the above are possibilities, add ceftriaxone 2 g IV every 24 hours.

Note: To avoid phlebitis, change the infusion site every three days or at the first sign of inflammation.

Continue antibiotics until the woman has been fever free for 48hrs

Prophylactic antibiotics: Caesarean Section Either Augmentin 1.2 G iv or Cefuroxine 1.5 g iv and Metronidazole 500 mg iv after clamping the cord

This protocol assumes the presence of a proper and secure system for drug administration.
There should be:
1. Secure and appropriate facilities for storage of drugs
2. A system for regularly checking stocks of drugs
3. A form for ordering and recording administration of drugs
4. Doctors and others authorized to order drugs should write the name of the drug in CAPITAL LETTERS and indicate clearly the dose, frequency, route and duration that the drug should be given

Breakout session: Discussion
Equipment needed: Flip chart, felt tip marker pens

Topics: Supply and availability of antibiotics
Discuss and review good practice for im and i/v administration of antibiotics
Discuss documentation of drug administration

Module 2: Administration of uterotonic drugs

I. **Definition and background** A uterotonic drug is one which stimulates contraction of the uterus during pregnancy or shortly after delivery. Historically ergometrine was the only uterotonic drug but and it has now been largely superceded by syntocinon and prostaglandins.

J. Protocol: IOL should only be done in CeMONC facility
This protocol covers use of uterotonic drugs in induction and augmentation of labour.Other uses of uterotonic drugs listed above are covered by other protocols
The most likely indications for induction of labour (IOL) in Somaliland are
Severe preeclampsia/eclampsia, intra uterine death(IUD), Intrauterine growth restriction (IUGR)poorly controlled diabetes, SROM at term, post maturity.
The following methods of IOL may be used:
1If the cervix is favourable ie Bishop score>6 amniotomy and Syntocinon by IV infusion
2 If the cervix is unfavourable Bishop score <6
Insertion of Foley (balloon)catheter for a period of approx 12 hours followed by amniotomy and syntocinon
OR
Oral Misoprostol 25μg every 2 hrs maximum 12 doses (NB there are alternative regimes)
Vaginal 25μg every 6 hrs maximum 4 doses

Misoprostol must not be used for a woman who has had a previous CS

Careful monitoring of mother and fetus is vital

Uterotonic Protocol continued:
Augmentation.
Augmentation of labour may be used in the presence of ruptured membranes and the absence of fetal distress and abnormal presentation to treat slow progress in labour as indicated by the partograph Syntocinon should only be administered by a skilled birth attendant

Use Syntocinon 5 iu in 500 ml NSaline or 10 iu in 1L N Saline
Commence at 15 dpm and increase by 15 dpm every 30 mins to a maximum of 60 dpm.
Aim to produce contraction 3 in 10 mins lasting 40-45 secs
If hyperstimulation occurs (contractions lasting >60 secs or more frequent than 4 in 10 minutes)
or abnormality of the FH
stop infusion and consider use of tocolytic
eg Salbutamol 5 mg in 500 ml IV fluid (normal saline or Ringer's lactate) at 10 drops per minute.As labour progresses the sensitivity of the uterus to syntocinon increases therefore expect to need to reduce drip rate

NB Syntocinon should only be used in multiparous women with great caution and only after careful assessment by the most experienced practitioner available.

The reason that IOL should be restricted to CeMONC facilities is that it is only carried out when there is a significant abnormality present necessitating delivery eg severe pre-eclampsia. Therefore it follows that should IOL fail the woman should be delivered by CS which requires her to be in a CeMONC facility.

Using Bishop score to assess the state of the cervix

	SCORE			
FACTOR	**0**	**1**	**2**	**3**
Dilatation (cm)	Closed	1 - 2	3 - 4	>5
Length (cm)	>4	3 - 4	1 - 2	<1
Consistency	Firm	Average	Soft	-
Position	Posterior	Mid	Anterior	-
Level of head relative to ischial spines	-3	-2	-1 or 0	+1 or +3

K. Standards associated with this protocol

1. Availability of Syntocinon , Misoprostol salbutamol
2. Poster displaying Syntocinon regime in the Labour ward
3. No cases of uterine rupture associated with syntocinon administration
4. Record of women receiving augmentation

Breakout session: Discussion
Equipment needed: Flip chart, felt tip marker pens

Topics: Ask the group about availability and usage of uterotonics at their facility
What have been their experiences of carrying out augmentation or induction?
Write up the syntocinon regime on the flip chart and encourage participants to have a similar poster in English and Somali on display in their facility
Encourage them to keep a record of all women receiving augmentation using syntocinon.

Module 3: Administration of parenteral anticonvulsants

I. Definition and background

Eclamptic convulsions are usually associated with hypertension and proteinuria in the second half of pregnancy. There may be symptoms of headache,visual disturbance or abdominal pain. 30% eclamptic convulsions occur in the puerperium.Management has varied in the past but a large multi centre study showed that Magnesium Sulphate is the drug of choice. It may be used in severe pre-eclampsia as well as eclampsia.

Loading Dose

Give 4g of 20% Mag Sulph Solution over 5mins. If you have 50% Solution take 8mls and add 12ml N Saline)

Then promptly give 10g by deep im injection (5g into each buttock adding 1ml of 2% lignocaine

Maintenance dose

5g Mag sulph + 1ml of 2% lignocaine every 4 hrs into alternate buttocks

Monitor the woman very carefully and if appropriate monitor FHR

Withhold mag sulph if

Respiratory rate is < 16 per minute OR

Urinary output is < 30ml per hour OR

Patellar reflex is absent.

If respiratory rate is < 12 per min give Calcium gluconate 10 mls of 10%solution iv slowly

Continue treatment with Mag Sulph for 24 hrs after last convulsion or delivery

J. Protocol: Regime for Mag. Sulph.
Loading Dose
Give 4g of 20% Mag Sulph Solution over 5mins. If you have 50% Solution take 8mls and add 12ml N Saline)
Then promptly give 10g by deep im injection (5g into each buttock adding 1ml of 2% lignocaine
Maintenance dose
5g Mag sulph + 1ml of 2% lignocaine every 4 hrs into alternate buttocks
Monitor the woman very carefully and if appropriate monitor FHR
Withhold mag sulph if
Respiratory rate is < 16 per minute OR
Urinary output is < 30ml per hour OR
Patellar reflex is absent.
If respiratory rate is < 12 per min give Calcium gluconate 10 mls of 10%solution iv slowly

Continue treatment with Mag Sulph for 24 hrs after last convulsion or delivery

DO NOT use Diazepam if Mag sulph is available. If it isn't use Diazepam as follows:
Loading dose:
Diazepam 10mg iv slowly over 2 mins - repeat if convulsions recur
Maintenance dose:Diazepam 40mg in 500ml bag of N Saline orRinger's lactate adjusting rate to keep the woman lightly sedated. Do not give>100mg in 24 hrs.
If respiratory depression occurs assist ventilation using a bag and mask

K Standards linked to this protocol:
1Availability of Magnesium Sulphate and calcium gluconate in the facility.
2.Poster showing Mag sulph regime displayed prominently in Delivery room.
3. Keep record of women who have eclampsia

Breakout session:Role Play: Care of woman having eclamptic seizure and discussion

Equipment needed:

Airway,Yankauer sucker,O2 mask, I/V cannulae,giving set,Foley catheter, patella hammer, BP cuff, stethoscope, blood sample bottles,Pinard fetal stethoscope (this is basic A,B,C, equipment)

Poster with Mag Sulph regime

Role Play

Invite one of the group to be the patient and brief her about pretending to have a seizure. Invite another member of the group to be the midwife.

F: Explain that a young primigravida who has been admitted because she had a raised BP suddenly begins to have a generalized convulsion. Ask midwife what she would do

Participant: call for help

F: Whom would you call? Convulsion assumed to be eclamptic but ask group for other possible causes of convulsion
Continue care of woman

P: check airway and breathing consider 02 if available
Place in recovery position, check circulation

F: P100, BP 160/110

P: Insert I/V cannula and start fluids

F: Discuss laboratory tests / availability of urine testing
Ask about Mag sulph administration

P: Loading Dose
Give 4g of 20% Mag Sulph Solution over 5mins. If you have 50% Solution take 8mls and add 12ml N Saline)
Then promptly give 10g by deep im injection (5g into each buttock adding 1ml of 2% lignocaine
Maintenance dose
5g Mag sulph + 1ml of 2% lignocaine every 4 hrs into alternate buttocks

F: Discuss monitoring of patient

P:Monitor the woman very carefully and if appropriate monitor FHR
Withhold mag sulph if
Respiratory rate is < 16 per minute OR
Urinary output is < 30ml per hour OR
Patellar reflex is absent.
If respiratory rate is < 12 per min give Calcium gluconate 10 mls of 10%solution iv slowly

Additional notes for Facilitator:

Discuss use of Diazepam if Mag sulph is not available
Ensure that participants understand technique of using patella hammer
Discuss transfer of patient to CeMONC facility if CS is required.
Ask about availability of mag sulph and calcium gluconate
Encourage them to have poster with Mag sulph regime displayed in the labour ward of their facility.
Record all women who have eclampsia.

Module 4: Manual removal of placenta (MROP)

I. Definition and background Retained placenta: Placenta undelivered 30mins after delivery of the baby if AMTSL was used or 60 mins if not
MROP should be carried out if umbilical injection of Syntocinon is unsuccessful

J. Protocol/Guideline
I/V line should be in place
Insert urinary catheter
Inject 20iu Syntocinon in 20ml NSaline into umbilical vein then apply clamp proximal to the injection site.
If placenta fails to deliver within 30 mins proceed to MROP as follows:

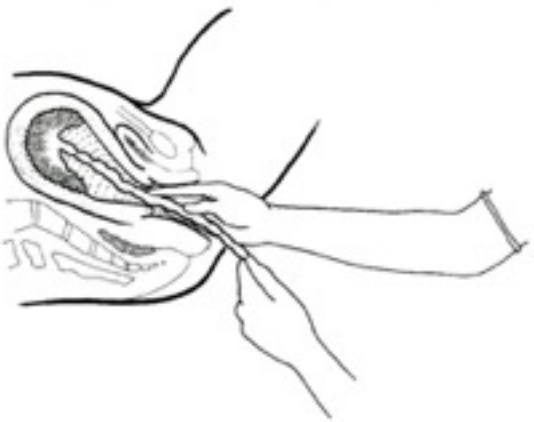
Provide emotional support, explanation and encouragement for the woman
Ensure adequate anaesthesia/sedation/analgesia
Give prophylactic antibiotic
Either Ampicillin 2g IV plus Metronidazole 500mg IV
OR
Cefazolin 1g IV plus metronidazole 500mg IV

Depending on clinical circumstances give course of antibiotics

Hold the umbilical cord with a clamp.

Pull the cord gently until it is parallel to the floor.

Wearing high-level disinfected or sterile gloves (use long gloves if available), insert the other hand into the vagina and up into the uterus, following the cord to reach the placenta



MROP (contd)

Having located the cord let go of the cord and move the hand up over the abdomen in order to support the fundus of the uterus and to provide counter-traction during removal to prevent inversion of the uterus .

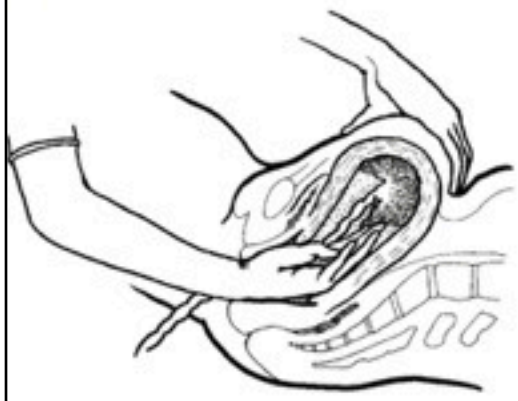
Detach the placenta from the implantation site by keeping the fingers tightly together and using the edge of the hand to gradually make a space between the placenta and the uterine wall.

Proceed slowly all around the placental bed until the whole placenta is detached from the uterine wall.

If the placenta does not separate from the uterine surface by gentle lateral movement of the fingertips at the line of cleavage, remove placental fragments (page S-32). If the tissue is very adherent, suspect placenta accreta and consider laparotomy and possible subtotal hysterectomy.

Hold the placenta and slowly withdraw the hand from the uterus, bringing the placenta with it.

With the other hand, continue to provide counter-traction to the fundus by pushing it in the opposite direction of the hand that is being withdrawn.



Palpate the inside of the uterine cavity to ensure that all placental tissue has been removed.

Give Syntocinon 10 iu in 500ml or 20iu in 1 L of NSaline or Ringers Lactate and run at 60 dpm.

Standards associated with this protocol:
1. Long (gauntlet) gloves should be available.

MROP (contd.)

Breakout session: Learning a skill
Equipment needed: Basic ABC kit, large pelvic model, knitted uterus and placenta

F: apply basic ABC principles - set up I/V and take blood for Hb

Then demonstrate MROP using knitted uterus and placenta. The group should then practice the technique.

Discuss intraumbilical injection of Syntocinon as a method of avoiding the need to do MROP- show video if available

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Module 5: Removal of retained products of conception (MVA)

I. Definition and background Removal of retained products of conception is an important intervention as it can prevent excessive blood loss or infection associated with incomplete abortion. Traditionally this involved Dilatation & Curettage but MVA carries less risk of uterine perforation. More recently there is evidence that Misoprostol orally or sublinually may be used as an alternative to MVA

J. Protocol

Establish diagnosis of incomplete abortion by taking a history and carrying out abdominal and pelvic examinations
If the woman is bleeding heavily or shows signs of shock then this must be urgently treated .
Take blood for Hb , Group and x match 2 units of blood

If she was less than 12 weeks pregnant then an alternative to MVA is to give either misoprostol 600mcg orally or 400 mcg sublingually as a single dose
Then review in 7 days to insure that the abortion is now complete.
Otherwise proceed as follows:
Start an IV infusion using NSaline or Ringers Lactate.
Explain Diagnosis and obtain written consent for procedure.
Give Paracetamol 500mg-1.0 g orally 30 mins before the procedure.
Make sure her bladder is empty.
Give prophylactic antibiotics EITHER Ampicillin 2.0g IV plus Metronidazole 500mg IV OR Cefazolin 1g IV plus metronidazole 500mg IV
Check that MVA equipment is ready for use.
Administer a paracervical block if necessary
Procede as described in the pages which follow:

MVA (contd)

- Prepare the MVA syringe:

  1 - Assemble the syringe;

  2 - Close the pinch valve;

  3 - Pull back on the plunger until the plunger arms lock.

  4 Note: For molar pregnancy, when the uterine contents are likely to be copious, have three syringes ready for use.

- Even if bleeding is slight, give oxytocin 10 units IM or ergometrine 0.2 mg IM before the procedure to make the myometrium firmer and reduce the risk of perforation.
- Perform a bimanual pelvic examination to assess the size and position of the uterus and the condition of the fornices.
- Insert a speculum or vaginal retractor into the vagina.
- Apply antiseptic solution to the vagina and cervix (especially the os)
- .
- Check the cervix for tears or protruding products of conception. If products of conception are present in the vagina or cervix, remove them using ring or sponge forceps.
- Gently grasp the anterior or posterior lip of the cervix with a vulsellum or single-toothed tenaculum.
- Note: With incomplete abortion, a ring or sponge forceps is preferable as it is less likely than the tenaculum to tear the cervix with traction and does not require the use of lignocaine for placement.
- If using a tenaculum to grasp the cervix, first inject 1 mL of 0.5% lignocaine solution into the anterior or posterior lip of the cervix which has been exposed by the speculum.
- Dilatation is needed only in cases of missed abortion or when products of conception have remained in the uterus for several days:

MVA (contd)

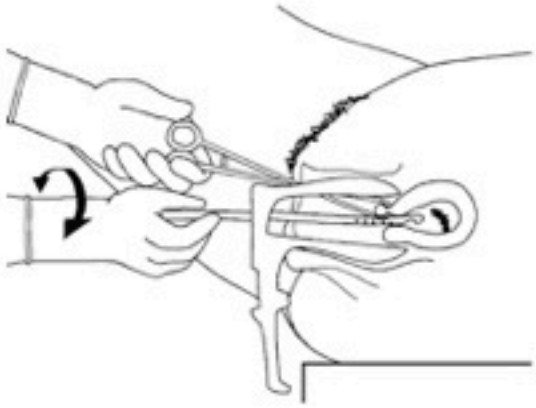
1 - Gently introduce the widest gauge suction cannula;

2 - Use graduated dilators only if the cannula will not pass. Begin with the smallest dilator and end with the largest dilator that ensures adequate dilatation (usually 10–12 mm) (Fig P-33, page P-62);

3 - Take care not to tear the cervix or to create a false opening.

• While gently applying traction to the cervix, insert the cannula through the cervix into the uterine cavity just past the internal os (Fig P-35). (Rotating the cannula while gently applying pressure often helps the tip of the cannula pass through the cervical canal.)

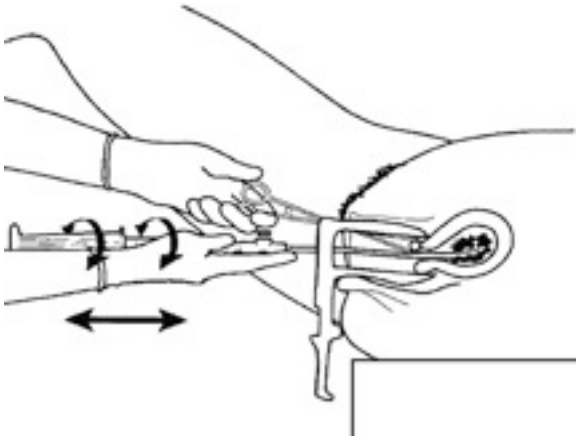
Inserting the cannula



- Slowly push the cannula into the uterine cavity until it touches the fundus, but not more than 10 cm. Measure the depth of the uterus by dots visible on the cannula and then withdraw the cannula slightly.
- Attach the prepared MVA syringe to the cannula by holding the vulsellum (or tenaculum) and the end of the cannula in one hand and the syringe in the other.
- Release the pinch valve(s) on the syringe to transfer the vacuum through the cannula to the uterine cavity.
- Evacuate remaining uterine contents by gently rotating the syringe from side to side (10 to 12 o'clock) and then moving the cannula gently and slowly back and forth within the uterine cavity (Fig P-36, page P-67).
- Note: To avoid losing the vacuum, do not withdraw the cannula opening past the cervical os. If the vacuum is lost or if the syringe is more than half full, empty it and then re-establish the vacuum.

Note: Avoid grasping the syringe by the plunger arms while the vacuum is established and the cannula is in the uterus. If the plunger arms become unlocked, the plunger may accidentally slip back into the syringe, pushing material back into the uterus.

Evacuating the contents of the uterus



Check for signs of completion:

Red or pink foam but no more tissue is seen in the cannula;

- A grating sensation is felt as the cannula passes over the surface of the evacuated uterus;
- The uterus contracts around (grips) the cannula.

- Withdraw the cannula. Detach the syringe and place the cannula in decontamination solution.
- With the valve open, empty the contents of the MVA syringe into a strainer by pushing on the plunger.
- Note: Place the empty syringe on a high-level disinfected or sterile tray or container until you are certain the procedure is complete.
- Remove the speculum or retractors and perform a bimanual examination to check the size and firmness of the uterus.
- Quickly inspect the tissue removed from the uterus:

1 - for quantity and presence of products of conception;

2 - to assure complete evacuation;

3 - to check for a molar pregnancy (rare).

- If no products of conception are seen:

  1 - All of the products of conception may have been passed before the

  2 MVA was performed (complete abortion);

  3 - The uterine cavity may appear to be empty but may not have been emptied completely. Repeat the evacuation;

  4 - The vaginal bleeding may not have been due to an incomplete abortion (e.g. breakthrough bleeding, as may be seen with hormonal contraceptives or uterine fibroids);

  5 - The uterus may be abnormal (i.e. cannula may have been inserted in the nonpregnant side of a double uterus).

  6 Note: Absence of products of conception in a woman with symptoms of pregnancy raises the strong possibility of ectopic pregnancy .

- Gently insert a speculum into the vagina and examine for bleeding. If the uterus is still soft and not smaller or if there is persistent, brisk bleeding, repeat the evacuation.

- POST-PROCEDURE CARE

- Give paracetamol 500 mg by mouth as needed.

- Encourage the woman to eat, drink and walk about as she wishes.

- Offer other health services, if possible, including tetanus prophylaxis, counselling or a family planning method

- Discharge uncomplicated cases in one to two hours.

- Advise the woman to watch for symptoms and signs requiring immediate attention:

  5 - prolonged cramping (more than a few days);

  6 - prolonged bleeding (more than two weeks);

  7 - bleeding more than normal menstrual bleeding;

  8 - severe or increased pain;

  9 - fever, chills or malaise;

MVA (contd)

Breakout session: Learning a skill
Equipment needed: MVA, Cusco speculum, tennaculum, volsellum, sponge-holding forceps pelvic model designed for use with MVA

Show video to all participants as one group

F: Demonstrate technique of using the MVA as shown in the video
Ask if anyone in the group has used MVA before
All members of the group should then practice using the MVA

Module 6: Assisted Vaginal Delivery (Vacuum Extraction)

I. Definition and background Assisted vaginal delivery is defined as the use of instruments to achieve a vaginal delivery for the benefit of mother and/or baby. Traditionally obstetric forceps were used, but the development of the vacuum extractor (Ventouse) in various forms since the 1950's has made this usually a preferable method

J. Protocol

Indications for assisted vaginal delivery:

Maternal: specific conditions eg cardiac disease, hypertensive crises,cerebro - vascular disease,myasthenia gravis,spinal cord injury, exhaustion

Fetal: Fetal distress (abnormal FHR ± meconium)

Prolonged 2nd stage,

Conditions necessary before doing vacuum extraction:

Fetus at term ie 37+weeks

Head no more than ⅖ palpable above symphysis pubis

Vertex presentation

Cervix fully dilated

Explain fully to the woman what the procedure involves and obtain verbal consent

Select instrument and insure that it is fully functional

Place the woman in lithotomy and clean the vulval area

Ensure the bladder is empty

Perform a vaginal examination to determine the level and position of the fetal head. Identify the posterior fontanelle.

Perform a pudendal block or infiltrate the perineum and vulva with local aneasthetic.

The cup of the Ventouse should be placed 1 cm anterior to the posterior fontanelle. This is the flexion point. This position will promote flexion, descent and rotation with traction.

Check the application of the dup to ensure that no maternal tissue (cervix or vaginal wall) is beneath the rim of the cup.

Using the pump create a vacuum of 0.2 Kg/sq.cm and recheck the application.

Increase vacuum to 0.8 Kg/sq.cm and recheck the application.

Vacuum extraction (contd)

With each contraction, apply traction in a line perpendicular to the plane of the cup rim. Place a finger on the scalp next to the cup during traction to assess descent and potential slippage. Encourage the woman to push with each contraction.

Between contractions check application and FHR.

Once the head has delivered remove the cup and complete the delivery in the normal way and perform active management of the third stage to deliver the placenta.

Abandon Ventouse if:

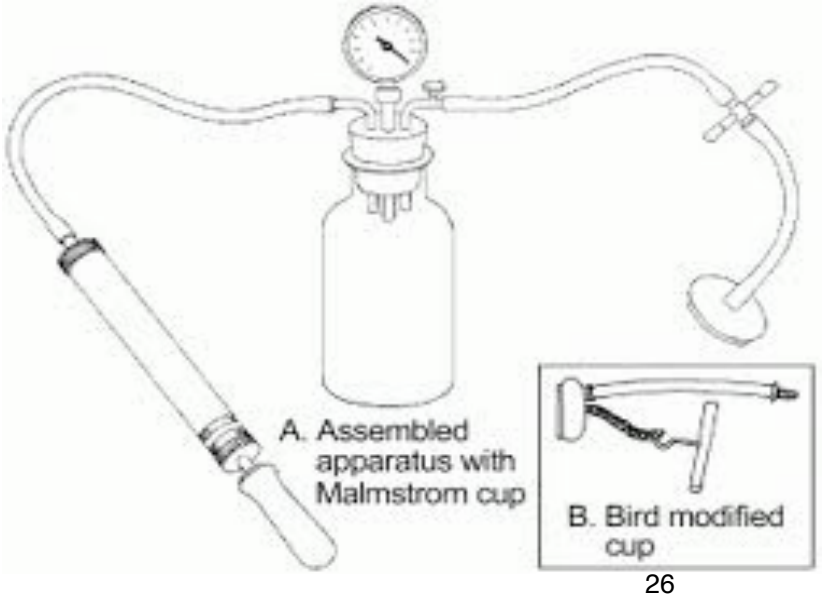
Head does not advance with each pull
Fetus is not delivered after 3 pulls or 30 mins
Cup detaches twice

If ventouse fails proceed to CS - don't try forceps!!

Delivery may be achieved by using symphysiotomy as well but this should only be done if this is accepted practice and the birth attendant is trained and competent in this technique.

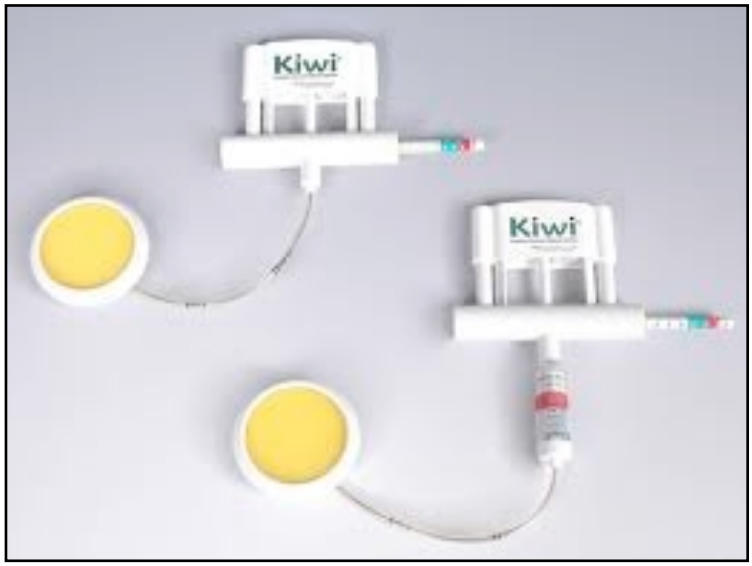
Complications:
Maternal: cervical, perineal or vaginal tears
Fetal: Localized scalp oedema (chignon) is usual and will resolve in 24hrs.
Cephalhaematoma will usually resolve in 3 - 4 weeks
Neonatal jaundice
Intracranial bleeding (rare)

Forceps delivery
May be used for the aftercoming head in a breech or in a cephalic presentation if it is preferred by the attending doctor.



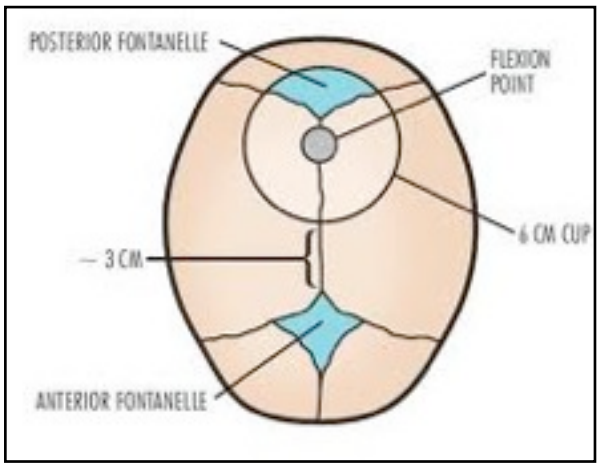
Malmstrom vacuum extractor with Bird modification

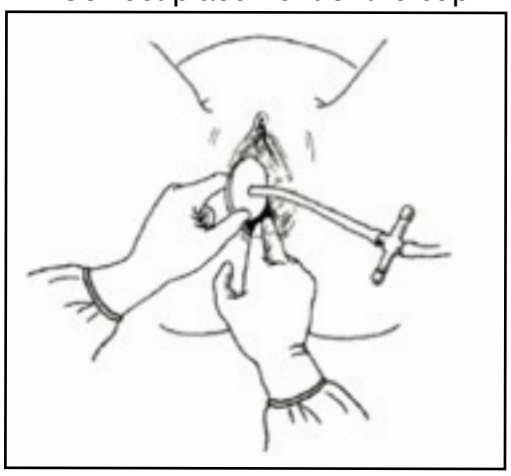
Malmstrom vacuum extractor with silastic cups



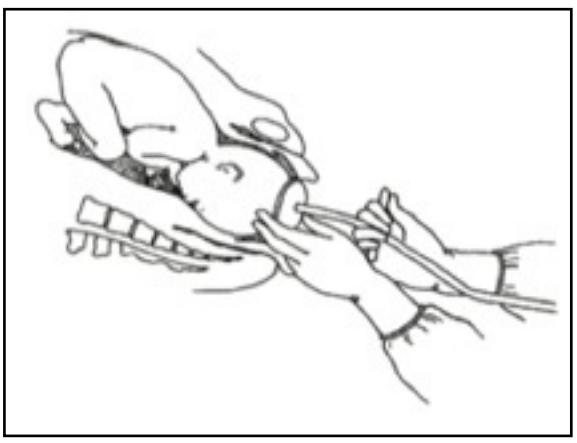
Kiwi device: single use and reusable models

Correct placement of the cup

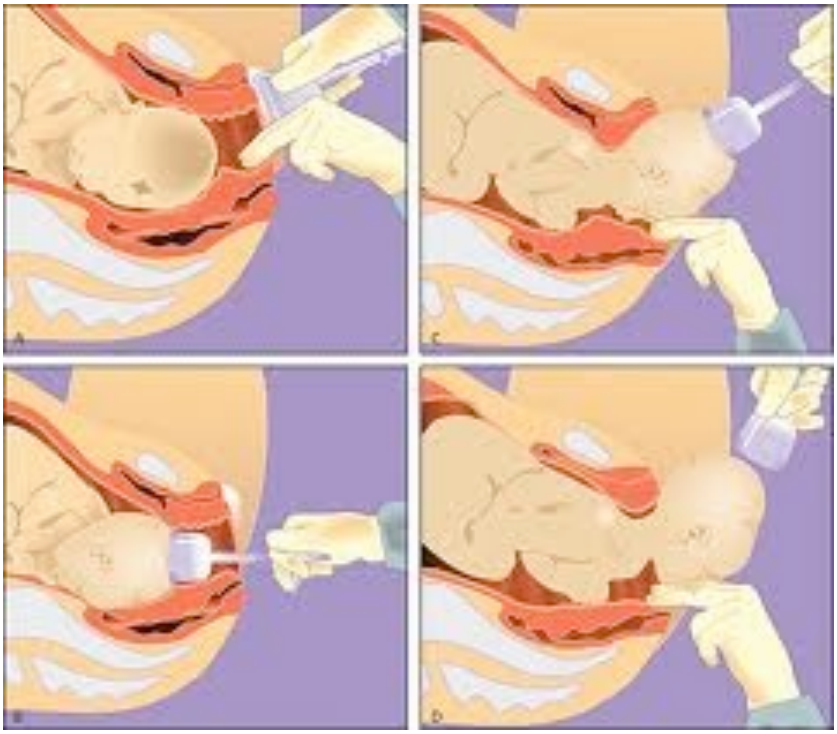




Application of metal cup



Applying traction



Assisted Vaginal Delivery using Vacuum Extractor

Breakout session:

Standard associated with this protocol: 1. Availability of functional, well maintained equipment for vacuum extraction

Video ; Demonstration of Vacuum Extraction
Equipment needed: Large pelvic model, Malmstrom Vacuum extractor, Kiwi, Omnicup, fetal head with sutures and fontanelles

Show video to all participants after the lecture

Ask if any in the group have had experience with ventouse
Review with the group:
1. Conditions required for Ventouse
2. Different types of vacuum extractors
3. Indications
4. Preparation: check equipment !
5. Procedure: emphasize correct placement of cup; technique of applying traction
6. When to abandon
7. Complications: Fetal & Maternal
8. Documentation

Demonstrate the procedure and supervise participants doing so

Module 7: Care of the Newborn and Resuscitation

I. Definition and background Initial or immediate care of the newborn: Basic care and observations carried out immediately following birth; Basic Resuscitation

J. Protocol/

Dry the baby with a warm towel and place in skin to skin contact with the mother

Check the baby's colour, respiration, heart rate and tone and record APGAR score at 1 and 5 mins

Check that there is no bleeding from the cord

Put the baby to the breast when appropriate.

If the baby is not breathing or is just gasping begin resuscitation immediately

Your hands should be washed and gloves worn before touching the baby

Explain to the mother what is happening and what is being done, reassuring her as much as possible.

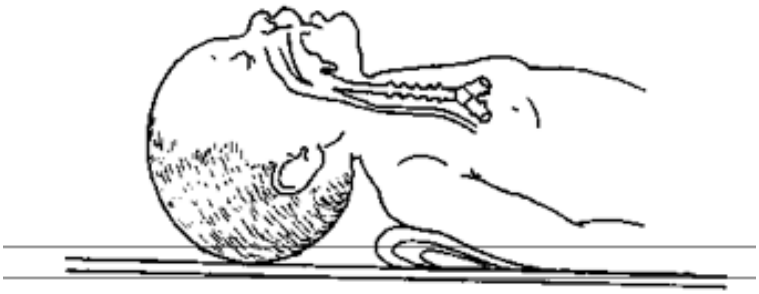
Call for help

Start clock

Remember A,B, C

AIRWAY

Place baby on its back with the head in a neutral position, a folded towel 2-3 cm thick beneath the shoulders will help to achieve the right position



Use a bulb syringe to gently clear mucus or meconium from the mouth and nostrils. Do not carry out deep suction as this can cause bradycardia or spasm of the larynx

Simply opening the airway as described will be followed by commencement of normal breathing

BREATHING
If the baby does not respond commence ventilation using a bag and correct size mask which must be f ain.

Give 5 inflation

Look to see if the chest rises - it may not for the first 1-3 breaths while fluid is being displaced from the lungs

Check the seal around the mask and that the chest rises after that

Check Heart rate after 5 breaths if >100beats per min then ventilation is adequate - if not check airway and chest movement.

Ventilation should be continued at 30-40 breaths per minute until spontaneous breathing is established

CIRCULATION
If Heartbeat is absent or < 60 beats per min then give chest compressions

Encircle the chest with 2 hands so that the thumbs meet on the sternum below the nipple line

Compress the chest about ⅓ of its depth - 3 times for each inflation

Compressions can be stopped once the heart rate is >60 beats per min.

Cardiac massage in the newborn

Following resuscitation:
Keep skin to skin contact with mother and encourage her to breastfeed
In addition warm the baby if his/her temp is <36ºC
Monitor the baby's respirations regularly and keep under observation for 6 hours

Unsuccessful Resuscitation
If there is no gasping or breathing after 20 mins stop ventilation explain that the baby has died.
Provide appropriate support for the mother and her family

None of the following should be done at any time:

Slapping, blowing on, or pouring cold water on the baby

Do not hold the baby upside down

Do not give injections of respiratory stimulants or sodium bicarbonate

Standards associated with this protocol:
1.Sufficient well maintained equipment for resuscitation of the new born
2.Poster with APGAR score chart displayed in Delivery room.

Newborn Care & Resuscitation (contd.)

APGAR scoring chart

Sign	0 Points	1 Point	2 Points
Skin colour	Cyanosis pallor	Peripheral cyanosis	Pink
Muscle tone	Flaccid	Moves limbs	Good
Resp. Effort	None	Gasps	Good
Heart rate	None	<100	100
Response to stimulus	None	Slight	Good

Breakout session: Learning a skill
Equipment needed: Baby Ambu bag, masks, clock,stethoscope, resuscitation model, bulb sucker, towel

F: Emphasize importance of drying baby and keeping it warm
Demonstrate correct positioning of baby's head, selecting correct mask and keeping in place over baby's mouth and nose.
Warn about dangers of "deep" suctioning
All members f the group should practice newborn resuscitation

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CeMONC Modules

Module 8: Blood Transfusion (CeMONC Function)

I. Definition and background: Haemorrhage is the leading cause of maternal death globally and therefore blood transfusion is an essential component of maternity care.

J. Protocol:
Blood transfusion should be considered when the measured blood loss is > 1 litre or when there are signs of hypovolaemic shock. Stopping the bleeding and replacing blood volume rapidly using an infusion of N Saline or Ringers Lactate is the priority. Most common situations where blood transfusion is needed are: PPH,APH, Caesarean section, ruptured uterus, major perineal laceration, ectopic pregnancy, hydatidiform mole, abortion, severe anaemia

Whenever an IV in fusion is started because of bleeding or anticipated bleeding a blood sample should be sent to the laboratory for grouping and cross matching. Blood donation should be encouraged from the womans family. Ideally, if the laboratory maintains a Blood Bank 2 units of O-Neg blood should be kept for immediate use.

The establishment of a “walking blood bank” made up of staff and volunteers from the community should be considered. Recruits could be encouraged by the provision of iron and vitamin tablets. Under no circumstances should blood donors be paid.

Risks of blood transfusion;
1. Infection -all donated blood should be tested for HIV, HEP B, C, and syphilis, malaria is tested for at discretion of laboratory
2. Compatability This should always be tested
3.Reactions Range from mild skin rash to anaphylactic shock.
Management. Stop transfusion change to N saline .Depending on severity give antihistamine eg Promethazine 10mg IV, hydrocortisone1.g IV every2 hrs as needed, adrenaline 1:1000solution (0.1 ml in 10 mL N Saline IV slowly

Checking blood before administering it should be done by nurse/midwife in charge of the ward or department.
Monitoring during transfusion
Record Pulse Temp Resp, BP, before starting, 15 mins after starting then hourly:

Record: time of starting and finishing transfusion
Type of products given
Details on each bottle or bag used
Any adverse reactions

Blood Transfusion (contd)

K Standards associated with this protocol
1.Availability of blood transfusion when required
2.Laboratory capable of x-matching blood
3.Adequate records of blood transfusions carried out

Breakout session: Discussion
Equipment needed: Flip Chart felt tip pens

F: The following topics should be discussed:
1. Issues around donation of blood
2. Screening of donated blood
3. Maintaining a blood bank

Module 9: Caesarean Section (CeMONC function)

I. Definition and background: Delivery of the fetus through an abdominal incision.
The provision of safe Caesarean section is fundamental to comprehensive maternity care. This requires adequate equipment, drugs, and personnel competent suitable anaesthesia and perform the operation.
Caesarean sections are either Emergency(performed at any time in pregnancy or labour with variable degree of urgency) or Elective(planned beforehand at an appropriate time determined by a discussion between the woman,her family and her birth attendant).

J. Protocol:
Decision: The decision to advise a woman to undergo Caesarean Section must be made by the senior birth attendant available. Good communication is essential especially as there is often reluctance on the part of Somali women to have a CS. The benefits, risks and complications should be explained to the woman and her husband.

Consent: This is usually given by the husband. In his absence the woman should give her consent. If she is unable to do so (eg she is unconscious) her father or brother can give consent. If not available the Senior Medical Doctor would take responsibility for authorizing the CS.

Location: If the woman is in a BeMONC facility then arrangements must be made to transfer her to a CeMONC facility as quickly, safely and comfortably as possible.
(See protocol regarding transfer of women.)

Preparation:
Start I/V infusion and take blood for Hb Group and x-match 2 units of blood.
Insert a Foley catheter.

Record P,BP,Temp,respiratory rate, fetal heart. Commence fluid balance chart.

Give premedication according to local practice.

The woman should shower or wash with soap and water. Shaving the abdomen is not necessary.

Protocol contd:
Anaesthesia: General, regional or local anaesthesia may be used according to local practice.
Spinal or Ketamine are the preferred methods

Prophylactic antibiotics should be given eg Co-Amoxyclav 1.2 g. I/V

The operating table should be tilted to the left or a pillow placed under the womans right lower back. This decreases the likelihood of supine hypotensive syndrome.

Operative technique:
Skin incision: This may be lower midline (vertical) or lower transverse (Joel Cohen or Pfannenstiel)
Assuming a low transverse incision is used the rectus sheath should be incised in the midline and the excision extended with scissors laterally. The recti should be separated in the midline using the fingers and then retracted manually to expose the parietal peritoneum. Use the fingers to penetrate the peritoneum then widen the incision.
Use forceps to pick up the loose pelvic peritoneum overlying the lower uterine segment and incise with scissors, extending the opening laterally on both sides.
Displace the bladder downwards and insert a retractor over the bladder exerting traction downwards exposing the lower segment.
Using a scalpel carefully make a 3cm incision centrally just below the level at which the peritoneum was incised. Take particular care if the lower segment is very thin and/or there is little liquor remaining in the uterus in order to avoid cutting the baby.
Extend the uterine incision by inserting a finger at each edge and pulling laterally.
Place a hand in the uterus and grasp the baby's head, flexing it and drawing it through the uterine incision. If the head is deep in the pelvis ask an assistant to displace the head upwards from the vagina.
Deliver the shoulders then the body taking care not to extend the uterine incision while doing so.
Give a bolus dose of 5 iu Syntocinon I/V slowly or add 20iu to a bag of I/V fluid and run it at 60 dpm for 2 hrs
Hand the baby to a midwife or assistant for immediate care.
Deliver the placenta by controlled cord traction.(There is less risk of endometritis than when manual removal is undertaken.)
Do not exteriorise the uterus prior to suturing unless is felt to be necessary to get adequate access to bleeding at the lateral edges of the incision.
The effectiveness and safety of one layer closure of the uterus has not been established therefore two layer closure is advised.
It is not necessary to close either visceral or parietal peritoneum.
The rectus sheath should be closed with a continuous suture of slowly absorbable material.For a midline incision mass closure using a slowly absorbable suture is advised.
There is no need to close the subcutaneous tissue unless it is more than 2cm thick.
Routine use of wound drains is not necessary.
Conventional skin or subcuticular sutures may be used.

Caesarean section (contd)

Postoperative Care (immediate)

1. If she has had a GA or Ketamine place in “recovery” position and maintain airway

2. Observations

Pulse BP,Temp every 15 mins for 2 hrs then 4 hrly. Maintain fluid balance chart

Check bleeding from wound and vaginally every 15 mins for 2 hrs then every hr for 4 hrs
Check uterus is contracted every 30mins

3. Maintain IV infusion as prescribed
4. Assess level of pain and provide adequate pain relief eg Pethidine, Tramadol or Diclofenac
5. Assist mother to put baby to the breast if breast feeding

Postoperative care (in post natal ward)

1. Observations: P,temp, BP, resp, every 4 hrs for 48 hrs
2. Ensure adequate pain relief
3. Monitor urinary output and note if urine is clear or bloodstained For an uncomplicated CS with clear urine remove catheter 8 - 12 hrs after the operation.If the urine is blood stained or had obstructed labour or a ruptured uterus or damage to the bladder the catheter should remain in place for at least 7 days.
4. Ensure good hydration
   IV infusion for 12 - 24 hrs
   Commence oral fluids immediately
   Commence solid food within 12 hrs
5. Encourage mobilization
6. Remove dressing after 24 hrs and leave wound open
7. Encourage good hygiene and regular changing of sanitary pads
8. Encourage and support breast feeding
9. Keep mother and baby together
10. If nonabsorbable sutures were used remove on 5th post op day

Before the woman goes home
1. Explain reasons for caesarean section and advise that in future pregnancies she should deliver where facilities for CS exist.
2. Discuss child spacing
3. Discuss care of the baby, need for immunizations etc
4. Arrange post natal visit

Caesaren Section (contd)

Standards associated with this protocol:
1.Properly equipped and maintained operating theatre with adequate equipment.
2.Trained anaesthetist able to carry out spinal or administer ketamine.
Medical staff competent to carry out a CS and deal with complications

Breakout session: Video, discussion
Equipment needed: Flip chart, felt tip pens

Show video to all participants after the lecture

F: Discussion should include the following topics:
1. Consent
2. Complications
3. Post-operative care - encourage participants to draw on their experience
4. If there are doctors among the participants they may wish to discuss technical aspects of CS

Additional Modules

Module 10: Focused Antenatal Care (FANC)

C. Summary: FANC is a method of antenatal care introduced by WHO in 2002. It consists of 4 comprehensive personalised visits spaced through the pregnancy when information is gathered, clinical examination done, tests are carried out, interventions undertaken and advice given.

J. Protocol
Facilities providing FANC should encourage pregnant women to attend on 4 occasions timed as follows:
1st visit: <16 weeks; 2nd visit: 16-28 weeks; 3rd visit:28-32 weeks; 4th visit 32-40 weeks.
FANC is designed only for those women who are free from any medical conditions requiring specialist care during preganacy. An assessment is made at the first visit to identify women unsuitable for FANC and make appropriate arrangements for them.
At each visit there are prescribed tasks to be undertaken and these are detailed in the WHO Manual mentioned above.
The objectives are:
1. **Detection** and treatment of problems
2. **Prevention** of complications using safe, simple, and cost effective interventions
3. **Preparation** for birth
4. **Promotion** of health

FANC (contd)

FANC protocol contd
Each woman should have an individual birth plan.
This should include transport arrangements and finance in an emergency and the identification of a person who will be available for help and support.
The pregnant woman and her family should understand the danger signs in pregnancy, labour and after delivery so there are no delays in taking appropriate action.
FANC encourages husbands to be involved in the process. Clinics should be designed so as to make it easy for men to accompany their wife to each visit.
This protocol merely gives an outline of FANC
A plan should be made to implement FANC in a form acceptable and deliverable in Somaliland.
This will involve careful review of the WHO manual and the published experiences of other African countries where FANC has been introduced.
It may be wise to pilot the scheme initially in say 2 different locations before scaling up to involve the whole country.
Close collaboration between the MOH (RH) and SLNMA and other stakeholders

Standards associated with this protocol:
1. Clinic premises suitable for FANC
2. Equipment and drugs available
3. Staff trained and committed to the concepts and principles of FANC
4. Adequate supervision, support and monitoring in place.

Breakout session: Role play, Discussion
Equipment needed: Flip chart, felt tip pens

Actors:
1.Midwife
2. Pregnant woman in first trimester
3. Husband

The husband wants to leave his wife at the clinic and go to work.

The midwife tries to encourage the husband to attend the clinic for at least 2 visits, so he can be involved and understand the benefits of antenatal care and learn about danger signs in pregnancy.

The husband complains that the clinic is a place for women and he doesn't feel welcome or comfortable there.

The midwife rearranges the clinic to provide a suitable waiting area for husbands which is acceptable to them.

[USE THE ABOVE AS GUIDANCE ONLY AND DEVELOP A ROLE PLAY ILLUSTRATING THE ISSUE RAISED]

F: Lead the discussion on the key features of FANC and discuss its advantages and disadvantages.
Ask for the groups ideas regarding introducing FANC in Somaliland - how should it be done? What additional drugs equipment and training would be required?

Module 11: Active Management of the Third Stage of Labour (AMTSL)

C. Summary: AMSTL has been shown to reduce blood loss at delivery

I Definition and background
Traditional definition;AMSTL has 3 components:
1.Early cord clamping
2.Administration of uterotonic drug
3. Delivery of placenta by controlled cord traction
More recent definition:
1. Administration of uterotonic drug
2. Delivery of placenta by CCT
3. Uterine massage then palpation every 15 mins for 2 hrs
It has been shown that delay in cord clamping may be beneficial to the newborn especially if <37 wks therefor this may be delayed until 1-2 mins after delivery

J. Protocol:
After delivery of the baby immediately palpate the abdomen to exclude the presence of a second fetus
Give Syntocinon 10 iu by im injection
Clamp and divide the cord (delay this for 1-2 mins if delivering before 37wks)
Deliver placenta by CCT
Massage the uterus
If syntocinon is not available give Misoprostol 600 - 800μg orally or rectally after delivery of the placenta
In the absence of any uterotonic drugs manual stimulation of the nipples or putting the baby to the breast will stimulate uterine contractions.

K. Standards associated with this protocol
Less than 5% PPH rate

Breakout session: Video on 3rd stage of labour; demonstration of CCT
Equipment needed: Large pelvic model, placenta

Show video to all participants after the lecture.

Demonstrate CCT and ask group to do it. Ask why is it important - to prevent uterine inversion

Module 12: Use of the Partograph

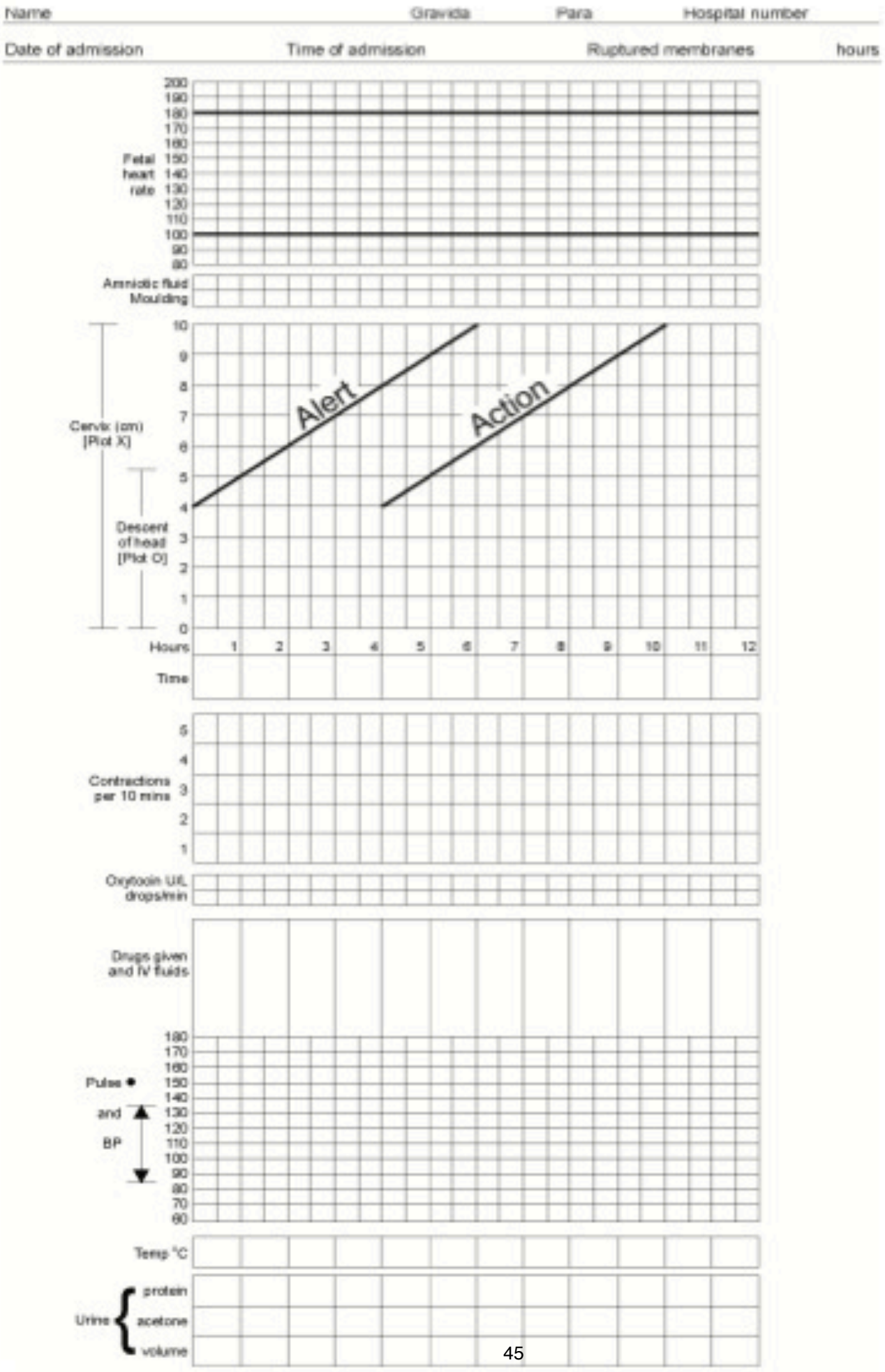
I. Definition and background A partograph is a graphic record of vital observations during the course of labour in order to assess its progress and carry out appropriate interventions if and when necessary. The partograph was developed and first used in Africa but has since been adopted worldwide

J. Protocol/Guideline
A partograph should be used for every woman in the active phase of labour ie from 4cm dilatation.

The modified WHO partograph should be used as shown below.

K. Standards associated with this protocol:
Availability and consistent use of partograph

The modified WHO Partograph



USING THE PARTOGRAPH

The WHO partograph has been modified to make it simpler and easier to use. The latent phase has been removed and plotting on the partograph begins in the active phase when the cervix is 4 cm dilated. A sample partograph is included (Fig C-10, page C-67). Note that the partograph should be enlarged to full size before use. Record the following on the partograph:

Patient information: Fill out name, gravida, para, hospital number, date and time of admission, and time of ruptured membranes or time elapsed since rupture of membranes (if rupture occurred before charting on the partograph began).

Fetal heart rate: Record every half hour.

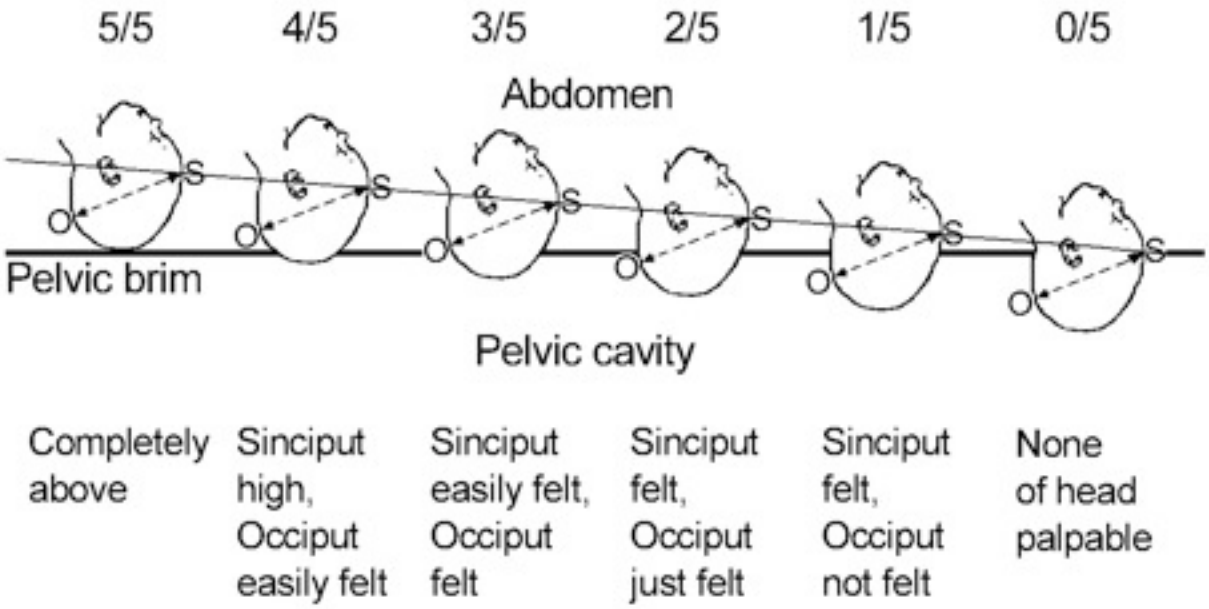
Amniotic fluid: Record the colour of amniotic fluid at every vaginal

examination:

- I: membranes intact;
- R: membranes ruptured;
- C: membranes ruptured, clear fluid;
- M: meconium-stained fluid;
- B: blood-stained fluid. Moulding:
    - 1: sutures apposed;
    - 2: sutures overlapped but reducible;
    - 3: sutures overlapped and not reducible.
    - Cervical dilatation: Assessed at every vaginal examination and marked with a cross (X). Begin plotting on the partograph at 4 cm.

Alert line: A line starts at 4 cm of cervical dilatation to the point of expected full dilatation at the rate of 1 cm per hour.
Action line: Parallel and four hours to the right of the alert line.

Descent assessed by abdominal palpation: Refers to the part of the head (divided into five parts) palpable above the symphysis pubis; recorded as a circle (O) at every abdominal examination. At 0/5, the sinciput (S) is at the level of the symphysis pubis.



Hours: Refers to the time elapsed since onset of active phase of labour (observed or extrapolated).

Time: Record actual time.

Contractions: Chart every half hour; count the number of contractions in a

10-minute time period, and their duration in seconds.

- Less than 20 seconds:
- Between 20 and 40 seconds:
- More than 40 seconds:
-
- Oxytocin: Record the amount of oxytocin per volume IV fluids in drops per minute every 30 minutes when used.
-

Drugs given: Record any additional drugs given.

Pulse: Record every 30 minutes and mark with a dot (!).

Blood pressure: Record every four hours and mark with arrows. Temperature: Record every two hours

Partograph (contd)

Breakout session: Workshop
Equipment needed: Laminated partographs,"washable" pens, posters with clinical information for entering on partographs

F: Make sure the group understand exactly how to enter the information on the partograph
Don't move on to the next case until everyone has caught up
Ask how many of them actually use the partograph where they work - if not why not?

Module 13: Prevention of infection

I. Definition and background: Infection remains a leading cause of maternal morbidity and mortality. Prevention is always better than cure. Often basic measures are very effective

J. Protocol
Two main objectives:
1. Prevent infections
2. Minimize the risk of transmitting serious diseases such as HIV/IDS,Hepatitis B to patients and staff

Recommended Infection Prevention practices are based on the following principles:
1.Every person is potentially infectious.
2.Handwashing is the most practical procedure for preventing cross contamination
3. Wear gloves before touching anything wet - broken skin,mucous membranes, blood or other body fluids(secretions and excretions)
4. Use barriers (goggles, masks, aprons) if splashes or spills of any body fluid are anticipated.
5. Use safe practices with regard to needles and sharps, instruments and correct disposal of medical waste

Handwashing
Wash hands - before and after examining the woman
- after exposure to blood or any body fluid even if gloves were worn
- after removing gloves (because the gloves may have holes in them)

Use plain or antimicrobial soap
Vigorously rub together all surfaces of the hands for 15- 30 secs
Rinse with a stream of water
Dry using single use towels or cloth which is renewed daily

Standards associated with this protocol:
1. Availability of soap
2. Availability of water
3. Availability of gloves, gowns,masks, goggles, aprons
4. Availability of appropriate waste containers
5. Availability of appropriate disinfectants

Glove gown and apron requirements for procedures in pregnancy and childbirth

Procedure	Gloves	Gown	Apron
Taking blood, starting IV, giving IV drugs	Non-sterile	No	No
Vaginal examination unless in labour or membranes ruptured	non-sterile	no	No
MVA	Sterile	No	Yes
VE in labour ARM	Sterile	No	No
Vaginal delivery Vacuum extraction Perineal repair Bimanual compression of uterus	Sterile	No	Yes
MROP	Sterile long (gauntlet)	No	Yes
Caesarean section Laparotomy	Sterile	Yes	Yes
Cleaning instruments Handling contaminated waste Cleaning blood or body fluid spills	Utility	No	Yes

Prevention of infection (contd)

Breakout session: Role play
Equipment needed: Flip chart, felt tip pens

Actors:
1. Clinical supervisor: Responsible for training new and existing staff in Infection Prevention (IP)
2. Two patients awaiting drug injections
3. Nurse/midwife One
4. Nurse/midwife Two

Nurse /midwife One is poorly dressed, poor communicator, fails to follow protocol for administering injections, Fails to follow IP practice. Doesn't refer to drug chart. No sharps box to be seen.
Approaches patient to give injection. Supervisor stops him/her and advises him/her to observe nurse/midwife Two

Nurse/midwife Two is smartly dressed, calm and communicates well. He/she washes hands correctly, puts on gloves, Checks drug order chart, confirms the patients name and details, administers the medication correctly, completes documentation, then disposes of syringe, ampoule and needle safely. He/she smiles at the patient and ensure that he is comfortable.

Module 14: Antepartum haemorrhage

I. Definition and background: APH is bleeding from the vagina from 24 weeks pregnancy until delivery. The main causes are placenta praevia and placental abruption, but may be due to a ruptured uterus, or rarely vasa praevia

J. Protocol/Guideline

Initial management will depend on the severity of the bleeding irrespective of its cause.

Remember A,B,C D Call for help

Unless bleeding is minimal or has stopped commence IV and take blood for HB and X-matching

Perform a clinical examination but **DO NOT** perform a vaginal examination as this may increase the bleeding

Diagnosis: Placenta praevia: bleeding may be slight and usually painless, Presenting part high, FH normal

Abruption: Shock disproportionate to observed bleeding, tense, tender uterus, FH abnormal or absent

Management: placenta praevia: if bleeding slight and FH present admit for observation., and initially complete bed rest. U/S if possible to localize placenta. If confirmed praevia the woman should remain in or be transferred to CeMONC facility for possible delivery by CS after 37 weeks. If bleeding is severe emergency CS may be required. If U/S is not available then carry out a vaginal examination in theatre at 38 weeks fully prepared to proceed to CS; first feel in the fornices - if spongy tissue is felt placenta praevia is confirmed, deliver by CS; if a firm head is felt and this is confirmed by feeling through the cervix placenta praevia is excluded and if appropriate induction of labour can be commenced.

Management Placental abruption : Assess clotting status using bedside test. Transfuse with fresh blood as necessary - blood loss is always more than observed amount.

Deliver the woman as soon as possible by whatever method is appropriate depending on state of cervix or stage of labour.

Be prepared for PPH !

K. Standards associated with this protocol

1. Availability of large bore I/V cannula, giving set and 500ml or 1 litre bags of NSaline or Ringers lactate for I/V infusion
2. CeMONC availability of blood trasfusion
3. Ability to carry out CS within 45mins

APH (contd)

Breakout session: Role play A. Placenta praevia B. Placental abruption
Equipment needed: Basic A B C

Use either role play A. **OR** B.

Role play A.
The facilitator invites one of the group to be the patient and asks one to be the midwife.

F: A 30 yr. old para 1 at 34 weeks who was previously delivered by CS arrives at your clinic % slight vaginal bleeding which started the previous day, she has no pain
What would you do?
P: Carry out usual observations, insert I/V cannula and take blood for Hb.
F; Her pulse is 76, BP 100/70, uterus is soft, head ⅘ palpable and FH 130
What is your diagnosis?
P: placenta praevia
F: what would your management be
P: Admit her for observation and arrange to transfer her to the nearest CeMONC facility when the bleeding stops
F: Ask the group if they agree with this plan
What would you do if bleeding didn't stop
P: Commence I/V fluids and arrange immediate transfer sending family members with her as blood donors.
You could discuss means of transport, communication with CeMONC facility, whether staff member should accompany her

Role play B
The facilitator invites one of the group to be the patient and asks one to be the midwife.

F: You are on duty in the antenatal ward of a large general hospital. A 23 yr old primigravida at 36 weeks is admitted with sudden onset severe lower abdominal pain followed by slight vaginal bleeding. She is pale and sweaty. What would you do?
P: Call for help. Check A,B,C
F: Her airway is clear, her respirations are shallow and rapid, P120, BP 90/60
What would you do
P: Start I/V, take blood for Hb and xmatch 4 units, give O2 by mask
F: What would you do next

P: Examine the abdomen
F: The uterus is hard and tender, FH 100
What is your diagnosis/
P: Placental abruption
What should be done next?
Assess cervix - if dilated >3cm rupture membranes and augment contractions if necessary
- if closed plan for delivery by CS

Discuss complications and risks of placental abruption

Module 15: Postpartum Haemorrhage (PPH)

I. Definition and background:
Primary PPH is blood loss > 500ml within 24hrs of delivery. Secondary PPH is blood loss >500 ml after 24 hrs post partum
Exact measurement of blood loss at delivery is difficult. Therefore any blood loss which threatens the woman's haemodynamic stability should be managed as a PPH.
PPH is a frightening experience for all involved. Remember to keep the woman and her family informed throughout.
Causes:
The 4 "T's": TONE (70%), TISSUE (20%), TRAUMA (9%),THROMBIN (1%)
Risk Factors:
Multiple pregnancy, multiparity, large baby,polyhydramnios, previous PPH, APH, Rapid or prolonged labour,anaemia, Clotting disorder
Prevention: Correct anaemia during pregnancy if possible
Recognition of risk factor eg have I/V in place for twin delivery
Active management of the 3rd stage of labour has been shown to significantly reduce the incidence of PPH. (See elsewhere for AMTSL protocol)

J. Protocol
Assess A,B, C,D
Call for help
Rub up a contraction
Insert 2 large bore i/v cannulae (14 or 16 gauge)
Take blood for Hb, Group and xmatch 4 units (Clotting tests if possible)
Commence iv Hartmans (Ringers lactate) or N Saline (NOT Dextrose) add Syntocinon 40iu to 500ml bag of fluid
Insert Foley catheter and start fluid balance chart
Give Syntocinon 10iu by im injection
Continue to monitor P, BP, T,Fluid balance

If bleeding persists review as follows:
TONE:
If uterus still atonic: Give Misoprostol 1000 micrograms rectally
Apply bimanual uterine compression
Apply aortic compression
Other procedures to consider: Uterine tamponade using a purpose made device or Foley catheter and condom
If these measures are not effective arrange transfer to CeMONC facility
Laparotomy then B-Lynch procedure, uterine artery ligation, Hysterectomy

TISSUE:
Check placenta for completeness if incomplete carry out manual exploration of uterine cavity and MROP

TRAUMA:
Inspect perineum
If bleeding persists check vagina and cervix for lacerations and repair as required
Consider uterine rupture, haematoma.

THROMBIN:
Observe whether blood is clotting, check for bleeding from venepuncture sites.
If clotting tests are not available at laboratory and there is clinical evidence of a clotting disorder use fresh blood and transfuse liberally.

K Standards linked to this protocol.
Recording of PPH's in Delivery Register
Incidence of PPH < 5%

PPH (contd)

Breakout session: Demonstration

Equipment needed: Foley catheter with condom, 10 x 500 ml plastic bottles filled with water, towels, 2 cards one with saying "only small change in vital signs" the other " going to die"
Flip chart, felt tip pens

F: Show how catheter and condom can be used to tamponade the uterus iif other methods of stopping PPH fail

Draw chart below on flip chart

Circulating volume lost	Signs
Up to 700 mls	Mild increase in pulse rate
1.5 l	Increase in pulse and respiratory rate, cold, pale
2 l	Increase in pulse and respiratory rate, **fall in BP**, cold, clammy, agitated
Over 2 l	Rapid pulse and respiratory rate, low BP, cold, clammy, confused, agitated, aggressive

Empty 3 of the bottles (1.5 L) onto the towels. Pass them round so that group can feel that they don't feel soaking wet, yet that represents ⅓ woman's blood volume. Also her BP hasn't dropped therefore easy to underestimate how much she has lost.
If she loses another 1 L (2 bottles) she is now deteriorating rapidly to a point where she is in irreversible hypovolaemic shock
Put the sign "only small change in vital signs" under the 3 bottles, then "going to die " under the next 2 bottles.

Appendix 1: Protocols in English

A. Title of Document: **Administration of Parenteral antibiotics**

B. Date Produced: 2012

C. Summary: Guidelines for administration of parenteral antibiotics

D. Author/s P. Jackson Consultant Obstetrician (THET)

E. Other Contributors MOH,SLNMA,TWG,WHO, UNFPA, UNICEF

F. Sources used in preparing protocol: Managing Complications in Pregnancy and childbirth WHO et al,UNFPA,UNICEF,World Bank

G. Review Date: 2015

H. Who will initiate review of the protocol SLNMA, MOH

I. Definition and background: Infection during pregnancy and particularly following delivery or abortion is a significant cause of maternal morbidity and mortality. Therefore the availability and correct administration of parenteral antibiotics is extremely important. Laboratory services, especially the identification of the cause of the infection and determination of antibiotic sensitivities, are usually not available but hopefully that will change in the future. Infections are often caused by a combination of both aerobic and anaerobic cocci and the recommended antibiotics selected are therefore those which are the most likely to be effective.

J. Protocol; Before administering any antibiotic carry out skin testing for hypersensitivity as follows: Inject 0.1 ml. of antibiotic Intradermally
On the lower forearm and mark the injection site with date,time and Name of drug. Wait 15-30 minutes to assess injection site
If any reaction do not give antibiotic.

Therapeutic antibiotics
Give Ampiciliin 2g I/V every 6 hours PLUS Gentamicin 80mg im or by slow i/v injection every 8hrs PLUS Metronidazole 500mg every 8hrs
If the woman is allergic to ampicillin use erythromycin 500mg im or iv every 6hrs
If staphylococcal infection is suspected, add:

- cloxacillin 1 g IV every four hours;
- OR vancomycin 1 g IV every 12 hours infused over one hour;
- If clostridial infection or Group A haemolytic streptococci is suspected, add penicillin 2 million units IV every four hours;

If neither of the above are possibilities, add ceftriaxone 2 g IV every 24 hours.

Note: To avoid phlebitis, change the infusion site every three days or at the first sign of inflammation.

Continue antibiotics until the woman has been fever free for 48hrs

Prophylactic antibiotics: Caesarean Section Either Augmentin 1.2 G iv or Cefuroxine 1.5 g iv and Metronidazole 500 mg iv after clamping the cord

K Standards linked to this protocol

1. Drugs appropriately stored.
2. Safe, secure drug administration system in place with adequate documentation
3. Skin testing done before giving antibiotics

A. Title of Document: **Administration of uterotonic drugs**

B. Date Produced: 2012

C. Summary Uterotonic drugs are used in the induction and augmentation of labour, in AMTSL, in PPH and incomplete abortion

D. Author/s;P. Jackson Consultant Obstetrician (THET)

Other contributors: MOH,SLNMA,SMA,TWG ,WHO,UNFPA,UNICEF

F. Sources used in preparing protocol; WHO Guide pregnancy complications; WHO Recommendations for the induction of labour; Augmentation of labour S&S protocols

G. Review Date 2015

H. Who will initiate review of the protocol SLNMA, MOH

I. Definition and background A uterotonic drug is one which stimulates contraction of the uterus during pregnancy or shortly after delivery. Historically ergometrine was the only uterotonic drug but and it has now been largely superceded by syntocinon and prostaglandins.

J. Protocol: IOL should only be done in CeMONC facility
This protocol covers use of uterotonic drugs in induction and augmentation of labour.Other uses of uterotonic drugs listed above are covered by other protocols
The most likely indications for induction of labour (IOL) in Somaliland are
Severe preeclampsia/eclampsia, intra uterine death(IUD), Intrauterine growth restriction (IUGR)poorly controlled diabetes, SROM at term, post maturity.
The following methods of IOL may be used:
1If the cervix is favourable ie Bishop score>6 amniotomy and Syntocinon by IV infusion
2 If the cervix is unfavourable Bishop score <6
Insertion of Foley (balloon)catheter for a period of approx 12 hours followed by amniotomy and syntocinon
OR
Oral Misoprostol 25μg every 2 hrs maximum 12 doses (NB there are alternative regimes)
Vaginal 25μg every 6 hrs maximum 4 doses

Misoprostol must not be used for a woman who has had a previous CS

Careful monitoring of mother and fetus is vital

Uterotonic Protocol continued:
Augmentation.
Augmentation of labour may be used in the presence of ruptured membranes and the absence of fetal distress and abnormal presentation to treat slow progress in labour as indicated by the partograph Syntocinon should only be administered by an SBA

Use Syntocinon 5 iu in 500 ml NSaline or 10 iu in 1L N Saline
Commence at 15 dpm and increase by 15 dpm every 30 mins to a maximum of 60 dpm.
Aim to produce contraction 3 in 10 mins lasting 40-45 secs
If hyperstimulation occurs (contractions lasting>60 secs or more frequent than 4 in 10 minutes) or abnormality of the FH stop infusion and

Consider use of tocolytic

salbutamol 10 mg in 1 L IV fluids (normal saline or Ringer's lactate) at 10 drops per minute.

As labour progresses sensitivity of the uterus to syntocinon increases therefore expect to need to reduce drip rate

NB Syntocinon should only be used in multiparous women with great caution and only after careful assessment by the most experienced practitioner available.

K. Standards associated with this protocol

1. Availabliity of Syntocinon , Misoprostol salbutamol
2. Poster displaying Syntocinon regime in the Labour ward
3. No cases of uterine rupture associated with syntocinon administration
4. Record of women receiving augmentation

A. Title of Document; **Administration of Parenteral Anticonvulsants**

B. Date Produced; 2012

C. Summary. Eclampsia is one of the leading causes of maternal mortality . Correct and timely administration of the appropriate anticonvulsant is vital

D. Author/s P. Jackson Consultant Obstetrician THET)

E. Other Contributors MOH,SLNMA,SMA,TWG, WHO,UNFPA,UNICEF

F. Sources used in preparing protocol LSS Manual EONC RCOG and LSTM; Managing Complications of pregnancy and childbirth WHO,UNFPA, UNICEF, World Bank

G. Review Date 2015

H. Who will initiate review of the protocol: SLNMA

I. Definition

Eclamptic convulsions are usually associated with hypertension and proteinuria in the second half of pregnancy. There may be symptoms of headache,visual disturbance or abdominal pain. 30% eclamptic convulsions occur in the puerperium.Management has varied in the past but a large multi centre study showed that Magnesium Sulphate is the drug of choice. It may be used in severe pre-eclampsia as well as eclampsia.

J. Protocol: Regime for Mag. Sulph.

Loading Dose

Give 4g of 20% Mag Sulph Solution over 5mins. If you have 50% Solution take 8mls and add 12ml N Saline)

Then promptly give 10g by deep im injection (5g into each buttock adding 1ml of 2% lignocaine

Maintenance dose

5g Mag sulph + 1ml of 2% lignocaine every 4 hrs into alternate buttocks

Monitor the woman very carefully and if appropriate monitor FHR

Withhold mag sulph if

Respiratory rate is < 16 per minute OR

Urinary output is < 30ml per hour OR

Patellar reflex is absent.

If respiratory rate is < 12 per min give Calcium gluconate 10 mls of 10%solution iv slowly

Continue treatment with Mag Sulph for 24 hrs after last convulsion or delivery

DO NOT use Diazepam if Mag sulph is available. If it isn't use Diazepam as follows:

Loading dose:

Diazepam 10mg iv slowly over 2 mins - repeat if convulsions recur

Maintenance dose:Diazepam 40mg in 500ml bag of N Saline orRinger's lactate adjusting rate to keep the woman lightly sedated. Do not give>100mg in 24 hrs.

If respiratory depression occurs assist ventilation using a bag and mask

K Standards linked to this protocol:

1Availability of Magnesium Sulphate and calcium gluconate in the facility.

2.Poster showing Mag sulph regime displayed prominently in Delivery room.

3. Keep record of women who have eclampsia

A. Title of Document **Manual Removal of placenta**

B. Date Produced 2012

C. Summary: Methods of delivering a retained placenta

D. Author/s P.Jackson Consultant obstetrician (THET)

E. Other Contributors MOH,SLNMA,SMA,TWG, WHO,UNFPA,UNICEF

F. Sources used in preparing protocol Labour Ward Guidelines 2011 KCH, London; managing complications of pregnancy and childbirth WHO; NICE guidelines for Intrapartum care

G. Review Date 2015

H. Who will initiate review of the protocol SLNMA,MOH

I. Definition and background Retained placenta: Placenta undelivered 30mins after delivery of the baby if AMTSL was used or 60 mins if not
MROP should be carried out if umbilical injection of Syntocinon is unsuccessful

J. Protocol/Guideline
I/V line should be in place
Insert urinary catheter
Inject 20iu Syntocinon in 20ml NSaline into umbilical vein then apply clamp proximal to the injection site.
If placenta fails to deliver within 30 mins proceed to MROP as follows:

Provide emotional support, explanation and encouragement for the woman
Ensure adequate anaesthesia/sedation/analgesia
Give prophylactic antibiotic
Either Ampicillin 2g IV plus Metronidazole 500mg IV
OR
Cefazolin 1g IV plus metronidazole 500mg IV

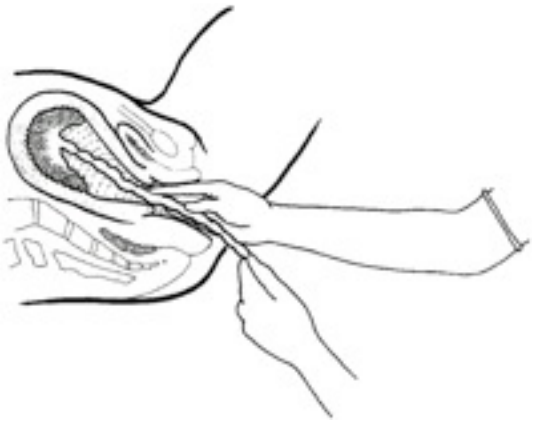
Depending on clinical circumstances give course of antibiotics

MROP continued:

Hold the umbilical cord with a clamp.

Pull the cord gently until it is parallel to the floor.

Wearing high-level disinfected or sterile gloves (use long gloves if available), insert the other hand into the vagina and up into the uterus, following the cord to reach the placenta



Having located the cord let go of the cord and move the hand up over the abdomen in order to support the fundus of the uterus and to provide counter-traction during removal to prevent inversion of the uterus .

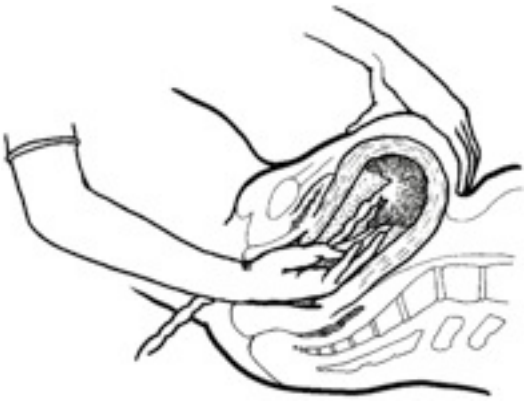
Detach the placenta from the implantation site by keeping the fingers tightly together and using the edge of the hand to gradually make a space between the placenta and the uterine wall.

Proceed slowly all around the placental bed until the whole placenta is detached from the uterine wall.

If the placenta does not separate from the uterine surface by gentle lateral movement of the fingertips at the line of cleavage, remove placental fragments (page S-32). If the tissue is very adherent, suspect placenta accreta and consider laparotomy and possible subtotal hysterectomy.

Hold the placenta and slowly withdraw the hand from the uterus, bringing the placenta with it.

With the other hand, continue to provide counter-traction to the fundus by pushing it in the opposite direction of the hand that is being withdrawn.



Palpate the inside of the uterine cavity to ensure that all placental tissue has been removed.

Give oxytocin 20 units in 1 L IV fluids (normal saline or Ringer's lactate) at 60 drops per minute.

Ask an assistant to massage the fundus of the uterus to encourage a tonic uterine contraction.

If there is continued heavy bleeding, give Misoprostil 600 μg rectally Examine the uterine surface of the placenta to ensure that it is complete. If any placental lobe or tissue is missing, explore the uterine cavity to remove it.

Examine the woman carefully and repair any tears to the cervix or vagina , or repair episiotomy.

POST-PROCEDURE CARE

Observe the woman closely until the effect of anaesthesia or sedation have worn off.

- Monitor vital signs (pulse, blood pressure, respiration) every 30 minutes for the next six hours or until stable.
- Palpate the uterine fundus to ensure that the uterus remains contracted.
- Check for excessive lochia.
- Continue infusion of IV fluids.
- Transfuse as necessary

Standards associated with this protocol:
1. Long (gauntlet) gloves should be available.

A. Title of Document: **Removal of retained products of conception**

B. Date Produced 2012

C. Summary: Indications and methods are reviewed and use of MVA described in detail

D. Author/s P. Jackson Consultant Obstetrician (THET)

E. Other Contributors MOH,SLNMA,SMA,TWG, WHO,UNFPA,UNICEF

F. Sources used in preparing protocol WHO: Managing Complications in Pregnancy and childbirth; Managing Incomplete Abortion WHO, ICM; Misoprostol for treatment of incomplete abortion at the regional hospital level: results from Tanzania BJOG: Vol 114 Issue 11pp 1363–1367, November 2007

G. Review Date 2015

H. Who will initiate review of the protocol: SLNMA,

I. Definition and background Removal of retained products of conception is an important intervention as it can prevent excessive blood loss or infection associated with incomplete abortion. Traditionally this involved Dilatation & Curettage but MVA carries less risk of uterine perforation. More recently there is evidence that Misoprostol orally or sublinually may be used as an alternative to MVA

J. Protocol

Establish diagnosis of incomplete abortion by taking a history and carrying out abdominal and pelvic examinations

If the woman is bleeding heavily or shows signs of shock then this must be urgently treated .

Take blood for Hb , Group and x match 2 units of blood

If she was less than 12 weeks pregnant then an alternative to MVA is to give either misoprostol 600mcg orally or 400 mcg sublingually as a single dose

Then review in 7 days to insure that the abortion is now complete.

Otherwise proceed as follows:

Start an IV infusion using NSaline or Ringers Lactate.

Explain Diagnosis and obtain written consent for procedure.

Give Paracetamol 500mg-1.0 g orally 30 mins before the procedure.

Make sure her bladder is empty.

Give prophylactic antibiotics EITHER Ampicillin 2.0g IV plus Metronidazole 500mg IV

OR Cefazolin 1g IV plus metronidazole 500mg IV

Check that MVA equipment is ready for use.

Administer a paracervical block if necessary

Procede as described in the pages which follow:

K. Standards associated with this protocol:

1. Availability of correctly maintained equipment (MVA) and drugs

- Prepare the MVA syringe:

  1 - Assemble the syringe;

  2 - Close the pinch valve;

  3 - Pull back on the plunger until the plunger arms lock.

  4 Note: For molar pregnancy, when the uterine contents are likely to be copious, have three syringes ready for use.

- Even if bleeding is slight, give oxytocin 10 units IM or ergometrine 0.2 mg IM before the procedure to make the myometrium firmer and reduce the risk of perforation.
- Perform a bimanual pelvic examination to assess the size and position of the uterus and the condition of the fornices.
- Insert a speculum or vaginal retractor into the vagina.
- Apply antiseptic solution to the vagina and cervix (especially the os)
- .
- Check the cervix for tears or protruding products of conception. If products of conception are present in the vagina or cervix, remove them using ring or sponge forceps.
- Gently grasp the anterior or posterior lip of the cervix with a vulsellum or single-toothed tenaculum.
- Note: With incomplete abortion, a ring or sponge forceps is preferable as it is less likely than the tenaculum to tear the cervix with traction and does not require the use of lignocaine for placement.
- If using a tenaculum to grasp the cervix, first inject 1 mL of 0.5% lignocaine solution into the anterior or posterior lip of the cervix which has been exposed by the speculum.
- Dilatation is needed only in cases of missed abortion or when products of conception have remained in the uterus for several days:

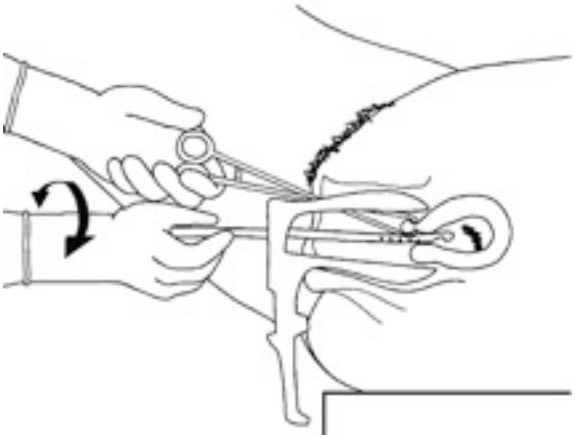
1 - Gently introduce the widest gauge suction cannula;

2 - Use graduated dilators only if the cannula will not pass. Begin with the smallest dilator and end with the largest dilator that ensures adequate dilatation (usually 10–12 mm) (Fig P-33, page P-62);

3 - Take care not to tear the cervix or to create a false opening.

• While gently applying traction to the cervix, insert the cannula through the cervix into the uterine cavity just past the internal os (Fig P-35). (Rotating the cannula while gently applying pressure often helps the tip of the cannula pass through the cervical canal.)

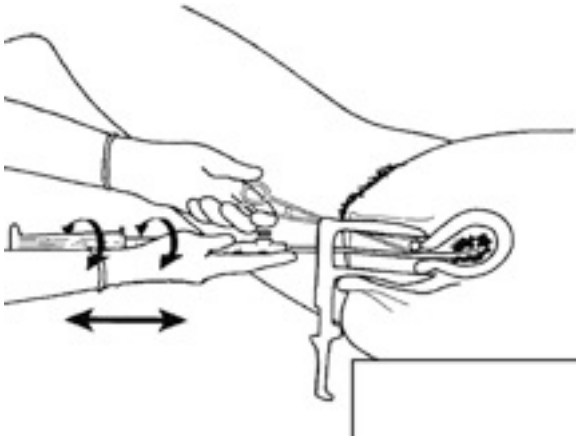
Inserting the cannula



- Slowly push the cannula into the uterine cavity until it touches the fundus, but not more than 10 cm. Measure the depth of the uterus by dots visible on the cannula and then withdraw the cannula slightly.
- Attach the prepared MVA syringe to the cannula by holding the vulsellum (or tenaculum) and the end of the cannula in one hand and the syringe in the other.
- Release the pinch valve(s) on the syringe to transfer the vacuum through the cannula to the uterine cavity.
- Evacuate remaining uterine contents by gently rotating the syringe from side to side (10 to 12 o'clock) and then moving the cannula gently and slowly back and forth within the uterine cavity (Fig P-36, page P-67).
- Note: To avoid losing the vacuum, do not withdraw the cannula opening past the cervical os. If the vacuum is lost or if the syringe is more than half full, empty it and then re-establish the vacuum.

Note: Avoid grasping the syringe by the plunger arms while the vacuum is established and the cannula is in the uterus. If the plunger arms become unlocked, the plunger may accidentally slip back into the syringe, pushing material back into the uterus.

Evacuating the contents of the uterus



Check for signs of completion:

Red or pink foam but no more tissue is seen in the cannula;

- A grating sensation is felt as the cannula passes over the surface of the evacuated uterus;
- The uterus contracts around (grips) the cannula.

- Withdraw the cannula. Detach the syringe and place the cannula in decontamination solution.
- With the valve open, empty the contents of the MVA syringe into a strainer by pushing on the plunger.
- Note: Place the empty syringe on a high-level disinfected or sterile tray or container until you are certain the procedure is complete.
- Remove the speculum or retractors and perform a bimanual examination to check the size and firmness of the uterus.
- Quickly inspect the tissue removed from the uterus:

1 - for quantity and presence of products of conception;

2 - to assure complete evacuation;

3 - to check for a molar pregnancy (rare).

- If no products of conception are seen:

  1 - All of the products of conception may have been passed before the

  2 MVA was performed (complete abortion);

  3 - The uterine cavity may appear to be empty but may not have been emptied completely. Repeat the evacuation;

  4 - The vaginal bleeding may not have been due to an incomplete abortion (e.g. breakthrough bleeding, as may be seen with hormonal contraceptives or uterine fibroids);

  5 - The uterus may be abnormal (i.e. cannula may have been inserted in the nonpregnant side of a double uterus).

  6 Note: Absence of products of conception in a woman with symptoms of pregnancy raises the strong possibility of ectopic pregnancy .

- Gently insert a speculum into the vagina and examine for bleeding. If the uterus is still soft and not smaller or if there is persistent, brisk bleeding, repeat the evacuation.

- POST-PROCEDURE CARE

- Give paracetamol 500 mg by mouth as needed.

- Encourage the woman to eat, drink and walk about as she wishes.

- Offer other health services, if possible, including tetanus prophylaxis, counselling or a family planning method

- Discharge uncomplicated cases in one to two hours.

- Advise the woman to watch for symptoms and signs requiring immediate attention:

  5 - prolonged cramping (more than a few days);

  6 - prolonged bleeding (more than two weeks);

  7 - bleeding more than normal menstrual bleeding;

  8 - severe or increased pain;

  9 - fever, chills or malaise;

A. Title of Document:**Assisted vaginal delivery**

B. Date Produced: 2012

C. Summary: Indications prerequisites, techniques, risks of vacuum extractor and forceps

D. Author/s P. Jackson Consultant Obstetrician (THET)

E. Other Contributors MOH,SLNMA,SMA,TWG, WHO,UNFPA,UNICEF

F. Sources used in preparing protocol:WHO guide for pregnancy complications; Operative vaginal delivery RCOG Green top Guidelines; Vaginal Instrumental birth Labour Ward guideline KCH

G. Review Date 2015

H. Who will initiate review of the protocol SLNMA,MOH

I. Definition and background Assisted vaginal delivery is defined as the use of instruments to achieve a vaginal delivery for the benefit of mother and/or baby. Traditionally obstetric forceps were used, but the development of the vacuum extractor (Ventouse) in various forms since the 1950's has made this usually a preferable method

J. Protocol

Indications for assisted vaginal delivery:

Maternal: specific conditions eg cardiac disease, hypertensive crises,cerebro -vascular disease,myasthenia gravis,spinal cord injury, exhaustion

Fetal: Fetal distress (abnormal FHR ± meconium)

Prolonged 2nd stage,

Conditions necessary before doing vacuum extraction:

Fetus at term ie 37+weeks

Head no more than ⅖ palpable above symphysis pubis

Vertex presentation

Cervix fully dilated

Explain fully to the woman what the procedure involves and obtain verbal consent

Select instrument and insure that it is fully functional

Place the woman in lithotomy and clean the vulval area

Ensure the bladder is empty

Protocol for assisted vaginal delivery continued

Perform a vaginal examination to determine the level and position of the fetal head. Identify the posterior fontanelle

Perform a pudendal block or infiltrate the perineum and vulva with local anaesthetic

The cup of he Ventouse should be placed 1cm anterior to the posterior fontanelle. This is the flexion point. This position will promote flexion descent and rotation with traction.
Check the application of the cup to ensure that no maternal tissue (cervix or vaginal wall is beneath the rim of the cup.

Using the pump create a vacuum of 0.2 Kg/sq.cm and recheck the application

Increase vacuum to 0.8 Kg/cm2 and recheck the application
.

- With each contraction, apply traction in a line perpendicular to the plane of the cup rim . Place a finger on the scalp next to the cup during traction to assess potential slippage and descent Encourage the woman to push with each contraction

Between contractions check application and FHR

Once the head has delivered remove the cup and complete the delivery in the normal way and perform active management of the third stage to deliver the placenta.

Abandon Ventouse if
head does not advance with each pull
Fetus is not delivered after 3 pulls or 30 mins
Cup detaches twice
If Ventouse fails proceed to caesarean section
Delivery may be achieved by using symphysiotomy as well but this should only be done if this is accepted practice and the birth attendant is trained and competent in this technique

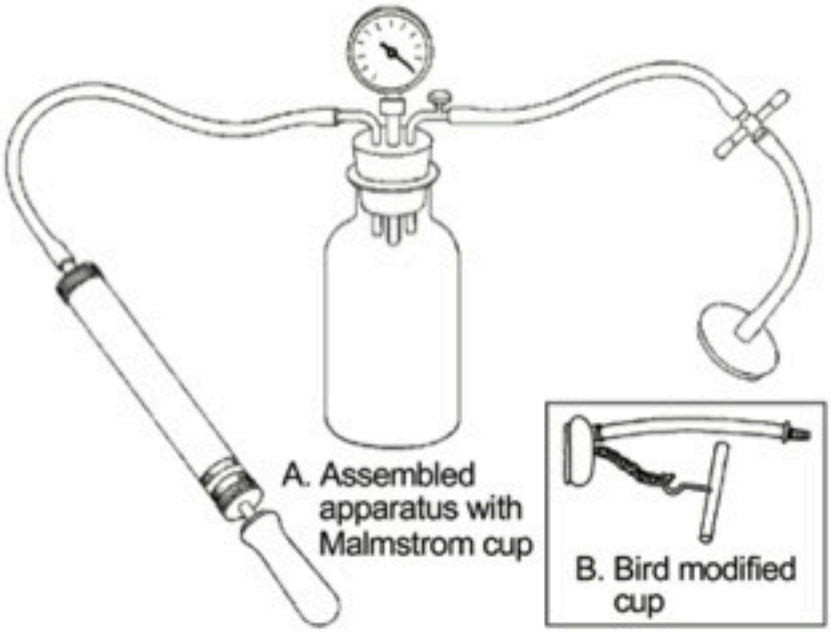
Complications:
Maternal cervical, vaginal or perineal tears
Fetal: Localized scalp oedema (chignon) is usual and will resolve within 24hrs
Cephalhaematoma will usually resolve in 3-4 weeks

Forceps delivery

May be used for the aftercoming head in a breech delivery
Or in a cephalic presentation if it is preferred by the attending doctor.

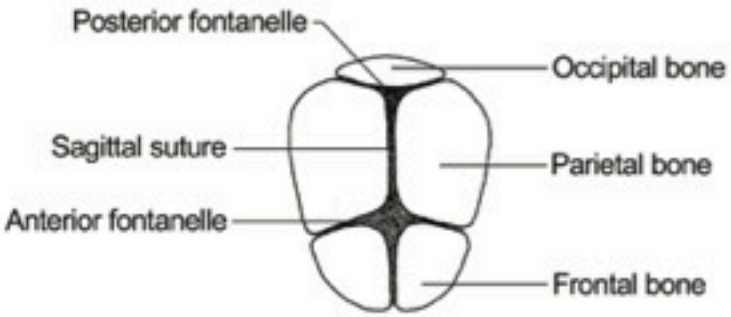
Figure P-6 shows the essential components of the vacuum extractor.

FIGURE P-6 Vacuum extractor



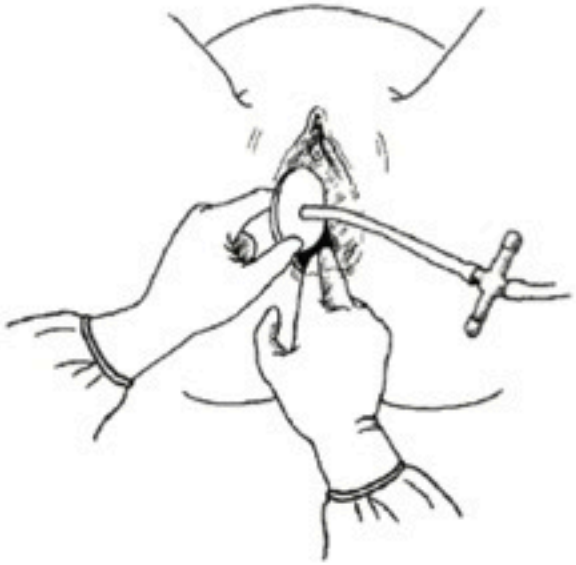
- Review for conditions:
  - vertex presentation;
  - term fetus;
  - cervix fully dilated;
  - fetal head at least at 0 station or no more than 2/5 palpable above symphysis pubis.
- Check all connections and test the vacuum on a gloved hand.
- Provide emotional support and encouragement. If necessary, use a pudendal block (**page P-3**).
- Wearing high-level disinfected or sterile gloves, assess the position of the fetal head by feeling the sagittal suture line and the fontanelles.
- Identify the posterior fontanelle (**Fig P-7, page P-28**).

FIGURE P-7 Landmarks of the fetal skull



- Apply the largest cup that will fit, with the center of the cup over the flexion point, 1 cm anterior to the posterior fontanelle. This placement will promote flexion, descent and autorotation with traction (**Fig P-8**).

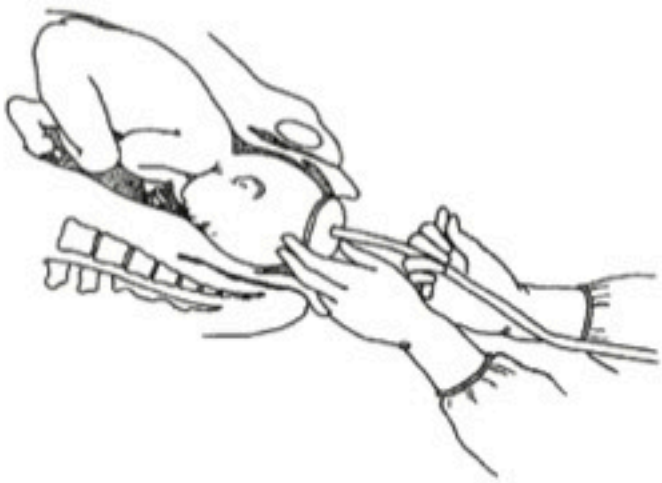
FIGURE P-8 Applying the Malmstrom cup



- An episiotomy may be needed for proper placement at this time (**page P-71**). If an **episiotomy is not necessary for placement**, delay the episiotomy until the head stretches the perineum or the perineum interferes with the axis of traction. This will avoid unnecessary blood loss.
- Check the application. Ensure there is no maternal soft tissue (cervix or vagina) within the rim.
- With the pump, create a vacuum of 0.2 kg/cm^2 negative pressure and check the application.

- Increase the vacuum to 0.8 kg/cm^2 and check the application.
- After maximum negative pressure, start traction in the line of the pelvic axis and perpendicular to the cup. If the **fetal head is tilted to one side or not flexed well**, traction should be directed in a line that will try to correct the tilt or deflexion of the head (i.e. to one side or the other, not necessarily in the midline).
- With each contraction, apply traction in a line perpendicular to the plane of the cup rim (**Fig P-9**). Place a finger on the scalp next to the cup during traction to assess potential slippage and descent of the vertex.

FIGURE P-9 Applying traction



- Between contractions check:
  - fetal heart rate;
  - application of the cup.

TIPS

- Never use the cup to actively rotate the baby's head. Rotation of the baby's head will occur with traction.
- The first pulls help to find the proper direction for pulling.
- Do not continue to pull between contractions and expulsive efforts.
- With progress, and in the absence of fetal distress, continue the "guiding" pulls for a maximum of 30 minutes.

FAILURE

- Vacuum extraction failed if the:
  - fetal head does not advance with each pull;
  - fetus is undelivered after three pulls with no descent, or after 30 minutes;
  - cup slips off the head twice at the proper direction of pull with a maximum negative pressure.
- Every application should be considered a trial of vacuum extraction. Do not persist if there is no descent with every pull.
- If **vacuum extraction fails**, use vacuum extraction in combination with symphysiotomy (see below) or perform a caesarean section (**page P-43**).

VACUUM EXTRACTION AND SYMPHYSIOTOMY

- Vacuum extraction may be used in combination with symphysiotomy (**page P-53**) in the following circumstances:
  - the fetal head is at least at –2 station or no more than 3/5 palpable above the symphysis pubis;
  - caesarean section is not feasible or immediately available;
  - the provider is experienced and proficient in symphysiotomy;
  - vacuum extraction alone has failed or is expected to fail;
  - there is no major degree of disproportion.

COMPLICATIONS

Complications usually result from not observing the conditions of application or from continuing efforts beyond the time limits stated above.

FETAL COMPLICATIONS

- Localized scalp oedema (caput succedaneum or chignon) under the vacuum cup is harmless and disappears in a few hours.
- Cephalohaematoma requires observation and usually will clear in three to four weeks.
- Scalp abrasions (common and harmless) and lacerations may occur. Clean and examine lacerations to determine if sutures are necessary. Necrosis is extremely rare.

- Intracranial bleeding is extremely rare and requires immediate intensive neonatal care.

MATERNAL COMPLICATIONS

- Tears of the genital tract may occur. Examine the woman carefully and repair any tears to the cervix (**page P-81**) or vagina (**page P-83**) or repair episiotomy (**page P-73**).

K. Standard associated with this protocol 1 Avaibility of functional, well maintained equipment for vacuum extraction

A. Title of Document **Care of the newborn and resuscitation**

B. Date Produced 2012

C. Summary Description of initial care of the new born. Method of resuscitation of the newborn using a bag and mask.

D. Author/s P. Jackson Consultant Obstetrician (THET)

E. Other Contributors MOH,SLNMA,SMA,TWG, WHO,UNFPA,UNICEF

F. Sources used in preparing protocol: Managing complications in pregnancy and childbirth WHO; Basic Newborn Resuscitation WHO; LSS EONC manual

G. Review Date 2015

H. Who will initiate review of the protocol SLNMA, MOH

I. Definition and background Initial or immediate care of the newborn: Basic care and observations carried out immediately following birth; Basic Resuscitation

J. Protocol/

Dry the baby with a warm towel and place in skin to skin contact with the mother

Check the baby's colour, respiration, heart rate and tone and record APGAR score at 1 and 5 mins

Check that there is no bleeding from the cord

Put the baby to the breast when appropriate.

If the baby is not breathing or is just gasping begin resuscitation immediately

Your hands should be washed and gloves worn before touching the baby

Explain to the mother what is happening and what is being done, reassuring her as much as possible.

Call for help

Start clock

Remember A,B, C

AIRWAY

Place baby on its back with the head in a neutral position, a folded towel 2-3 cm thick beneath the shoulders will help to achieve the right position

Use a bulb syringe to gently clear mucus or meconium from the mouth and nostrils. Do not carry out deep suction as this can cause bradycardia or spasm of the larynx

Simply opening the airway as described will be followed by commencement of normal breathing

BREATHING
If the baby does not respond commence ventilation using a bag and correct size mask which must be firmly to cover the nose mouth and chin.

Give 5 inflation breathing lasting 2-3 secs.

Look to see if the chest rises - it may not for the first 1-3 breaths while fluid is being displaced from the lungs

Check the seal around the mask and that the chest rises after that

Check Heart rate after 5 breaths if >100beats per min then ventilation is adequate - if not check airway and chest movement.

Ventilation should be continued at 30-40 breaths per minute until spontaneous breathing is established

CIRCULATION
If Heartbeat is absent or < 60 beats per min then give chest compressions

Encircle the chest with 2 hands so that the thumbs meet on the sternum below the nipple line

Compress the chest about ⅓ of its depth - 3 times for each inflation

Compressions can be stopped once the heart rate is >60 beats per min.

Cardiac massage in the newborn

Following resuscitation:
Keep skin to skin contact with mother and encourage her to breastfeed
In addition warm the baby if his/her temp is <36ºC
Monitor the baby's respirations regularly and keep under observation for 6 hours

Unsuccessful Resuscitation
If there is no gasping or breathing after 20 mins stop ventilation explain that the baby has died.
Provide appropriate support for the mother and her family

None of the following should be done at any time:

Slapping, blowing on, or pouring cold water on the baby

Do not hold the baby upside down

Do not give injections of respiratory stimulants or sodium bicarbonate

Standards associated with this protocol:
1.Sufficient well maintained equipment for resuscitation of the new born
2.Poster with APGAR score chart displayed in Delivery room.

A. Title of Document: **Blood transfusion (CeMONC signal function)**

B. Date Produced: 2012

C. Summary: Indications, benefits, risks, complications associated with Blood transfusion. It does not include laboratory aspects of blood transfusion)

D. Author/s P. Jackson Consultant Obstetrician (THET)

E. Other Contributors MOH,SLNMA,SMA,TWG, WHO,UNFPA,UNICEF

F. Sources used in preparing protocol: Maternity Care in Developing Countries, RCOG; Managing complications in pregnancy and childbirth WHO

G. Review Date; 2015

H. Who will initiate review of the protocol: SLNMA, MOH

I. Definition and background: Haemorrhage is the leading cause of maternal death globally and therefore blood transfusion is an essential component of maternity care.

J. Protocol:

Blood transfusion should be considered when the measured blood loss is > 1 litre or when there are signs of hypovolaemic shock. Stopping the bleeding and replacing blood volume rapidly using an infusion of N Saline or Ringers Lactate is the priority.
Most common situations where blood transfusion is needed are: PPH,APH, Caesarean section, ruptured uterus, major perineal laceration, ectopic pregnancy, hydatidiform mole, abortion, severe anaemia

Whenever an IV in fusion is started because of bleeding or anticipated bleeding a blood sample should be sent to the laboratory for grouping and cross matching.
Blood donation should be encouraged from the womans family. Ideally, if the laboratory maintains a Blood Bank 2 units of O-Neg blood should be kept for immediate use.

The establishment of a “walking blood bank” made up of staff and volunteers from the community should be considered. Recruits could be encouraged by the provision of iron and vitamin tablets. Under no circumstances should blood donors be paid.

Risks of blood transfusion;

1. Infection -all donated blood should be tested for HIV, HEP B, C, and syphilis, malaria is tested for at discretion of laboratory
2. Compatability This should always be tested
3.Reactions Range from mild skin rash to anaphylactic shock.

Management. Stop transfusion change to N saline .Depending on severity give antihistamine eg Promethazine 10mg IV, hydrocortisone1.g IV every2 hrs as needed, adrenaline 1:1000solution (0.1 ml in 10 mL N Saline IV slowly

Checking blood before administering it should be done by nurse/midwife in charge

Monitoring during transfusion
Record Pulse Temp Resp, BP, before starting, 15 mins after starting then hourly:

Record: time of starting and finishing transfusion
Type of products given
Details on each bottle or bag used
Any adverse reactions

K Standards associated with this protocol
1.Availability of blood transfusion when required
2.Laboratory capable of x-matching blood
3.Adequate records of blood transfusions carried out

A.Title of Document: **Caesarean Section**
B. Date Produced: 2012
C. Summary: Indications, technique and complications of Caesarean Section
D. Author/s: P.Jackson Consultant Obstetrician (THET)
E. Other contributors: MOH,SLNMA,SMA,TWG,WHO,UNFPA,UNICEF
F. Sources used in preparing protocol:Managing complications of pregnancy and Childbirth,WHO:Caesarean Section ,KCH Guideline, LSS EONC Manual, Techniques for CS (review) Hofmeyr et al WHO, NICE Clinical guidelines CS Nov 2011
G.Review Date: 2015
H. Who will initiate review of the protocol: SLNMA,MOH
I. Definition and background: Delivery of the fetus through an abdominal incision. The provision of safe Caesarean section is fundamental to comprehensive maternity care. This requires adequate equipment, drugs, and personnel competent suitable anaesthesia and perform the operation. Caesarean sections are either Emergency(performed at any time in pregnancy or labour with variable degree of urgency) or Elective(planned beforehand at an appropriate time determined by a discussion between the woman,her family and her birth attendant).
J. Protocol: Decision: The decision to advise a woman to undergo Caesarean Section must be made by the senior birth attendant available. Good communication is essential especially as there is often reluctance on the part of Somali women to have a CS. The benefits, risks and complications should be explained to the woman and her husband. Consent: This is usually given by the husband. In his absence the woman should give her consent. If she is unable to do so (eg she is unconscious) her father or brother can give consent. If not available the Senior Medical Doctor would take responsibility for authorizing the CS. Location: If the woman is in a BeMONC facility then arrangements must be made to transfer her to a CeMONC facility as quickly, safely and comfortably as possible. (See protocol regarding transfer of women.) Preparation: Start I/V infusion and take blood for Hb Group and x-match 2 units of blood. Insert a Foley catheter. Record P,BP,Temp,respiratory rate, fetal heart. Commence fluid balance chart. Give premedication according to local practice. The woman should shower or wash with soap and water. Shaving the abdomen is not necessary.

Protocol contd:
Anaesthesia: General, regional or local anaesthesia may be used according to local practice.
Spinal or Ketamine are the preferred methods

Prophylactic antibiotics should be given eg Co-Amoxyclav 1.2 g. I/V

The operating table should be tilted to the left or a pillow placed under the womans right lower back. This decreases the likelihood of supine hypotensive syndrome.

Operative technique:
Skin incision: This may be lower midline (vertical) or lower transverse (Joel Cohen or Pfannenstiel)
Assuming a low transverse incision is used the rectus sheath should be incised in the midline and the excision extended with scissors laterally. The recti should be separated in the midline using the fingers and then retracted manually to expose the parietal peritoneum. Use the fingers to penetrate the peritoneum then widen the incision.
Use forceps to pick up the loose pelvic peritoneum overlying the lower uterine segment and incise with scissors, extending the opening laterally on both sides.
Displace the bladder downwards and insert a retractor over the bladder exerting traction downwards exposing the lower segment.
Using a scalpel carefully make a 3cm incision centrally just below the level at which the peritoneum was incised. Take particular care if the lower segment is very thin and/or there is little liquor remaining in the uterus in order to avoid cutting the baby.
Extend the uterine incision by inserting a finger at each edge and pulling laterally.
Place a hand in the uterus and grasp the baby's head, flexing it and drawing it through the uterine incision. If the head is deep in the pelvis ask an assistant to displace the head upwards from the vagina.
Deliver the shoulders then the body taking care not to extend the uterine incision while doing so.
Give a bolus dose of 5 iu Syntocinon I/V slowly or add 20iu to a bag of I/V fluid and run it at 60 dpm for 2 hrs
Hand the baby to a midwife or assistant for immediate care.
Deliver the placenta by controlled cord traction.(There is less risk of endometritis than when manual removal is undertaken.)
Do not exteriorise the uterus prior to suturing unless is felt to be necessary to get adequate access to bleeding at the lateral edges of the incision.
The effectiveness and safety of one layer closure of the uterus has not been established therefore two layer closure is advised.
It is not necessary to close either visceral or parietal peritoneum.
The rectus sheath should be closed with a continuous suture of slowly absorbable material.For a midline incision mass closure using a slowly absorbable suture is advised.
There is no need to close the subcutaneous tissue unless it is more than 2cm thick.
Routine use of wound drains is not necessary.
Conventional skin or subcuticular sutures may be used.

Postoperative Care (immediate)

1. If she has had a GA or Ketamine place in “recovery” position and maintain airway

2. Observations

Pulse BP,Temp every 15 mins for 2 hrs then 4 hrly. Maintain fluid balance chart

Check bleeding from wound and vaginally every 15 mins for 2 hrs then every hr for 4 hrs
Check uterus is contracted every 30mins

3. Maintain IV infusion as prescribed
4. Assess level of pain and provide adequate pain relief eg Pethidine, Tramadol or Diclofenac
5. Assist mother to put baby to the breast if breast feeding

Postoperative care (in post natal ward)

1. Observations: P,temp, BP, resp, every 4 hrs for 48 hrs
2. Ensure adequate pain relief
3. Monitor urinary output and note if urine is clear or bloodstained For an uncomplicated CS with clear urine remove catheter 8 - 12 hrs after the operation.If the urine is blood stained or had obstructed labour or a ruptured uterus or damage to the bladder the catheter should remain in place for at least 7 days.
4. Ensure good hydration
   IV infusion for 12 - 24 hrs
   Commence oral fluids immediately
   Commence solid food within 12 hrs
5. Encourage mobilization
6. Remove dressing after 24 hrs and leave wound open
7. Encourage good hygiene and regular changing of sanitary pads
8. Encourage and support breast feeding
9. Keep mother and baby together
10. If nonabsorbable sutures were used remove on 5th post op day

Before the woman goes home
1. Explain reasons for caesarean section and advise that in future pregnancies she should deliver where facilities for CS exist.
2. Discuss child spacing
3. Discuss care of the baby, need for immunizations etc
4. Arrange post natal visit

Standards associated with this protocol:
1.Properly equipped and maintained operating theatre with adequate equipment.
2.Trained anaesthetist able to carry out spinal or administer ketamine.
3. Medical staff competent to carry out a CS and deal with complications
4. Rigorous regime of post-operative care

A. Title of Document: **Focused Antenatal Care (FANC)** (Unapproved first draft)

B. Date Produced: 2012

C. Summary FANC is a method of antenatal care introduced by WHO in 2002. It consists of 4 comprehensive personalised visits spaced through the pregnancy when information is gathered, clinical examination done, tests are carried out, interventions undertaken and advice given.

D. Author: P.jackson Consultant Obstetrician (THET)

E. Other Contributors

F. Sources used in preparing protocol: WHO Antenatal Care Randomized Trial: Manual for the Implementation of the New Model; FANC, orientation Package for service providers, MOH Kenya

G. Review Date: 2015

H. Who will initiate review of the protocol: SLNMA, MOH

I. Definition and background: See Summary at C. above

J. Protocol
Facilities providing FANC should encourage pregnant women to attend on 4 occasions timed as follows:
1st visit: <16 weeks; 2nd visit: 16-28 weeks; 3rd visit:28-32 weeks; 4th visit 32-40 weeks.
FANC is designed only for those women who are free from any medical conditions requiring specialist care during preganacy. An assessment is made at the first visit to identify women unsuitable for FANC and make appropriate arrangements for them.
At each visit there are prescribed tasks to be undertaken and these are detailed in the WHO Manual mentioned above.
The objectives are:
1. **Detection** and treatment of problems
2. **Prevention** of complications using safe, simple, and cost effective interventions
3. **Preparation** for birth
4. **Promotion** of health

FANC protocol contd
Each woman should have an individual birth plan.
This should include transport arrangements and finance in an emergency and the identification of a person who will be available for help and support.
The pregnant woman and her family should understand the danger signs in pregnancy, labour and after delivery so there are no delays in taking appropriate action.
FANC encourages husbands to be involved in the process. Clinics should be designed so as to make it easy for men to accompany their wife to each visit.
This protocol merely gives an outline of FANC
A plan should be made to implement FANC in a form acceptable and deliverable in Somaliland.
This will involve careful review of the WHO manual and the published experiences of other African countries where FANC has been introduced.
It may be wise to pilot the scheme initially in say 2 different locations before scaling up to involve the whole country.
Close collaboration between the MOH (RH) and SLNMA and other stakeholders

Standards associated with this protocol:
1. Clinic premises suitable for FANC
2. Equipment and drugs available
3. Staff trained and committed to the concepts and principles of FANC
4. Adequate supervision, support and monitoring in place.

A. Title of Document: **Active Management of the Third Stage of Labour (AMSTL)**

B. Date Produced 2012

C. Summary: AMSTL has been shown to reduce blood loss at delivery

D. Author: P.Jackson, Consultant Obstetrician (THET)

E. Other Contributors MOH,SLNMA,SMA,TWG, THET,WHO,UNFPA,UNICEF

F. Sources used in preparing protocol: SOGC Clinical Practice guideline No 235 Oct 2009;AMSTL WHO/MPS Technical Update 2006: Prevention of PPH by AMSTL

G. Review Date 2015

H. Who will initiate review of the protocol: SLNMA

I. Definition and background
Traditional definition;AMSTL has 3 components:
1.Early cord clamping
2.Administration of uterotonic drug
3. Delivery of placenta by controlled cord traction
More recent definition:
1. Administration of uterotonic drug
2. Delivery of placenta by CCT
3. Uterine massage then palpation every 15 mins for 2 hrs
It has been shown that delay in cord clamping may be beneficial to the newborn especially if <37 wks therefor this may be delayed until 1-2 mins after delivery

J. Protocol:
After delivery of the baby immediately palpate the abdomen to exclude the presence of a second fetus
Give Syntocinon 10 iu by im injection
Clamp and divide the cord (delay this for 1-2 mins if delivering before 37wks)
Deliver placenta by CCT
Massage the uterus
If syntocinon is not available give Misoprostol 600 - 800μg orally or rectally after delivery of the placenta
In the absence of any uterotonic drugs manual stimulation of the nipples or putting the baby to the breast will stimulate uterine contractions.

K. Standards associated with this protocol
Less than 5% PPH rate

A. Title of Document: **Use of partograph**

B. Date Produced: 2012

C. Summary: Method of using the partograph in the care of women in labour

D. Author/s P. Jackson Consultant Obstetrician (THET)

E. Other Contributors MOH,SLNMA,TWG,WHO, UNFPA,UNICEF

F. Sources used in preparing protocol: Managing complications in pregnancy and childbirth, WHO;LSS EONC Manual ;

G. Review Date 2015

H. Who will initiate the review of the protocol SLNMA,MOH

I. Definition and background

A partograph is a graphic record of vital observations during the course of labour in order to assess its porgress and carry out appropriate interventions if and when necessary. The partograph was developed and first used in Africa but has since been adopted worldwide

J. Protocol

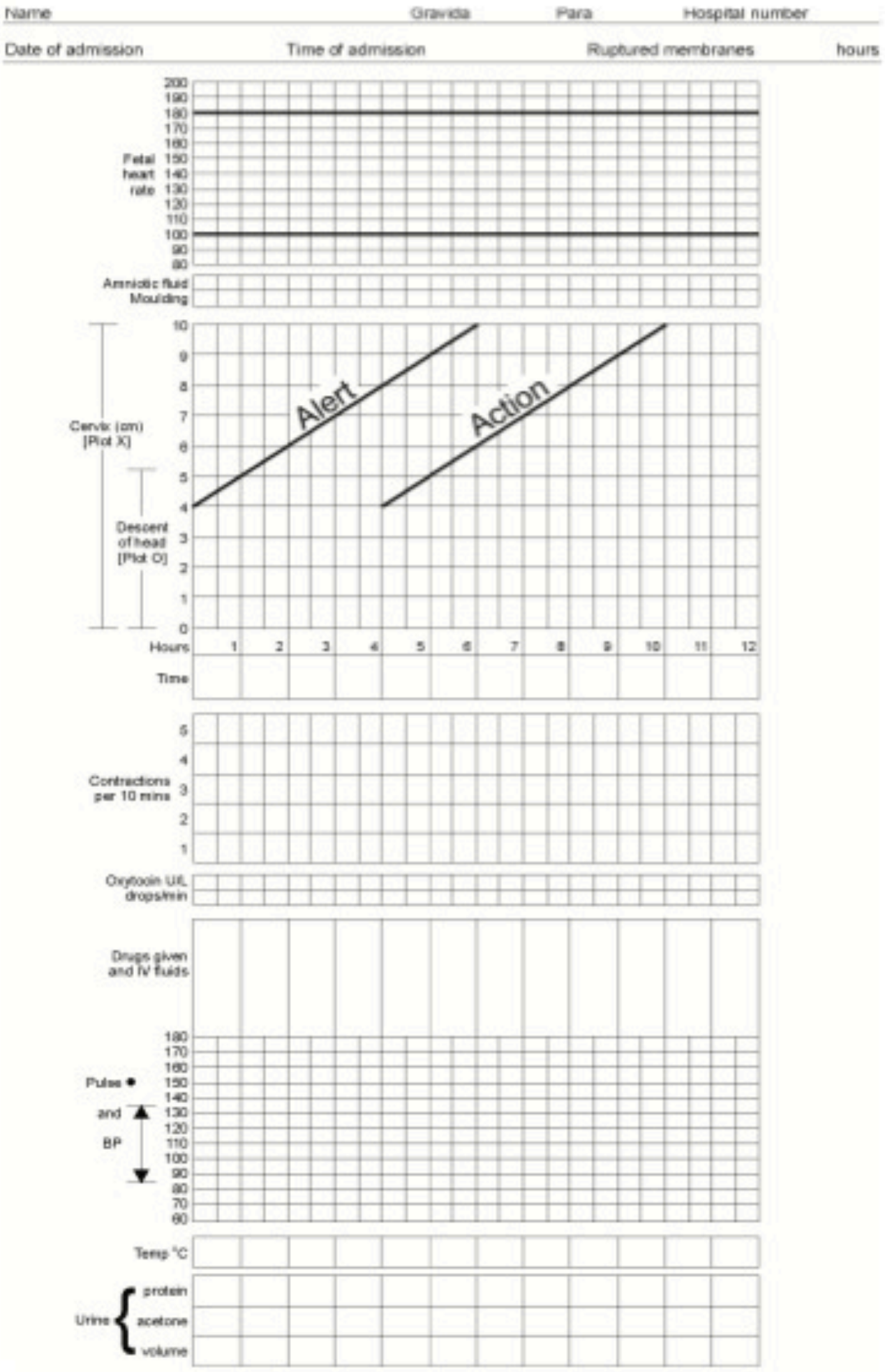
A partograph should be used for every woman in the active phase of labour ie from 4cm dilatation.

The modified WHO partograph should be used as shown below.

K. Standards associated with this protocol:

Availability and consistent use of partograph

The modified WHO Partograph



USING THE PARTOGRAPH

The WHO partograph has been modified to make it simpler and easier to use. The latent phase has been removed and plotting on the partograph begins in the active phase when the cervix is 4 cm dilated. A sample partograph is included (Fig C-10, page C-67). Note that the partograph should be enlarged to full size before use. Record the following on the partograph:

Patient information: Fill out name, gravida, para, hospital number, date and time of admission, and time of ruptured membranes or time elapsed since rupture of membranes (if rupture occurred before charting on the partograph began).

Fetal heart rate: Record every half hour.

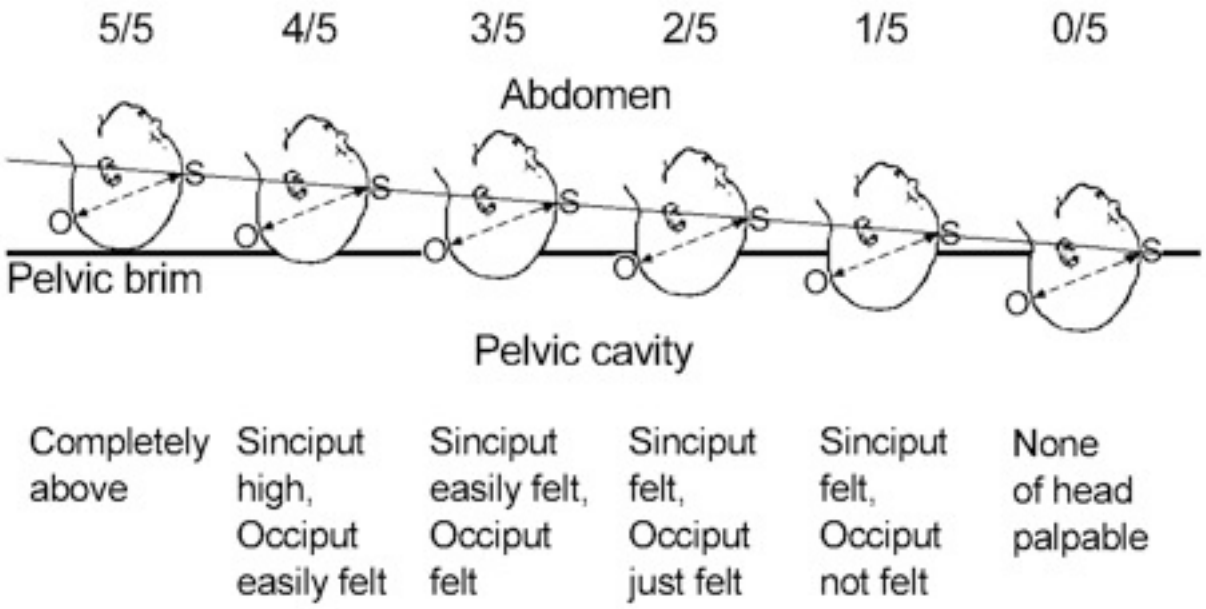
Amniotic fluid: Record the colour of amniotic fluid at every vaginal

examination:

- I: membranes intact;
- R: membranes ruptured;
- C: membranes ruptured, clear fluid;
- M: meconium-stained fluid;
- B: blood-stained fluid. Moulding:
    - 1: sutures apposed;
    - 2: sutures overlapped but reducible;
    - 3: sutures overlapped and not reducible.
    - Cervical dilatation: Assessed at every vaginal examination and marked with a cross (X). Begin plotting on the partograph at 4 cm.

Alert line: A line starts at 4 cm of cervical dilatation to the point of expected full dilatation at the rate of 1 cm per hour.
Action line: Parallel and four hours to the right of the alert line.

Descent assessed by abdominal palpation: Refers to the part of the head (divided into five parts) palpable above the symphysis pubis; recorded as a circle (O) at every abdominal examination. At 0/5, the sinciput (S) is at the level of the symphysis pubis.



Hours: Refers to the time elapsed since onset of active phase of labour (observed or extrapolated).

Time: Record actual time.

Contractions: Chart every half hour; count the number of contractions in a

10-minute time period, and their duration in seconds.

- Less than 20 seconds:
- Between 20 and 40 seconds:
- More than 40 seconds:
-
- Oxytocin: Record the amount of oxytocin per volume IV fluids in drops per minute every 30 minutes when used.
-

Drugs given: Record any additional drugs given.

Pulse: Record every 30 minutes and mark with a dot (!).

Blood pressure: Record every four hours and mark with arrows. Temperature: Record every two hours.

volume: Record when urine is passed.

A. Title of Document: Prevention of Infection

B. Date Produced: March 20112

C. Summary: Guidelines for preventing cross infection and acquisition of serious infections eg Heb B

D. Author/s: P. Jackson Consultant Obstetrician

E. Other Contributors MOH,SLNMA,SMA,TWG, THET,WHO,UNFPA,UNICEF

F. Sources used in preparing protocol: Managing complications in pregnancy and childbirth: WHO

G. Review Date: 2015

H. Who will initiate review of the protocol: SLNMA, MOH

I. Definition and background: Infection remains a leading cause of maternal morbidity and mortality. Prevention is always better than cure. Often basic measures are very effective

J. Protocol

Two main objectives:

1. Prevent infections
2. Minimize the risk of transmitting serious diseases such as HIV/IDS,Hepatitis B to patients and staff

Recommended Infection Prevention practices are based on the following principles:

1.Every person is potentially infectious.
2.Handwashing is the most practical procedure for preventing cross contamination
3. Wear gloves before touching anything wet - broken skin,mucous membranes, blood or other body fluids(secretions and excretions)
4. Use barriers (goggles, masks, aprons) if splashes or spills of any body fluid are anticipated.
5. Use safe practices with regard to needles and sharps, instruments and correct disposal of medical waste

Handwashing

Wash hands - before and after examining the woman
- after exposure to blood or any body fluid even if gloves were worn
- after removing gloves (because the gloves may have holes in them)

Use plain or antimicrobial soap
Vigorously rub together all surfaces of the hands for 15- 30 secs
Rinse with a stream of water
Dry using single use towels or cloth which is renewed daily

Glove gown and apron requirements for procedures in pregnancy and childbirth

Procedure	Gloves	Gown	Apron
Taking blood, starting IV, giving IV drugs	Non-sterile	No	No
Vaginal examination unless in labour or membranes ruptured	non-sterile	no	No
MVA	Sterile	No	Yes
VE in labour ARM	Sterile	No	No
Vaginal delivery Vacuum extraction Perineal repair Bimanual compression of uterus	Sterile	No	Yes
MROP	Sterile long (gauntlet)	No	Yes
Caesarean section Laparotomy	Sterile	Yes	Yes
Cleaning instruments Handling contaminated waste Cleaning blood or body fluid spills	Utility	No	Yes

K. Standards associated with this Protocol

1. Availability of soap
2. Availability of water either from a tap or poured
3. Availability of gloves, gowns, masks, goggles,aprons
4. Availability of appropriate waste containers
5. Availability of appropriate disinfectants

A. Title of Document: **Antepartum Haemorrhge (APH)**

B. Date Produced: 2012

C. Summary: Management of APH in BeMONC & CeMONC facilities

D. Author/s: P.Jackson Consultant Obstetrician (THET)

E. Other Contributors : MOH,SLNMA,TWG, WHO, UNFPA, UNICEF

F. Sources used in preparing protocol: Managing complications in pregnancy and childbirth WHO guide; Pregnancy,Childbirth,Postpartum and Newborn Care (IMPAC) WHO; Maternity care in developing Countries, RCOG

G. Review Date: 2015

H. Who will initiate review of the protocol: SLNMA, MOH

I. Definition and background: APH is bleeding from the vagina from 24 weeks pregnancy until delivery. The main causes are placenta praevia and placental abruption, but may be due to a ruptured uterus, or rarely vasa praevia

J. Protocol/Guideline

Initial management will depend on the severity of the bleeding irrespective of its cause.

Remember A,B,C D Call for help

Unless bleeding is minimal or has stopped commence IV and take blood for HB and X-matching

Perform a clinical examination but **DO NOT** perform a vaginal examination as this may increase the bleeding

Diagnosis: Placenta praevia: bleeding may be slight and usually painless, Presenting part high, FH normal

Abruption: Shock disproportionate to observed bleeding, tense, tender uterus, FH abnormal or absent

Management: placenta praevia: if bleeding slight and FH present admit for observation., and initially complete bed rest. U/S if possible to localize placenta. If confirmed praevia the woman should remain in or be transferred to CeMONC facility for possible delivery by CS after 37 weeks. If bleeding is severe emergency CS may be required. If U/S is not available then carry out a vaginal examination in theatre at 38 weeks fully prepared to proceed to CS; first feel in the fornices - if spongy tissue is felt placenta praevia is confirmed, deliver by CS; if a firm head is felt and this is confirmed by feeling through the cervix placenta praevia is excluded and if appropriate induction of labour can be commenced.

Management Placental abruption : Assess clotting status using bedside test. Transfuse with fresh blood as necessary - blood loss is always more than observed amount.

Deliver the woman as soon as possible by whatever method is appropriate depending on state of cervix or stage of labour.

Be prepared for PPH !

K. Standards associated with this protocol

1.Availability of large bore I/V cannula, giving set and 500ml or 1 litre bags of NSaline or Ringers lactate for I/V infusion

A. Title of Document: **Postpartum Haemorrhage (PPH)**

B. Summary: PPH is the leading cause of maternal death globally. Prompt, correct management can be life-saving

C. Date produced: 2012

D. Authors: P.Jackson Consultant Obstetrician (THET)

E. Other contributors: MOH,SLNMA,TWG,WHO,UNFPA,UNICEF

F. Sources: WHO Guidelines for the management of PPH & retained placenta 2009; Prevention and Management of PPH RCOG Green top guideline No.52,May 2009

G. Review Date: 2015

H. Who will initiate review of the protocol: SLNMA,MOH

I. Definition and background:
Primary PPH is blood loss > 500ml within 24hrs of delivery. Secondary PPH is blood loss >500 ml after 24 hrs post partum
Exact measurement of blood loss at delivery is difficult. Therefore any blood loss which threatens the woman's haemodynamic stability should be managed as a PPH.
PPH is a frightening experience for all involved. Remember to keep the woman and her family informed throughout.
Causes:
The 4 "T's": TONE (70%), TISSUE (20%), TRAUMA (9%),THROMBIN (1%)
Risk Factors:
Multiple pregnancy, multiparity, large baby,polyhydramnios, previous PPH, APH, Rapid or prolonged labour,anaemia, Clotting disorder
Prevention: Correct anaemia during pregnancy if possible
Recognition of risk factor eg have I/V in place for twin delivery
Active management of the 3rd stage of labour has been shown to significantly reduce the incidence of PPH. (See elsewhere for AMTSL protocol)

J. Protocol
Assess A,B, C,D
Call for help
Rub up a contraction
Insert 2 large bore i/v cannulae (14 or 16 gauge)
Take blood for Hb, Group and xmatch 4 units (Clotting tests if possible)
Commence iv Hartmans (Ringers lactate) or N Saline (NOT Dextrose) add Syntocinon 40iu to 500ml bag of fluid
Insert Foley catheter and start fluid balance chart
Give Syntocinon 10iu by im injection
Continue to monitor P, BP, T,Fluid balance

If bleeding persists review as follows:
TONE:
If uterus still atonic: Give Misoprostol 1000 micrograms rectally
Apply bimanual uterine compression
Apply aortic compression
Other procedures to consider: Uterine tamponade using a purpose made device or Foley catheter and condom
If these measures are not effective arrange transfer to CeMONC facility
Laparotomy then B-Lynch procedure, uterine artery ligation, Hysterectomy

TISSUE:
Check placenta for completeness if incomplete carry out manual exploration of uterine cavity and MROP

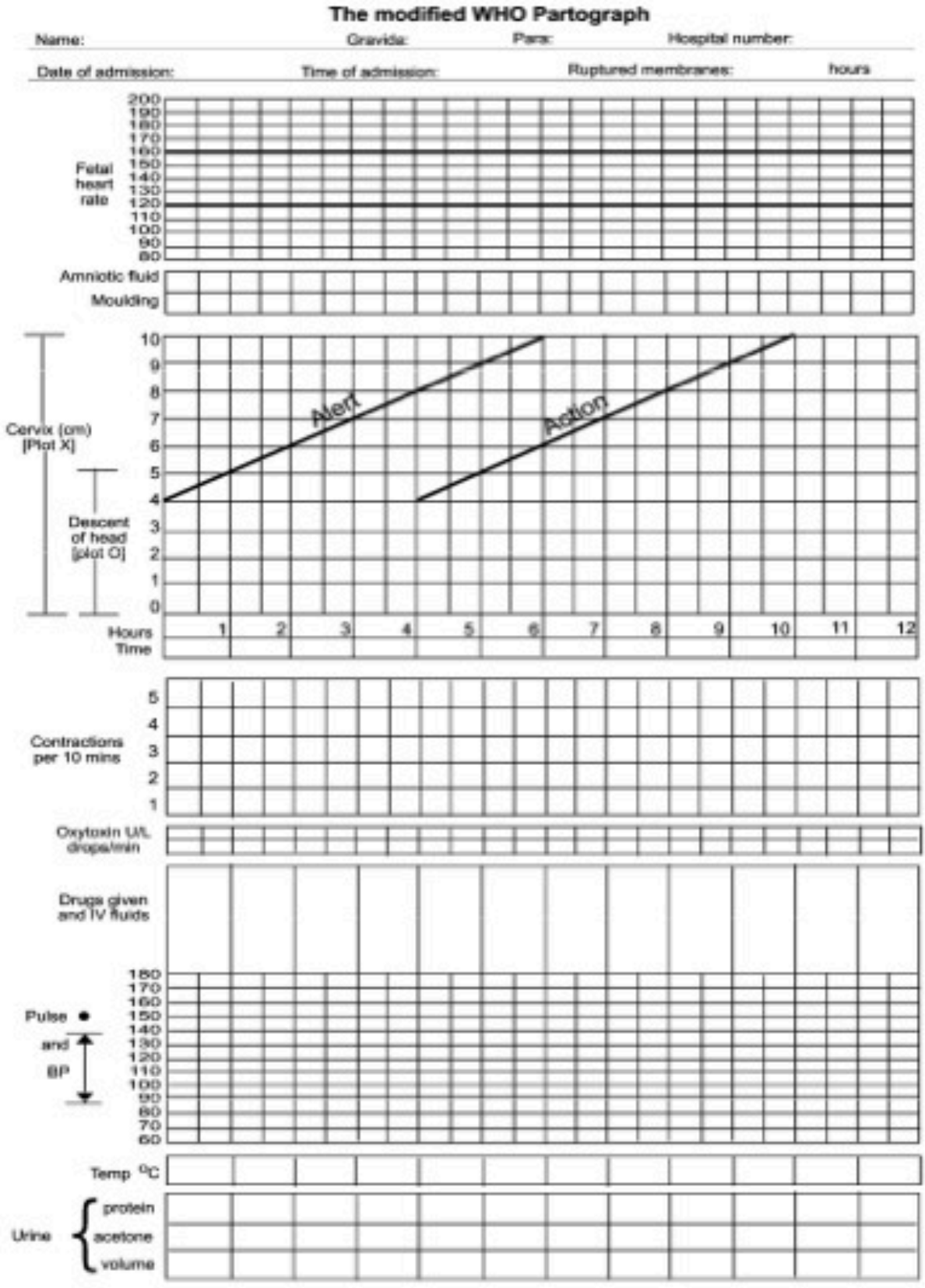
TRAUMA:
Inspect perineum
If bleeding persists check vagina and cervix for lacerations and repair as required
Consider uterine rupture, haematoma.

THROMBIN:
Observe whether blood is clotting, check for bleeding from venepuncture sites. If clotting tests are not available at laboratory and there is clinical evidence of a clotting disorder use fresh blood and transfuse liberally.

K Standards linked to this protocol.
Recording of PPH's in Delivery Register
Incidence of PPH < 5%

Appendix 2: Protocols in Somali

Appendix 3: Modified WHO Partograph



Appendix 4: Magnesium Sulphate Regime

Loading Dose

Give 4g of 20% Mag Sulph Solution over 5mins. If you have 50% Solution take 8mls and add 12ml N Saline)

Then promptly give 10g by deep im injection (5g into each buttock adding 1ml of 2% lignocaine

Maintenance dose

5g Mag sulph + 1ml of 2% lignocaine every 4 hrs into alternate buttocks

Monitor the woman very carefully and if appropriate monitor FHR

Withhold mag sulph if

Respiratory rate is < 16 per minute OR

Urinary output is < 30ml per hour OR

Patellar reflex is absent.

If respiratory rate is < 12 per min give Calcium gluconate 10 mls of 10%solution iv slowly

Continue treatment with Mag Sulph for 24 hrs after last convulsion or delivery