MINISTRY OF PUBLIC HEALTH & SANITATION

Emergency Obstetrics and Neonatal Care

A Harmonized Competency Based Training Curriculum for Kenya

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PREFACE

The need for a standardized and harmonized Emergency Obstetric and Newborn Care (EmONC) training Curriculum was a response to the existence in the country of many different training packages in various versions, targeting the same audience which led to duplication and overlap in the trainings, confusion among service providers and challenges in monitoring, evaluating and assessing the impact of EmONC trainings. Health workers -in their effort to have every training certificate- were frequently away from their work stations and the shortage of skilled workers was thereby augmented. Furthermore the Ministry of Health experienced a significant difficulty in trying to keep track of who is conducting which training, where and who has been trained; as well as ensuring the quality of the training and adherence to national guidelines and standards

The curriculum has been developed through a participatory interactive process involving multiple Maternal and newborn health stakeholders led by the MOH Division of Reproductive Health and Division of Child and Adolescent Health. The stakeholders included experts in maternal and newborn health from the public sector, private sector, medical training institutions including the University, health NGOs and MNH service providers. The curriculum has been adopted by the Maternal and Newborn Health Technical Working Group as the minimum package for EmONC training by all stakeholders.

This training curriculum is for use by all stakeholders conducting EmONC training and uses a competency based training approach targeting all cadres that provide EmONC. The focus is on the major causes of maternal and newborn morbidity and mortality in Kenya. The curriculum will be used together with the National guidelines for Quality Obstetric and Perinatal care which will serve as the reference manual. The user friendly modular format is used to allow for shorter training periods targeting specific interventions. The five day training duration make this an ideal course for resource constrained settings with limited health workforce, which are struggling to achieve the MDGs 4 & 5.

The manual has 5 modules namely: Antenatal care; Emergencies in Labour & Delivery, Neonatal care, postnatal care and Post-abortal care. The standard structure of each module aims to facilitate planning, organization and implementation of the training event. It comprises: the learning objectives; skills to be acquired; job aids; practical skills; equipment list, monitoring and evaluation. A cross-cutting section on Communication, Triage and Referral is included. This curriculum also includes charts, multimedia resources, equipment lists, essential reading and an index to facilitate ease of document navigation.

We encourage all partners to use this curriculum and believe that with enhanced skills acquisition, Kenya's health providers will have the competencies to prevent unnecessary maternal and neonatal deaths, and the country will record significant improvement in maternal and neonatal health indicators.

ACKNOWLEDGEMENTS

The process of developing the standardized EmONC training curriculum and learning resource package involved a series of workshops composed of multidisciplinary teams including highly specialized and experienced personalities from a cross section of participating institutions and organizations. In order to select high impact interventions, capture current evidence based practice while avoiding bias and maintaining accuracy, the participation of many experts was imperative. It is therefore possible that some may have been left out on the list of participants. For those affected by this oversight, please accept our apologies for the omission.

We sincerely wish to thank our bilateral partners, NGOs, Training institutions, and individuals who participated in this process. A selected working group undertook the development process during which a culture of exemplary consistency, dedication and commitment evolved. In this regard the following institutions and people are particularly recognized:

Dr Annah Wamae-Head DFH, Dr Issak Bashir-Head DRH, Dr Santau Migiro-Head DCAH, Dr Khadija Abdalla, Josephella Mogoi, Allan Govoga (DCAH), Dr Shiphra Kuria, Judy Maua, Ruth Muia, Annie Gituto, Alice Mwangangi (DRH); Mary Nyamboki (Nursing Council of Kenya), Dr Zahida Qureshi (UON Dept of Obstetrics/ Gynecology), Dr Gathari Ndirangu (Capacity Project), Raheli Mukhwana (KNH), Dr Alfred Murage (AKUH), Dr Joyce Lavussa (WHO), Angela Nguku (AMREF), Dr Nancy Kidula, Teresia Mutuku, Angella Ogutu, George Avosa (Jhpiego ACCESS Uzima and MCHIP programs). The document was compiled by Dr Alfred Murage and final editing done by Dr Nancy Kidula.

The Ministry of Health Department of Family Health wishes to acknowledge use of materials, resources, job aids and mnemonics from the following organizations: MOPHS/ DRH, Nursing Council of Kenya, WHO, LSTM/RCOG Life Saving Skills, ALSO, UON, AMREF and JHPIEGO. All these organizations shared their materials and gave consent for the inclusion into this training curriculum and learning resource package. Special and sincere acknowledgements USAID ACCESS Uzima program and MCHIP program for supporting the development and finalization of this curriculum and the learning resource package.

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ABBREVIATIONS

ANC	Ante Natal Care
APH	Ante-partum Hemorrhage
ATLS	Advanced Trauma and Life Support
AVD	Assisted Vaginal Delivery
BEmOC	Basic Emergency Obstetric Care
BP	Blood Pressure
CCT	Controlled Cord Traction
CEmOC	Comprehensive Emergency Obstetric Care
CPR	Cardio-pulmonary Resuscitation
CS	Cesarean Section
CTR	Communication, Triage and Referral
DCAH	Division of Child and Adolescent Health
DFH	Department of Family Health
DRH	Division of Reproductive Health
ENC	Essential Neonatal care
EONC	Essential Obstetric and Neonatal Care
FANC	Focused Antenatal Care
FHR	Fetal Heart Rate
FP	Family Planning
IPC	Infection Prevention and Control
IV	Intra-venous
LLP	Left Lateral Position
M&E	Monitoring & Evaluation
MgSO4	Magnesium Sulphate
MNH	Maternal and Neonatal Health
MOH	Ministry of Health
MVA	Manual Vacuum Aspiration
OT	Operating Theatre
PAC	Post-Abortion Care
PPH	Post Partum Hemorrhage
SFH	Symphysio- fundal Height
SS	Supportive Supervision
WHO	World Health Organization

TRAINING PROGRAM

Pre-course material

DVD resource: This will be sent to participants one month before the training and will include:

- The National Guidelines for Quality Obstetric and Perinatal Care
- Selected multimedia clips of key competencies
- Job aids and learning guides

DAILY SCHEDULE

Day 1					
Morning					
0730 - 0800	Registration,				
0800 - 0830	Introductions, Climate setting, Official opening				
0830 - 0850	Introduction to the Harmonized MNH training program				
0850 - 0900	Course Objectives, course schedule, overview of course materials				
0900 - 0920	Pre-course test: knowledge, skills				
0920 - 0950	Infection Prevention and Control (IPC): lecture				
0950 - 1010	Communication: lecture				
1010 - 1030	ANC lecture				
1030 - 1040	Tea Break				
1040 - 1200	Breakouts (ANC and CTR) 20 mins each				
	Room	1	2	3	4
	Faculty				
	Session	ANC booking	Obstetric exam in ANC	CTR-prenatal maternal conditions (case scenarios)	Rapid ANC tests (HIV, VDRL/rpr, urinalysis- dipstick,, malaria rdt, Hb)
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A
1200 - 1220	CTR lecture (merged ppt)				
1220 - 1250	CTR Group work (Prenatal fetal conditions – 2 groups) (2 Case scenario each group 15 min, then plenary presentation 5 min each group)				
1250 - 1330	Lunch break				
Afternoon					
1330 - 1350	Maternal CPR: lecture				
1350 - 1400	ABCD approach: demo				
1400 - 1520	Breakouts (maternal resuscitation) 20 mins each				
	Room	1	2	3	4
	Faculty				
	Session	ABCD skills	ABCD skills	ABCD skills	Cut down skills
		A	B	C	D

		D	A	B	C
		C	D	A	B
		B	C	D	A

1520 - 1540	Normal labor: lecture
1540 - 1600	Partograph/obstructed labor: lecture

1600-1720	Breakouts partograph - 20 mins each				
	Room	1	2	3	4
	Faculty				
	Session	How to chart	Normal progress	poor progress 1st stage	obstructed labor
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A

1720-1730	Recap, Q&A, closure
1730- 1740	Tea and departure
1740-1800	Faculty meeting

Day 2

Morning

0800 - 0810	Introduction day's schedule
0810 - 0820	Immediate care of the New Born: lecture

0820 - 1000	Normal delivery and immediate care of the NB breakout sessions- 25 mins each				
	Room	1	2	3	4
	Faculty				
	Session	Preparation for delivery & NB care	Review Obstetric history, abdominal exam, FHR	VE skills	Normal delivery & Immediate NB care
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A

1000-1020	AVD lecture/video
1020-1030	Tea break
1030-1210	AVD breakout sessions- 25 mins each

	Room	1	2	3	4
	Faculty				
	Session	AVD indications	AVD Instruments	AVD skills	AVD skills/post procedure
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A

1210-1230	Neonatal resuscitation: lecture
1230- 1320	Lunch break

Afternoon

1320-1330-	Reassign into five groups					
1330-1600	Neonatal resuscitation skills: (5 groups/stations, 30 min each)					
	Room	1	2	3	4	5
	Faculty					
	Session	Vent, Bag & Mask	Meconium aspiration	Not crying (gasping)	No breath (Golden min)	Low, no HR
		A	B	C	D	E
		E	A	B	C	D
		D	E	A	B	C
		C	D	E	A	B
1600 -1620	AMTSL lecture & video					
1620 – 1630	Recap, Q&A, closure					
1630 – 1640	Tea, departure					
1640 – 1700	Faculty meeting					

Day 3

0800 – 0810	Introduction day's schedule				
0810- 0830	Obstetric haemorrhage lecture & video				
0830- 0950	Breakouts (AMTSL and hemorrhage)				
	Room	1	2	3	4
	Faculty				
	Session	Skill: AMTSL	Scenario: PPH	Scenario: APH	Workshop volume replacement
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A
0950- 1000	Severe pre-eclampsia /eclampsia lecture				
1000- 1120	Breakouts (pre-eclampsia, eclampsia) -20 mins each				
	Room	1	2	3	4
	Faculty				
	Session	Workshop: recognition	Use of Magnesium Sulphate	Obstetric Management	BP and fluid control
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A
1120-1130	Tea break				
1130 – 1140	Other Obstetric emergencies: lecture/video				
1140 - 1340	Breakouts Obstetric emergencies (30 mins each)				
	Room	1	2	3	4
	Faculty				
	Session	Cord prolapse	Shoulder dystocia	Breech delivery	Twin delivery
		A	B	C	D

		D	A	B	C
		C	D	A	B
		B	C	D	A
1340 - 1410	Lunch break				
	Afternoon				
1410- 1430	Examination of the newborn: lecture				

1430-1500	Examination of the NB simulations (30min- sessions run concurrently)				
	Room	1	2	3	4
	Faculty				
	Session				
		A	B	C	D

1500-1600	Routine care of the NB: lecture (20 min)
	Drills elements everyday care: plenary (20min)
	Case study: plenary (20 min)
1600- 1700	Breastfeeding lecture (20 min)
	Video (20 min)
	Photo session drills: plenary (20 min)
1700 -1710	Recap, Q&A, closure
1710 - 1720	Coffee break
1720-1800	Faculty meeting
DAY 4	
0800 – 0810	Introduction day's schedule
0810 – 0930	Difficulties with BF- Lecture (20 min)
	Drills BF problems: plenary (20 min)
	Photo sessions: plenary (20 min)
	Case studies: plenary (20 min)
0930 -0950	Alternative feeding: lecture (20 min)
0950- 1000	Discussions, Q&A
1000-1010	Tea Break
1010 -1030	Preterm/small baby: lecture

1030-1150	Preterm/alternate feeding skills			
Room	1	2	3	4
Faculty				
Session	KMC demo	Cup feeding demo	NG tube feeding	Fluid balance in newborns
	A	B	C	D
	D	A	B	C
	C	D	A	B
	B	C	D	A

1150- 1210	Surgical skills (Perineal repair & CS lecture/video)				
1210-1330	Breakouts- surgical skills				
	Room	1	2	3	4
	Faculty				

	Session	CS: pre-op, indications workshop	CS difficulties workshop/ DVD	Manual Removal Of Placenta	Perineal repair
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A
1330- 1400	Lunch break				
Afternoon					
1400- 1430	Maternal sepsis /malaria in Pregnancy: lecture				
1430 - 1450	Neonatal sepsis: lecture				
1450 -1630`	Breakouts (sepsis)				
	Room	1	2	3	4
	Faculty				
	Session	Workshop IPC (New Born)	Workshop IPC (Maternal)	Malaria in pregnancy	PMTCT HIV
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A
1630- 1650	Neonatal jaundice: lecture				
1650- 1710	Neonatal jaundice: prevention & recognition [plenary workshop]				
1710- 1720	Recap, Q&A, Closure				
1720 -1730	Tea break				
1730- 1800	Faculty Meeting				
DAY 5:					
Morning					
0800 - 0810	Recap, introduction day's schedule				
0810 -0830	Maternal targeted postnatal care: lecture				
0830-0850	Neonatal postnatal care: lecture				
0850- 0910	Neonatal management in special cases (HIV, TB, Syphilis): lecture				
0910 -1110	Breakouts (maternal and neonatal postnatal care) 30 mins each				
	Room	1	2	3	4
	Faculty				
	Session	Mat postnatal assessment	Puerperal sepsis	New Born drills: danger signs postnatal	NB special cases: case studies
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A
1110 -1120	Tea Break				
1120 - 1140	Post Abortion Care (PAC): lecture & video				
1140- 1300	Breakouts PAC: [includes care of Newborn Resuscitation equip]-20 mins each				
	Room	1	2	3	4

	Faculty				
	Session	MVA instruments	PAC: assessment, options	MVA: skill	Care of NB equipment
		A	B	C	D
		D	A	B	C
		C	D	A	B
		B	C	D	A
1300 -1340	Lunch break				
Afternoon					
1340 -1440	Documentation: mother & child booklet and other key MNH data tools (plenary)				
1440 -1500	General Q&A, recap				
1500 -1540	Post-course test: knowledge, skills				
1540 -1600	Action plans				
1600 -1630	Certificates, Official closure				
1630-	Tea and departure				
1630-	Faculty meeting,				

Module

01

Antenatal Care

Introduction

Every pregnant woman should be encouraged to attend the ANC, initiate ANC visits in the first trimester and have access to quality ANC. This provides opportunities for immediate and ongoing assessments in order to plan pregnancy care and safe delivery. ANC provides the opportunity to detect and educate women on danger signs, and institute appropriate interventions that reduce maternal and neonatal morbidity and mortality.

Learning objectives

At the end of this module, the participants should be able to:

- Carry out an antenatal assessment of a pregnant woman
- Recognize pregnancies at risk and triage for Focused Antenatal Care - FANC
- Give relevant information/education/counseling to women attending ANC
- Plan appropriate ANC visit intervals

Skills to be acquired

- Rapid initial assessment to aid triage
- History taking (Focus on Obstetric History)
- Examination
- General and Obstetric (SFH, presentation, lie, number of fetuses, FHR)
- Vitals signs, emphasis on BP measurement
- Perform critical rapid tests during ANC (Hb, HIV, Urine dipstick, Malaria RDT, Syphilis RDT)
- Request routine ANC profile tests: (Blood group and RH, Haemoglobin level, syphilis test, HIV test, Urinalysis)
- Appropriate referral for specialized care/delivery
- Adequate documentation in the Mother and Baby booklet – doc station crosscutting

Job aids

- DRH schedule for ANC (see FANC/ MIP/TB OP)
- Mother Child booklet
- ANC Check list (see
- Danger signs check list
- Appendix 1 – Charts
- Video clip on ANC basics (to be developed)

Practical skills

1. Simulated routine ANC booking visit (focus on history and ANC profile)
2. Simulated Obstetric examination (emphasis on BP taking in pregnancy, abdominal examination)
3. Workshop on triage and referral (case studies)
4. Workshop on rapid ANC tests (urine dipstick, HIV test, malaria RDT, RPR, Hb)

Equipment list

- Height/weight scales (BMI)
- Vital signs equipment: BP machines, thermometer, stethoscope
- Urine dipsticks, other rdt test kits
- Mother and Baby booklets: ANC record
- Madam Zoe mannequin - pregnant with fetus
- Fetoscope
- Pencils, erasers, blank paper sheets
- Disposable gloves
- Examination couch

Monitoring and Evaluation

- Clinical practice in ANC with log book documentation
- Supportive Supervision by identified mentor
- Random ANC case notes or cards for review on M&E visits

Communication, Triage and Referral

Introduction

The right to Safe motherhood is a basic human rights. It stands for the right to access information and quality service by women throughout pregnancy, childbirth and the postnatal period with the desired outcome of a live and healthy mother and baby. Health care providers are therefore obligated to treat women with respect, autonomy and confidentiality. The care given should be beneficial to the woman and her unborn (born) child, and be based on sound scientific evidence. All health care workers must be able to identify women with complications in pregnancy requiring specialized care and effectively address their needs or refer them and in a timely manner.

Learning objectives

- Acquire effective communication skills for use during pregnancy, childbirth and Postnatal period
- Demonstrate competency in triage and referral for mother and baby during pregnancy, childbirth and postnatal period

Skills to be acquired

- Provision of privacy and confidentiality
- Effective communication to women, their relatives and other staff members
- Prioritization of order of treatment and staff allocations
- Referral mechanisms (promptly, transport, right place)

Job aids

- Rapid assessment check list
- Referral protocols

Practical skills sessions

1. Workshop/group work/case study: CTR in a BEOC
2. Workshop/group work/case study: CTR in a CEOC

Equipment list

- Flip charts, marker pens
- Case summaries

Monitoring and Evaluation

- Mentorship on CTR skills
- Referred cases/outcomes over a specific period

Module

02

Emergencies in Labor and Delivery

This module deals with emergencies and life saving skills in Labor and Delivery. The selected emergencies if not managed in a timely and competent manner, contribute greatly to the major causes of maternal and neonatal morbidity and mortality in Kenya.

Participants will be expected to demonstrate competency in the selected critical skills necessary to appropriately manage women presenting with these emergencies in their units.

In health facilities that lack the infrastructural support, supplies, equipments or competent personnel, (as in Basic Emergency Obstetric Care units), participants will be expected to recognize the emergency as fast as possible, stabilize and appropriately refer such women to Comprehensive Emergency Obstetric Care units for timely interventions.

Maternal Cardio-pulmonary Resuscitation (CPR)

Introduction

All maternal health care providers should be skilled in CPR. Some women in pregnancy, labor and delivery will develop complications which may lead to cardio-pulmonary arrest. The skilled actions of care providers will be the only way to save these women's lives. The general CPR principles learned in this module will be applicable in all other Obstetric emergencies.

Learning objectives

- To understand the primary survey: Airway, Breathing, Circulation, Disability (level of consciousness) approach to CPR
- To be able to assess and treat maternity patients using the A B C D sequence
- To understand the importance of maternal resuscitation
- To develop, practice the skills and be able to perform basic CPR

Skills to be acquired

- Recognize maternal collapse, and immediately call for help
- Commence the A B C D approach and position patient correctly (LLP)
- Specific assessment and corrective actions for A, B or C problem
- Assess for level of consciousness (disability)
- Specific CPR considerations in pregnancy (LLP, peri-mortem CS)
- Carry out a secondary survey to address the specific pathology and institute corrective measures

Job aids

- CPR algorithms (MOET Manual, see Essential reading)
- Causes of cardio-pulmonary arrest in pregnancy (4Hs, 4Ts; Life Saving Skills Manual, see Essential reading)
- Disability assessment (AVPU; Life Saving Skills Manual, see Essential reading)
- CPR video (see, Appendix 2: Multimedia resources)

Practical skills sessions

1. The A B C D approach: demonstration and skills practice
2. CPR basic life support scenario
3. Unconscious patient scenario
4. Venous cut down technique has been included in this module

Equipment list

- CPR torso model
- Basic resuscitation equipment
    - *Oxygen*
    - *Bag and mask*
    - *Airway (guardel)*
    - *Suction equipment*
    - *BP machine*
    - *IV Canulae*
    - *IV fluids, giving sets*
    - *Catheters*
    - *Stethoscope*
    - *Flip charts and board, marker pens*
    - *Pillows/wedge*
- Cut down models and sutures, surgical scissors, sharps disposal boxes

Monitoring and Evaluation

- Periodic in-house drills
- Phased formal recertification training

Monitoring Labor (partograph), Including Obstructed Labor

Introduction

The partograph (or partogram) is a tool designed for graphic recording of progress of labor and salient condition of the mother and the fetus. The correct use of the partograph has been demonstrated to result in improved fetal and maternal outcomes. It is simple to use, and captures all the relevant maternal and fetal information in one sheet of paper, which can be interpreted at a glance. All women in labor should be monitored with the partograph in order to detect abnormal progress of labor which may lead to complications that include obstructed labor, sepsis, fistulae, ruptured uterus, maternal and fetal/neonatal death.

Learning objectives

- To demonstrate correct skills in charting, interpretation and use of the partograph to monitor labor
- To demonstrate ability to use the partograph to recognize abnormal progress of labor
- To use the partograph to make decisions and institute corrective measures in case of abnormal progress of labor
- To recognize characteristics of obstructed labor from the partograph and institute appropriate management

Skills to be acquired

- Correct documentation/charting on the partogram
- Review clinical skills in maternal and fetal assessments during labor
- Diagnosis of normal progress of labor on the partograph
- Diagnosis of abnormal progress of labor, and corrective measures required
- Diagnosis of obstructed labor, and corrective measures required

Job aids

- Copies of the partograph (Laminated and Paper)
- Decision aids algorithms
- WHO e-partograph learning tool (see, Appendix 2: Multimedia resources)

Practical sessions (participants to plot case studies during workshops)

1. Review on how to correctly chart observations on the partograph
2. Partograph case study, normal labor
3. Partograph case study, poor progress of labor 1st stage
4. Partograph case study, obstructed labor

Equipment list

- WHO e-partograph learning tool (CD) [see, Appendix 2: Multimedia resources]
- 1 laptop/group
- Laminated copies of Partographs, erasable markers
- Paper Partographs
- Flip chart, marker pens

Monitoring and Evaluation

- Identify mentors in specific units
- Review internal audit data
- M&E random sample review of Partographs usage
- Unit's statistics as overall indicators of skilled monitoring of labor, e.g. number of ruptured uteri over a 6 month period

Normal Delivery and AMTSL

Introduction

The conduct of normal delivery is a prerequisite skill for safe delivery of the mother and her baby. Skilled care during delivery and childbirth enables adequate support and response to the needs of the woman, her partner and family; ensures early detection and timely management of any complications, and protects the life of the mother and baby. This module includes AMTSL (Active Management of Third Stage of Labor) which has been shown to reduce the incidence of PPH (a major cause of maternal mortality), and reduce the use of blood transfusion.

Learning objectives

To identify best practices for managing childbirth- namely:

- The conduct of normal delivery
- AMTSL to prevent PPH

Skills to be acquired

- How to prepare for normal delivery and immediate care of the newborn
- How to skillfully conduct a normal delivery
- Controlled Cord Traction (CCT) for delivery of the placenta
- Uterine massage to enhance uterine tone
- Use of oxytocic drugs in the 3rd stage of labor

Job aids

- AMTSL flow chart
- Appendix 1- Charts
- Normal delivery Video
- AMTSL Video

Practical skills sessions

1. Review maternal and fetal assessment during labor
2. Scenarios/skills: normal delivery prep/demonstration
3. Immediate care of the newborn
4. AMTSL skills
5. Review uterotonics- dosage, use, storage

Equipment list

- Delivery pack
- Madam Zoe Pelvic model and fetus
- Neonatal resuscitation equipment
- Laminated copies of AMTSL flow charts
- Uterotonics (Oxytocin, ergometrine, misoprostol)

Monitoring and Evaluation

- Identify mentors in specific units
- Supportive supervision to include inspection of delivery room for preparedness and witnessing a normal delivery
- Review summary area on partograph
- Review log book record on normal delivery/immediate newborn care
- Review internal audit data on availability, storage and use of uterotonics

Hemorrhage

Introduction

Worldwide, obstetric hemorrhage is the most important cause of maternal morbidity and mortality. Any bleeding in pregnancy is dangerous and prevention, prompt recognition and skillful management will save lives. Bleeding in pregnancy can occur at any stage of the pregnancy including:

- early pregnancy (Abortion [Module 5: Post-abortion care], ectopic pregnancy)
- during the antenatal period (Ante partum Hemorrhage -APH)
- during labor (ruptured uterus)
- after delivery (Post Partum Hemorrhage -PPH)

Learning objectives

- Describe the potential causes of hemorrhage at various stages of pregnancy
- Recognize obstetric hemorrhage
- Demonstrate selected skills for the management of obstetric hemorrhage

Skills to be acquired

- Recognition of hemorrhage as an obstetric emergency
- Practice the A B C structured approach to obstetric hemorrhage
- Institute appropriate obstetric interventions to stop the bleeding
- Cut down technique for venous access (this skill has been incorporated in the ABCD skills as part of resuscitative measures)

Job aids

- Obstetric Hemorrhage protocols
- Obstetric Hemorrhage Mnemonics
- Interventional procedures flow-charts/diagrams
- Learning guides and check lists
- Appendix 1- Charts
- Illustrative videos- (see Appendix 2: – Multimedia resources)

Practical skills sessions

1. APH scenario
2. PPH scenario

3. Workshop: immediate assessment and volume replacement
4. AMTSL practical skill is covered here (though also included in the 'Normal Delivery' module's learning objectives)

Equipment list

- Resuscitation tray: (IV fluids, Adult Bag & mask, BP machines, IV cannulas, specimen bottles, urinary catheters, uterotonics etc)
- Monitoring charts
- Flip charts/board (illustrations)
- Madam Zoe Pelvic model with 20 week uterus model; detachable placenta

Monitoring and Evaluation

- Identify mentors
- Skills log, with periodic review
- Practice/evaluation drills
- Unit's indicators (e.g. number of PPH cases, number of hysterectomies following ruptured uterus)

Severe Pre-eclampsia and Eclampsia

Introduction

Hypertensive disorders that complicate pregnancy include preeclampsia, eclampsia, chronic hypertension, preeclampsia superimposed on chronic hypertension and gestational hypertension. In developing countries, hypertensive disorders are the second most common obstetrical cause of stillbirths and early neonatal deaths, Preeclampsia is the third leading pregnancy-related cause of death, after hemorrhage and sepsis. Recognition and skilled management of pre-eclampsia and eclampsia offers an opportunity to prevent deaths and serious morbidity associated with them.

Learning objectives

- Recognize severe pre-eclampsia and eclampsia
- Explain the use of Magnesium Sulphate (MgSO4) in management of preeclampsia/eclampsia
- Institute correct management of patients presenting with severe pre-eclampsia/eclampsia

Skills to be acquired

- Recognize signs and symptoms of severe pre-eclampsia/eclampsia
- Correctly administer MgSO4 (and use of other anti-convulsants)
- Appropriate monitoring of patients on MgSO4
- BP control and fluid management in severe pre-eclampsia/eclampsia
- Decision making on timing and options for delivery

Job aids

- MgSO4 administration laminated charts
- Eclampsia emergency box chart
- Appendix 1- Charts
- BP control drugs chart
- Decision making flow charts
- Learning guides and check list
- Monitoring charts

Practical skills sessions

1. Workshop: recognition of severe pre-eclampsia/eclampsia
2. Scenario: management in a BEOC facility
3. Workshop: management in a CEOC facility
4. BP and fluid control workshop

Equipment list

- Fully stocked MgSO4 box
- BP machines and other emergency trolley equipment
- MgSO4 administration and monitoring charts
- Patellar hammers

Monitoring and Evaluation

- Identify mentors
- Skills log with periodic review
- Practice/evaluation drills
- Unit's indicators (e.g. patients with severe pre-eclampsia given $MgSO_4$)
- Supportive supervision should include availability and use of $MgSO_4$

Other Delivery Emergencies

Introduction

This section covers other emergencies that include:

- Cord prolapse
- Shoulder dystocia
- Vaginal breech delivery
- Vaginal twins delivery

If managed incorrectly, these situations result in perinatal morbidity / mortality, and may also be associated with maternal morbidity / mortality. Skilled management of such cases improves outcomes.

Learning objectives

- Recognition of the above emergencies
- Demonstrate competencies / skills to manage the above emergencies

Skills to be acquired

These include the practical management of:

- Cord prolapse
- Shoulder dystocia
- Vaginal assisted breech delivery
- Vaginal twin delivery

Job aids

- Mnemonics
- Protocols
- Flow charts
- Learning guides and check lists
- Demonstration video clips
- Appendix 1 charts (MAPS- Shoulder dystocia)

Practical skills sessions

1. Skill/discussion: cord prolapse
2. Skill: shoulder dystocia
3. Skill: breech delivery
4. Skill: twin delivery

Equipment list

- Madam Zoe pelvic model
- Two fetal models per pelvic model
- Placenta model with cord
- Fetoscope - Pinnard
- Laptops, speakers, projector

Monitoring and Evaluation

- Identify mentors
- Skills log with periodic review
- Practice/evaluation drills
- Supportive supervision
- Unit's indicators (e.g. number of successful breech deliveries)

Assisted Vaginal Delivery (AVD), and Repair of Perineal Tears

Introduction

In the recent years, lack of training in AVD coupled with the medical-legal climate, and other changes in practice - including the high incidence of caesarean deliveries have collectively contributed to a reduction in utilization of all types of instrumental delivery, including vacuum extraction. Yet, a need still remains for delivery assistance that can be safely and expeditiously provided by an instrumental delivery while avoiding the risk and expense of a caesarean operation.

This section will concentrate on the use of Vacuum Extraction as it is the most commonly available instrument in Kenya. Participants can get detailed information on the use of Obstetric Forceps in the 'Essential reading' list. Repair of Perineal tears is also included here as this may be associated with instrumental vaginal delivery.

Learning objectives

- To Describe the indications for AVD
- To Explain the principles and prerequisites of AVD
- To Demonstrate competency in the use of the Vacuum Extractor

Skills to be acquired

- Recognize the indications for AVD
- Understand the prerequisites necessary prior to performing AVD (patient and instrument preparation)
- Perform AVD using the vacuum extractor
- Perineal assessment and appropriate repair of any tears (this practical skill is incorporated in the 'Surgical Skills' module)
- Perform post-AVD check-list (maternal and neonatal)

Job aids

- AVD Mnemonic
- AVD learning guide and check list
- AVD demonstration video (see, Appendix 2: Multimedia resources
- Perineal repair learning guide and check list
- Appendix1: (charts)

Practical skills sessions

1. Workshop: AVD indications, prerequisites, precautions, complications
2. Skill: vacuum extraction (instrument assembly and AVD skill)

3. Skill: skillful conduct of AVD
4. Scenario/workshop: post-AVD considerations

Equipment list

- Vacuum extractors (Maelstrom, Kiwi)
- Madam Zoe Pelvic model
- Fetal model
- WHO vacuum delivery video (see, Appendix 2: Multimedia resources)
- Perineal repair model and scissors, sutures, sharps disposal boxes

Monitoring and Evaluation

- Supportive supervision and mentorship
- Log of AVDs performed and outcomes
- Instrumental delivery rates in the Unit

Surgical Skills (Cesarean section, MROP, Perineal repair)

Introduction

Cesarean delivery is indicated in cases where vaginal delivery is untenable or delivery needs to be expedited in the interest of the mother or the baby. It may be done either as an emergency or an elective procedure. The performance of Cesarean Section (CS) involves a team that includes doctors, midwives, theatre staff etc. It is therefore necessary that everyone caring for pregnant women is skilled in the preparation, processes and post operative care for CS.

Manual removal of a retained placenta (MROP) is a life-saving procedure in cases of morbidly adherent placenta resulting in post partum hemorrhage; hence it is a necessary skill for both midwives and doctors.

PPH may also result from bleeding due to tears and lacerations of the perineum. Correct grading and skilled repair of perineal tears is therefore necessary to avoid unwarranted maternal morbidity and mortality.

Learning objectives

- Recognition of indications of Cesarean section
- Describe the processes involved in carrying out a CS (pre-op, intra-op, post-op)
- Demonstrate the skills in grading and appropriate repair of perineal tears.
- Identify / diagnose morbidly adherent placenta and other indications for MROP
- Demonstrate skills in MROP

Skills to be acquired

- Know the standard indications for CS
- Pre-operative preparations (patient, OT, team members) including informed consent
- Standard surgical steps of performing a CS (the competence level of this skill will vary depending on staff cadre)
- Categorize intra-op difficulties/complications, and how to manage them (the competence level of this skill will vary depending on staff cadre)
- Post-operative care
- Counseling on Trial of scar (VBAC)
- Practice MROP skills
- Practice Perineal repair skills

Job aids

- CS protocols: pre-op prep, consent, anesthesia, prophylactic antibiotics etc
- CS check-list

- Grading of Perineal tears
- MROP protocol

Practical skill sessions

1. Workshop: CS indications, pre-op prep and post-op care
2. Workshop/DVD: difficulties at CS
3. MROP
4. Perineal repair

Equipment list

- Laptop, speakers, projector
- CS DVD (see, Appendix 2: Multimedia resources)
- Flip charts, marker pens
- MROP model
- Perineal repair models

Monitoring and Evaluation

- Supportive Supervision / mentorship
- Log book on CS performed / assisted / prepped patient etc
- CS rates in the Unit
- Log of Perineal repairs performed
- Log of MROPs performed

Sepsis

Introduction

Sepsis is a major cause of maternal/neonatal morbidity and mortality. Infection Prevention and control strategies including: hand washing, waste management, proper housekeeping and correct instrument processing can often prevent the occurrence of sepsis. Once sepsis has occurred, prompt recognition and treatment will prevent poor outcomes that lead to morbidity and mortality.

Learning objectives

- Explain the principles of infection prevention and control
- Recognize/ diagnose puerperal and neonatal sepsis
- Demonstrate knowledge and skills in the management of puerperal and neonatal sepsis
- Describe key components of PMTCT

Skills to be acquired

- Infection prevention and control measures: hand washing, gloving, gowning, instruments decontamination and sterilization, medical waste management etc
- Role of prophylaxis in obstetric surgical procedures (CS, AVD)
- Key principles in Prevention and management of Malaria in Pregnancy, and PMTCT
- Recognition of sepsis (ante-nataly, intra-partum, post-nataly, post-abortion [see, Module 5: Post-abortion care])
- Appropriate management of sepsis

Job aids

- Infection control protocols: hand washing, prophylaxis etc
- Sepsis management protocols / flow charts
- PMTCT protocols
- Malaria prevention / treatment protocols

Practical skills sessions

1. Workshop: infection control and prevention in newborns (hand washing)
2. Maternal infection control and prevention
3. Scenario: Malaria in pregnancy
4. Workshop: PMTCT of HIV

Equipment list

- Resuscitation equipment (fluids, specimen bottles, cannulas, thermometers, BP machines, gloves etc)
- Flip charts
- Infection control DVD (see, Appendix 2: Multimedia resources)
- Antiseptic hand rubs, soap, paper towels, running water

Monitoring and Evaluation

- Supportive supervision
- Identify mentors (infection control 'champion')
- Infection control measures in the Units
- Unit's indicators (e.g. rates of neonatal sepsis, puerperal sepsis, post-op sepsis, IPT coverage, HTC coverage etc)

Module

03

Neonatal Care

This module deals with the care of the newborn. Despite significant gains being reported in reduction of under-five mortality rates both globally and in Kenya, newborn mortality rates have not registered a similar trend. NMR continues to contribute significantly to the infant mortality rates as well as the U5MR.

Significant reductions in neonatal deaths require interventions that directly address the neonatal period. Scaling up and sustaining of high impact interventions e.g. immediate care of the newborn, neonatal resuscitation, breastfeeding, etc requires investment in skills acquisition as well as equipment and supplies.

While the majority of newborn deaths occur in the early neonatal period, continued skilled care of the newborn is necessary for ongoing health of the baby, as well as for preventing late neonatal deaths.

Neonatal Resuscitation

Introduction

For many babies, the need for resuscitation cannot be anticipated before delivery. There is therefore need to be prepared for neonatal resuscitation at every delivery. Unfortunately this is a skill that is not well mastered by labour ward personnel who are in contact with and handle the baby during the first critical moments after birth. Neonatal resuscitation differs slightly from adult resuscitation, and this skill will be learned in this section.

Learning objectives

- Describe the principles of neonatal resuscitation
- Demonstrate neonatal resuscitation skills

Skills to be acquired

- Recognition/anticipation of a newborn who requires resuscitation
- Structured approach to neonatal resuscitation
- Proficiency with the Apgar scoring system

Job aids

- Laminated neonatal resuscitation job aids
- ENC manual (see, Essential reading)
- Apgar score charts

Practical skills sessions

1. Ventilation with Bag & Mask
2. Meconium aspiration
3. Baby not crying, gasping
4. Baby not breathing: Golden minute
5. Low or no heart rate

Equipment list

- Neonatal model e.g. Neonatalie
- Infant self-inflating Ambu bag- (500mls, clear)
- Neonatal masks –sizes 0, 1 & 2
- Neonatal Stethoscope
- Suction apparatus /equipment

- Radiant heat source
- Second hand clock
- Two Towels for drying and wrapping the baby

Monitoring and Evaluation

- Periodic in-house drills
- Phased re-certification training
- Supportive supervision and mentorship
- Review of unit indicators (Early neonatal deaths, neonates with birth asphyxia successfully resuscitated etc)

Ongoing Care of the Newborn

Introduction

The care and help given to mothers and babies in the first few hours and days after birth, whether in a health facility or at home, should ensure their safety and well-being. Basic needs of the newborn are:

- To breath
- To be warm
- To be fed
- To be protected

Ongoing skilled newborn care, whether at home or in hospital, ensures healthy growth of the newborn and prompt detection of any danger signs requiring specific treatment.

Learning objectives

- Explain components of routine / ongoing newborn care
- Demonstrate skills related to Newborn feeding (breastfeeding, cup feeding etc)
- Display skills necessary in care of the Small / preterm baby
- Recognize of danger signs in the newborn and institute of corrective measures

Skills to be acquired

- Immediate newborn care: (Drying and wrapping the baby, keeping baby warm, cord care, eye care, etc)
- Examination of the newborn
- Feeding (Breastfeeding, cup feeding, NG tube etc)
- Recognition of danger signs (e.g. Hypothermia, hypoglycemia, sepsis etc) and institute remedial measures
- Counseling / education on newborn care (breastfeeding, hygiene etc

Job aids

- Laminated flow charts for basic neonatal care
- ENC check lists (see, Essential reading)
- Neonatal examination recording forms (see,
- Appendix 1 (charts)
- Discharge check lists

Practical skills sessions

1. Simulation: immediate newborn care, newborn examination)
2. Breastfeeding
3. Alternative feeding, NG tube, cup feeding
4. Care of the Small / preterm baby
5. Kangaroo Mother Care (KMC) demonstration

Equipment list

- Neonatal manikins (e.g. Baby Ann)
- Neonatal NG tubes, cups
- Gloves, towels, gauze / cotton swabs
- Tape measure, newborn weighing scale
- Linen /towels
- Radiant heater
- Flip charts, marker pens
- Neonatal examination charts

Monitoring and Evaluation

- Supportive Supervision and mentorship
- Log book records
- Review of partograph
- Review of neonatal case notes
- Mother child booklet

Neonatal Sepsis

Introduction

Neonatal sepsis is a major cause of neonatal morbidity and mortality. Preventive measures are critical in the reduction of neonatal sepsis, as is the prompt recognition and treatment once infection has occurred.

This section also incorporates management of Neonatal jaundice, HIV/ PMTCT, syphilis and Tuberculosis. These conditions when they occur also contribute to significant newborn morbidity and mortality.

Learning objectives

- Demonstrate knowledge and skills in prevention of neonatal infections
- Demonstrate knowledge and skills in recognition and management of neonatal sepsis

Skills to be acquired

- Prevention of neonatal sepsis
- Early recognition of neonatal sepsis
- Management of neonatal sepsis
- Management of neonatal jaundice

Job aids

- Infection prevention protocols / guidelines
- Check list / flow chart for early recognition of sepsis
- Neonatal sepsis management guidelines
- Antibiotics use protocols
- Neonatal jaundice protocol

Practical skills sessions

1. Workshop: prevention/early recognition of neonatal sepsis
2. Special case studies: HIV, TB, syphilis
3. Workshop: Neonatal jaundice

Equipment list

- Emergency tray: cannulas, Bag and Mask, oxygen nasal prongs, blood specimen bottles etc
- Neonatal manikins
- Flip charts, marker pens
- Phototherapy (pretend) box

Monitoring and Evaluation

- Supportive supervision and Mentorship
- Newborn statistics, neonatal sepsis outcomes
- IPC committees
- Internal mechanism for monitoring IPC including housekeeping

Module

04

Postnatal Care

It is known that most maternal and neonatal deaths occur during the postnatal period. To respond to this it is recommended that all women and their newborn babies receive a postnatal care within two days after childbirth. Unfortunately less than half of the mothers access PNC within this period. (KDHS 2008/09). It has been estimated that if routine PNC reached 90% of babies and their mothers, about 10 to 27% of newborn deaths could be averted.

In order to have the full benefit, PNC needs to be of high quality and responsive to the needs of the client. Therefore skilled birth attendants must be equipped with knowledge, skills and a favourable environment for provision of prompt comprehensive Targeted Postnatal Care services

This module deals with maternal postnatal care (see Neonatal postnatal care in; Module 3: Neonatal care).

Maternal Postnatal Care

Introduction

Postnatal care is care given to both the mother and the baby from birth in order to reduce the incidence of complications and deaths as well as to promote the health of the mother and baby. The post partum period for the mother starts after the expulsion of the placenta up to 42 days (6 weeks) after delivery; however it is now recommended that the regular follow up of both mother and baby be extended until at least the first year. The ability of service providers to provide appropriate postnatal care and recognize and appropriately manage complications will significantly reduce maternal and newborn morbidity and mortality.

Learning objectives

- Describe the components of Targeted postpartum care
- Demonstrate knowledge and skills necessary to diagnose and manage common postpartum complications

Skills to be acquired

- Planning for targeted postpartum care
- Skilled assessment and recognition of postnatal problems
- Skilled management of common postpartum complications
- Counseling on postpartum Family Planning

Job aids

- Targeted PNC job aid
- Postpartum Clinic (PNC) Register
- Postnatal checklist
- WHO MEC Wheel
- Management guidelines of common postpartum complications

Practical skills sessions

1. Workshop: Comprehensive Postpartum examination (immediate, pre discharge, 6 weeks postpartum)
2. Scenario: puerperal sepsis
3. Postpartum Counseling (danger signs, rest, nutrition, breastfeeding, LAM, HTSP/ FP etc)

Equipment list

- Flip charts, marker pens
- Resuscitation equipment: cannulas, specimen bottles, IV fluids etc
- Madam Zoë pelvic Model with uterus of various sizes
- Breast model
- Post natal register

Monitoring and Evaluation

- Mother child booklet
- PNC register
- MOH 711S and other summary tools
- Supportive supervision and mentorship
- Establishment of PNC (nb most facilities have no dedicated room for PNC)
- Log of cases seen and managed
- Unit's statistics
- MMR and near miss cases

Module

05

Post-abortion Care

Introduction

Post-abortion care is the care given to a woman who has had an unsafe, spontaneous or legally induced abortion. Emergency treatment of complications from a spontaneous or unsafe induced abortion is one of the key components of PAC. Complications of abortion are a major cause of maternal morbidity and mortality in Kenya. Timely recognition of complications of abortion, and skilled management saves lives.

Learning objectives

- To Elucidate / recognize the complications of abortions
- To display knowledge and skills for effective management of complications of abortions, including performance of MVA

Skills to be acquired

- Recognition of the complications of abortion
- Skilled assessment and management of patients presenting with abortion complications
    - *Medical management of abortion*
    - *Performance of MVA*
    - *Post-abortion care including counseling and FP*

Job aids

- PAC management protocols/flow charts
- MVA procedure manual / video (see, Appendix 2: Multimedia resources)
- Post-abortion counseling check list

Practical skills

1. MVA instruments (components, assembling, processing and maintenance)
2. Workshop: recognition/management options of abortion complications
3. Skill: MVA

Equipment list

- MVA Equipment
- Pelvic Model
- Uterus model
- Model for MVA
- Surgical equipment (Tenaculum, bivalve speculum, kidney dish, galipots, sponge holding forceps, swabs, pads, syringes, needles, local anesthesia, analgesics, etc)
- Flip charts, marker pens

Monitoring and Evaluation

- Supportive supervision and mentorship
- In patient register
- Log book of cases performed and outcomes
- Unit's indicators; post abortion mortality rates

APPENDIX 1: CHARTS

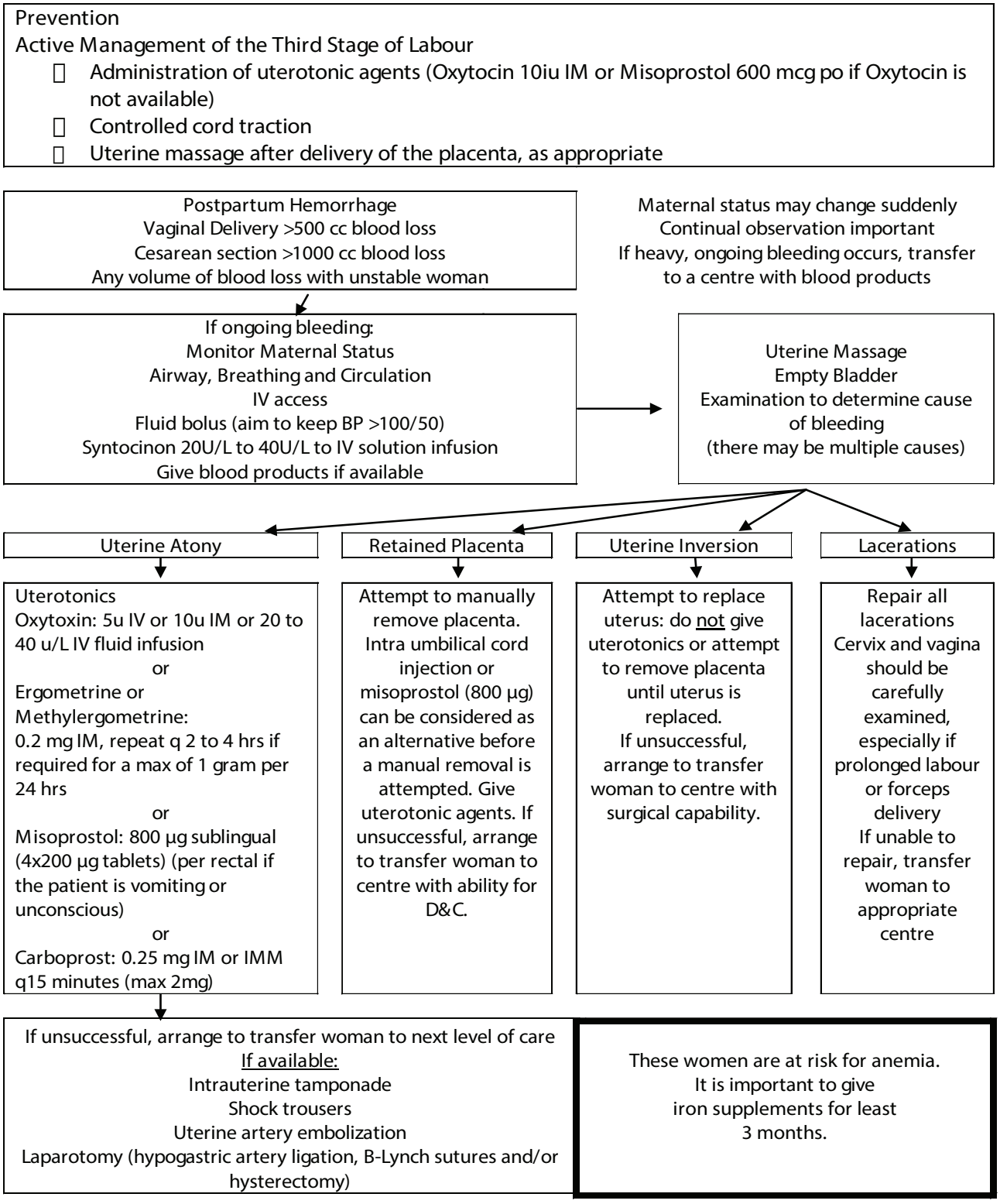
ANC check list (see, Essential reading [DRH MNH Guidelines manual])

ANC routine visits (see, Essential reading [DRH MNH Guidelines manual])

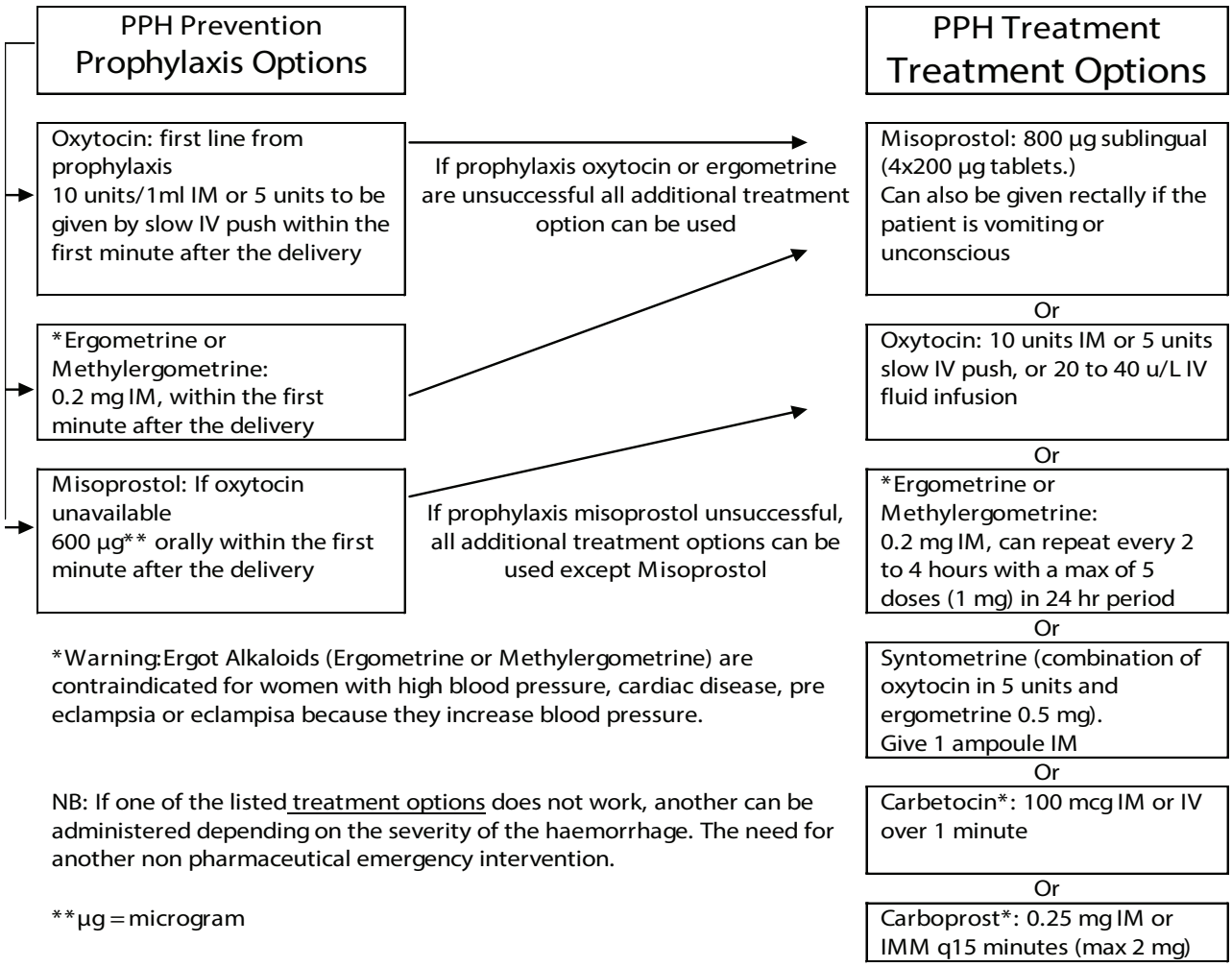
AMSTL flow chart

(See next page FIGO flow chart)

FIGO Recommendations
Prevention and Treatment of Post-Partum Hemorrhage (PPH)



FIGO recommendations
Drug Regimens for the prevention and the treatment of PPH



*Warning: Ergot Alkaloids (Ergometrine or Methylergometrine) are contraindicated for women with high blood pressure, cardiac disease, pre eclampsia or eclampisa because they increase blood pressure.

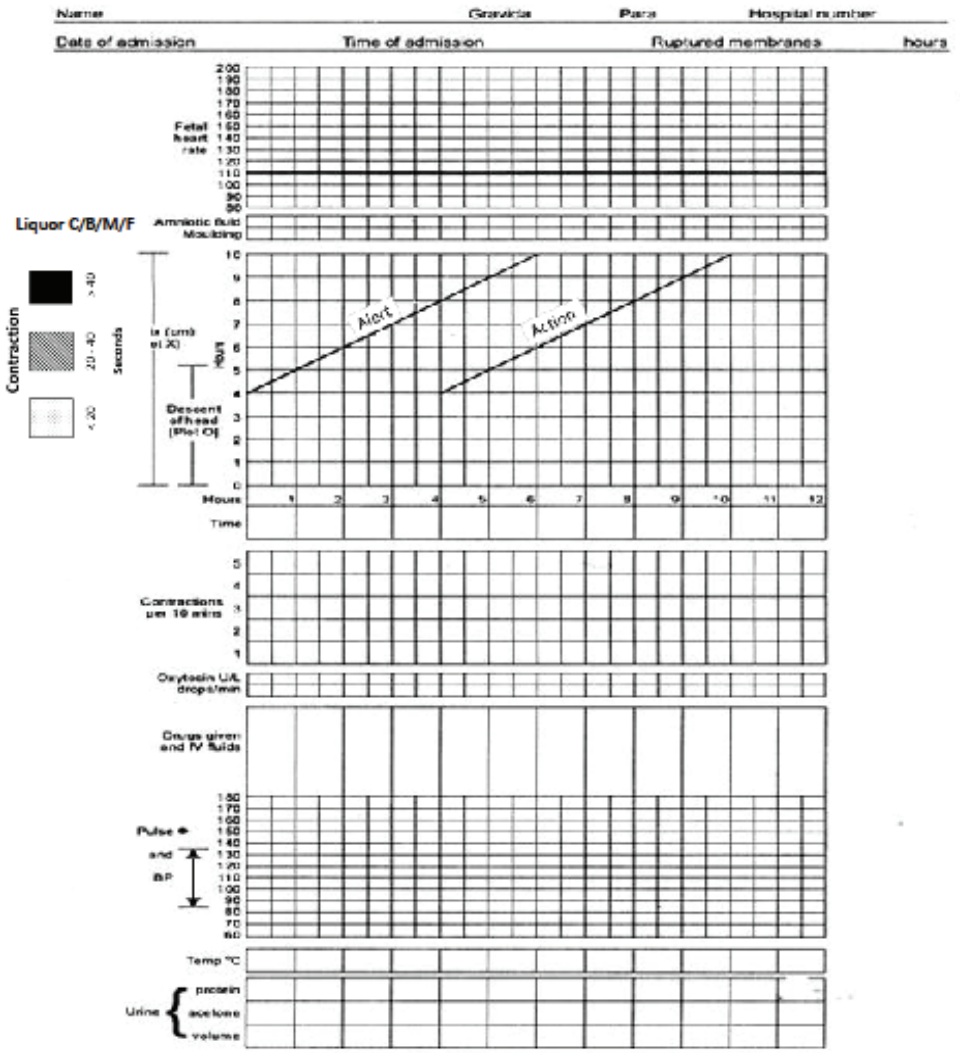
NB: If one of the listed treatment options does not work, another can be administered depending on the severity of the haemorrhage. The need for another non pharmaceutical emergency intervention.

**µg = microgram

Kenya Revised Partograph

MOH No. _____

Ministry of Health Kenya - Revised Partograph (2012)



1st Stage Induction of labour: YES/NO Duration _____hrs No of VE _____

2nd Stage Mode of delivery_____; Duration _____min; **3rd Stage:** AMTSL: Y / N Uterotonic: Oxytocin / other_____; Placenta complete/ incomplete ,

Placental Wt _____g, Blood loss _____ml; Perineal tear/ episiotomy; Repair Y /N; BP _____Pulse _____Temp _____RR _____

Baby: Alive /SB; Birth Wt _____g; Sex: M /F; HC ____cm; Apgar score 1min ___, 5min ____; Birth weight: _____g

Resuscitation- HBB: Y /N; Vit. K / other drugs_____, Baby length _____HC _____cm; Drugs given _____

Delivered by _____; Date of delivery _____; Time of delivery _____

Obstetric Hemorrhage Mnemonic

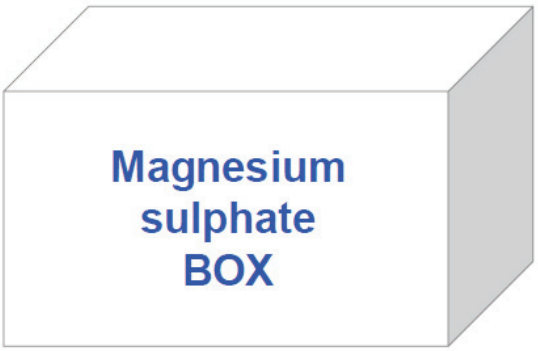
√ HAEMOSTASIS

H	Help
A	Assess
E	Establish etiology
M	Massage uterus
O	Oxytocin
S	Shift to operating theatre
T	Theatre
A	Apply compression (e.g. B-Lynch)
S	Stepwise devascularisation
I	Interventional Radiology
S	Sub-total hysterectomy

MgSO4 Emergency Box

"Magnesium sulphate Boxes"

Treatment packs in cardboard boxes containing magnesium sulphate for the loading dose, 24h maintenance therapy and treatment of one (recurrent) convulsion as well as syringes, swabs, drip sets and fluids make the application of magnesium sulphate treatment quick and easy in emergencies.



MgSO4 Protocol

Magnesium Sulphate Regimen

Treatment

1. Loading dose:
   a. 4grams I.V SLOWLY OVER 15 minutes (8mls of 50% MgS04 +12mls of water for injection or normal saline

AND (If unable to give IV, give IM loading dose only)

   b. 10grams: I.M 5gm in each buttock (10mls of 50% MgS04 + 1ml of 2% Lignocaine in the same syringe, into each buttock)

2. Maintenance dose:
   a. I.M MgSO4 5grams 4 hourly (alternating buttock)

   OR

   b. 10 grams MgS04 in 1000mls of Normal saline or Ringers lactate at rate of 100mls per hour (1gram)

Duration of treatment

- 24 hours after last fit/convulsion
- 24 hours after delivery

Treatment of recurrent fits

1-2 grams of MgSO4 I.V slowly (Please make up to 20% solution before use)

Blood pressure control

Hydralazine: Administer IV Hydralazine 5mg slowly over 10 minutes if BP is greater or equal to 160/110mmHg. Repeat 5mg every 20mins up to a maximum of 20mg, if diastolic BP still equal to or greater than 110mmHg.

Nifedipine: BP >160/110 mm Hg: 10 mg PO initial; repeat dose may be administered in 30 min prn

Labetolol: BP >160/110 mm Hg: 20 mg IV bolus; subsequent doses of 40 mg followed by 80 mg IV may be administered at 10- to 20-min intervals to achieve BP control; may also be administered as continuous infusion 1 mg/kg/h

Monitoring of MgSO4

Do not administer MgSO4 if:

- Deep tendon reflexes is diminished or absent
- Respiratory rate is less than 15/min
- Urine output is less than 25/hour

Delivery

- Aim for delivery within 12hours of admission
- **Caesarean section:** Fetal distress, patient with unfavourable cervix, vaginal delivery not possible
- **Vaginal delivery:** No fetal distress, No cephalopelvic disproportion, cervix is favourable

Intravenous fluid therapy

USE

- Normal saline or Ringers lactate: 1ml/kg/hr or 80mls/hr

AVOID

- 5% Dextrose and Dextrose saline infusion

Antidote to MgSO4

1gram (10mls) of 10% Calcium gluconate IV slowly (over 10 minutes)

Patient discharge summary notes completed on __/__/201_

Number of convulsions before admission:_____

Date of Admission_____

Date of Delivery_____

Maternal Outcome (Alive/Dead)_____

Fetal Outcome (Alive/Dead)_____

Date of Discharge or Death (Please specify)_____

Mode of Delivery: (SVD ☐ C/S ☐ Vacuum ☐ others please specify_____

Complications on Admission: _____

_____

Complications on Discharge:_____

MgSO4 Monitoring Chart

Name: _____ **Gravida:** _____ **Para** _____

Date: _____ **Hospital No.:** _____ **Age:** _____ **Diagnosis:** _____

Hours		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Time																									
FHR (/min)																									
Blood pressure (mmHg) and pulse (/min.)	250																								
	240																								
	230																								
	220																								
	210																								
	200																								
	190																								
	180																								
	170																								
	160																								
	150																								
	140																								
	130																								
	120																								
	110																								
	100																								
	90																								
	80																								
	70																								
	60																								
Hydralazine																									
Nifedipine																									
Labetolol																									
Number of fits (convulsions)	10																								
	9																								
	8																								
	7																								
	6																								
	5																								
	4																								
	3																								
	2																								
	1																								
	0																								
Level of consciousness	A																								
	V																								
	P																								
	U																								
Urine proteinuria	4+																								
	3+																								
	2+																								
	1+																								
Input (mls)																									
Output (mls)																									
Respiratory rate																									
Deep tendon reflex																									
MgSO4 dose																									
MgSO4 route																									
Antidote Ca gluconate																									

Deep Tendon Reflex: A: absent, B: Brisk, D: Diminished:

Shoulder Dystocia Mnemonic

√ MAPS

M	M'cRobert's position (position)
A	Anterior shoulder (deliver)
P	Posterior shoulder (deliver)
S	Salvage maneuvers (see, Essential reading)

Assisted Vaginal Delivery Mnemonic

√ A – J

A	Ask for help, Address patient, Anesthesia
B	Bladder empty
C	Cervix fully dilated
D	Determine position, think shoulder Dystocia
E	Equipment ready
F	Flexion point cup application
G	Gentle traction perpendicular to plane of cup
H	Halt traction after contraction, Halt procedure (cup off 3 times, no descent in 3 pulls, ≥ 20 min cup application)
I	Incision (episiotomy if indicated)
J	Jaw reachable (remove cup)

Level of Consciousness Mnemonic

√ AVPU

A	Alert
V	Responds to Verbal commands
P	Responds only to Pain
U	Unresponsive

Neonatal Examination Recording Form

Name (of mother) _____ Date: _____

How old is the baby? _____ Hours/days _____

Does the mother have any concerns about the baby? _____

How is the baby feeding? _____

ASK, CHECK RECORD	LOOK, LISTEN, FEEL	SIGNS (CIRCLE IF PRESENT)
Is the baby preterm (<37 weeks or >1 month early)?		Preterm
Breech birth?		
Difficult birth?		
Resuscitated at birth?		
Is the baby one of twins?		Twin
Has the baby had convulsions?		Danger sign
Is the mother very ill or transferred?		Mother not able to care for the baby
	Assess breathing (baby must be calm) Grunting. Breathing: More than 60 breaths per minute Less than 30 breaths per minute)? Chest in-drawing	 Danger sign Danger sign Danger sign Danger sign
	Look at the movements: are they normal and symmetrical?	
	Look at the presenting part – is there swelling and bruises?	Swelling, bruises or malformation
	Look at the abdomen for pallor	Danger sign
	Look for malformations	Swelling, bruises or malformation
	Feel the tone: is the baby floppy or stiff?	Danger sign
	Feel for warmth. If cold, or very warm, measure temperature. Is the temperature: >38°C or <35°C? 35-36.4°C?	 Danger sign Body temperature 35-36.4°C
	Look for bleeding from stump or cut	Danger sign
	Weigh the baby. Is the weight <2500 g?	Birth weight <2500 g

ASK, CHECK RECORD	LOOK, LISTEN, FEEL	SIGNS (CIRCLE IF PRESENT)
Has the mother had within 2 days of delivery: Fever >38 oC? Infection treated with antibiotics		 Special treatment needs Special treatment needs
Membranes ruptured >18 hours before delivery?		Special treatment needs
Mother tested RPR positive?		Special treatment needs
Mother tested HIV positive? Has she received infant feeding counseling?		Special treatment needs
Is the mother receiving TB treatment which began <2 months ago?		Special treatment needs
	Look at the skin, is it yellow? if baby is <24 hours old, look at skin on the face if baby is >24 hours old, look at palms and soles	Jaundice Danger sign Danger sign
	Look at the eyes. Are they swollen or draining pus?	Local infection
	Look at the skin, particularly around the neck, armpits, inguinal area: Are there <10 pustules? Are there >10 pustules, or bullae, swelling, redness or hardness of the skin?	Local infection Danger sign
	Look at the umbilicus: Is it red? Draining pus? Does the redness extend to the skin?	 Local infection Danger sign Danger sign
Assess breastfeeding and classify feeding: Is the baby not able to feed? Does the baby have feeding difficulty?		 Danger sign Not feeding well

APPENDIX 2: MULTIMEDIA RESOURCES

Aortic compression video

ATLS CPR video

Breech delivery video

CS video

Infection control video

IPAS MVA DVD

Condom tamponade

Saphenous cutdown

Shoulder dystocia video

Uterine balloon tamponade video

Vacuum delivery video

WHO AMTSL video

WHO e-partograph learning tool

APPENDIX 3: EQUIPMENT CHECK LIST

Equipment and models

Room 1	Supply details	Cost
Airway torso	Limbs & Things (LSS)	
Alco-hand sanitizers		
Ambu bag & mask		
AMSTL flow charts laminates		
Blood specimen bottles		
BP machines		
Canulae various sizes		
Cushions		
Delivery pack		
Disposable gloves		
DRH standard ANC booklets		
Fetal model (2)	Limbs & Things (LSS)	
Flip chart with stand		
Marker pens		
Modified Kenya partograph copies		
Neonate model		
Oropharyngeal airway		
Paper towels		
Pelvic model		
Placental model with cord	Limbs & Things (LSS)	
PNC DRH booklets		
Stethoscopes		
Sucker		
Urine dipsticks		
Uterotonics samples		

Room 2	Supply details	Cost
Ambu bag & mask		
AVD equipment (Kiwi, Maelstrom, forceps)	Limbs & Things (LSS)	
BMI calculators		
BP machine		
Canulae various sizes		
Catheters		
CPR torso		
Cushions		
Disposable gloves		
DRH ANC booklets		
Fetal model		
Fetoscope (Pinnard)		
Flip charts with stand		
Giving sets		
Height/weight scales		
IV fluids		
Marker pens		
MgSO4 box		
Modified Kenya partograph copies		
Oropharyngeal airway		
Patella hammer		
Pelvic model		
Specimen bottles		
Stethoscope		
Syringes		
Thermometer		
Urine dipsticks		
Uterotonics sample		

Room 3	Supply details	Cost
Ambu bag & mask		
APGAR score sheets		
AVD equipment (Kiwi, Maelstrom, Forceps)	Limbs & Things (LSS)	
BP machine		
Canulae various sizes		
Catheters		
Clock		
Cushions		
Disposable gloves		
Fetal model		
Flip charts with stand	Limbs & Things (LSS)	
Foley catheterr with condom (or Rush balloon)		
Giving sets		
IV fluids		
Marker pens		
MgSO4 monitoring laminates		
Modified Kenya partograph copies		
MROP model		
Newborn model		
Oropharyngeal airway		
Pediatric Ambu bag & mask		
Pelvic model		
Specimen bottles		
Stethoscope		
Syringes		
Thermometer		
Towels		
Uterotonics samples		

Room 4	Supply details	Cost
500ml bottles with water (10)		
Ambu bag & mask		
APGAR score sheets		
AVD equipment (Kiwi, Maelstrom, forceps)	Limbs & Things (LSS)	
BP machine		
Canulae various sizes		
Catheters		
Clock		
Cushions		
Cutdown models (with scalpels)		
Disposable gloves	Limbs & Things (LSS)	
Disposable gloves		
DRH maternity docs (ANC, Neonatal, PNC)		
Fetal model		
Flip charts with stand		
Giving sets		
IV fluids		
Local anesthetic labels		
Marker pens		
MgSO4 monitoring laminates		
MROP model		
MVA models (with speculum, Karman's cannula)		
Newborn model		
Oropharyngeal airway	Limbs & Things (LSS)	
Paper towels	Limbs & Things (LSS)	
Pediatric Ambu bag & mask		
Pelvic model (2)	Limbs & Things (LSS)	
Perineal repair model		
Perineal repair set (scissors, sutures, needle holders, sharps box)		
Revised Kenya partograph- 2012		
Specimen bottles	Limbs & Things (LSS)	
Stethoscope		
Syringes		
Thermometer		
Towels		
Uterotonics samples		

ESSENTIAL READING

Department of Reproductive Health, Kenya. National Guidelines for Quality Obstetric and Perinatal Health GOK- 2012 (NB> this is the primary reference manual for this learning resource package)

Additional Reference documents

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