

**REPORT ON THE THIRD EDUCATION SESSION ON EMERGENCY OBSTETRIC AND NEONATAL CARE
UNDERTAKEN IN PHEBE HOSPITAL BETWEEN 9TH AND 24TH June 2013**



Memorial within the grounds of Phebe Hospital

Details of the teaching programmes

This was the third activity conducted as part of the obstetric and neonatal component of a grant awarded by The Tropical Health Education Trust (THET) and UKAID as a formal partnership between Bong County Health and Social Welfare Team (BCHASW) in Liberia and Aneurin Bevan Health Board (ABHB) in Wales, UK.

Four courses were undertaken by ALSG and MCAI (the implementers of the UK part of the obstetric/neonatal project).

These consisted of the first course for senior nurses and midwives involved in **caring for newborn infants** at Phebe and CB Dunbar Hospitals. This was undertaken by Dr Barbara Phillips and Professor David Southall with major assistance from Jeremiah Akoi. All candidates had been given the new Manual of neonatal care 4-6 weeks before the course began.



Barbara with the help of Aaron demonstrating skin to skin maternal infant care



David holding a workshop on neonatal hypothermia



Two midwives demonstrating skin to skin maternal infant care

Following this was a **Generic Instructor Course (GIC)** for 10 of the 11 candidates identified as having instructor potential during the second activity in February 2013 (one was ill and could not attend). This GIC course was undertaken by Dr Barbara Phillips as Educator, Dr Brigid Hayden as

Director, Dr Johan Creemers and Dr Julia Morch-Siddal as GIC instructors and Lamin Marong as GIC Instructor Candidate.

Finally there were 2 successive EESS-EMNH Essential and **Emergency Surgical Skills- Emergency Maternal and Neonatal Healthcare courses**. Each was of 3 days duration and involved a total of 43 candidates (19 midwives, 16 registered nurses, 1 nurse/midwives and 1 Physician Assistant from Bong County and 2 midwives and 1 nurse/midwife from outside Bong County and 2 registered nurses from Africare and 1 registered nurse from the Ministry of Health). All candidates had been given the EESS-EMNH manuals prior to the courses.



Lamin demonstrating breech delivery



Johan teaching in a skill station involving shoulder dystocia

6 internationally accredited ALSG instructors, all experienced in teaching obstetric and/or neonatal emergencies, were engaged in the two EMNH courses. Appendix 1 contains the CVs of those who have not previously taught in Liberia. One was from The Gambia, one from Liberia (Hannah Gibson), 4 from the UK and one from the Netherlands. Although Dr Dolo and Dr Sibley are fully accredited instructors from Bong County, they were unable to teach because of over-whelming clinical commitments in the hospitals. An additional senior obstetrician (Dr Ann Wright) assisted with the training.

6 Instructor Candidates from Liberia (following their success in the Generic Instructor Course) also taught on the courses.



Ann and two candidates from the EMNH course



Instructor candidate demonstrating at a skill station



Faculty meeting

Appendix 1 outlines the programmes of the Neonatal Course, the GIC course and the two EESS-EMNH courses.

Each of the 12 candidates on this first neonatal course received the following at the end of the course: a nurse's watch to count respiratory and heart rates etc., a stethoscope, a low reading digital thermometer, a calculator, pencil case and a neonatal bag and mask resuscitation system. A set of 200 baby cups for breast feeding, 2 pulse oximeters with neonatal probes, baby hats for low birth weight babies, 6 hot water bottles, wraps for skin to skin mother baby care, nasogastric tubes for feeding low birth weight babies, 50 infant nasal cannulae, A2 laminated posters on neonatal feeding (Appendix 2), neonatal resuscitation (Appendix 3) and the recognition of neonatal sepsis (Appendix 4) and videos on aspects of hospital neonatal care were provided for the 2 hospital neonatal units.

9 of the 10 candidates who underwent the Generic Instructor Course were successful in achieving instructor candidate status. One potential candidate identified in the previous set of EMNH training was unwell and unable to attend this course. She will hopefully attend in the future.

41 of 43 candidates undergoing the 3 day EESS-EMNH courses were successful. The instructors selected 11 candidates (4 nurse anaesthetists, 3 nurses and 4 midwives) to go forward to participate in a GIC (Generic Instructor Course) which will occur in a future visit.

Each of the 43 candidates on the EESS-EMNH courses received the following items at the end of each course: a bag and 2 masks for lung inflations in patients (particularly newborn infants) who are not breathing, a pocketbook of the essential components of emergency care for pregnant women,

newborn infants and children, and a logbook in which they have each been asked to enter details of every emergency intervention that they perform from then onwards on patients. (These data will be used for the monitoring and evaluation for this project).

Monitoring and evaluation

During this visit, Professor Southall, as part of the baseline monitoring and evaluation exercise, attended every clinic and hospital in Bong County with the support of the WHO, including their vehicle and senior driver. A preliminary report on this activity has already been provided and a full report is due soon after the data have been analysed.

“Needs assessments” for neonatal care

Professor Southall attended both neonatal units together with the senior nurses/midwives responsible, Mrs Patty R McLean for Phebe Hospital and Mrs Marie B. Padmore for CB Dunbar Hospital, to undertake a needs assessment. The findings were as follows:

- 1) **Neonatal unit Phebe Hospital.** This needs extensive renovation and the neighbouring ward set aside for skin to skin mother baby contact also requires inclusion in this renovation work. The wards need decorating, tiling to 8 feet from the floor, more electrical sockets for monitoring, and plumbing to ensure sufficient hand washing facilities.

The unit needs the following equipment: 2 oxygen concentrators, an examination light, a resuscitation platform incubator, blood glucose sticks and meter, an electric suction system, a phototherapy system for jaundice (a pulse oximeter has just been provided: see above).

The existing incubators in the unit are an infection hazard, do not work and need removing. There should be suitable washable mats for the entrance as well as hand washing dispensers.

- 2) **Neonatal unit at CB Dunbar Hospital.** This does not need renovation. The following equipment is required: an oxygen concentrator (the one present is broken), a phototherapy unit) the existing one is broken and if it cannot be repaired will need to be replaced, a resuscitation platform incubator, blood glucose sticks and meter, an electric suction system. Two broken incubators need removing as they are an infection risk. The examination lamp is broken and needs repair or replacement

The Phebe Hospital Waiting Home Professor Southall also attended the excellent waiting home at Phebe Hospital built by Africaire. It has 18 beds and accommodates pregnant women at high risk of complications from 7-8 months of pregnancy. There is a live-in midwife (Viola Makor). The waiting home has a garden where food is grown and there is a security guard and the home has its own pet dog (called “Rescue”).



Three mothers in the waiting home at Phebe Hospital



Head supervisor Patty McLean and security guard outside waiting home at Phebe Hospital



Candidates and instructors from the first EESS-EMNH course

Observations by the instructors on the EESS-EMNH courses

1. As with earlier courses, the majority of midwives, nurses and nurse anaesthetists at the onset of the course did not have all of the skills needed to resuscitate the newborn infant. By the end of the course all but two were proficient in this skill.
2. Although there continues to be a lecture on major trauma it is felt by all instructors, following feedback from the candidates, that this subject is too important and prevalent (mostly from major road traffic accidents) to be covered by only one lecture. It is our intention to hold a two day course on major trauma in subsequent sets of trainings.
3. Perhaps the most important factor that is causing difficulties with emergency care at Phebe Hospital is the current state of the Emergency Room. This requires urgent expansion, renovation and basic equipment. MCAI has already provided \$8000 US to the hospital so that work can be undertaken on renovation. This work has already started and the foundations for the new extended unit are in place (see picture).
4. Six newly qualified professionals (Gertrude Cole, Aaron Sonah, Marie Padmore, Taywah Bombo, Patty McLean and Korpo Borzie) from the Generic Instructor Course undertaken as part of this visit assisted with the two subsequent EMNH courses. Their input was very helpful and there is no doubt that in future all will achieve full internationally accredited instructor status and be able to teach on future courses.
5. Gertrude Cole as head of midwifery for Bong County was equipped with a large screen Toshiba laptop on which had been loaded 19 videos concerning neonatal care in low resource settings. She was also given the full teaching materials from the EMNH course and neonatal course. Along with her senior colleagues and fellow instructor candidates she will use these materials for “small group” teaching.



Half built extension to the Emergency Room at Phebe Hospital

The appointment of obstetric clinicians (midwives) to be trained in emergency obstetric surgery

The LMDC and MOHSW are still negotiating over the training of the midwives selected to undergo advanced training, including emergency obstetric surgery. Details of the first 3 candidates were provided in our last report.

This delay is regrettable as there is an urgent need for more skilled surgeons to assist the doctors in Phebe and CB Dunbar as well as to plan for new rural settings where comprehensive EMOC can be practiced.

The latest information concerning this issue is that the LMDC has said that this training can go ahead as soon as they have approved the training curriculum and national and international trainers. Details on all of this are with the MOHSW and we are awaiting an early decision.

Other factors relevant to the continuing programme to enhance emergency care at Phebe and CB Dunbar hospitals

Prevention of life-threatening infection

The initial background monitoring and evaluation for Bong County performed by WHO and Professor Southall as part of this project has shown that puerperal and neonatal sepsis is a major problem and causing many deaths. During the EMNH courses there was considerable emphasis placed on the prevention of hospital-based infection, including a workshop on this subject.

One possible solution, discussed in the workshop, was the use of obstetric Chlorhexidine cream (Hibitane cream) for all pelvic examinations in labour especially after ruptured membranes. An initial supply of this material has been given to both hospitals to assess its possible value.

Perhaps of much more importance, was information obtained from the infection control workshop indicating how much of the puerperal sepsis probably arises in those poorest families where the mother cannot afford sanitary towels to keep her genital tract clean during the puerperium. As a result of this finding, MCAI has now started raising funds to provide, if possible, every woman or girl who has just given birth with a pack containing essential basic materials to help prevent infection (sanitary towels, soap, hand towels etc.). 30 packs were provided during this visit and more are being obtained in the UK. However, it was felt after discussion with midwives that disposable rather than re-washable sanitary towels were likely to be better accepted. MCAI is now pursuing this approach.

Finally there have been a number of serious post operative infections at CB Dunbar Hospital, possibly related to the humid and very hot post operative ward area. An air conditioner will now be provided by MCAI and placed in this area with the hope of reducing the risk of wound infection.

Provision of anti-snake venom

During the training, a two-headed Black Mamba snake fell from a tree under which the training was occurring (the electricity supply had temporarily failed). Fortunately a local man killed the snake and there was no injury. This emphasises the need for the anti-venom that we have supplied to the hospital.

Condom catheters for the treatment of severe post partum haemorrhage

Skill stations in the latest 2 EMNH courses confirmed our initial opinion that condom catheters (balloon tamponade of the uterus) should be made available (with additional training) for cases of severe post partum haemorrhage not responding to standard treatment in all hospitals and clinics in Bong County. A manual on this procedure is currently being prepared. An additional skill station was undertaken as part of the present two EMNH courses to help address this.

Accommodation, food and security for the international visitors

All involved wish to thank Mr Jeremiah Akoi for ensuring that all of these 3 areas of support were established. All three were of a good standard and the quality of accommodation, although basic, was perfectly adequate and comfortable. The food was nutritious and there were no problems with food-borne diseases. The security provided was of a high standard.

Acknowledgments

We must thank Dr Jefferson Sibley and his regional health team, especially Jeremiah Akoi, for making all the arrangements to ensure that this session went ahead so well. The preparation of the candidates, the food accommodation and security were particularly important and every effort was made to ensure this. We are also grateful for the invaluable assistance of Raphael and the drivers from WHO, as well as the drivers from Phebe, who all ensured that the international visitors were kept safe during their journeys.

Professor David Southall (project leader)

Dr Barbara Phillips (ALSG Educator, director of the neonatal course)

Dr Brigid Hayden (director of the GIC and first EESS-EMNH course)

Appendix 1 Programmes for the 4 courses

Neonatal Care Course Programme Liberia 13th -14th June 2013

Faculty

Instructors: David Southall, Barbara Phillips

Coordinator: Jeremiah Akoi

Observer: Nurse anaesthetist Aaron Sonah

Day 1			
8.00 - 8.30	Faculty meeting		
8.30 - 9.00	Registration and photos		
9.00 - 9.15	Welcome and introduction: what to expect from the course		DS
9.15 - 9.30	Putting care of newborns into context in Liberia		DS
9.30 - 9.45	The small baby		BP
9.45 - 10.15	Hypothermia		DS
10.15 - 10.45	Kangaroo Mother Care		BP
10.45 -11.15	Break		
11.15 - 12.15	Workshop/Skill stations; 1 Kangaroo Mother Care, 2 keeping babies warm,		
Stations	11.15 - 11.45	11.45 - 12.15	
1	A	B	BP
2	B	A	DS
12.15 - 12.45	Infection control		
12.45 -13.15	Nutrition and feeding		
13.15 - 14.15	Lunch		
14.15 - 16.15	Workshops, Skill stations; 1 Breast feeding problems, 2, Hand hygiene and utensil sterilisation, 3, Pain control in babies, 4 Monitoring		
Stations	14.15 - 14.45	14.45 - 15.15	
1	A	B	BP
2	B	A	DS
Stations	15.15 - 15.45	15.45 - 16.15	
3	A	B	BP
4	B	A	DS
16.15 - 16.30	Meet mentees		
16.30	Close of Day 1		

Day 2			
8.15 - 8.45	Faculty meeting		All
8.45 - 9.00	Registration		JA
9.00 - 9.30	Resuscitation at birth		BP
9.30 - 10.30	1 Workshop and 2 skill station on resuscitation at birth		
Station	9.30 - 10.00	10.00 - 10.30	
1	A	B	BP
2	B	A	DS
10.30 - 11.00	Break		
11.00 - 11.45	Infections		DS
11.45 - 12.15	Respiratory problems		BP
12.15 - 13.15	Workshop /skill station on 1. Recognising the sick infant 2. Oxygen use and pulse oximeter		
Station	12.15 - 12.45	12.45 - 13.15	
1	A	B	BP
2	B	A	DS
13.15 - 14.15	Lunch		
14.15 - 14.45	Jaundice		DS
14.45 - 15.15	Convulsions		BP
15.15 - 16.15	Simulations 1. Infections, 2. Convulsions and jaundice		
Station	15.15 - 15.45	15.45 - 16.15	
1	A	B	DS
2	B	A	BP
16.15 - 16.30	Break		
16.30 - 17.00	MCQ		JA
17.00 - 17.30	Simulation test		All
17.30 - 18.00	Presentations and close		All

Generic Instructor Course - Programme

Instructors	
Director	Brigid Hayden
Faculty	Johan Creemers, Lamin Marong
Coordinator	Jeremiah Akoi
Educator	Barbara Phillips
Instructor candidate	Julia Morch-Siddall

Day One

Time		Learning Outcomes
10.30 - 11.00	Faculty Meeting Registration & Coffee	
11.00 - 11.15	Mentor group meetings	
11.15 - 11.30	Introduction and Welcome BH	
11.30 - 12.30	Adult Learning ~ Educator BP	By the end of this session you should be able to: <ul style="list-style-type: none"> Describe your own personal learning style Identify some factors that might facilitate your own learning Recognise that other individuals are likely to have different learning preferences Think of ways of planning teaching and learning to suit a variety of learning styles
12.30 - 13.15	Lunch	
13.15 - 14.15	Equipment familiarisation All faculty (3 x 20 minute rotations)	By the end of this session you should be able to assemble and safely use: <ul style="list-style-type: none"> Manikins Heartsims Defibrillators By the end of this session you should be able to set up and effectively use: <ul style="list-style-type: none"> An overhead projector A slide projector A PowerPoint projector (if available)
14.15 - 14.45	Lecturing BP <u>Demonstration Lecture & Critique BH</u> Lecture critique and discussion BP Educator	By the end of this session you should be able to: <ul style="list-style-type: none"> Critically observe a 5 minute lecture and identify its principal features and the 3 phases of set, dialogue and closure Comment on these features in providing positive feedback Discuss the lecture as a teaching method, identifying its strengths and weaknesses
14.45 - 15.15	Skills Teaching BP <u>Demonstration Skill Station+Critique JC</u> Critique and discussion ~ Educator BP	By the end of this session you should be able to: <ul style="list-style-type: none"> Observe, describe and apply the four stage approach to skills teaching Discuss the main educational features of the four stage approach to skills teaching
15.15 - 15.30	Refreshment Break	
15.30 - 18.00	Practice Stations: lectures and skills	

	teaching		
Station/Time	15.30 - 16.45	16.45 - 18.00	Faculty
Lecture	A	A	BH, LM
Skill Teaching	B	B	JC, BP

18.00 - 18.15	Mentor Meetings	
18.15 - 18.45	Faculty Meeting	

Day Two

Time		Learning Outcomes
08.30 - 08.45	Mentor Meetings	
08.45 - 09.45	Closed and Open Discussions BP <u>Demonstration Closed Discussion and Critique JC</u> <u>Critique and discussion ~ Educator BP</u>	By the end of these sessions you should be able to: <ul style="list-style-type: none"> Recognise the two different types of approaches to group discussion Compare and contrast the relative merits and application of closed and open discussion Plan group discussions, based on a universal structure for teaching Recognise and apply appropriate techniques for facilitating and controlling the group
09.45 - 10.15	Teaching scenarios and role playing BP <u>Demonstration Teaching Scenario and Critique JH LM</u> Critique and discussion ~ Educator BP	By the end of this session you should be able to: <ul style="list-style-type: none"> Discuss the application of role play and scenario teaching Recognise the important features of role play and scenario in resuscitation teaching Both organise and take part in role plays and scenarios
10.15 - 10.30	Refreshment Break	

10.30 - 13.00	Practice Stations: closed discussions and scenario teaching		
Station/Time	10.30 - 11.45	11.45 - 13.00	Faculty
Scenario Teach	A	B	BP, BH
Closed discussion	B	A	JC, LM

13.00 - 13.45	Lunch		
13.45 - 14.30	Assessment: skills and scenarios BP <u>Demonstration Skill Testing and Critique BH</u> <u>Demonstration Scenario Testing and Critique JC, LM</u> Critique and discussion ~ Educator BP		By the end of this session you should be able to: <ul style="list-style-type: none"> Describe the basic principles of assessment Critically discuss the key issues surrounding assessment, especially with regard to making pass/fail decisions and informing candidates of these decisions Begin to apply these principles to the skills and competencies covered on provider courses

14.30 - 17.15	Practice Stations: assessment of skills and scenarios			
Station/Time	14.30 - 15.45	15.45 - 16.00	16.00 - 17.15	Faculty
Skills Assess	A	Refreshment break	B	LM, BP
Scenario Assess	B		A	JC, BH

17.15 - 17.45	For candidates: "Role of the Instructor" <u>Open Discussion led by Course Director and Course Co-ordinator BH, JC</u>	By the end of this session you should have: ▪ Discussed the role of the instructor (through open discussion), facilitated by the Course Director
17.45 - 18.15	COFFEE and Faculty Meeting	
18.15 - 18.45	Mentor feedback individually	All faculty
18.45 - 19.00	Feedback in main lecture room	All faculty
19.00	Course closure	All faculty

Emergency Maternal and Neonatal Health Course

June 17th – 19th. 2013

Faculty	
Brigid Hayden: Director	Jeremiah Akoi: Co-ordinator
Johan Creemer	Julia Morch-Siddall
Hannah Gibson	Lamin Marong
Barbara Phillips	
Gertrude Cole IC	Aaron Sonah IC
Marie Padmore IC	Taywah Bombo IC
Patty McLean IC	Korpo Borzie IC

COURSE PROGRAMME: DAY I

Time:	Session Title:	Faculty Allocation:
0900 – 0930	Arrival, registration and photographs	Jeremiah
0930 – 0945	Welcome, introduction and objectives of the course. Life- saving skills essential for health workers caring for pregnant mothers and newborn babies: knowledge, practice and competence.	Brigid
0945 – 1015	MCQs	
1015– 1035	Putting emergency care of mothers and newborn infants into context in Liberia.	Hannah
1035 -1100	Break	
1100 – 1130	Structured approach to emergencies in mother and newborn	Johan
1130 – 1150	Airway and Breathing management in the mother : Lecture	Julia
1150 – 1220	Resuscitation at birth: Lecture with demonstration	Barbara
1220 – 1350	Skills with hands -on practice: -	
Time	1220– 1305	1305 – 1350
Airway/Breathing Mother Julia/Johan	Red	Blue
Airway/Breathing Mother Brigid/	Green	Yellow
Resuscitation at Birth Lamin/Hannah	Blue	Red
Resuscitation at Birth Barbara	Yellow	Green
1350 – 1445	Lunch	
1445 – 1645	BASELINE SKILLS/WORKSHOPS	
Time:	1445 – 1515	1515 - 1545
	1545 – 1615	1615 – 1645

Triage in Pregnancy Brigid/Hannah	Red	Blue	Green	Yellow
Twin delivery Johan	Blue	Green	Yellow	Red
Infection control and prevention of HIV/Hepatitis Barbara/Lamin	Green	Yellow	Red	Blue
Blood transfusions Julia	Yellow	Red	Blue	Green
1645-1710	Serious medical illnesses in pregnancy			Hannah
1710-1740	Faculty meeting			

COURSE PROGRAMME: DAY 2

Time:	Session Title:				Faculty Allocation:
0900 – 0930	Shock in pregnancy				Johan
0930 – 1000	Massive obstetric haemorrhage				Julia
1000 – 1030	Break				
1030 – 1100	Demo scenario on massive PPH				Instructor: Julia Candidate: Lamin Evaluator: Brigid
1100 – 1130	Recognising and managing neonatal illness + video				Barbara
1130 – 1330	Scenarios:				
Time	1130-1200	1200-1230	1230-1300	1300-1330	
<i>Scenarios: Station 1</i> Neonatal illness Lamin/Hannah	Red	Blue	Green	Yellow	
<i>Scenarios: Station 2</i> Massive haemorrhage: PPH APH Brigid	Blue	Green	Yellow	Red	
<i>Scenarios: Station 3</i> Neonatal illness Barbara	Green	Yellow	Red	Blue	
<i>Scenarios: Station 4</i> Shock due to puerperal sepsis Julia/Johan	Yellow	Red	Blue	Green	
1330 – 1430	Lunch				
1430-1500	Eclampsia Lecture				Lamin
1500 – 1520	Complications of early pregnancy Lecture				Brigid
1520 – 1545	Demo scenario on ruptured ectopic pregnancy				Instructor: Hannah Candidate: Lamin Evaluator : Julia
1545 – 1600	Videos of external jugular cannulation, IO needle and UVC catheter				Barbara
1600 – 1700	Skills: Circulation: Cut down trainer, and instructor's external jugular vein Workshop/skills: eclampsia				
TIME	1600 – 1630		1630 – 1700		
Difficult venous access in pregnancy: include external jugular access and long saphenous	Red		Blue		

vein cutdown Julia/Hannah		
Eclampsia workshop Brigid	Blue	Red
Difficult venous access in pregnancy: include external jugular and long saphenous vein cutdown Barbara/Lamin	Green	Yellow
Eclampsia workshop Johan	Yellow	Green
1700 – 1730	Major trauma in pregnancy: Lecture	Brigid
1730 – 1800	Faculty meeting	

COURSE PROGRAMME: DAY 3

Time	Session Title		Faculty Allocation	
0830 - 0855	Obstructed labour: Lecture		Johan	
0855 – 0920	Complications of labour and delivery: Lecture		Julia	
0920– 0945	Demo scenario: shoulder dystocia		Instructor : Johan	Candidate: Hannah
0945 – 1005	Demo scenario: vaginal breech delivery		Evaluator : Brigid	Candidate : Julia
1005 – 1030	Break			
1030 – 1230	Delivery-related skills			
Time	1030 –1100	1100 – 1130	1130 – 1200	1200 – 1230
Vaginal breech Brigid/Barbara	Red	Blue	Green	Yellow
Cord prolapse and uterine inversion Julia	Blue	Green	Yellow	Red
Shoulder dystocia Lamin/Hannah	Green	Yellow	Red	Blue
PPH Procedures Johan	Yellow	Red	Blue	Green
1230 – 1330	Obstetric scenarios			
TIME	1230 - 1300		1300 – 1330	
Eclampsia /severe pre-eclampsia Johan/Barbara	Red		Green	
Eclampsia/severe pre-eclampsia Julia	Blue		Yellow	
Ectopic pregnancy/ Miscarriage/APH Hannah/Lamin	Green		Red	

Ectopic pregnancy/ Miscarriage/APH Brigid	Yellow	Blue
1330-1430	Lunch	
1430 - 1500	MCQs	
1500 - 1530	Tea	
1530- 1640	Test scenarios (10 mins.) Station 1: PPH Station 3: Neonatal resusc.	Station 2: Eclampsia (Retakes)
1640 – 1710	Faculty meeting	
1710 -1725	Log books, record keeping and transfer notes	Brigid/Lamin
1725 - 1800	Closing ceremony, bag valve masks, pocket books, CD roms	

Emergency Maternal and Neonatal Health Course

June 20th to 22nd 2013

Faculty	
Johan Creemer (Director)	Jeremiah Akoi: Co-ordinator
Obed Dolo	Julia Morch-Siddall
Hannah Gibson	Lamin Marong
David Southall (part only)	Ann Wright (expert assistant)
Gertrude Cole IC	Aaron Sonah IC
Marie Padmore IC	Taywah Bombo IC
Patty McLean IC	Korpo Borzie IC

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0930 –0945	Welcome, introduction and objectives of the course. Life- saving skills essential for health workers caring for pregnant mothers and newborn babies: knowledge, practice and competence.	Johan
0945 – 1015	MCQs	
1015– 1035	Putting emergency care of mothers and newborn infants into context in Liberia.	Obed
1035 -1100	Break	
1100 – 1130	Structured approach to emergencies in mother and newborn	Johan
1130 – 1150	Airway and Breathing management in the mother : Lecture	Julia
1150 – 1220	Resuscitation at birth: Lecture with demonstration	Lamin
1220 – 1350	Skills with hands -on practice: -	
Time	1220– 1305	1305 – 1350
Airway/Breathing Mother Johan	Red	Blue
Airway/Breathing Mother Obed	Green	Yellow
Resuscitation at Birth Julia	Blue	Red

Resuscitation at Birth Lamin/Hannah	Yellow		Green	
1350 – 1445	Lunch			
1445 – 1645	BASELINE SKILLS/WORKSHOPS			
Time:	1445 – 1515	1515 - 1545	1545 – 1615	1615 – 1645
Triage in Pregnancy Johan	Red	Blue	Green	Yellow
Twin delivery Obed	Blue	Green	Yellow	Red
Infection control and prevention of HIV/Hepatitis Lamin	Green	Yellow	Red	Blue
Blood transfusions Julia/Hannah	Yellow	Red	Blue	Green
1645-1710	Serious medical illnesses in pregnancy			Hannah
1710-1740	Faculty meeting			

COURSE PROGRAMME: DAY 2

Time:	Session Title:			Faculty Allocation:
0900 – 0930	Shock in pregnancy			Johan
0930 – 1000	Massive obstetric haemorrhage			Julia
1000 – 1030	Break			
1030 – 1100	Demo scenario on massive PPH			Instructor: Julia Candidate: Lamin Evaluator: Obed
1100 – 1130	Recognising and managing neonatal illness + video			Barbara
1130 – 1330	Scenarios:			
Time	1130-1200	1200-1230	1230-1300	1300-1330
<i>Scenarios: Station 1</i> Neonatal illness Lamin/Hannah	Red	Blue	Green	Yellow
<i>Scenarios: Station 2</i> Massive haemorrhage: PPH APH Johan	Blue	Green	Yellow	Red
<i>Scenarios: Station 3</i> Neonatal illness David	Green	Yellow	Red	Blue
<i>Scenarios: Station 4</i> Shock due to puerperal sepsis Julia/Obed	Yellow	Red	Blue	Green
1330 – 1430	Lunch			
1430-1500	Eclampsia Lecture			Lamin
1500 – 1520	Complications of early pregnancy Lecture			Obed
1520 – 1545	Demo scenario on ruptured ectopic pregnancy			Instructor: Hannah Candidate: Lamin Evaluator : Julia
1545 – 1600	Videos of external jugular cannulation, IO needle and UVC catheter			Johan
1600 – 1700	Skills: Circulation: Cut down trainer, and instructor's external jugular vein Workshop/skills: eclampsia			

TIME	1600 – 1630	1630 – 1700
Difficult venous access in pregnancy: include external jugular access and long saphenous vein cutdown Julia/Hannah	Red	Blue
Eclampsia workshop Johan	Blue	Red
Difficult venous access in pregnancy: include external jugular and long saphenous vein cutdown Lamin	Green	Yellow
Eclampsia workshop Obed	Yellow	Green
1700 – 1730	Major trauma in pregnancy: Lecture	Johan
1730 – 1800	Faculty meeting	

COURSE PROGRAMME: DAY 3

Time	Session Title		Faculty Allocation	
0830 - 0855	Obstructed labour: Lecture		Lamin	
0855 – 0920	Complications of labour and delivery: Lecture		Julia	
0920– 0945	Demo scenario: shoulder dystocia		Instructor : Johan Evaluator : Julia	Candidate :Hannah
0945 – 1005	Demo scenario: vaginal breech delivery		Instructor : Obed Evaluator : Lamin	Candidate : Julia
1005 – 1030	Break			
1030 – 1230	Delivery-related skills			
Time	1030 –1100	1100 – 1130	1130 – 1200	1200 – 1230
Vaginal breech Johan	Red	Blue	Green	Yellow
Cord prolapse and uterine inversion Julia	Blue	Green	Yellow	Red
Shoulder dystocia Lamin/Hannah	Green	Yellow	Red	Blue
PPH Procedures Obed	Yellow	Red	Blue	Green
1230 – 1330	Obstetric scenarios			
TIME	1230 - 1300		1300 – 1330	
Eclampsia /severe pre-eclampsia Obed	Red		Green	

Eclampsia/severe pre-eclampsia Julia	Blue	Yellow	
Ectopic pregnancy/ Miscarriage/APH Hannah/Lamin	Green	Red	
Ectopic pregnancy/ Miscarriage/APH Johan	Yellow	Blue	
1330-1430	Lunch		
1430 - 1500	MCQs		
1500 - 1530	Tea		
1530- 1640	Test scenarios (10 mins.) Station 1: PPH Station 3: Neonatal resusc.		Station 2: Eclampsia (Retakes)
1640 – 1710	Faculty meeting		
1710 -1725	Log books, record keeping and transfer notes		Lamin
1725 - 1800	Closing ceremony, bag valve masks, pocket books, CD roms All faculty		

Appendix 2

FEEDING IN THE NEONATE

- Breast milk including colostrum whenever possible: the mother of a pre-term infant produces milk with more nutrition.
- Every two to three hours by cup or gastric tube where appropriate
- The smaller the baby the more frequent but smaller the feeds.
- If not at the breast, still feed on demand but no less than 2 hourly for infants weighing < 1500 Gm and 3 hourly for infants weighing > 1500 Gm

Volumes of milk per Kg per day from birth

AGE	VOLUME OF MILK PER KG PER 24 HOURS
Day 1	60 ml/Kg/day
Day 2	80 - 90 ml/Kg/day
Day 3	100 - 120 ml/Kg/day
Day 4	120 – 150 ml/Kg/day
Day 5 and onwards	140 – 180 ml/Kg/day

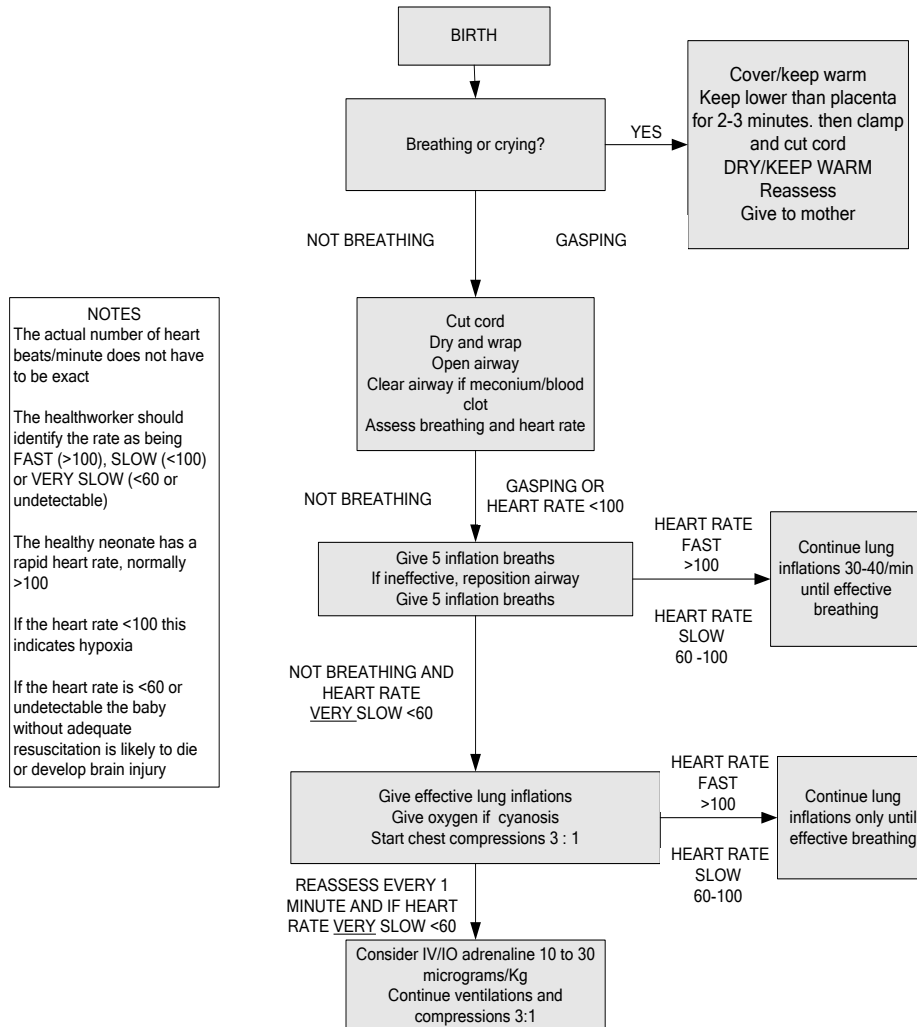
Approximate quantity of milk to feed by cup or gastric tube (in ml) every 2-3 hours from birth by infant's weight

Weight (Kg)	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
1.5 – 1.9 Kg	15 ml	17 ml	19 ml	21 ml	23 ml	25 ml	27 ml	31 ml or more if willing
2.0 – 2.4 Kg	20 ml	22 ml	25 ml	27 ml	27 ml	30 ml	32 ml	35 ml or more if willing
2.5 Kg or more	25 ml	28 ml	30 ml	35 ml	35 ml	40 ml or more if willing	45 ml or more if willing	50 ml or more if willing



Appendix 3

Neonatal resuscitation algorithm



Appendix 4

RECOGNITION AND TREATMENT OF NEONATAL INFECTIONS

Danger signs associated with infection in the neonate: WHO

- Infant feeding less than well than before
- Infant lying quiet and making few spontaneous movements
- Fever $> 38^{\circ}\text{C}$ or hypothermia
- Capillary refill time > 3 seconds
- Respiratory rate 60 or more breaths per minute
- In-drawing of the lower chest wall when breathing, *or* grunting or apnoeic episodes
- Cyanosis or reduction in oxygen saturation
- History of a convulsion

Less common but important signs include:

- Low respiratory rate $< 20/\text{minute}$ or apnoea
- Jaundice
- Abdominal distension
- Skin, eye or umbilical infections

Antibiotics: Ampicillin (or penicillin) PLUS gentamicin IV or IM
Cefotaxime or ceftriaxone is an alternative IV or IM

Drug	Dose	Drug	Frequency
Ampicillin	50 mg/Kg unless meningitis when 100 mg/Kg	Ampicillin	12 hourly 1 st week 8 hourly 2 nd -3 rd week 6 hourly 4 th week of life onwards
Penicillin	30 mg/Kg unless meningitis or tetanus when 50 mg/Kg	Penicillin	12 hourly 1 st week 8 hourly 2 nd -3 rd week 6 hourly 4 th week of life onwards
Gentamicin	5mg/Kg unless infant < 2 Kg when give 4 mg/Kg	Gentamicin	Once every 24 hours unless infant under 32 weeks gestation when once every 36 hours Also reduce frequency to every 36 – 48 hours if concern about renal function: for example not passing much urine
Cefotaxime	50 mg/Kg	Cefotaxime	12 hourly 1 st week 8 hourly 2 nd -3 rd week 6 hourly 4 th week of life onwards Except if meningitis when 6 hourly
Ceftriaxone	50 mg/Kg if < 7 days old and 75 mg/Kg if 7 days or older	Ceftriaxone	Once every 24 hours

