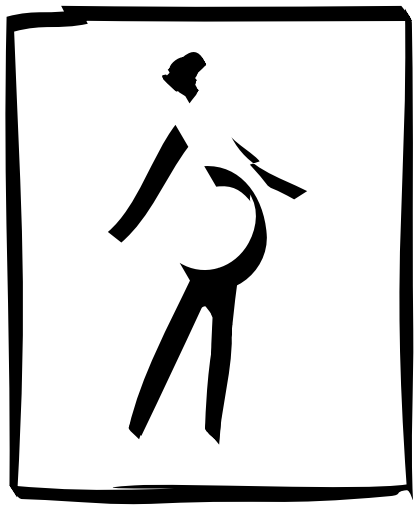
How To Guide

REPRODUCTIVE HEALTH IN REFUGEE SITUATIONS



Strengthening Safe Motherhood Services

Report on a participatory approach to strengthening Safe Motherhood Services

Kigoma and Ngara, Tanzania
November, 1998
UNHCR

This is the fifth in a planned series of HOW TO GUIDES that document how Reproductive Health (RH) activities were implemented in the field. The Guide was compiled by Judith O'Heir, UNHCR RH Consultant who provided technical assistance, from September-November 1998, to review safe motherhood services in the refugee camps in Kigoma and Ngara, Tanzania. The review process was action-oriented and participatory involving the RH Co-ordinators for each of the agencies working in the situation. This document describes the review approach and gives practical tools for managers and providers of safe motherhood services. Service delivery protocols, based on WHO technical materials, were prepared for use for strengthening safe motherhood services.

Each HOW TO GUIDE documents one field experience and illustrates an innovative approach to a particular area of RH. The Guide is not meant to present a definitive solution to a problem. Rather, its recommendations should be used and adapted to suit particular needs and conditions of each refugee setting.

If you have any questions about this Guide, please contact UNHCR - Tanzania Desk, CP 2500, Geneva, Switzerland, 1202 or UNHCR, Sub-Office Kigoma, Tanzania, Fax: 255 6954497 or e-mail: TANKI@unhcr.org

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I. INTRODUCTION

WHAT IS THE PURPOSE OF THIS HOW TO GUIDE?

This How to Guide describes the process used to review and strengthen safe motherhood services in the refugee camps in Kigoma and Ngara, Tanzania. Information is provided about safe motherhood in refugee settings, the activities undertaken during the review process and the key people involved in the activities. The main findings of the review process are also presented, together with the conclusions and recommendations for strengthening safe motherhood services in the refugee camps in Kigoma and Ngara.

WHO IS THIS GUIDE FOR?

This guide is intended for supervisors or co-ordinators of reproductive health care services in refugee settings. The content of the guide focuses on the safe motherhood component of reproductive health and provides an action-oriented, participatory approach for supervisors or co-ordinators to review safe motherhood services and determine immediate and future needs/interventions for strengthening services.

WHAT IS UNHCR'S POLICY ON SAFE MOTHERHOOD?

UNHCR supports the organization of comprehensive services for antenatal, delivery and postnatal care, consistent with WHO policies and the Inter-agency Field Manual on Reproductive Health in Refugee Situations.[1] The organization of such services should take into account existing facilities for the local population; the needs of both refugee and local populations should be considered. The services provided should be responsive to obstetric emergencies, although, where appropriate, host country services should be used in preference to establishing new, refugee-specific facilities which will not be maintained in the long term.

In order to ensure that the services provided are appropriate, accessible, and of the highest quality, it is essential to:

- identify skilled care providers involved in childbirth (physicians, midwives, experienced nurses, trained Traditional Birth Attendants (TBAs);
- provide refresher training and supportive supervision, as needed;
- ensure the availability of the basic supplies, equipment and drugs; and
- be aware of and discuss community beliefs and practices, and health seeking behaviour relating to delivery – e.g. position for delivery, presence of relatives for support and traditional practices both positive (breast-feeding) and harmful (female genital mutilation).

Antenatal and postnatal services should be offered in an appropriate environment, in the same location as family planning, STD services, the "baby clinic" and other related primary health care services.

[1] The Inter-agency Field Manual is currently being revised, based on the results of several years of field testing, and should be available in early 1999.

The emphasis for delivery care must be on provision of skilled assistance. In the absence of midwives or nurses, TBAs should be trained in clean and safe delivery practices, early detection of problems, and immediate and safe referral to a health care facility.

The essential interventions for safe motherhood, to which UNHCR agrees, can be summed up as follows[2]:

Before and During Pregnancy

- information and services for family planning
- STD/HIV prevention and management
- tetanus toxoid immunization
- antenatal registration and care
- treatment of existing conditions (for example, malaria and hookworm), according to country policy
- advice regarding nutrition and diet
- iron/folate supplementation
- prevention, early detection and management of complications (e.g. haemorrhage, pre-eclampsia/eclampsia, anaemia, abortion)

During Delivery

- clean and safe (atraumatic) delivery
- prevention, early detection and management of complications (e.g. haemorrhage, prolonged/obstructed labour, eclampsia)

After Delivery: Mother

- management of complications (e.g. haemorrhage, sepsis, eclampsia)
- postpartum care
- information and services for family planning
- STD/HIV prevention and management
- tetanus toxoid immunization

After Delivery: Baby

- resuscitation
- prevention and management of hypothermia
- early and exclusive breast-feeding
- prevention, early detection and management of infections, including ophthalmia neonatorum and cord infections
- birth weight and referral for immunization and growth monitoring

[2] World Health Organization. *Mother-Baby Package: Implementing Safe Motherhood in Countries*. WHO/FHE/MSM/94.11. Geneva, World Health Organization 1994.

II. BACKGROUND

WHAT IS THE REFUGEE SETTING?

Ethnic conflict in Burundi in 1993 and in Rwanda in 1994 forced thousands of people to flee their homelands. Some 495,000 refugees from these countries were accommodated in seven temporary camps in the Ngara District of Tanzania, a remote, poor area of the country with a native population of some 180,000. It was estimated that approximately 200,000 of the refugees were females between the ages of 10 and 50 years and 120,000 were children aged 7-14 years. The vast majority of refugees – more than 400,000 – were from Rwanda. They were given temporary asylum by the Tanzanian Government and were not permitted to farm or trade outside the camps. In late 1996 it became possible for the Rwandan refugees to return home, and all were repatriated in December, leaving only about 80,000 Burundians in the camps. At present there are two established camps in Ngara District – Lukole A and Lukole B – housing Burundian refugees.

In addition to providing a safe haven for Rwandans and Burundians, north-western Tanzania has provided refuge for citizens from the Democratic Republic of the Congo who began crossing Lake Tanganyika in October 1996 to flee civil war. Refugees from the Congo and Burundi continue to arrive daily in the Kigoma Region.

As of this writing, there are nine established camps in the Kigoma Region. Four camps in the northern Kibondo District (Nduta, Mtendeli, Mkugwa, and Kenambwa) house Burundian refugees. An additional three camps in the central Kasulu District (Mtabila I, Mtabila II, and Muyovosi) house Burundian refugees. Two camps, one in Kasulu District (Nyarugusu) and one in the southern Kigoma District (Lugufu) house Congolese refugees. The estimated population for the camps ranges from 3,000 (Mkugwa in Kibondo District) to 77,000 (Lukole A in Ngara District). As of October 1998, the total population in the established camps was estimated at 320,000 (XXX add Lugufu XXX).

UNHCR is responsible for co-ordinating the establishment and maintenance of the camps, while the implementing agencies, which include both national and international NGOs, are responsible for activities at the camp level. There is a UNHCR Sub-Office in Kigoma and Ngara towns, and Field Offices in Kasulu and Kibondo.

HOW ARE THE HEALTH SERVICES ADMINISTERED?

Each camp has a compound at which health services are delivered. Most compounds include facilities for both outpatient and inpatient services, including maternity inpatient services. Patients requiring services not available at the camp health compound (e.g. surgical interventions and complex medical treatment) are referred to a district, regional or tertiary hospital operated by the Ministry of Health (MoH).

The administration of health services is the responsibility of the designated implementing agency for a particular camp. The agency is responsible for hiring and supervising staff, providing and maintaining infrastructure, ensuring the availability of the necessary supplies, equipment and drugs, and implementing and monitoring the delivery of a range of preventive and curative health services. IFRC/TRCS is responsible for health services at Mtabila I, Mtabila II, and Muyovosi camps; Christian Outreach at Nyarugusu camp; IRC at Nduta and Mtendeli camps; UMATI at Mkugwa and Kenambwa camps; and NPA at Lukole A and Lukole B camps.

Health care providers include expatriate and Tanzanian staff, as well as refugee workers who are qualified health professionals or who have been trained by the implementing agency to perform particular tasks related to the delivery of health care services.

WHAT ARE THE SAFE MOTHERHOOD NEEDS OF REFUGEE WOMEN?

Women living in refugee settings require the same services as pregnant women elsewhere. These services include comprehensive antenatal care, including careful assessment, health promotion, screening and treatment for diseases such as syphilis, iron/folate supplementation, malaria prophylaxis/treatment, and tetanus toxoid immunization; clean and safe delivery care, including the prevention, early detection and management of obstetric emergencies; essential newborn care, including thermal protection, basic newborn resuscitation, and early and exclusive breast feeding; and postnatal care, including comprehensive family planning information and methods. The services for pregnant women must be linked by a functioning referral system which has the capacity to respond to obstetric emergencies, if and when they arise.

In an emergency phase, pregnant refugee women may need additional psychological support and more intensive monitoring of the pregnancy to ensure a safe outcome.

HOW ARE SAFE MOTHERHOOD NEEDS OF REFUGEE WOMEN MET?

At the camps in Kigoma and Ngara, antenatal care is provided, usually daily. The care includes most of the main elements recommended by WHO. Not all of the camps have a maternity ward; however, women requiring hospital delivery are referred to the maternity ward at a neighbouring camp. The requirements for clean and safe delivery practices are in place at all camps, for both hospital and home deliveries. At most camps, the capacity exists to respond to almost all of the major obstetric emergencies. The main exception is caesarean section, although one camp in Ngara is able to provide this service. A functioning referral system is in place to transfer women needing emergency obstetric care, from the camp health facility to a MoH referral facility. Postnatal care and family planning information and services are provided at all camps.

The main service providers are midwives, who are supported with emergency backup by camp doctors or clinical officers. Traditional Birth Attendants (TBAs) also play an important role in providing culturally appropriate care for women in the community and forming an important link between the woman and the formal health care system.

WHAT ARE SOME OF THE BARRIERS TO SAFE MOTHERHOOD IN REFUGEE SETTINGS

Possibly the most common barrier to safe motherhood is the inaccessibility of good quality, basic maternal and newborn health services. However, at the refugee camps in Kigoma and Ngara these services are readily accessible and are generally of good quality; in other words, the services are within easy reach of the women in the camps and the quality of the services encourages women to use them. The health services in the camps are free of charge, which eliminates an additional common barrier to safe motherhood.

Another common barrier to safe motherhood is the lack of understanding, at individual and community levels, of the health needs of pregnant women and newborn babies. Health promotion activities aimed at educating women, their partners, families, and the community, should help to overcome this barrier. In the camps, both group and individual health promotion is provided.

Gaps in the availability of basic supplies, equipment and drugs may also create barriers to safe motherhood, although at most camps these gaps are small and do not present major barriers. The aim, of course, is for the implementing agencies to prevent these gaps from occurring.

III. REVIEWING AND STRENGTHENING SAFE MOTHERHOOD SERVICES IN REFUGEE SETTINGS

WHAT COMPONENTS OF SAFE MOTHERHOOD SHOULD BE REVIEWED?

The review of safe motherhood services in the refugee camps in Kigoma and Ngara included the following terms of reference:

Review all aspects of the safe motherhood services, identify strengths and weaknesses of the programme, develop standardized tools, protocols and reporting forms, provide on-the-job training to health workers to strengthen their work. Specifically:

Review antenatal care (ANC) services, standardize procedures and protocols for management of effective antenatal care, including:

- identification and special care for “at risk” pregnancies
- standardization of procedures for routine nutrition supplementation
- review and standardization of management of anaemia in pregnancy, including community-based procedures for distribution of iron/folate supplementation
- recording of appropriate information on maternal health cards
- registration and reporting in ANC registries
- identification and streamlining of ANC visit procedures to reduce waiting time
- review and provision of guidance on health education at ANC clinics
- initiation of discussions and procedures for community-based birth planning
- review and strengthening of the testing, treatment and follow-up of partners for syphilis screening in pregnancy (RPR)

Review clinic-based obstetric care, standardize procedures and protocols for effective management of emergency obstetric care, including:

- review of maternity wards and identification of areas for improvement
- identification of standard lists of equipment for maternity units and current gaps
- standardization of emergency referral systems, including transport procedures
- review and standardization of protocols for neonatal care and emergency obstetric care
- review of the use of partograms and train staff in their appropriate use
- review of the management of the complications of unsafe and spontaneous abortions
- review and standardization of recording and reporting procedures
- introduction of a system for investigating each maternal death

Review referral-level hospitals in each district, working with MoH and others and recommend improvements in the management of emergency obstetric care.

Review the TBA programme in each health agency, including the training, equipping, incentive packages, supervision and monitoring of TBAs, provide on-the-spot direction for strengthening the work of TBAs, including:

- community birth planning
- the role of TBAs in identifying and referring obstetric emergencies
- reporting procedures, including pregnancy outcomes and birth weights

In addition to reviewing the components of safe motherhood services outlined above, a job description was developed for RH Co-ordinators.

HOW SHOULD THE REVIEW BE CONDUCTED AND WHO SHOULD BE INVOLVED?

The health facilities at ten camps were visited, as follows: Mtabila I, Mtabila II, Muyovosi (IFRC/TRCS), and Nyarugusu (AEF) in Kasulu District; Nduta, Mtendeli (IRC), Mkugwa, and Kanembwa (UMATI) in Kibondo District; Lukole A and Lukole B (NPA) in Ngara District. In addition, the following referral facilities were visited: Kabanga Mission Hospital, Kasulu District Hospital and Kibondo District Hospital.

With respect to the review of safe motherhood services in the camps and referral facilities, a common approach was used to collect the required information and determine immediate and future needs/interventions. The WHO Safe Motherhood Needs Assessment[3] was used as a basis for developing various forms to facilitate the collection of information. Specifically, the forms developed and used included those for: (a) interviewing staff about clinical care (antenatal care, delivery and newborn care, including management and referral of obstetric emergencies, and postnatal care); (b) conducting exit interviews with antenatal and postnatal clients; (c) reviewing antenatal, delivery, and postnatal records and registers; (d) holding individual discussions with RH Co-ordinators/focal points, and group discussions with TBAs and women representatives; and (e) assessing the availability of staff, services, clinical protocols/guidelines, drugs, supplies, and equipment (see Appendices 1 through 5).

Postnatal care and family planning services were not included in the terms of reference for the consultancy; however, it seemed appropriate to include postnatal care in the review process because it is provided by the same staff who provide antenatal care. Family planning services, on the other hand, are provided by staff specifically trained for this purpose.

The number of interviews with staff, antenatal and postnatal clients, record reviews and group discussions with TBAs and women representatives, are included in Appendix 6.

The proposed approach for reviewing and strengthening safe motherhood services was discussed with the Health Co-ordinator and the RH Co-ordinator for the implementing NGO before proceeding to the camps for which they are responsible. Modifications in the approach outlined above were made at the suggestion of the RH Co-ordinators although, in general, there was very little need for change.

At the camp level, the RH Co-ordinator or the RH focal point was made available to work with the consultant throughout the review process. In some camps a second staff member was made available to translate during exit interviews with clients and group discussions with TBAs and women representatives. Translation was also provided when interviewing professional staff who found it easier to use their first language.

As the review process progressed, the findings and potential approaches for strengthening services were discussed with the relevant service providers (i.e. midwives) and/or co-ordinators/supervisors (e.g. RH co-ordinators/focal points). In addition, appropriate opportunities throughout the review process were used for informal on-the-job teaching-learning related to various aspects of maternal and newborn care (e.g. the content, organization and delivery of antenatal and postnatal care; management of obstetric emergencies; and newborn care, including basic newborn resuscitation). The discussions and on-the-job teaching-learning were important activities in terms of making the review process action-oriented and participatory in nature.

[3] World Health Organization. *Safe Motherhood Needs Assessment*. WHO/RHT/MSM/96.18. Geneva, World Health Organization 1996.

Approximately half way through the review process a meeting was arranged with the RH Co-ordinators from the five implementing NGOs to develop a job description for them. Only three RH Co-ordinators were able to attend the meeting, which was held in Kibondo. The participants described their responsibilities as RH Co-ordinators and these were organized under the following headings: programme planning; programme implementation and monitoring; co-ordination; supervision and support; education and training; and other related activities. A copy of the job description was provided to the two RH Co-ordinators who were unable to attend the meeting, for review.

Following completion of the review process, a meeting was held with the Health Co-ordinator, the RH Co-ordinator and other staff members involved in maternal and newborn care for the particular implementing NGO. The purpose of the meeting was to discuss the findings and recommendations, and to review the draft guidelines for antenatal care, delivery and newborn care, and postnatal care, which were developed as the review process progressed. At these meetings the RH Reporting System/Indicators provided by PTSS, UNHCR/HQ was discussed and a copy of the workbook which outlines the system was provided to the RH Co-ordinator. Follow-up on implementation of the system will be provided by the UNHCR Senior Health Co-ordinator, Kigoma (see Appendix 7 for the list of RH indicators).

A final debriefing took place in Kigoma, following completion of the review process, and was attended by the Health Co-ordinator and/or the RH Co-ordinator for each implementing NGO, as well as representatives from UNICEF, IRC, IFRC/TRCS, MSF, AMREF/UMATI, and the Ministry of Health. At this meeting, the main findings of the review process were presented and discussed, the recommendations for strengthening safe motherhood services were reviewed, revised, where necessary, and endorsed, as were the draft guidelines. In addition, plans for implementing the recommendations were discussed and agreed, and the job description for RH Co-ordinators (see Appendix 8) was endorsed.

WHAT WERE THE FINDINGS OF THE REVIEW?

The main findings of the review process are presented under the following headings: antenatal care; labour and delivery care; postnatal care; and traditional birth attendants. Under each of these headings, the findings from all camps are presented together in summary form, while in some instances specific findings are related to a particular camp. Relevant general information about the camps, the health facilities, and the staff involved in the delivery of safe motherhood services is included in Appendix 9.

The first important overall finding is that the staff involved in the delivery of safe motherhood services at the camps visited were, without exception, interested in and supportive of the process. This applies in particular to the RH Co-ordinators and midwives, who were consistently eager to learn as much as possible during the review process, especially with respect to new and/or better ways of providing services. As the review process progressed, it became increasingly clear that, although the circumstances in which midwives and other staff work may be less than ideal, their primary aim is to provide the best possible care to refugee women and their babies.

A second important overall finding is that the women representatives who attended the group discussions conducted during the review process have a positive view of the health services provided for pregnant women. Specifically, they indicated that the services help to: (a) prevent problems during pregnancy through the provision of antenatal care (including malaria prophylaxis, iron/folate supplementation, tetanus toxoid immunization, syphilis screening, and health education); (b) avoid maternal malnutrition through the provision of food supplementation; and (c) respond to the needs of women during labour by providing 24 hour/day service. The main suggestions for improving services included the introduction of surgical obstetric care (i.e. caesarean section) at the camps, and the reintroduction of disposable delivery kits.

Antenatal Care

At most camps, antenatal care is available daily (Monday to Friday), at a few camps two or three days a week, and at one camp (Mkugwa, which has a population of only approximately 3000) every second Friday. The schedule of visits for antenatal care is similar at all camps and basically follows the schedule used at Ministry of Health (MoH) facilities: monthly visits during the first six months of pregnancy, every two weeks during the seventh and eighth month, and weekly during the ninth month. At some camps, in addition to scheduled antenatal visits, women return to the clinic on a weekly basis for chloroquine prophylaxis. This practice, together with the frequency of scheduled visits, contributes to overcrowding at clinics and makes it difficult for clinic staff to provide services of good quality.

The WHO Technical Working Group on Antenatal Care[4] recommends a **minimum** of four visits , scheduled at specific times during the pregnancy to accomplish an essential level of antenatal care. The first visit should take place by the end of the fourth month, the second in the sixth or seventh month, the third in the eighth month, and the fourth in the ninth month. This schedule of visits acknowledges that the content and quality of antenatal care are as important as the number of visits. The discretion of the midwife providing antenatal care must be used to schedule additional visits, depending on the woman's condition and needs.

The information collected at the camps during exit interviews with antenatal clients, review of antenatal records, interviews with staff, and observations made at antenatal clinics, indicates that most of the important elements of antenatal care are available at all camps (see below). Although women are weighed at each antenatal visit, WHO does not recommend the recording and monitoring of maternal weight because there is no sound evidence to link weight gain with known risk factors or predictable outcomes, except where the pre-pregnancy weight is known.

However, because food supplementation is provided to all pregnant women in the camps, from the second trimester onward, it appears reasonable to include weight as part of routine antenatal assessment.

Element of Antenatal Care	First Visit	Subsequent Visits
height	☒	
weight	☒	☒
history	☒	☒ (follow-up)
physical examination	☒	☒
RPR test	☒	
treatment of + RPR test, including partner treatment and follow up	☒ (usually 1 day after RPR test)	
TT immunization	☒ (as needed)	☒ (as needed)
iron/folate supplementation	☒	☒
malaria prophylaxis	☒	☒
health promotion/health education	☒	☒

Two important elements of antenatal care currently not provided at the camps are disposable clean delivery kits (no longer available in any of the camps visited) and development of an individualized delivery plan for each woman. Both are recommended by WHO as important elements of antenatal

[4] World Health Organization. *Antenatal Care: Report on a Technical Working Group*. WHO/FRH/MSM/96.8. Geneva, Work Health Organization 1996.

Organization and Delivery of Care

While the important elements of antenatal care are available, there are a number of problems associated with the organization and delivery of care in the camps. For example, at a single antenatal visit, a women passes through a chain of service providers, each of whom has one or more specific tasks to perform. The sequence of activities varies somewhat from camp to camp, as shown below in examples from three of the ten camps visited.

Example 1 Antenatal Care

Component of care	Health care provider
registration, height and weight	worker no. 1 (trained-on-the-job worker)
RPR test	worker no. 2 (lab assistant or MCH aid)
blood pressure, history and malaria prophylaxis	worker no. 3 (trained-on-the-job worker)
physical examination, health promotion/health education, iron/folate distribution, and date of next visit	worker no. 4 (midwife or MCH aid)
TT immunization	worker no. 5 (vaccinator)

Example 2 Antenatal Care

Component of care	Health care provider
registration and history	worker no.1 (midwife)
blood pressure and weight	worker no. 2 (TBA no. 1)
height	worker no. 3 (TBA no. 2)
RPR test	worker no. 4 (laboratory assistant)
physical examination, health promotion/health education, date of next visit	worker no. 5 (MCH aid of midwife)
TT immunization	worker no. 6 (vaccinator)
iron/folate and chloroquine distribution (distributed at the time of CSB distribution, rather than at antenatal clinic)	worker no. 7 (trained-on-the-job worker)

Example 3 Antenatal Care

Component of care	Health care provider
registration, blood pressure and history	worker no. 1 (midwife)
height and weight	worker no. 2 (trained-on-the-job worker no.1)
RPR test	worker no. 3 (trained-on-the-job worker no.2)
physical examination, health promotion/education, date of next visit	worker no. 4 (midwife)
iron/folate and chloroquine distribution	worker no. 5 (trained-on-the-job worker no. 3)
TT immunization	worker no. 6 (vaccinator)

The availability of professional staff (i.e. midwives) to provide antenatal care is limited in most camps; therefore, the use of a chain of workers makes it possible to provide care to the large numbers of women attending antenatal clinics. However, the involvement of so many workers does not allow for the development of interpersonal relationships between health care providers and the pregnant woman, which means that the woman is unlikely to have an opportunity to discuss her personal needs and have the health care provider respond appropriately.

The involvement of so many workers in the delivery of care makes it difficult to link the elements of care (history, physical examination, routine testing, identification of risk factors, health promotion, and care provision). Moreover, the involvement of semi-skilled workers makes it difficult to identify women at risk. While risk factors are not necessarily predictive of complications, they imply the need for more careful monitoring which, during the course of a

pregnancy, may prevent a complication arising or provide the means for early detection and management thereof. Observations of clinical care at some of the camps revealed that while workers who are trained on the job to provide antenatal care are able to do a physical examination, the skill required to detect problems was not always apparent. Similarly, while they are able to check the "history" boxes on the antenatal record card, they may not understand what their check marks mean. A well-taken history is critical to effective antenatal care. Understanding and recording key facts about a woman's obstetric history and general health assists in the early identification of problems and provides the basis for appropriate decisions about care and services.

While the shortcomings described above apply primarily to non-professional workers who are trained on the job, they also apply to some of the refugee midwives who provide antenatal care.

Physical Facilities, Equipment and Supplies

The physical facilities used for antenatal clinics at some camps are in need of improvement. For example, at two camps the room used for antenatal physical examinations has no window and therefore no appropriate source of light (none of the facilities used for antenatal care has electric lighting). However, at these camps, new facilities are under construction. Ideally, each antenatal examination room should have at least one window and, if possible, a sky-light in the roof. Furnishings should include an examination table of standard height, and a small table and chair. At present, most antenatal examination rooms have no table or chair, and the examination tables are of varying dimensions (e.g. some are not more than half a metre high, while others are so high that a set of steps is provided to enable women to climb onto the table). In addition, each room should be equipped with a water dispenser for hand washing (not presently available in some antenatal examination rooms), a sphygmomanometer and stethescope, and a foetascope (at some antenatal clinics, a sphygmomanometer and stethoscope is borrowed from the maternity ward).

Records and Registries

The antenatal record cards used in the camps are made available through the Ministry of Health (MoH). However, most camps are still using an earlier version of the card, rather than the more recent version which includes space for writing notes, a partograph which has the alert and actions lines marked (the earlier version omits these), and a section for postnatal care. This later version of the MoH antenatal record card should be made available for use at all camps.

Most camps prepare antenatal registers by ruling up a counter book, which becomes tattered and difficult to read during several years of use. Additionally, the information recorded in these books differs somewhat from camp to camp. To facilitate the collection of the same information at all camps, ruled counter books should be replaced by the antenatal register used at MoH antenatal clinics. The register is printed with all of the necessary columns and headings and does not become tattered and torn because it is sufficiently small for all pages to be filled in less than 12 months. The register will also be easier to flag women at risk, using a red asterisk to correspond to the one marked on the antenatal record cards of these women.

Labour and Delivery Care

With the exception of Mtabila I and Mtabila II, each camp has a maternity ward, although the number of maternity beds and the services available vary from camp to camp.

Staff and Clinical Care

Staff interviews and observations of clinical care indicate a high level of knowledge and skill amongst the Tanzanian midwives working in the maternity wards. Almost all were able to describe confidently the interventions necessary to respond to the common obstetric emergencies (i.e. postpartum haemorrhage, obstructed labour, eclampsia, puerperal sepsis, and abortion complications). There were also opportunities for several of them to demonstrate their skill in dealing with, for example, severe pre-eclampsia, prolonged labour, and obstructed labour.

However, in general, the knowledge and skills of refugee midwives working in the maternity wards appear to be at a level below that of Tanzanian midwives, particularly with respect to the management of obstetric emergencies. The only exceptions observed were one Congolese and one Burundian midwife, both of whom function at a level comparable to their Tanzanian colleagues. For other refugee midwives, there is a need for appropriate in-service training to update their knowledge and skills, and supportive supervision to improve the quality of care provided by them.

An important consideration for maternity wards at all camps is that they are staffed, 24 hours a day, with a professional midwife capable of responding to the common obstetric emergencies mentioned above. Some of the Burundian midwives, for example, are not capable of this, nor are workers who have been trained on the job, or TBAs, who at some camps are assigned to evening and night shifts in the maternity ward. Even though there is a doctor or a clinical officer/medical assistant available within, or close to, the camp hospital compound at night, this is not adequate compensation for placing semi-skilled staff in the maternity wards at night.

At all camps the partograph is available to monitor labour, although the way in which it is used varies from camp to camp. For example, at some camps cervical dilatation is plotted but the other parts of the partograph are not completed, while at other camps most sections are completed and interpreted accurately. To ensure appropriate use of the partograph at all camps, on-the-job refresher training could be organized and provided by the RH Co-ordinator. In the meantime, an explanation of the components of the partograph, in English and French, has been provided for each maternity ward, for posting on the labour room wall.

Management of incomplete abortion is possible at eight of the ten camps visited (patients from Makugwa are referred to Kibondo District Hospital and patients from Lukole B are referred to Lukole A). Four of the camps have staff trained in the procedure of manual vacuum aspiration (MVA), including several midwives. It was difficult to obtain information about unsafe abortion; however, the staff interviewed indicated that, in their experience, women in the camps do not seek either safe or unsafe induced abortions. The women who present at the maternity ward for post abortion care have usually suffered an incomplete spontaneous abortion.

Newborn Care

The deliveries observed suggest the need for some refresher training related to essential newborn care, with particular emphasis on thermal protection, basic newborn resuscitation procedures, and the provision of support and encouragement for early breast feeding. The supply of clean cloths/towels for drying the baby is inadequate in some delivery rooms, which means that babies are often not dried after birth and instead simply wrapped in a cloth/towel. Additionally, to facilitate newborn resuscitation procedures, every delivery room must have a newborn ambu bag available at all times, and all staff attending deliveries must be proficient in its use. At present, one delivery room does not have an ambu bag and, at another, the ambu bag is shared with the paediatric ward.

Other aspects of newborn care evident at all camps include eye prophylaxis, which is carried out in the delivery room, and by TBAs after home deliveries, using tetracycline eye ointment. In addition, BGC vaccination and OPV-0 are given usually within the first week of life.

Preterm and very low birth weight babies (many of whom are twins) are usually cared for by their mothers in the maternity ward. Thermal protection is provided with hot water bottles and extra blankets. However, many of these small babies are very slow to gain weight, possibly because their mothers have difficulty establishing and/or maintaining an adequate supply of breast milk. It is important for maternity ward staff to provide these mothers with consistent guidance and support to proper expression of breast milk and alternative feeding methods for their babies until they are able to breast feed regularly and for a sufficient length of time at each feeding.

Clinical Protocols/Guidelines

None of these camps has clinical protocols/guidelines to support the provision of care in the maternity wards, except Lukole A and Lukole B, where brief guidelines on newborn resuscitation are available. However, guidelines were developed as the review process progressed and the RH Co-ordinator for each implementing NGO was provided with a draft for discussion with her staff. Revisions were made, where necessary, and the guidelines (including those for ANC and PNC) were, as mentioned earlier, discussed and endorsed at the final debriefing meeting in Kigoma (the guidelines are included in Appendices 11 and 12).

Physical Facilities, Equipment and Supplies

At most (but not all) camps the maternity ward is well organized, clean, and, in most cases, a credit to the midwife-in-charge. The basic supplies and essential drugs are usually available (Appendix 9, Tables 5 and 6), although at some camps certain consumable items and drugs are sometimes in short supply. As for basic equipment (Appendix 9, Table 7), newborn and/or adult resuscitation is not available at some maternity wards, and some do not have a vacuum extractor. In addition, all delivery rooms should be (and will be in the near future) equipped with at least one standard delivery table to replace those made locally, many of which are of awkward dimensions (i.e. too high, too wide, too long), making it difficult for midwives to provide delivery care.

Labour and delivery rooms vary from camp to camp. Some are small and cramped, making it difficult to deal with more than one delivery at a time, although in most of these cases a new maternity ward is either under construction or construction is to begin in the near future.

At present, however, there are two deficiencies common to almost all maternity wards. There is insufficient light for conducting deliveries and, in particular, for cervical and vaginal inspection and repair of lacerations and episiotomies. Even on bright sunny days, the lack of good lighting in delivery rooms makes these tasks more difficult than they need be. Staff at facilities which do not have a generator to provide electricity at night must depend on hurricane lamps for lighting. It does not seem unreasonable to expect that all delivery rooms be provided with an appropriate source of lighting, 24 hours a day.

There is insufficient water in delivery rooms for hand washing. No delivery room has a piped water supply, but most, for reasons that are unclear, have a small drinking water filter as the source of water for hand washing. Although filtered water is important for drinking, it is not necessary for hand washing; and the containers do not provide an adequate supply of water for this purpose. For these reasons, the water filters used in use in delivery rooms should be replaced with large plastic, covered receptacles that have a leak-proof tap attached. Hand washing is an essential part of infection prevention in all health care settings, for the protection of both staff and patients, and an adequate supply of water is essential so support this.

Staff also need to protect themselves more carefully from contamination by blood and other body fluids (e.g. amniotic fluid). For example, protective clothing (plastic aprons, at a minimum) should be warn when attending a delivery, and placentas should be transferred in a separate receptacle for disposal (burial) and should not be mixed with other materials to be disposed of (e.g. gloves, gauze, sanitary pads, etc.). Similarly, sharp objects (especially needles) should be disposed of in puncture-proof containers (e.g. heavy cardboard boxes similar to those provided by UNICEF for vaccination clinics) and transferred, unopened,

directly to the incinerator. Needles and syringes must not be dropped into waste paper receptacles, as this practice is hazardous to health care providers and cleaning staff, alike.

Records and Registers

At most camps the delivery register is a ruled counter book, which presents the same problems as the ruled counter book used as an antenatal register. The printed delivery register available through the MoH should be introduced at all maternity wards, for the same reasons mentioned above concerning the use of the MoH antenatal register.

Referral of Obstetric Emergencies

With the exception of caesarean section, most camps are able to respond adequately to the common obstetric emergencies, provided that there is an experienced midwife on duty at the maternity ward, who is supported by a doctor or experienced clinical officer/medical assistant. When a women needs to be transferred to a district or mission hospital, an ambulance (or at least a vehicle that serves this purpose) is available at most of the camps, at, or near, the hospital compound. As of this writing, the ambulance for Kanembwa is under repair so one must be sent from the IRC compound in Kibondo, when needed.

A referral form is completed and sent with each patient, together with intravenous fluids, drugs, and other supplies including diesel to run the hospital generator, if necessary. The woman is accompanied by a staff member. In Kibondo, IRC has a very good system in place to provide follow-up for obstetric (and other) referrals from the four camps in this district. The system involves having the IRC base nurse visit refugee patients at Kibondo Hospital and write a daily progress report on each. In Kasulu District, obstetric referrals appear to be followed less closely. For instance, since January 1998, three maternal deaths (one each from Mtabila, Myovosi and Nyarugusu) were recorded at Kabanga Mission Hospital and one (from Mtabila) at Kasulu District Hospital. However, the staff at the camp health facilities did not appear to be aware of these deaths, suggesting the need for closer contact with hospital staff, throughout the period of hospitalization, for all obstetric referrals.

In Ngara, obstetric emergencies are referred from Lukole B to Lukole A, and consistent follow up is provided until the return of the patient to Lukole B. Lukole A is the only camp with the capacity to do caesarean sections. The hospital compound has a well organized and well equipped operating theatre, with an anteroom and change rooms for the staff. There is also a small department where surgical instruments and other supplies are sterilized. In general, the theatre complex serves as an excellent example for other implementing NGOs planning to establish surgical facilities. Nyarugusu and Nduta, have small, very basic operating theatres which, as of this writing, do not have the capacity to perform Caesarean sections.

Referral Facilities

Two district hospital (Kasulu and Kibondo) and one mission hospital (Kabunga) were visited to review the management of obstetric emergencies. Information regarding the staff, services, supplies, drugs and equipment for each of these hospitals is included in Appendix 9, Tables 8 through 11). Most of the obstetric emergencies referred from the camps are for caesarean section; as mentioned earlier, the camp maternity facilities have the capacity to respond to the other common obstetric emergencies.

Kasulu District Hospital has the capacity to do caesarean sections, and has most of the basic supplies, drugs and equipment to support this and to respond to other obstetric emergencies. However, there is only one professional doctor (District Medical Officer) on staff, although the clinical officers at the hospital are said to be able to perform caesarean sections. There are five professional midwives assigned to the maternity ward; however, a language barrier made it difficult to interview the one on duty when we visited the facility. The maternity ward at Nyarugusu, which is at least a one-and-one-half hour drive over a rough, unsealed road, refers obstetric emergencies to this hospital.

Kabunga Mission Hospital receives obstetric emergencies from Myovosi, which is at least a one hour drive over the same rough road. The hospital is staffed with four professional doctors, all of whom perform caesarean sections and manage other obstetric emergencies. The midwives working in the maternity ward are trained to manage postpartum haemorrhage and do vacuum extractions. This is the only facility visited which uses magnesium sulphate, the drug of choice for the management of eclampsia. The hospital is well equipped and well managed and there are plans in place to construct a new theatre block and a new 50 bed maternity ward.

Kibondo District Hospital receives obstetric referrals from the four camps in this district. There are two professional doctors on staff (District Medical Officer and Assistant District Medical Officer) and a functional operating theatre. However, the maternity ward has only one professional midwife on staff; the remaining staff consists of MCH aids and nursing assistants. The hospital has the basic supplies and equipment to respond to the common obstetric emergencies.

Investigation of Maternal Deaths

Seven of the ten camps visited have had at least one maternal death since January 1998, four of which occurred at referral hospitals (see Appendix 9, Table 8). At present, none of the implementing NGOs has a mechanism in place to review maternal deaths, indicating the need to introduce a process whereby each death is reviewed to identify avoidable factors. The findings of the review process can then be used to determine interventions (e.g. staff training, strengthening the referral system) to improve the quality of care and reduce the risk of maternal death.

The review process for maternal deaths could be facilitated by establishing one small team of staff per district (i.e. Kasulu, Kibondo and Ngara) to investigate maternal deaths at the camps in each district. Maternal death case reviews and audits are not conducted to attribute blame but, rather, to determine how services can be improved.

At the referral hospitals used by the camps, maternal death notifications are submitted to the MoH Epidemiological Unit through the District Medical Officer, although the hospitals do not have a formal maternal death review process in place.

Postnatal Care

Organization and Delivery of Care

At most camps, the same staff who provide antenatal care also provide postnatal care. In general, however, postnatal care appears to be a neglected area of safe motherhood, especially care for the women, themselves. The practice of having women come to the clinic to obtain a birth certificate for their new babies, usually within the first week after delivery, presents an ideal opportunity to provide care for both mother and baby. At most camps, however, attention during these visits appears to be focused on the baby. Health staff at several camps try to provide comprehensive care to both mother and baby, including assessment (details of labour and delivery and physical examination of both mother and baby), health promotion (about nutrition, hygiene, rest, breast feeding, immunization, etc.) and care for specific problems (treatment of anaemia and/or other postpartum problems, newborn immunization, etc.). At most camps there is no follow up post natal care after the first visit.

Some camps have a “feeding corner “ to which postpartum mothers can come for supplementary feeding during the first seven days after delivery. In addition to providing food for mothers, some guidance and support for breast feeding, hygiene and newborn care is provided. Mothers of low birth weight babies can continue to attend the “feeding corner” until their babies reach a weight or 2.5 kg.

At other camps, mothers with low birth weight babies attend the supplementary feeding centre daily (i.e. they come to the centre each morning and stay until late afternoon), where they receive food and where their babies are weighed. Limited guidance and support is also provided for breast feeding, etc.

Observations made at supplementary feeding centres and feeding corners suggest that there could be more emphasis on health education. This could be more easily achieved if female staff, trained and experienced in newborn care, were available. As of this writing, the emphasis appears to be on providing mothers with food supplementation, while opportunities for improving their knowledge and understanding of newborn care are being missed.

Physical Facilities, Equipment and Supplies

At most camps, the antenatal clinic room is used for postnatal care, although at some camps an alternative space is used (e.g. the vaccination room). Postnatal care does not require special equipment and supplies, and can be provided using those available for antenatal care.

Records and Registers

At one camp, postnatal care is recorded in the space provided on the mother's antenatal record card (Nyarugusu is the only camp using the more recent MoH antenatal record card) and, for the baby, on the MoH growth and development record card. At other camps, the mother's postnatal care is recorded in a ruled counter book, and the baby's care is recorded on the growth and development record card.

Traditional Birth Attendants

All of the camps visited have trained TBAs, most of whom fulfill the customary role of TBAs. That is, they work in the community to: identify pregnant women, refer them for antenatal care, and provide simple follow-up between antenatal clinic visits; provide health promotion messages related to pregnancy, labour, delivery and newborn care; conduct normal deliveries; identify problems related to pregnancy, labour and delivery; and refer women immediately when they occur. Training and incentives (e.g. TBA kits, replenishment of supplies, and at some camps, clothing, blankets, etc.) are provided by the implementing NGOs. A system of supervision and support is in place at each camp, including weekly reporting of deliveries conducted, referrals made, and problems encountered. In addition, TBAs are required to bring mother and baby to the health compound to be seen by a midwife, within 24 hours of home delivery (excluding weekends).

The group discussions held with TBAs indicate that, in general, they have a level of knowledge consistent with that expected of them. Some of the older women needed more prompting than the younger ones in the group, although the level of interest was usually consistent throughout the group. With the exception of the TBAs interviewed at Nyarugusu, most had conducted deliveries during the week immediately preceding the discussions. At Nyarugusu, TBAs are discouraged from doing home deliveries and are instead expected to refer women to the maternity ward for delivery. The explanation given for this is that Congolese women prefer to come to the hospital compound for delivery.

At the camps in Kibondo District, TBAs are assigned to the maternity wards and are paid an allowance (e.g. salary). As a consequence, these TBAs want to do (and perhaps are already doing) procedures that they are not trained for and, therefore, should not be doing. These procedures include breech deliveries, suturing episiotomies and lacerations, starting intravenous infusions, and giving injections. While it may be reasonable to bring TBAs to the maternity wards for periodic refresher training (i.e. training sessions of several days, focusing on the procedures learned in their basic training), it is neither reasonable nor appropriate to assign them, on a long term basis, to maternity wards. TBAs belong in the community where

they provide culturally appropriate care for pregnant women, form a link between the women and the formal health care system, and provide the simple services mentioned above.

WHAT WERE THE CONCLUSIONS OF THE REVIEW?

Based on the findings of the review of safe motherhood services in Kigoma and Ngara, the following conclusions were reached:

1. Antenatal care is available and accessible to the women at all camps; the large numbers of women attending antenatal clinics affirm this. Most of the important elements of antenatal care are provided, although the fragmented approach used in the delivery of care is problematic in that every woman is seen, during a single antenatal clinic visit, by as many as seven or eight workers, each of whom provides a specific part of antenatal care. The quality of antenatal care could be improved, however, by introducing a shorter schedule of visits and by ensuring inclusion of the content of antenatal care recommended by WHO. In addition, limiting the use of unqualified antenatal care providers would enable a more professional and personalized approach to care. While these improvements would primarily benefit pregnant women, they would also enhance the job satisfaction of the health care providers involved.

2. Labour and delivery services are also available and accessible at all camps, including the management of most major obstetric emergencies. The main exception is caesarean section which is, at present, available at only one camp. However, a functioning referral system is in place to transfer women to a district or mission hospital, if and when required. One of the most important factors in preventing maternal deaths is the provision of a skilled birth attendant who is able to prevent, detect and manage the major obstetric complications. It is critical, therefore, that at all camps a professional midwife is on site at the maternity ward around the clock. The use of inexperienced and/or unskilled workers (i.e. inexperienced refugee midwives and workers trained on the job) and TBAs in maternity wards, especially at night, undermines the quality of labour and delivery care and increases the risk of maternal and neonatal morbidity and mortality.

2. Unlike antenatal care and care during labour and delivery, postnatal care tends to be neglected in most camps or, where it does exist, focuses principally on the baby. There is an obvious need to ensure that, at all camps, women are provided at least two postnatal visits, the first of which should occur in the first week after birth. Postpartum care should include the prevention and early detection of maternal and newborn complications, as well as family planning to allow adequate maternal recovery before the next pregnancy.

3. Written guidelines for antenatal, labour and delivery and postnatal care are needed at all camps to provide essential direction for staff, to standardize care within and between camps, and to maintain optimal levels of care.

4. Other important factors, which relate to safe motherhood services in general, include the assurance that the essential supplies, drugs and equipment are always available to the staff providing these services, and that antenatal, postnatal and delivery facilities have appropriate lighting, an adequate water supply, and suitable basic furnishings. The review findings indicate that at some camps these factors require attention, particularly in ensuring that maternity wards have items such as a vacuum extractor and newborn resuscitation equipment.

5. The use of ruled counter books for antenatal and delivery care provides an inferior means for record keeping. For this reason, the MoH antenatal and delivery registers

should be made available at all camps, together with the latest version of the antenatal record card.

6. The use of TBAs, other than in their traditional role, is inappropriate; they should work in the community, where (a) they provide culturally appropriate care for pregnant women, (b) form an important link between the community and the formal health care system, and (c) provide simple services which include attending normal deliveries and timely referral when complications occur.

7. The introduction of the new reproductive health reporting system, developed by UNHCR, should lead to better monitoring of process indicators for safe motherhood (and other components of reproductive health); however, there is a need for more detailed investigations of maternal deaths and the underlying causes. This could be accomplished by introducing a process to (a) review all maternal deaths occurring amongst refugee women from the camps and (b) identify avoidable factors and ways of dealing with them.

HOW CAN SAFE MOTHERHOOD SERVICES BE STRENGTHENED?

The following recommendations are based on the findings and conclusions described above, and are intended to assist implementing agencies to strengthen safe motherhood services in the camps in Kigoma and Ngara. The Health Co-ordinator and the RH Health Co-ordinator for each of the agencies should take joint responsibility for implementing the recommendations.

Antenatal Care

1. To streamline the delivery of antenatal services and improve the quality of antenatal care, the schedule of antenatal visits, recommended by WHO, should be introduced at all camps. A minimum of four visits should be assured for all pregnant women and, where necessary, additional visits made possible based on the woman's condition and needs.

2. Antenatal care should be offered five days a week (Monday to Friday) at all camps, and women attending for the first visit should be able to do so on the day of their choice.

3. At each antenatal visit, the woman should not be required to see more than two health care providers. The first health care provider should register the woman and measure and record her weight and height. The second health care provider, who must be an experienced professional midwife, should cover assessment (history and physical examination and, at the first visit, an RPR test), individual health promotion (covering nutrition, rest, hygiene, safer sex, planning for the place of birth, arrangements for referral in the case of emergency, newborn care and breast feeding, and family planning and child spacing), and care provision (including development of an individualized delivery plan, tetanus toxoid immunization, iron/folic acid supplementation, malaria prophylaxis, supply of a disposable delivery kit, physiological support, and appointment for next visit).

4. Disposable delivery kits should be available for distribution to all pregnant women at their first antenatal visit. The materials for the kits should be obtained locally (i.e. within Tanzania) by the implementing NGOs (possibly with the support of UNICEF), and arrangements made with the camp community services supervisor to mobilize women representatives to assemble the kits in the camps.

5. The latest version of the MoH antenatal record card (which also includes space to record postnatal care) should be used at all camps. In addition, the MoH antenatal register should replace the ruled counter books used at antenatal clinics. The MoH record cards and registers should be obtained through UNICEF.

6. The antenatal record cards of women identified as being at risk should be flagged with a red asterisk, and a corresponding red asterisk should be included against the woman's name in the antenatal register.

7. Follow up should be provided by TBAs, between antenatal clinic visits, as follows: to ensure that the woman is taking her iron/folic acid; to provide counselling about the importance of using food supplementation (CSB) for herself; to refer the woman to the midwife when problems occur; and to ensure that she attends her next scheduled antenatal visit.

8. All antenatal examination rooms should have an adequate source of light to facilitate physical examination, and should be furnished with an examination table of standard dimensions and a small table and chair for the midwife. Standard equipment should include a sphygmomanometer and stethoscope and a foetascope. Supplies must include those for RPR testing, and drugs and vaccine must include iron/folate, fansidar, mebendazole, and tetanus toxoid vaccine.

9. The RH Co-ordinator should play a lead role in planning for the introduction of the proposed changes in antenatal services, including the following:

   - preparation of the community for the introduction of the new schedule of antenatal visits, through health education messages provided by TBAs and women representatives – **note:** improvements in the quality of care that women will receive at antenatal clinics, as a result of the changes, should be emphasized
   - preparation of staff, through on-the-job in-service training[5] about the proposed changes, including introduction of the standard guidelines for antenatal care
   - reallocation of responsibilities in keeping with the concept of having two workers only involved in providing antenatal care to each woman
   - preparation of the antenatal clinic to ensure that an appropriate room is available for the midwife to provide antenatal care, together with the basic equipment, supplies and drugs, and that an adjoining reception/waiting area is available and conducive to holding group health education sessions
   - provision of a set of the standard guidelines for use at the antenatal clinic

Labour and Delivery Care

1. Maternity wards should be staffed with professional midwives, 24 hours a day. Where refugee midwives are assigned to maternity wards, it must be ensured that they have the knowledge and skill to provide appropriate labour and delivery care, including the prevention, early detection and management of obstetric complications. In-service training should be provided, as appropriate, as well as consistent supportive supervision.

2. Refugee women should be trained to work in the capacity of aides, responsible for cleaning and providing simple nursing care to postpartum women. They should not, however, be assigned to maternity wards for the purpose of attending deliveries.

3. Labour and delivery rooms should be provided with adequate lighting, 24 hours a day, to facilitate deliveries and procedures such as cervical and vaginal inspection and

[5] A list of in-service training topics covering antenatal care, labour and delivery care, and postnatal care, together with a list of reference materials, is included in Appendix 10.

suturing of episiotomies and lacerations. Lighting should consist of (a) natural or electric overhead lighting and (b) an electric or battery operated angle lamp. A generator should be installed on the hospital compound at camps that do not already have one.

4. Labour and delivery rooms should be provided with an adequate supply of water, especially for hand washing. The water should be provided in a large plastic, covered container with a leak-proof tap attached (barrel-shaped containers may be easier to clean). A clean plastic bucket should be used to collect the used water.

5. The midwife-in-charge should, together with the RH Co-ordinator, ensure that maternity wards have a consistent supply of the recommended consumable items and drugs, as well as basic equipment. Particular attention must be paid to ensuring that a functioning vacuum extractor is available and that midwives are competent in its use. In addition, a mucous extractor and a newborn ambu bag must be available at all times in the delivery room, and delivery room staff must be proficient in the procedures for newborn resuscitation.

6. The MoH delivery register should replace the ruled counter books currently used on maternity wards to record delivery information.

7. The RH Co-ordinator should arrange in-service training for maternity ward staff to introduce the standard guidelines for care during labour and delivery, management of obstetric complications, and newborn care. Emphasis should be placed on ensuring that the staff have the knowledge and skills to implement the guidelines. In addition, it should be ensured that a copy of the guidelines is available for use at the maternity ward. Implementing agencies, with the support of UNICEF, should facilitate the introduction of the guidelines and the required in-service training. The in-service training should be provided on-the-job, rather than through formal training activities which require staff to be away from their work-sites.

8. A system to review maternal deaths which focuses on identification of avoidable factors related to these deaths should be introduced. A small team should be formed in Kasulu, Kibondo and Ngara to review the maternal deaths at the camps in these districts. The team could include the RH Co-ordinator from each implementing NGO, a doctor or clinical officer and a midwife from the camp. For example, in Kibondo, the team could be made up of the RH Co-ordinators from IRC and UMATI, and a doctor or clinical officer and a midwife from Nduta, Mtebili and Kenambwa. Part VI of the WHO Safe Motherhood Needs Assessment: Maternal Death Review Guidelines, which provides step-by-step instructions, should be used by the team to conduct the review of maternal deaths.

Postnatal Care

1. At all camps, a minimum of two postnatal clinic visits should be made possible for all women. The first visit should take place during the first week postpartum and the second visit at the sixth week. Additional visits should be scheduled in between, as warranted by the woman's condition and needs.

2. Postnatal care should be offered at the same facilities used for antenatal care, on the same days and by the same staff.

3. The content of postnatal care should include the three main components covered in antenatal care: assessment (history, including details of labour and delivery, and physical examination of both mother and baby), health promotion (covering nutrition, hygiene, rest, breast feeding, family planning and child spacing, and newborn immunization) and care provision (including vitamin A supplementation, treatment of anaemia and/or other postpartum problems, and newborn immunization).

4. The RH Co-ordinator should plan on-the-job, in-service training aimed at preparing staff to implement the changes in postnatal care, including introduction and use of the standard guidelines for postnatal care.

5. Postnatal care should be recorded in the space provided on the woman's antenatal record, and the RH Co-ordinator should consult with the MoH to determine the most appropriate means of record keeping at the postnatal clinic (i.e., determine the type of clinic register to be used for postnatal care).

6. TBAs should be used to provide health promotion messages about postnatal care and encourage women to attend the clinic for at least two postnatal visits.

7. Care of preterm and/or low birth weight babies should be standardized using the guidelines provided and the staff involved should be given on-the-job training consistent with the guidelines.

8. The present arrangement of having mothers of preterm and/or low birth weight babies attend the supplementary feeding centre should be replaced by the introduction of a feeding corner at those camps that do not already have one. The feeding corner should be staffed by female refugee workers, trained in newborn care, to provide support and guidance for mothers attending the feeding corner. Support and guidance should focus on helping mothers to establish and maintain an adequate supply of breast milk, feeding methods and schedules, hygiene, prevention of infection, and early recognition of newborn illness. The workers should be provided supportive supervision, preferably by a midwife involved in antenatal/postnatal care or from the maternity ward.

Traditional Birth Attendants

1. The traditional role of TBAs should be respected and the practice of using them to staff maternity wards should stop. In camps where this practice is in place, the RH Co-ordinator, in collaboration with the Health Co-ordinator for the implementing NGO, should plan to have TBAs resume their role in the community.

2. Resources required by TBAs should continue to be provided, particularly the replenishment of consumable supplies. Where resources permit, TBAs should be provided with raincoats and boots to facilitate their work in the community during the rainy season.

3. The present system of supervision and support for TBAs, including weekly meetings to report on their work, should continue, with periodic review and input from the RH Co-ordinator.

4. Short periods of refresher training (i.e., not more than several days at a time) should be provided for groups of two or three TBAs on a rotational basis. The aim of the refresher training should be to provide TBAs with an opportunity to refresh their knowledge and demonstrate competence in conducting normal deliveries. The maternity ward could be used (during day shift only) as the venue for refresher training, and the midwife-in-charge, together with the RH co-ordinator, should plan and implement the training.

5. The RH Co-ordinator should involve TBAs in preparing the community for the changes in antenatal and postnatal services, as follows:

- inform the community of the proposed changes in the schedule of antenatal visits and how the antenatal clinic will be organized and run

- make sure that the community understands the implications of the changes, particularly that the quality of antenatal care will be improved
- discuss their role in follow-up of pregnant women between antenatal visits, emphasizing the importance of their involvement
- inform them of the proposed improvements in postnatal services and emphasize the importance of their role in spreading health promotion messages to the community about postnatal care and the need for women to attend the clinic for at least two postnatal visits

Other Related Recommendations

The RH Co-ordinator should introduce the UNHCR RH Reporting System/Indicators to relevant health care providers and supervisors (i.e. those involved in reproductive health services). The workbook provided should be used for this purpose and, where needed, follow up support should be sought from the UNHCR Senior Health Co-ordinator, Kigoma.

List of Appendices

Appendix 1

STAFF INTERVIEW GUIDES

The interview guides contained in Appendix 1 are intended to be used as the basis for discussions with health care providers (e.g. midwives) about antenatal care, labour and delivery care, including the management of obstetric emergencies and newborn care, and postnatal care. The discussions should provide an opportunity (a) to determine the level of knowledge and ability that a particular health care provider has, and (b) to provide informal teaching-learning.

The interview guides contain information which is intended to guide the discussion. **For example**, the first interview guide covers antenatal care and contains the basic information you should expect the health care provider to cover when you ask her to **describe the care she provides during a typical antenatal visit**. If she does not cover the expected information, discuss the areas or aspects of care not included in her response.

Use the same approach for each topic (i.e. management of normal labour, normal newborn care, management of postpartum haemorrhage, management of obstructed labour, management of eclampsia, management of sepsis, and management of abortion complications).

Remember, the interview/discussion should be non-threatening and should have a positive outcome for the health care provider – that is, it should serve as a positive experience for her.

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Staff Interview Guide: Antenatal Care

	Item	Response/Comment
ANC1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
ANC2 Assessment		
ANC2.1	• history - including obstetric history and general health at first visit and follow-up on any problems at subsequent visits	yes no Comments:
ANC2.2	• physical examination - including general appearance, blood pressure, signs of anaemia, uterine size, foetal well being, signs of physical abuse, etc.	yes no Comments:
ANC2.3	• syphilis screening - clinic-based test at first visit, with same day treatment of positive results and follow-up of partners	yes no Comments:
ANC2.4	• urinalysis and haemaglobin, if possible	yes no Comments:
ANC3 Health Promotion		
ANC3.1	• advice about nutrition, rest and hygiene	yes no Comments:
ANC3.2	• advice about place of birth, birth attendant, use of clean delivery kits for home birth	yes no Comments:
ANC3.3	• danger signs during pregnancy and what to do about them (bleeding, headaches, swelling of face and hands, fever, or vomiting)	yes no Comments:
ANC3.4	• counselling on family planning and child spacing	yes no Comments:
ANC3.5	• counselling on sexually transmitted diseases, including HIV/AIDS, and safer sex	yes no Comments:
ANC3.6	• advice about newborn care, including breast feeding	yes no Comments:
ANC4 Care Provision		
ANC4.1	• iron and folic acid supplementation and the benefits thereof	yes no Comments:
ANC4.2	• malaria prophylaxis	yes no Comments:
ANC4.3	• tetanus toxoid (according to need)	yes no Comments:
ANC4.4	• development of individualized delivery plan, taking into account the woman's preference for place of birth, birth attendant, family and social support, arrangements for transportation in case of emergency, etc. (plan initiated at first visit and reviewed at subsequent visits)	yes no Comments:
ANC4.5	• disposable delivery kit (given at first visit)	yes no Comments:
ANC4.6	• psychological support	yes no Comments:
ANC4.7	• timing of next antenatal visit	yes no Comments:

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Interview Guide: Postnatal Care

	Item	Response/Comment
PNC1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
PNC2 Assessment		
PNC2.1	• history - including obstetric history (details of delivery) and general health	yes no Comments:
PNC2.2	• physical examination - including general appearance, blood pressure, temperature, pulse, signs of anaemia or infection, lochia, fundal height, tenderness, pain, perinium, legs	yes no Comments:
PNC2.3	• examination of baby	yes no Comments:
PNC3 Health Promotion		
PNC3.1	• nutrition advice	yes no Comments:
PNC3.2	• advice about rest and hygiene	yes no Comments:
PNC3.3	• advice about breast feeding	yes no Comments:
PNC3.4	• counselling on family planning and child spacing	yes no Comments:
PNC3.5	• counselling on resumption of sexual activity, sexually transmitted diseases, including HIV/AIDS, and safer sex	yes no Comments:
PNC3.6	• advice about newborn care, including immunization	yes no Comments:
PNC4 Care Provision		
PNC4.1	• provision of contraceptive method of choice	yes no Comments:
PNC4.2	• immunization for baby	yes no Comments:
PNC4.3	• psychological support	yes no Comments:
PNC4.4	• timing of next postnatal visit	yes no Comments:

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Staff Interview Guide: Management of Normal Labour

	Item	Response/Comment
LAB1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
LAB2 Progress of Labour		
LAB2.1	• vaginal examination on admission, repeated every four hours	yes no Comments:
LAB2.2	• abdominal examination to assess the descent of presenting part	yes no Comments:
LAB2.3	• frequency, duration and intensity of contractions checked hourly	yes no Comments:
LAB2.4	• if latent phase more than eight hours, potential need for action recognized	yes no Comments:
LAB3 Foetal Condition		
LAB3.1	• foetal heart rate checked half-hourly (and after each contraction during second stage of labour)	yes no Comments:
LAB3.2	• state of liquor (clear, blood-stained, meconium stained, absent), checked every four hours at the time of each vaginal examination	yes no Comments:
LAB3.3	• moulding of the foetal skull bones checked every four hours	yes no Comments:
LAB4 Maternal Condition		
LAB4.1	• maternal temperature and blood pressure checked every four hours, pulse checked half hourly	yes no Comments:
LAB4.2	• urine tested for protein and acetone every four hours	yes no Comments:
LAB5 Third Stage of Labour		
LAB5.1	• active management of placenta - oxytocic after delivery of the baby and controlled cord traction	yes no Comments:
LAB6 Immediate Postpartum Care		
LAB6.1	examination of genital tract for tears/lacerations and repair as necessary or transfer to the referral facility for the necessary intervention(s)	yes no Comments:
LAB6.2	• examination of placenta and membranes for completeness and abnormalities	yes no Comments:
LAB6.3	• mother's temperature, pulse and blood pressure checked	yes no Comments:
LAB6.4	• contraction of uterus checked and blood loss estimated	yes no Comments:

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Staff Interview Guide: Newborn Care

	Item	Response/Comment
NB1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
NB2 Cord care		
NB2.1	• cord kept clean and dry	yes no Comments:
NB3 Warmth		
NB3.1	• baby dried immediately after birth with dry cloth/towel	yes no Comments:
NB3.2	• baby wrapped in blanket or another dry cloth after drying	yes no Comments:
NB3.3	• early skin-to-skin contact with mother	yes no Comments:
NB4 Breast feeding		
NB4.1	• first breast feed within one hour of birth	yes no Comments:
NB4.2	• breast feeding on demand	yes no Comments:
NB4.3	• no prelactal feeds or other supplements	yes no Comments:
NB4.4	• psychological support for mother re: breast feeding	yes no Comments:
NB5 Initiation of breathing, resuscitation		
NB5.1	• stimulation by drying baby with dry cloth/towel	yes no Comments:
NB5.2	• gentle suctioning of mouth and nose if baby does not breath	yes no Comments:
NB5.3	• ventilation with bag and mask if suctioning does not stimulate breathing	yes no Comments:
NB5.4	• Apgar score recorded	yes no Comments:
NB6 Eye care		
NB6.1	• prophylaxis within one hour after birth (either silver nitrate 1%, 1% tetracycline, or 0.5% erythromycin)	yes no Comments:
NB7 Immunization		
NB7.1	• BCG and OPV within two weeks of birth	yes no Comments:
NB8 Management of preterm and/or low birth weight babies		
NB8.1	• additional warmth	yes no Comments:
NB8.2	• nutrition (alternate method of feeding if breast feeding not possible)	yes no Comments:
NB8.3	• support/guidance for mother to establish and maintain breast milk supply	yes no Comments:
NB8.4	• early recognition and management of diseases	yes no Comments:

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Staff Interview Guide: Management of Postpartum Haemorrhage

	Item	Response/Comments
PPH1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
PPH2 Uterine Hypotonia		
PPH2.1	• vigorous abdominal massage of uterus	yes no Comments:
PPH2.2	• administration of oxytocic	yes no Comments:
PPH2.3	• empty bladder (catheterize if necessary)	yes no Comments:
PPH2.4	• IV fluids given	yes no Comments:
PPH2.5	• bimanual compression of uterus/aortic compression applied, if bleeding continues	yes no Comments:
PPH2.6	• type, cross match and transfuse	yes no Comments:
PPH2.7	• urgent transfer to referral facility for surgical procedure, if necessary	yes no Comments:
PPH3 Placenta Retained		
PPH3.1	• empty bladder	yes no Comments:
PPH3.2	• attempt controlled cord traction	yes no Comments:
PPH3.3	• IV fluids given if controlled cord traction unsuccessful	yes no Comments:
PPH3.4	• type, cross match and transfuse	yes no Comments:
PPH3.5	• manual removal of placenta/referral, if necessary	yes no Comments:
PPH4 Genital Trauma		
PPH4.1	• bleeding site identified, clamped and sutured	yes no Comments:
PPH4.2	• IV fluids given	yes no Comments:
PPH4.3	• if suturing not possible or bleeding continues, urgent transfer to referral facility	yes no Comments:

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Staff Interview Guide: Management of Obstructed Labour

	Item	Response/Comments
OBL1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
OBL2	• start IV fluids	yes no Comments:
OBL3	• give antibiotics	yes no Comments:
OBL4	• attempt vacuum extraction or forceps delivery, if indicated by descent of presenting part	yes no Comments:
OBL5	• Caesarean section, if indicated	yes no Comments:
OBL6	• other care (including referral)	yes no Comments:

Region:	**Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Kigoma and Ngara
Staff Interview Guide: Management of Eclampsia

	Item	Response/Comments
ECL1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other…
ECL2	• ante-convulsant administered (e.g. magnesium sulphate or diazepam)	yes no Comments:
ECL3	• ante-hypertensive administered (e.g. hydralazine)	yes no Comments:
ECL4	• catheterized: intake and output measured hourly	yes no Comments:
ECL5	• breathing rate and knee jerk response checked at least hourly if magnesium sulphate administered	yes no Comments:
ECL6	• blood pressure checked at least hourly	yes no Comments:
ECL7	• foetal heart checked at least hourly	yes no Comments:
ECL8	• nature, duration and time of fits observed	yes no Comments:
ECL9	• baby delivered as soon as possible (within 8 hours of first fit)	yes no Comments:
ECL10	• other care (including referral)	yes no Comments:

Region:	**Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Staff Interview Guide: Management of Sepsis

	Item	Response/Comments
SEP1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other…
SEP2	• if infection not severe, oral antibiotics given	yes no Comments:
SEP3	• if infection severe, IV/IM antibiotics	yes no Comments:
SEP4	• treat shock (airway, fluid replacement, monitoring of vital signs)	yes no Comments:
SEP5	• determine source of infection	yes no Comments:
SEP6	• treat source of infection (e.g. septic wound)	yes no Comments:
SEP7	• other care (including referral)	yes no Comments:

Region:	**Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Staff Interview Guide: Management of Abortion Complications

	Item	Response/Comments
ABO1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other…
ABO2	• control bleeding (e.g. evacuate uterus; repair injury to genital tract; repair intra-abdominal injury)	yes no Comments:
ABO3	• manage shock (airway, fluid replacement, monitoring of vital signs)	yes no Comments:
ABO4	• type, crossmatch and transfuse, if necessary	yes no Comments:
ABO5	• treat infection (e.g. oral antibiotics for minor infection, IV/IM antibiotics for severe infection)	yes no Comments:
ABO6	• provide post-abortion family planning counselling and method of choice	yes no Comments:
ABO7	• other care (including referral)	yes no Comments:

Region:	**Camp/Facility:**

Appendix 2

CLIENT INTERVIEW GUIDES

The interview guides included in Appendix 2 are intended to be used to interview antenatal and postnatal clients after they have attended antenatal or postnatal clinics.

Review of Safe Motherhood Services In Refugee Camps and Referral Facilities
Client Interview Guide: Antenatal Care

	Item	Response
ANCL1 General		
ANC1.1	How long have you been pregnant?	
ANC1.2	During which month of this pregnancy did you first come for antenatal care?	
ANCL2 Assessment		
ANCL2.1	• did the nurse/midwife check your blood pressure?	yes no
ANCL2.2	• did the nurse/midwife examine you stomach?	yes no
ANCL2.3	• did the nurse/midwife listen to the baby's heartbeat?	yes no
ANCL2.4	• did the nurse/midwife take a blood sample?	yes no
ANCL2.5	• did the nurse/midwife take a urine sample?	yes no
ANCL2.6	• did the nurse/midwife ask you about previous pregnancies (first visit only) and any general health problems you have?	yes no
ANCL3 Health Promotion		
ANCL3.1	• did the nurse/midwife talk with you about what you should eat and the importance of rest while you are pregnant? •	yes no
ANCL3.2	• did the nurse/midwife talk with you about planning for where your baby should be born, the birth attendant, and the use of a clean delivery kit for home birth? •	yes no
ANCL3.3	• did the nurse/midwife talk with you about what you should do if you have a problem such as bleeding, headaches, swelling of your face and hands, fever, or vomiting?	yes no
ANCL3.4	• did the nurse/midwife talk with you about family planning and child spacing?	yes no
ANCL3.5	• did the nurse/midwife talk with you about sexually transmitted diseases, HIV and AIDS, and practicing safer sex?	yes no
ANCL3.6	• did the nurse/midwife talk with you about how to take care of you baby when it is born, including breast feeding?	yes no
ANCL4 Care Provision		
ANCL4.1	• did the nurse/midwife give you iron and folic acid pills?	yes no
ANCL4.2	• did the nurse/midwife tell what the iron an folic acid pills are for ?	yes no
ANCL4.3	• did the nurse/midwife give you malaria medicine?	yes no
ANCL4.4	• did the nurse/midwife give you a tetanus injection? (if needed)	yes no
ANCL4.5	• did the nurse/midwife give you a clean delivery kit? (first visit only)	yes no
ANCL4.6	• did the nurse/midwife encourage you to talk about any concerns you have about your pregnancy?	yes no
ANCL4.7	• did the nurse/midwife tell you when you should come for your next antenatal visit?	yes no

Region:	**Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Client Interview Guide: Postnatal Care

	Item	Response
PNCL1 General		
PNC1.1	When was your baby born?	
PNC1.2	Where was your baby born and who delivered him/her?	
PNCL2 Assessment		
PNCL2.1	• did the nurse/midwife check your blood pressure?	yes no
PNCL2.2	• did the nurse/midwife examine you stomach?	yes no
PNCL2.3	• did the nurse/midwife check the discharge on your pad?	yes no
PNCL2.4	• did the nurse/midwife take your temperature?	yes no
PNCL2.5	• did the nurse/midwife examine your legs?	yes no
PNCL2.6	• did the nurse/midwife ask you about any general health problems you have?	yes no
PNCL2.7	• did the nurse/midwife examine your baby	yes no
PNCL3 Health Promotion		
PNCL3.1	• did the nurse/midwife talk with you about what you should eat and the importance of rest?	yes no
PNCL3.2	• did the nurse/midwife talk with you about changing your pad regularly and washing yourself?	yes no
PNCL3.3	• did the nurse/midwife talk with you about breast feeding?	yes no
PNCL3.4	• did the nurse/midwife talk with you about family planning and child spacing?	yes no
PNCL3.5	• did the nurse/midwife talk with you about when to resume sexual intercourse, sexually transmitted diseases, HIV and AIDS, and practicing safer sex?	yes no
PNCL3.6	• did the nurse/midwife talk with you about how to take care of you baby and about immunization ?	yes no
PNCL4 Care Provision		
PNCL4.1	• did the nurse/midwife give you a family planning method (e.g. pills or injection)?	yes no
PNCL4.2	• did the nurse/midwife give your baby an immunization?	yes no
PNCL4.3	• did the nurse/midwife encourage you to talk about any concerns you have about your own health or the health of your baby?	yes no
PNCL4.4	▪ did the nurse/midwife tell you when you should come for your next postnatal visit?	yes no

Region: **Camp/Facility:**

Appendix 3

RECORD REVIEW GUIDES

The guidelines in Appendix 3 are intended to be used to facilitate the review of antenatal and postnatal record cards. The record reviews should be conducted in conjunction with the antenatal and postnatal client interviews, and the aim should be to determine whether the care provided is recorded on the woman's record card.

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Record Review: Antenatal Care

	Item	Finding
ANC1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
ANC2 Assessment		
ANC2.1	• history - including obstetric history and general health at first visit and follow-up on any problems at subsequent visits	yes no
ANC2.2	• physical examination - including general appearance, blood pressure, signs of anaemia, uterine size, foetal well being, signs of physical abuse, etc.	yes no
ANC2.3	• syphilis screening recorded - clinic-based test at first visit, with same-day treatment of positive results and follow-up of partners	yes no
ANC2.4	• urinalysis and hemoglobin recorded	yes no
ANC3 Health Promotion		
ANC3.1	• advice about nutrition, rest and hygiene recorded	yes no
ANC3.2	• advice about place of birth, birth attendant, use of clean delivery kits for home birth recorded	yes no
ANC3.3	• advice about danger signs during pregnancy and what to do about them recorded (bleeding, headaches, swelling of you face and hands, fever, or vomiting)	yes no
ANC3.4	• counselling about family planning and child spacing recorded	yes no
ANC3.5	• counselling about sexually transmitted diseases, including HIV/AIDS, recorded	yes no
ANC3.6	• advice about newborn care, including breast feeding, recorded	yes no
ANC4 Care Provision		
ANC4.1	• iron and folic acid supplementation recorded	yes no
ANC4.2	• malaria prophylaxis recorded	yes no
ANC4.3	• tetanus toxoid (according to need) recorded	yes no
ANC4.4	• development of individualized delivery plan noted (plan initiated at first visit and reviewed at subsequent visits)	yes no
ANC4.5	• disposable delivery kit (given at first visit)	yes no
ANC4.6	• nature of psychological support noted	yes no
ANC4.7	• timing of next antenatal visit noted	yes no
Comments:		

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Record Review: Postnatal Care

	Item	Finding
PNC1	**Health care provider**	1 doctor 2 obstetrician/gyn 3 nurse 4 nurse-midwife 5 other
PNC2 Assessment		
PNC2.1	• history - including obstetric history (details of delivery) and general health	yes no
PNC2.2	• physical examination - including general appearance, blood pressure, temperature and pulse, signs of anaemia or infection, lochia, fundal height, tenderness, pain, examination of perineum and legs	yes no
PNC2.3	• complete examination of baby	yes no
PNC3 Health Promotion		
PNC3.1	• nutrition advice recorded	yes no
PNC3.2	• advice about rest and hygiene recorded	yes no
PNC3.3	• advice about breast feeding recorded	yes no
PNC3.4	• counselling about family planning and child spacing recorded	yes no
PNC3.5	• counselling about resumption of sexual activity, sexually transmitted diseases, including HIV/AIDS, and safer sex recorded	yes no
PNC3.6	• advice about newborn care, including breast feeding and immunization, recorded	yes no
PNC4 Care Provision		
PNC4.1	• contraceptive method of choice recorded	yes no
PNC4.2	• nature of psychological support noted	yes no
PNC4.3	• timing of next postnatal visit noted	yes no
Comments:		

Region: **Camp/Facility:**

Appendix 4

DISCUSSION GUIDES

The discussion guides in Appendix 4 are intended to facilitate group discussions with Traditional Birth Attendants (TBAs) and Women Representatives. The aim during the discussions with TBAs is to determine their level of knowledge and to understand how they respond to the needs of pregnant women in their community. The aim during discussions with Women Representatives is to understand their responsibilities to pregnant women in their community and to determine their perceptions of the health services for pregnant women.

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Discussion Guide: Traditional Birth Attendant (TBA)

The following questions, together with expected responses, are provided to facilitate group discussions with TBAs.

1. **What danger signs during pregnancy would prompt you to refer a woman to a nurse or midwife?**

- poor obstetric history
- pallor/tiredness/breathlessness
- vaginal bleeding
- bad headache/swelling/fits
- baby in wrong position

2. **What danger signs during delivery would prompt you to refer a woman to a nurse or midwife?**

- bad headache/swelling/fits
- heavy bleeding
- water broken with no contractions
- long delivery/sun set two times
- baby in wrong position
- baby not moving
- bad smelling vaginal discharge

3. **What danger signs after delivery would prompt you to refer a woman to a nurse or midwife?**

- heavy bleeding
- bad smelling vaginal discharge
- abdominal pain
- fever

4. **When was the last time you conducted a delivery?**

- today or in the past week
- more than one week ago, less than four
- more than four weeks ago, less than six
- more than six months ago
- never

5. What are the “cleans” which should be observed during a delivery?

- clean hands
- clean cord cutting instrument
- clean perineum
- clean delivery surface
- nothing unclean inserted into the vagina

6. Why is it important to observe these cleans during a delivery?

- to prevent infection of mother
- to prevent infection of baby

7. What do you use to cut the cord?

- new razor blade
- used razor blade
- knife
- scissors

8. What do you do to the baby’s cord after birth?

- nothing
- put ash on it
- put dung on it
- put herbs on it

9. What are the most important things you should do for the baby immediately after birth?

- ensure breathing
- ensure warmth
- ensure immediate breast feeding

10. What traditional treatments do you use during pregnancy, delivery, after delivery?

- none
- herbs

11. What do you use the traditional treatments for?

- to stimulate appetite
- to change sex of baby
- to stop abortion
- to cause abortion
- to stimulate contractions
- to treat fever
- to treat bleeding
- to treat obstructed labour
- to treat vaginal bleeding

12. What advice and information do you provide to the mother after delivery?

- possible complications (bleeding, fever, infection, bad head ache)
- personal hygiene
- nutrition for mother
- child spacing/family planning
- breast feeding
- cord care
- immunization

13. How soon after a normal delivery do you refer mother and baby to a nurse or midwife for follow-up care?

- never refer
- immediately
- during first week
- during first six weeks
- only if mother or baby are ill

14. When did you complete your training as a TBA?

15. When did you last have refresher training?

16. What would you like to be included in refresher training?

Region:	**Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Discussion Guide: Women Representative

1. **Could you tell me about your responsibilities as a "women representative"?**

2. **Could you tell me about your responsibilities concerning pregnant women?**

3. **In what ways do the health services in your camp best meet the needs of pregnant women?**

4. **Are there any ways in which you think the health services could be improved to better meet the needs of pregnant women in your camp?**

Region:	**Camp/Facility:**

Appendix 5

REVIEW TOOLS/CHECKLISTS

The tools/checklists included in Appendix 5 can be used as they are or adapted to meet local needs for conducting a review of safe motherhood services in refugee settings.

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
General Information Relevant to Safe Motherhood Services

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	Item	Finding
GEN1	**Facility/Staff Profile**	
GEN1.1	• camp population (current)	
GEN1.2	• number of maternity beds	
GEN1.3	• number of live births (12 month period)	
GEN1.4	• number of stillbirths (12 month period)	
GEN1.5	• number of maternal deaths (12 month period)	
GEN1.6	• number of neonatal deaths (12 month period)	
GEN1.7	• number of general doctors	
GEN1.8	• number of clinical officers/medical assistants	
GEN1.9	• number of nurses (involved with maternity patients)	
GEN1.10	• number of midwives	
Comments:		

Region:	**Camp/Facility:**

<u>Important Note</u>: the data collected should be used to calculate crude birth rates, maternal mortality ratios, stillbirth rates, and neonatal mortality rates.

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Availability of Written Protocols/Guidelines for Safe Motherhood Services

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	Written Clinical Protocols/Guidelines	Finding
PROT1	• for antenatal care	yes no
PROT2	• for postnatal care	yes no
PROT3	• for normal labour/delivery care	yes no
PROT4	• for normal newborn care	yes no
PROT5	• for newborn resuscitation	yes no
PROT6	• for common newborn illnesses	yes no
PROT7	• for care of preterm/low birth weight babies	yes no
PROT8	• for postpartum haemorrhage	yes no
PROT9	• for prolonged/obstructed labour	yes no
PROT10	• for pre-eclampsia/eclampsia	yes no
PROT11	• for puerperal sepsis	yes no
PROT12	• for abortion complications	yes no
Comments:		

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Services Checklist

	Item	Finding
SERV1	• antenatal care	yes no
SERV2	• normal delivery care*	yes no
SERV3	• vacuum extraction*	yes no
SERV4	• forceps delivery*	yes no
SERV5	• caesarean section*	yes no
SERV6	• blood transfusion*	yes no
SERV7	• "rooming-in" for baby*	yes no
SERV8	• family planning counselling and services	yes no
SERV9	• management of abortion complications*	yes no
SERV10	• management of anaemia*	yes no
SERV11	• management of pre-eclampsia*	yes no
SERV12	• management of eclampsia*	yes no
SERV13	• management of puerperal sepsis*	yes no
SERV14	• management of postpartum haemorrhage*	yes no
SERV15	• postnatal care	yes no
Comments:		

* 24 hours/day

Region:	**Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Facility Infrastructure Checklist

	Item	Finding
INFR1	• reception room	yes no
INFR2	• examination room	yes no
INFR3	• table and stool for obstetric examinations	yes no
INFR4	• examination light	yes no
INFR5	• wall clock (delivery room)	yes no
INFR6	• delivery room with bed and lighting	yes no
INFR7	• post-delivery room	yes no
INFR8	• electricity 24 hours/day	yes no
INFR9	• running water 24 hours/day	yes no
INFR10	• toilet facilities (functioning)	yes no
INFR11	• refuse disposal (functioning)	yes no
INFR12	• laboratory facilities (functioning)	yes no
INFR13	• storage area for drugs and other supplies	yes no
INFR14	• telephone 24 hours/day	yes no
INFR15	• ambulance 24 hours/day	yes no
INFR16	• operating room with table, lighting, trolley, suction apparatus, anaesthetic equipment	yes no
Comments:		

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Consumable Supplies Checklist

	Item	Finding
CONS1 Basic Consumables		
CONS1.1	• gloves	yes no
CONS1.2	• disposable syringes and needles	yes no
CONS1.3	• gauze, dressings, adhesive tape	yes no
CONS1.4	• cord ties/clamps	yes no
CONS1.5	• IVI sets	yes no
CONS1.6	• IV solutions (e.g. saline, ringers lactate)	yes no
CONS1.7	• blood transfusion sets	yes no
CONS1.8	• pregnancy test kits	yes no
CONS1.9	• HIV test kits	yes no
CONS1.10	• syphilis test kits	yes no
CONS1.11	• disinfectants and antiseptics	yes no
CONS1.12	• hand soap	yes no
CONS2 Standard Forms/Records		
CONS2.1	• antenatal records	yes no
CONS2.2	• labour and delivery records	yes no
CONS2.3	• partographs	yes no
CONS2.4	• newborn records	yes no
CONS2.5	• referral forms	yes no
CONS3 Educational Materials (written)		
CONS3.1	• warning signs of complications of pregnancy	yes no
CONS3.2	• antenatal nutrition	yes no
CONS3.3	• preparation for birth	yes no
CONS3.4	• breast feeding	yes no
CONS3.5	• newborn care	yes no
CONS3.6	• postnatal care	yes no
CONS3.7	• family planning	yes no
CONS3.8	• STD/HIV/AIDS	yes no
Comments:		

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Equipment Checklist

	Item	Finding
EQU1 Basic Equipment		
EQU1.1	• sphygmomanometer	yes no
EQU1.2	• stethoscope	yes no
EQU1.3	• foetal stethoscope	yes no
EQU1.4	• infant scale	yes no
EQU1.5	• clinical thermometer	yes no
EQU1.6	• sterilizer	yes no
EQU1.7	• protective clothing (shoes, aprons)	yes no
EQU1.8	• speculum (different sizes)	yes no
EQU1.9	• sterilizer	yes no
EQU1.10	• manual vacuum aspiration or D&C equipment	yes no
EQU1.11	• adult ventilation bag and mask	yes no
EQU2 Delivery Equipment		
EQU2.1	• scissors, suture needles, sutures	yes no
EQU2.2	• vacuum extractor	yes no
EQU2.3	• obstetric forceps	yes no
EQU3 Newborn Equipment		
EQU3.1	• cloth or towel to dry baby	yes no
EQU3.2	• blanket to wrap baby	yes no
EQU3.3	• bag and mask for newborn resuscitation	yes no
EQU3.4	• mucous extractor	yes no
Comments:		

Region: **Camp/Facility:**

Review of Safe Motherhood Services in Refugee Camps and Referral Facilities
Drug Supply Checklist

	Item	Finding
DRUG1 Anaesthetics: general and pre-operative medication		
DRUG1.1	• nitrous oxide/other general anaesthetic agent	yes no
DRUG1.2	• diazepam (injection)	yes no
DRUG1.3	• ketamine (injection)	yes no
DRUG2 Anaesthetic: local		
DRUG2.1	• lidocaine 2% and 5% (injection)	yes no
DRUG3 Analgaesic		
DRUG3.1	• paracetamol (oral)	yes no
DRUG3.2	• acetylsalicylic acid (oral)	yes no
DRUG3.3	• pethedine (injection)	yes no
DRUG4 Anti-infective drugs		
DRUG4.1	• ampicillin (oral)	yes no
DRUG4.2	• ampicillin (injection)	yes no
DRUG4.3	• benzylpenicillin (injection)	yes no
DRUG4.4	• procaine penicillin (injection)	yes no
DRUG4.5	• ceftriaxone (oral)	yes no
DRUG4.6	• gentamicin (injection)	yes no
DRUG4.7	• kanamycin (injection)	yes no
DRUG4.8	• sulfamethoxazole+trimethoprin (oral)	yes no
DRUG4.9	• tetracycline eye ointment or silver nitrate drops	yes no
DRUG4.10	• tetracycline (oral)	yes no
DRUG5 Antianaemia drugs		
DRUG5.1	• ferrous sulphate (oral)	yes no
DRUG5.2	• folic acid (oral)	yes no
DRUG6 Antimalarial drugs		
DRUG6.1	• chloroquine (oral)	yes no
DRUG6.2	• quinine (injection)	yes no
DRUG6.3	• sulfadoxide+pyrimethamine (oral)	yes no
DRUG7 Antihelminthic drugs		
DRUG7.1	• mebendazole	yes no
DRUG 7 Antihypertensive drugs		
DRUG7.1	• methyldopa (oral)	yes no
DRUG7.2	• hydralazine (injection)	yes no
DRUG7.3	• propranolol (oral)	yes no
DRUG 8 Anticonvulsant drugs		
DRUG8.1	• magnesium sulphate (injection) or	yes no
DRUG8.2	• diazepam (injection)	yes no
DRUG9 Contraceptives		
DRUG9.1	• oral contraceptives (COC and POP)	
DRUG9.2	• injectable (Depot medroxy-progesterone acetate)	yes no
DRUG9.3	• intrauterine devices	yes no
DRUG9.4	• condoms	yes no
DRUG9.5	• diaphragms	yes no
DRUG9.6	• spermicides	yes no
DRUG9.7	• intradermals (Norplant)	yes no
DRUG11 Vaccines		
DRUG11.1	tetanus	yes no
DRUG11.2	BCG vaccine	yes no
DRUG11.3	poliomyelitis (oral)	yes no
DRUG12 Oxytocics		
DRUG12.1	ergometrine injection/tablets or	yes no
DRUG12.2	oxytocin injection	yes no
Comments:		

Region: **Camp/Facility:**

Appendix 6

Table 1 Interviews, Record Reviews and Discussion Groups

	Mtabila I	Mtabila II	Muyovosi	Nyarugusu	Nduta	Mtendeli	Mkugwa	Kanembwa	Lukole A	Lukole B
Staff interviews (antenatal care, labour and delivery care, newborn care, postnatal care)	3	3	4	3	4	3	1	3	6	3
Antenatal care exit interviews	11	10	10	10	10	10	-	10	10+10	10
Antenatal care record reviews	11	10	10	10	10	10	-	10	10+10	10
Postnatal care exit interviews	-	-	10	10	-	10	-	4	-	-
Postnatal care record reviews	-	-	-	10	-	10	-	-	-	-
TBAs attending group discussion	9	8	5	6	9	12	2	11	14+12	-
Women representatives attending group discussion	-	-	5	-	8	8	-	9	26	12

Appendix 7

RH Indicators

WORKSHEET FOR MONTHLY REPRODUCTIVE HEALTH REPORTING

Month:

Camp name: **Total Pop:**
Agency: **Pop of WRA:**

Safe Motherhood

1. Ante-natal Care	<19 yrs	>19 yrs	Total
1a: Number of antenatal visits - First Time			
1b: Number of antenatal visits - Repeat			
1c: Total antenatal visits			
1d: Number of women treated for complications of abortions			
1e: Number of pregnant women screened for syphilis			
1f: Number of pregnant women screened for syphilis testing positive			
Indicators			**rates/%**
▪ Antenatal coverage: estimated (1a/2e) [This is an estimate - see 2j below]			
▪ Incidence of complications of unsafe and spontaneous abortion (1d/2e)			
▪ Coverage of syphilis screening (1e/2e) [This is an estimate - see 2l below]			
▪ Prevalence of syphilis infection in pregnant women (1f/1e)			

(These indicators could also be calculated by age - i.e. <19 years)

2. During Delivery	hospital	h.centre	home	total
2a: Number of births attended by trained staff				
2b: Number of births NOT assisted by trained staff				
2c: Number of births				
2d: Number of stillbirths				
2e: Number of livebirths				
2f: Number of low birth weight (<2500 gms)				
2g: Number of livebirths who die <28 days (neonatal deaths)				
2h: Number of obstetric emergencies managed				
2i: Number of maternal deaths				
Number of women giving birth this period who received				
2j: Antenatal care services (1-3 Visits)				
2k: Adequate Tetanus Toxoid Vaccination				
2l: Screened for Syphilis				

Indicators	rates/%
▪ Crude Birth Rate (2e/total population x 1000) *	
▪ Neonatal Mortality Rate (2g/2e x 1000)	
▪ Low Birth Weight Rate (2f/2e x 100)	
▪ Stillbirth Rate (2d/2e x 1000)	
▪ Births attended by trained personnel (2a/2e x 100)	
▪ Coverage of Antenatal Care (2j/2e x 100)	
▪ Coverage of syphilis screening (2l/2e x 100)	
▪ Incidence of obstetric complications (2h/2e x 1000)	

(* = could also can be calculated for women <19 years)

3. Post-Natal Care	No./%
3a: Number of Women visiting post-natal care services (within 6 wks of birth)	
Indicator - Post-Natal Care Coverage Rate - (3a/2e x 100)	

4. Sexual Violence	No./%
4a: Number of cases of sexual violence reported	
4b: Number of cases receiving medical care with 3 days	
Indicators	
▪ Incidence of Sexual Violence (4a/total population x 1000)	
▪ Timely Care for survivors of Sexual Violence (4b/4a x 100)	

(Also can be calculate by age <19 years)

5. STDs including HIV/AIDS			No.
5a: Number of units of blood transfused			
5b: Number of units of blood for transfusion tested for HIV			
5c: Number condoms distributed			
5d: Number of cases treated for STDs (total by age, sex and syndrome)			
Syndromic Case Management	Male	Female	Total
▪ urethral discharge			
▪ genital ulcers			
▪ lower abdominal pain			
▪ vaginal discharge			
Total			
STD/HIV Indicators			**Rate/%**
▪ Blood screening for HIV (5b/5a x 100)			
▪ Condom coverage (estimate - 5c/ total population x1000)			
▪ Incidence of STDs (total - 5d/ total population x 1000)			
(STD incident rates could also be calculated by sex, age and syndrome)			

6. Family Planning				Total
6a: Number of users of modern methods of family planning				0
By Method	**Reg start of month**	**New acceptors this month**	**Total end of month**	
COCs				
Injectible				
POPs				
IUDs				
Others				
Total				
Indicator - Contraceptive Prevalence Rate (6a/WRA x 100)				

7. Training		
Type of Training in RH	Type of Health Worker	Number
a.		
b.		

This is a worksheet to collect information on RH from various sources. It must be adapted for each refugee situation

SUMMARY OF REPRODUCTIVE HEALTH INDICATORS **CAMP:** **YEAR:**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
Indicators/Safe Motherhood													
Antenatal coverage: estimated													
Incidence of compli.of unsafe and spontaneous abortion													
Coverage of syphilis screening													
Prevalence of syphilis infection in pregnant women													
Crude Birth Rate													
Neonatal Mortality Rate													
Low Birth Weight Rate													
Stillbirth Rate													
Births attended by trained personnel													
Coverage of Antenatal Care													
Coverage of syphilis screening													
Incidence of obstetric complications													
Post-Natal Care Coverage Rate													
Indicators/Sexual Violence													
Incidence of Sexual Violence (4a/total population x 1000)													
Timely Care for survivors of Sexual Violence (4b/4a x 100)													
Indicators/HIV/AIDS/STDs													
Blood screening for HIV (5b/5a x 100)													
Condom coverage (estimate - 5c/ total population x1000)													
Incidence of STDs (total - 5d/ total population x 1000)													
Incidence of STDs (male)													
Indicators/Family Planning													
Contraceptive Prevalence Rate (6a/WRA x 1000)													

Appendix 8

SAMPLE JOB DESCRIPTION
REPRODUCTIVE HEALTH CO-ORDINATOR

Under the overall supervision of the Health Co-ordinator for the implementing NGO, the incumbent will be responsible for co-ordinating the following reproductive health services: family planning counselling, information, education, communication and services; antenatal, safe delivery and postnatal care, including breast feeding; prevention of unsafe abortion and management of abortion complications; treatment of reproductive tract infections and sexually transmitted diseases; information and counselling on human sexuality, responsible parenthood and sexual and reproductive health; and referral for additional services related to reproductive health, as needed, with particular emphasis on referral services for obstetric emergencies. In addition, the incumbent will be responsible for under-five health services.

The specific responsibilities are as follows.

1. Programme Planning

Participate in programme planning activities to:

- Identify reproductive health needs in the camps, based on the data collected through the reproductive health reporting system.
- Plan reproductive health services according to the needs identified, taking into consideration the human, material and financial resources required.
- Facilitate the inclusion of guidelines provided by UNHCR, pertaining to reproductive health, in the planning process.
- Prepare/update contingency plans to respond to the reproductive health needs of newly arrived refugees and repatriants.

2. Programme Implementation and Monitoring

Undertake regular visits to camp health/hospital facilities to:

- Ensure that the full range of reproductive health services is available and accessible to the camp community and that the services are evaluated regularly to ensure that they are carried out as planned.
- Maintain an appropriate mix of staff who have the knowledge, skills and attitudes required to provide the full range of reproductive health services.
- Maintain a consistent supply of the required resources to support the provision of the full range of reproductive health services.
- Revise reproductive health services at appropriate intervals, based on the changing needs of the camp community and the availability of up-to-date technical standards.
- Organize a system of reproductive health data collection, analysis, interpretation, and utilization of results, based on the guidelines for reproductive health reporting/indicators provided by UNHCR.
- Compile monthly reports for submission to the Health Co-ordinator for the implementing NGO, to be forwarded to the UNHCR Health Co-ordinator, Kigoma.

3. Co-ordination

- Collaborate with the other units/sectors within the implementing NGO, with other NGOs and agencies, and with the Ministry of Health, Tanzania, to facilitate the smooth implementation of reproductive health services.
- Conduct regular meetings with relevant groups in the community, and with relevant agencies, to facilitate the sharing of information and ideas related to reproductive health/reproductive health services.
- Attend the meetings of the Reproductive Health Co-ordination Committee to report on progress and to discuss issues and problems related to reproductive health services in the camps.
- Inform the UNHCR Health Co-ordinator, Kigoma, through the Health Co-ordinator for the implementing NGO, of all reproductive health issues and concerns related to refugee settings.

4. Supervision and Support

Undertake regular visits to camp facilities providing reproductive health services to:

- Meet with staff (including the supervisors of TBAs and HITs/CHWs) to discuss and resolve clinical and non-clinical issues and problems.
- Participate in clinical care, as appropriate.
- Identify areas of care that require strengthening.
- Facilitate the introduction of changes in care and/or new reproductive health interventions.
- Reinforce the professional and ethical behaviour of all reproductive health care providers.

5. Education and Training

- Identify and prioritize training needs of reproductive health service providers.
- Plan and conduct periodic education and training activities, based on identified needs and up-to-date technical materials.
- Assess the application of knowledge and skills acquired during education and training activities and use the assessment results to plan further activities.
- Participate in other education and training activities related to reproductive health, as required (e.g. health education sessions for community services workers and health care workers other than those involved in reproductive health services; health education sessions at STD clinics, and in relation to the adolescent and school health programme).

6. Other Related Activities

Supervise the delivery of health services for the under-five age group, including nutritional services.

Appendix 9

FINDINGS OF THE REVIEW OF SAFE MOTHERHOOD SERVICES: KIGOMA AND NGARA

Table 3 Availability of Safe Motherhood Services

Services (24hrs/day)	**Mtabila I**	**Mtabila II**	**Muyovosi**	**Nyarugusu**	**Nduta**	**Mtendeli**	**Mkugwa**	**Kanembwa**	**Lukole A**	**Lukole B**
Normal delivery care	✖	✖	✓	✓	✓	✓	✓	✓	✓	✓
Forceps Delivery	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Vacuum extraction	✖	✖	✖	✓	✖	✓	✖	✖	✓[1]	✖
Caesarean section	✖	✖	✖	✖	✖	✖	✖	✖	✓	✖[2]
Blood transfusion	✖	✖	✓	✓	✓	✓	✖	✓	✓	✓
Rooming-in for baby	✖	✖	✓	✓	✓	✓	✓	✓	✓	✓
Management of abortion complications (D&C and/or MVA)	✖	✖	✓	✓	✓	✓	✖	✓	✓	✖[3]
Management of severe anaemia	✖	✖	✓	✓	✓	✓	✖	✓	✓	✓
Management of pre-eclampsia	✖	✖	✓	✓	✓	✓	✖	✖	✓	✓
Management of eclampsia[4]	✖	✖	✓	✓	✓	✓	✖	✖	✓	✓
Management of puerperal sepsis	✖	✖	✓	✓	✓	✓	✖	✓	✓	✓
Management of antenpartum haemorrhage[4]	✖	✖	✓	✓	✓	✓	✖	✓	✓	✓
Management of postpartum haemorrhage[4]	✖	✖	✓	✓	✓	✓	✖	✓	✓	✓

✓ = yes ✖ = no

[1] Vacuum extractor out of order at present
[2] Patients requiring caesarean section transferred to Lucole A
[3] Patients requiring uterine evacuation referred to Lucole A
[4] Excluding surgical interventions.

Table 4 Availability of Written Guidelines for Clinical Care

Guidelines	Mtabila I	Mtabila II	Muyovosi	Nyarugusu	Nduta	Mtendeli	Mkagwa	Kanembwa	Lukole A	Lukole B
Antenatal Care	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Postnatal Care	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Normal labour and delivery care	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Newborn care	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Newborn resuscitation	✖	✖	✖	✖	✖	✖	✖	✖	✓	✓
Antepartum haemorrhage	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Postpartum haemorrhage	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Prolonged and obstructed labour	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Pre-eclampsia and eclampsia	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Puerperal sepsis	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Abortion complications	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖

✓= yes
✖= no

Table 5 Consumable Supplies for Safe Motherhood

Item	Mtabila I	Mtabila II	Muyovosi	Nyarugusu	Nduta	Mtendeli	Mkugwa	Kanembwa	Lukole A	Lukole B
Gloves	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓
Disposable syringes and needles	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gauze, dressings, adhesive tape	✓	✓	✓[5]	✓	✓[6]	✓	✓	✓	✓	✓
Cord ties/clamps	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IVI sets	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IV solutions (e.g. saline, ringers lactate)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blood transfusion sets	✖	✖	✓	✓	✓	✓	✖	✓	✓	✖[7]
Pregnancy test kits	✖	✖	✓	✖	✖	✓	✖	✓	✓	✖[3]
HIV test kits	✓	✖	✓	✓	✓	✓	✖	✓	✓	✖[3]
Syphilis test kits	✓	✓	✓	✓	✓	✓	✓[8]	✓	✓	✓
Disinfectants and antiseptics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hand soap	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓= yes ✖= no

[5] Sometimes in short supply.
[6] Gauze not always available.
[7] Available at Lucole A.
[8] One incomplete test kit available.

Table 6 Essential Drugs for Safe Motherhood

Drug	Mtabila I	Mtabila II	Muyovosi	Nyarugusu	Nduta	Mtendeli	Mkugwa	Kanembwa	Lukole A	Lukole B
Anaesthetics: general										
Nitrous oxide or other general anaesthetic agent	✖[9]	✖[1]	✖[1]	✖[1]	✖[1]	✖[1]	✖[1]	✖[1]	✖	✖[1]
Diazepam (injection)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ketamine (injection)	✖[1]	✖[1]	✓	✓	✓	✓	✓	✓	✓	✖
Anaesthetic: local										
Lidocaine 2% or other	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Analgaesics										
Pethedine (injection)	✖[1]	✖[1]	✖	✖	✓	✓	✖	✓	✓	✖
Anti-infective drugs										
Ampicillin (oral)	✓	✓	✓	✓[10]	✓[2]	✓[11]	✓[2]	✓	✓[2]	✓
Ampicillin (injection)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Benzathine penicillin (injection)	✓	✖	✓	✓	✓	✓	✓	✓	✓	✓
Procaine penicillin (injection)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ceftriaxone (injection)	✖	✖	✓	✖	✖	✖	✖	✖	✖	✖
Gentamicin (injection)	✓	✖	✓	✓	✓	✓	✓	✓	✓	✓
Kanamycin (injection)	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Sulfamethoxazole + trimethoprin	✓	✓	✓	✓	✖	✖	✖	✖	✖	✖
Tetracycline eye ointment or silver nitrate drops	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Antimalarial drugs										
Chloroquine (oral)	✓	✓	✓	✓	✓	✓	✓	✓[2]	✓	✓
Quinine (injection)	✓	✖	✓	✓	✓	✓	✓	✓	✓	✓
Sulfadoxide + pyrimethamine (oral)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

[9] Not applicable at this facility.
[10] Out of stock.
[11] Syrup only.

Table 6 Essential Drugs for Safe Motherhood (continued)

Drug	Mtabila I	Mtabila II	Muyovosi	Nyarugusu	Nduta	Mtendeli	Mkugwa	Kanembwa	Lukole A	Lukole B
Antihelminthic drugs										
mabendazole	✓	✓	✓	✓	✓[2]	✓	✓[2]	✓	✓	✓
Antianaemia drugs										
Ferrous sulphate and folic acid (combined or separately)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Antihypertensive drugs										
Methyldopa or	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Propranolol	✖	✖	✖	✖	✓	✓	✖	✖	✖	✓
Hydralazine (injection)	✖	✖	✓	✓	✓	✓	✖	✓	✖	✖
Anticonvulsant drugs										
Magnesium sulphate (injection) or	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
Diazepam (injection)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contraceptives										
Oral contraceptives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Injectable contraceptives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Condoms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IUCDS/IUD	✖	✖	✖	✓	✓	✓	✖	✖	INO	INO
Vaccines										
Tetanus toxoid	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BCG vaccine	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
OPV	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oxytocics										
Ergometrine (injection) or	✖[12]	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oxytocin (injection)	✖[1]	✖[1]	✓	✓	✓	✓	✖	✖	✓	✓

✓= yes ✖= no

[12] Not applicable at this facility (deliveries are not conducted here).

Table 7 Basic Equipment for Safe Motherhood

Item	Mtabila I	Mtabila II	Muyovosi	Nyarugusu	Nduta	Mtendeli	Mkugwa	Kanembwa	Lukole A	Lukole B
Basic Equipment										
Sphygmomanometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stethoscope	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Foetal stethoscope	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Infant scale	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clinical thermometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sterilizer	✓	✖[13]	✓	✓	✓	✓	✓	✓	✓	✓
Protective clothing (shoes, aprons)	✖[14]	✖[2]	✓[15]	✓[3]	✓[3]	✓[3]	✓[3]	✓[3]	✓[3]	✓[3]
Speculum (different sizes)	✖[2]	✖[2]	✓	✓	✓	✓	✓	✓	✓	✓
Manual vacuum aspiration equipment	✖[2]	✖[2]	✓	✓	✓	✓	✖	✓	✖	✖
Adult ventilation bag and mask	✖[2]	✖[2]	✖	✓	✖	✓	✖	✖	✖	✖
Delivery Equipment										
Scissors, suture needles, sutures	✖[2]	✖[2]	✓	✓	✓	✓	✓	✓	✓	✓
Vacuum extractor	✖[2]	✖[2]	✖	✓	✓	✓	✖	✖	✓	✖
Obstetric forceps	✖[2]	✖[2]	✖	✖	✖	✖	✖	✖	✖	✖
Newborn Equipment										
Cloth to dry baby	✖[2]	✖[2]	✓	✖[16]	✖[4]	✖[4]	✖[4]	✖[4]	✖[4]	✓
Blanket to wrap baby	✖[2]	✖[2]	✓[17]	✖[4]	✓	✓	✖[4]	✖[4]	✓	✓
Bag and mask for newborn resuscitation	✖[2]	✖[2]	✓	✓	✓	✓	✖	✓	✓	✓
Mucous extractor	✖[2]	✖[2]	✓	✓	✓	✓	✖	✓	✓	✓

[13] Equipment is sent to Moyovosi for sterilization.
[14] Not applicable at this facility.
[15] Aprons only.
[16] Supplied by mother.
[17] Not always available.

Table 8 Profile of Referral Facilities used for Emergency Obstetric Care

	Kebanga Hospital	Kasulu Hospital	Kibondo Hospital
Number of maternity beds	17+2	20+2	20+3
Number of deliveries (January to September 1998 – number of livebirths and stillbirths not obtained)	approx. 1350	approx. 975	approx. 750
Number of maternal deaths (January to September 1998)	9[18]	6[19]	2
Number of neonatal deaths (January to September 1998)	Information not available	Information not available	Information not available
Number of Doctors	4[20]	1[21]	2[22]
Number of Midwives	5	5	1
MCH Aids	Nil	Nil	4
Number of Nursing Assistants[23]	Nil	8	6
Services			
Vacuum extraction	✓	✓	✓
Forceps delivery	✖	✖	✖
Caesarean section	✓	✓	✓
Blood transfusion	✓	✓	✓
Management of abortion complications (D&C and/or MVA)	✓	Information not obtained	Information not obtained
Management of severe anaemia	✓	✓	✓
Management of pre-eclampsia	✓	✓	✓
Management of eclampsia	✓	✓	✓
Management of puerperal sepsis	✓	✓	✓
Management of antepartum haemorrhage	✓	✓	✓
Management of postpartum haemorrhage	✓	✓	✓

✓ = yes
✖ = no

18 Includes three refugee women, one each from Mtabila, Myovosi and Nyarugusu.
19 Includes one refugee woman from Mtabila.
20 All doctors perform caesarean section.
21 District Medical Officer.
22 District Medical Officer and Assistant District Medical Officer.
23 Nursing assistants perform deliveries.

Table 9 Consumable Supplies for Safe Motherhood: Referral Facilities

Item	Kabunga Hospital	Kasulu Hospital	Kibondo Hospital
Gloves	✓	✓	✓
Disposable syringes and needles	✓	✓	✓
Gauze, dressings, adhesive tape	✓	✓	✓
Cord ties/clamps	✓	✓	✓
IVI sets	✓	✓	✓
IV solutions (e.g. saline, ringers lactate)	✓	✓	✓
Blood transfusion sets	✓	✓	✓
Pregnancy test kits	✓	Information not obtained	✓
HIV test kits	✓	✓	✓
Syphilis test kits	✓	Information not obtained	✓
Disinfectants and antiseptics	✓	✓	✓
Hand soap	✓	✓	✓

✓= yes
✖= no

Table 10 Essential Drugs for Safe Motherhood: Referral Facilities

Drug	Kabunga Hospital	Kasulu Hospital	Kibondo Hospital
Anaesthetics: general			
Nitrous oxide or other general anaesthetic agent	✖	✖	✖
Diazepam (injection)	✓	✓	✓
Ketamine (injection)	✓	✓	✓
Anaesthetic: local			
Lidocaine 2% or other	✓	✓	✓
Analgaesics			
Pethedine (injection)	✓	✓	✓
Anti-infective drugs			
Ampicillin (oral)	✓	✓	✖
Ampicillin (injection)	✓	✓	✓
Benzathine penicillin (injection)	✓	✓	✓
Procaine penicillin (injection)	✓	✓	✓
Ceftriaxone (injection)	✖	✖	✖
Gentamicin (injection)	✓	✓	Out of stock
Kanamycin (injection)	✖	✖	✖
Sulfamethoxazole + trimethoprin (400mg + 80mg tablets)	✓	✖	✓
Tetracycline eye ointment or silver nitrate drops	✓	✓	Out of stock
Antimalarial drugs			
Chloroquine (oral)	✓	✓	✓
Quinine (injection)	✓	✓	✓
Sulfadoxide + pyrimethamine (oral)	✓	✓	Out of stock
Antihelminthics			
Mebendazole	✓	✓	Out of stock
Antianaemia drugs			
Ferrous sulphate and folic acid (combined or separately)	✓	✓	✓
Antihypertensive drugs			
Methyldopa or	✓	✓	✓
Propranolol	✓	✓	✖
Hydralazine (injection)	✓	✓	✖
Anticonvulsant drugs			
Magnesium sulphate (injection) or	✓	✖	✖
Diazepam (injection)	✖	✓	✓
Contraceptives			
Oral contraceptives	✖	✖	✓
Injectable contraceptives	✖	✖	✓
Condoms	✖	✓	✓
IUCDS/IUD	✖	✖	✓
Vaccines			
Tetanus toxoid	✓	✓	✓
BCG vaccine	✓	✓	✓
OPV	✓	✓	✓
Oxytocics			
Ergometrine (injection) or	✓	✓	✓
Oxytocin (injection)	✓	✓	✖

✓= yes ✖= no

Table 11 Basic Equipment for Safe Motherhood: Referral Facilities

Item	Kabunga Hospital	Kasulu Hospital	Kibondo Hospital
Basic Equipment			
Sphygmomanometer	✓	✓	✓
Stethoscope	✓	✓	✓
Foetal stethoscope	✓	✓	✓
Infant scale	✓	✓	✓
Clinical thermometer	✓	✓	✓
Sterilizer	✓	✓	✓
Protective clothing (shoes, aprons)	✓	✓	✓
Speculum (different sizes)	✓	✓	✓
Manual vacuum aspiration equipment	✖	✓	✓
Adult ventilation bag and mask	✓	✖	✖
Delivery Equipment			
Scissors, suture needles, sutures	✓	✓	✓
Vacuum extractor	✓	✓	✓
Obstetric forceps	✖	✖	✖
Newborn Equipment			
Cloth to dry baby	✓	✖	✖
Blanket to wrap baby	✓	✖	✖
Bag and mask for newborn resuscitation	✓	✓	✓
Mucous extractor	✓	✓	✓

✓ = yes
✖ = no

Appendix 10

The in-service training topics included in Appendix 10 were provided in conjunction with the review of safe motherhood services in Kigoma and Ngara. Depending on the in-service training needs of staff working in other refugee settings, all of the topics may or may not be applicable.

RECOMMENDED IN-SERVICE TRAINING TOPICS – SAFE MOTHERHOOD

It is recommended that in-service training be provided to update the knowledge, skills and attitudes of health care workers responsible for providing safe motherhood services, with the intention of:

- increasing their competence
- improving the quality of the services provided by them

The topics included on the following pages cover most of the components of safe motherhood and are consistent with the in-service training topics identified by the staff interviewed during the recent review of safe motherhood services.

MATERNAL AND NEWBORN CARE

Aim

The aim should be to provide staff with an opportunity to update their knowledge and skills related to antenatal care, care during labour and delivery, newborn care, and postnatal care.

Content

The content of the in-service training should include at least the following:

Antenatal Care

- definition of antenatal care
- aims of antenatal care and their achievement through the provision of specific health promotion messages
- frequency and timing of antenatal visits
- components of antenatal care: assessment, health promotion, care provision
- history taking and physical examination, with particular emphasis on accurate measurement of fundal height, calculation of the EDD, and accurate interpretation of physical findings (e.g. pallor related to anaemia)
- interpersonal communication between health worker and client
- risk factors related to pregnancy

Delivery Care

- clean and safe delivery practices
- care during labour and delivery, including admission of the women in labour
- the process of monitoring the progress of labour, including use of the partograph
- physiology of the 3rd stage of labour
- examination of the placenta

Newborn Care

- essential interventions for newborn care
- assessment and management of newborn illnesses
- common newborn diseases, presenting signs and categorization
- early detection of newborn illness at home through health promotion messages for mothers and other family members

Postnatal Care

- definition of postnatal care
- aims of postnatal care and their achievement through the provision of specific health promotion messages
- frequency and timing of postnatal visits
- components of postnatal care: assessment, health promotion and care provision
- common complications associated with the postnatal period

PREVENTING, DETECTING AND MANAGING COMPLICATIONS IN PREGNANCY

Aim

The aim should be to update knowledge of and skills to prevent, detect and manage complications of pregnancy. The main emphasis should be on the common complications which often result in morbidity and mortality. An opportunity should also be given for staff to update their knowledge about infection prevention.

Content

Anaemia

- causes of anaemia in pregnancy
- the clinical picture of anaemia in pregnancy
- effect of anaemia on pregnancy, labour, puerperium, the foetus and the newborn
- diagnosis and management of anaemia in pregnancy

Antepartum Haemorrhage

- definition of antepartum haemorrhage
- placental, non-placental, and unclassified types of antepartum haemorrhage
- clinical features of placenta previa and abruptio placentae
- management of placenta previa and abruptio placentae

Postpartum Haemorrhage

- definition of primary and secondary postpartum haemorrhage, retained placenta, atonic bleeding, traumatic bleeding
- causes of primary and secondary postpartum haemorrhage
- individual, community and health service risk factors for postpartum haemorrhage
- clinical features of primary and secondary postpartum haemorrhage
- management of primary and secondary postpartum haemorrhage

Abortion

- the magnitude of the problem and the socio-cultural factors affecting abortion
- classification of abortion
- individual, community and health service risk factors for abortion
- clinical features and differential diagnosis of abortion
- management of incomplete abortion
- post-abortion family planning

Ectopic Pregnancy

- definition of ectopic pregnancy
- predisposing factors in ectopic pregnancy
- clinical presentation of ruptured ectopic pregnancy and differential diagnosis
- management of ectopic pregnancy

Obstructed Labour

- definition of obstructed labour and cephalopelvic disproportion
- causes of obstructed labour
- the normal female pelvis and its main anatomical landmarks
- movement of the foetal head during normal labour
- mechanical factors related to obstructed labour
- individual, community and health service risk factors for obstructed labour
- diagnosis and differential diagnosis for obstructed labour
- management of obstructed labour

Eclampsia

- definitions of pre-eclampsi, fulminating pre-eclampsia, eclampsia, and impending eclampsia
- signs of impending eclampsia and the stages of an eclamptic fit
- dangers of an eclamptic fit to mother and foetus
- individual, community, and health service risk factors for eclampsia
- diagnosis and differential diagnosis for eclampsia
- management of pre-eclampsia and eclampsia

Puerperal Sepsis

- definition of puerperal sepsis
- pathophysiology of puerperal sepsis
- susceptibility of newly delivered women to infection
- individual, community, and health service risk factors for puerperal sepsis
- clinical picture, diagnosis and differential diagnosis for puerperal sepsis
- management of puerperal sepsis

Urinary Tract Infection

- causative organisms of urinary tract infection in pregnancy and maternal and foetal risks
- diagnosis and differential diagnosis for urinary tract infection in pregnancy
- management of urinary tract infection in pre-pregnancy
- prevention of urinary tract infection in pregnancy

Infection Prevention

- infection prevention and recommendations for universal precautions
- glove use in clinical care
- methods of decontamination, cleaning, sterilization and high-level disinfection
- methods of waste management

REFERENCE MATERIALS

1. *Antenatal Care: Report of a Technical Working Group*. WHO/FRH/MSM/96.8. World Health Organization, Geneva, 1996.

2. *Basic Newborn Resuscitation: A Practical Guide*. WHO/RHT/MSM/98.1. World Health Organization, Geneva, 1998.

3. *Breast-feeding: The Technical Basis and Recommendations for Action.* WHO/NUT/MCH/93.1. World Health Organization, Geneva, 1996.

4. *Care in Normal Birth: A Practical Guide*. WHO/FRH/MSM/96.24. World Health Organization, Geneva, 1996.

5. *Clinical Management of Abortion Complications: A Practical Guide.* WHO/FHE/MSM/94.1. World Health Organization, Geneva, 1994.

6. *Detecting Pre-eclampsia: A Practical Guide - Using and Maintaining Blood Pressure Equipment*. WHO/MCH/92.3. World Health Organization, Geneva, 1992.

7. *Essential Newborn Care: Report of a Technical working Group*. WHO/FRH/MSM/96.13. World Health Organization, Geneva, 1996.

8. *Management of the Sick Newborn: Report on a Technical Working Group.* WHO/FRH/MSM/96.12. World Health Organization, Geneva, 1996.

9. *Midwifery Education for Safe Motherhood: The Midwife in the Community*. WHO/FRH/MSM/96.1. World Health Organization, Geneva, 1996.

10. *Midwifery Education for Safe Motherhood: Postpartum Haemorrhage Module*. WHO/FRH/MSM/96.2. World Health Organization, Geneva, 1996.

11. *Midwifery Education for Safe Motherhood: Obstructed Labour Module*. WHO/FRH/MSM/96.3. World Health Organization, Geneva, 1996.

12. *Midwifery Education for Safe Motherhood: Puerperal Sepsis Module*. WHO/FRH/MSM/96.4. World Health Organization, Geneva, 1996.

13. *Midwifery Education for Safe Motherhood: Eclampsia Module*. WHO/FRH/MSM/96.5. World Health Organization, Geneva, 1996.

14. *Midwifery Education for Safe Motherhood: Notes for Students*. WHO/FRH/MSM/96.6. World Health Organization, Geneva, 1996.

15. *Mother-Baby Package: Implementing Safe Motherhood in Countries.* WHO/FHE/MSM/94.11. World Health Organization, Geneva, 1994.

16. *Myles Textbook for Midwives* (13thEd), V.R. Bennett and L.K. Brown, editors. Churchill Livingstone, London (to be released in early-1999).

17. *Postnatal Care of Mother and Newborn: A Practical Guide.* World Health Organization, Geneva (to be released in early-1999).

18. *Preventing Prolonged and Obstructed Labour: A Practical Guide. The Partograph Part II: user's manual*. WHO/FHE/MSM/93.9. World Health Organization, Geneva, 1993.

19. *Preventing Prolonged and Obstructed Labour: A Practical Guide. The Partograph Part III: facilitator's guide*. WHO/FHE/MSM/93.10. World Health Organization, Geneva, 1993.

20. *Prevention and Management of Severe Anaemia in Pregnancy: Report of a Technical Working Group*. WHO/FHE/MSM/93.5. World Health Organization, Geneva, 1993.

21. *The Prevention and Management of Unsafe Abortion: Report on a Technical Working Group*. WHO/MSM/92.5. World Health Organization, Geneva, 1992.

Note: All of the WHO documents listed above are available from WHO Headquarters, Geneva, and almost all are free of charge.

Guidelines for Safe Motherhood in Refugee Settings: Kigoma and Ngara

Part 1

These guidelines were developed as part of a technical assistance mission supported by UNHCR/PTSS and undertaken from September to November 1998. The purpose of the mission was to review and strengthen safe motherhood services in the refugee camps in Kigoma and Ngara, Tanzania. The guidelines are an important outcome of the mission and were developed in collaboration with, and endorsed by, the following implementing agencies: IFRC/TRCS; Christian Outreach; IRC; UMATI; and NPA.

Preface

The following guidelines contain basic information for the providers of safe motherhood services (e.g. midwives, doctors and clinical officers) at the health facilities in refugee camps in Kigoma and Ngara.

The guidelines are presented in two parts. Part 1 covers antenatal care, postnatal care, the care of pre-term and low birth weight babies, and the assessment and management of newborn illness. The reason for including the assessment and management of newborn illness in Part 1 is that the staff who provide postnatal care must be capable of detecting newborn illness and initiating early management (e.g. immediate referral to the camp doctor or clinical office, when necessary). In addition, staff must be capable of advising mothers about early detection of newborn illness at home.

Part 2 covers care during labour and delivery, management of antepartem haemorrhage, postpartum haemorrhage, obstructed labour, pre-eclampsia and eclampsia, puerperal sepsis, and abortion complications, and newborn care, including care of pre-term and low birth weight babies. Part 2 also contains guidelines for infection prevention.

The information contained in the guidelines should remind health care providers of the theory learned during pre-service and/or in-service training. While the guidelines are not intended to be used as teaching-learning materials, they may be used as a basis for developing the details of training activities.

The guidelines should be kept at the workplace: Part 1 at the location where antenatal and postnatal care are provided, and Part 2 at the maternity ward.

A final but very important point about the guidelines is that they will facilitate the standardization of safe motherhood services for refugee women in Kigoma and Ngara.

GUIDELINES FOR ANTENATAL CARE

GUIDELINES FOR ANTENATAL CARE

Antenatal care is care provided to pregnant women from conception through to the onset of labour. It offers the opportunity for health care providers to encourage healthy behaviours, monitor the woman's physical and emotional condition during pregnancy and prepare her for childbirth, as well as to warn women, their partners, families and the community of possible complications and the need for prompt attention when complications occur.

Aims of antenatal care

- To ensure maternal health and normal foetal development.
- To recognize deviations from normal and provide management as required.
- To promote healthy living habits.
- To ensure that the woman reaches the end of her pregnancy physically and emotionally prepared for delivery.
- To promote breast feeding and give advice in preparation for lactation.
- To offer counselling on parenthood as a planned programme (antenatal classes) or on an individual basis, and provide IEC materials on parenthood and family planning.
- To build a trusting relationship between communities and health care providers.

Frequency and timing of antenatal visits

Women should be encouraged to begin antenatal care early in pregnancy, as this will enable the prevention and early treatment of anaemia, screening for and treatment of syphilis, and early identification and management of other complications such as malaria. Early contact with the health system also allows the woman and health care provider to get to know one another.

The following schedule is recommended by the WHO Technical Working Group for Antenatal Care.[24] The number, timing and content of antenatal visits represent the minimum level of care needed. Women at risk will need more frequent visits (see attached list of risk factors).

- **First visit by the end of the fourth month (16 weeks)** - to screen and treat anaemia and syphilis, screen for risk factors and medical conditions that can best be dealt with in early pregnancy, and initiate prophylaxis for or treatment of problems (e.g. for anaemia and malaria) and begin to develop an individualized birth plan.

- **Second visit in the sixth or seventh month (24-28 weeks)** - to screen for pre-eclampsia, multiple gestation, anaemia, and to further develop the individualized birth plan.

- **Third visit in the eighth month (32 weeks)** - same as for second visit.

- **Fourth visit in the ninth month (36 weeks)** - to identify foetal lie/presentation, and to update the individualized birth plan; screen and treat for anaemia.

[24] World Health Organization. *Antenatal Care: Report of a Technical Working Group*. WHO/FRH/MSM/96.8. Geneva, World Health Organization 1996.

Content of antenatal visits

At each antenatal visit, the client should be ensured privacy and an opportunity for open discussion with the health care worker. The WHO Technical Working Group on Antenatal Care recommends that the content of antenatal visits for a normal pregnancy includes three main components.

- **Assessment**
- **Health promotion**
- **Care provision**

Assessment

During the antenatal assessment, the woman should be treated professionally, respectfully and with understanding, and made to feel welcome at the facility and welcome to come back again.

Communicating with the woman is based on the use of simple language, getting feedback on understanding, asking open-ended questions, active listening, and restating information that the woman gives.

The activities listed below are for the ***first antenatal visit***, regardless of trimester.

History

- name, age, address
- parity
- date of last menstrual period, menstrual history, and pregnancy symptoms
- contraceptive history
- history and circumstances of:
  - antepartum/postpartum haemorrhage
  - multiple gestation
  - eclampsia, sepsis, or other complications
  - operative delivery/prolonged labour
  - stillbirth or neonatal death
  - small infant (premature or low birth weight)
  - whether or not the present pregnancy was wanted
  - social history and support (e.g. living with partner)
  - medical problems
  - any other complaints or problems

Physical Examination (***first and subsequent visits, unless indicated otherwise***)

- general appearance
- clinical signs of anaemia and oedema
- height - **note <u>very</u> small stature**
- weight[25]
- blood pressure
- signs of physical abuse
- examination for assessment of complaints noted in history
- previous caesarean section scar

[25] The WHO Technical Working Group on Antenatal Care does not recommend recording and monitoring of maternal weight because there is no sound evidence to link weight gain with known risk factors and predictable outcomes, except where the pre-pregnancy weight is known. However, weight is included here, as part of antenatal assessment, because refugee women are provided food supplementation, from the second trimester onward.

- uterine size (external examination) or fundal height in second and third trimester
- foetal well-being, using foetal movements or foetal heart sounds in the second and third trimester

Routine Testing

- syphilis test conducted at clinic with same-day treatment for positive results and follow-up of partners
- urinalysis, where possible at each visit, or at least on all clients with raised BP
- haemoglobin, where possible, at first visit

The activities listed below are for ***all subsequent visits***:

History

- social support (e.g. family and community support)
- any complaints of problems
- follow-up advice, care, or referral provided at previous visit

Physical examination

- general appearance
- blood pressure
- clinical signs of anaemia
- fundal height in ***second and third trimester***
- foetal well-being, using foetal movements or foetal heart sounds in the ***second and third trimester***
- signs of physical abuse
- lie and presentation in the ***third trimester***
- assessment of complaints

Health promotion

The following aspects of the woman's health and her pregnancy-related needs should be discussed, as necessary, at ***all antenatal visits***:

- Physical care, including adequate rest, good personal hygiene, and a well balanced diet.
- Identification of minor disorders during pregnancy.
- Maintenance of good health through the provision of advice about the prevention of malaria and intestinal parasites, avoidance of smoking and consumption of alcohol, and safe sexual practices.
- Planning for place of birth, birth attendant, promotion of clean delivery kits in the case of home births, and involvement of the community in planning for transport, if needed, for referral.
- Recognition of danger signs such as bleeding, swelling of hands, face, feet and legs, headache, vomiting, abdominal pain, fever, heart palpitation, dizziness, breathlessness, and convulsions – and when and where to seek help if these signs occur.
- Family planning and child spacing.
- Counselling on newborn care, including preparation for breast-feeding.

Care provision

The following minimum aspects of care should be available at ***all antenatal visits*** and provided as required:

- Development of an individualized delivery plan which should be initiated at the ***first visit*** and reviewed at ***subsequent visits***. The plan should take account of: the woman's preference for place of birth, skill level and attitude of birth attendant, and cost; family and social support; assessment of woman's risk of complications during labour and delivery; assessment of satisfactory arrangements for transportation in case of emergency, referral, and distance (time) to referral facility; economic status; expected place of birth and skill level of attendant (confirmed at last antenatal visit).
- Tetanus toxoid immunization - number of doses according to need (see the schedule which follows).
- Treatment of endemic conditions such as malaria and intestinal parasites (see the guidelines which follow).
- Iron and folic acid supplementation (see the guidelines which follow).
- Psychosocial support.
- Maternal record (antenatal card) – started at ***first visit*** and recorded at each ***subsequent visit.***
- Timing of next antenatal visit.

Tetanus Toxoid Immunization Schedule

Dose	When to Give
TT-1	at first ANC visit or as early in pregnancy as possible
TT-2	at least four weeks after **TT-1**
TT-3	at least 6 months after **TT-2** or during subsequent pregnancy
TT-4	at least one year after **TT-3** or during subsequent pregnancy
TT-5	at least one year after **TT-4** or during subsequent pregnancy

Malaria Management in Pregnancy[26]

Assessment	Management
▪ Ask the woman when her last dose of sulphadoxine-pyrimethamine (Fansidar) was given. ▪ Pregnant women, in their first and second pregnancy, should be given one dose (three tablets) of sulphadoxine-pyrimethamine, as follows: at the beginning of the second trimester at the beginning of the third trimester **Note: it is preferable not to give sulphadoxine-pyrimethamine in the first trimester of pregnancy.**	▪ Give one dose of sulphadoxine-pyrimethamine at clinic. ▪ Make sure that the woman understands what the medicine is for and when her next dose is due. ▪ Discontinue iron/folate supplementation for one week, beginning on the day that sulphadoxine-pyrimethamine is given. ▪ Encourage the woman to use an impregnated bed net. ▪ Advise the woman that she must seek **immediate** medical attention for episodes of fever and that she must not be made to wait in line to see the doctor/clinical officer.

[26] Sulphadoxine-pyrimethamine (Fansidar®) treatment replaces chloroquine prophylaxis. In areas of high chloroquine resistance, such as in Tanzania, all pregnant woman, regardless of gravidy, should be treated according to the schedule indicated above.

Syphilis Screening[27]

Screening	Management
▪ Make sure that the woman has an RPR test at her first antenatal visit. ▪ If it is not possible to provide the result on the same day as the RPR test is done, make sure that the woman returns to the clinic next morning. ▪ Make sure that the result of the RPR test is recorded on the woman's antenatal card.	▪ If the RPR test is positive, treat the woman and her partner with benzathine penicillin. ▪ Provide counselling on safer sex and the use of condoms. ▪ Make sure that the treatment for a positive RPR test is recorded on the woman's antenatal card.

Assessment and Management of Anaemia[28]

Assessment	Classification	Management
▪ haemoglobin greater than 10 gm or ▪ if haemoglobin result is not available and no pallor present	▪ **no anaemia**	▪ give routine iron/folate prophylaxis (1 tablet daily – 60 mg iron + 400 μg) and advise the woman to take with food, at the same time each day ▪ counsel the woman about the importance of iron/folate treatment ▪ provide information about possible side effects ▪ provide advice about available foods that are rich in iron ▪ provide the woman with enough iron/folate tablets to last until her next antenatal visit – make sure that a TBA (i.e. the TBA responsible for the block/street in which the woman lives) provides weekly follow-up to ensure that the woman is taking the iron/folate
▪ haemoglobin 7 to 10 gm or ▪ if haemoglobin result not available and palmar or conjunctival pallor present	▪ **anaemia**	▪ as above ▪ schedule another clinic visit in two weeks and ensure that the woman understands the importance of returning for the visit
▪ haemoglobin less than 7gm, or ▪ if haemoglobin result not available and severe palmar/conjunctival pallor present, or ▪ pallor and breathing rate of 30 or more per minute	▪ **severe anaemia**	▪ give 120 mg iron + 400 μg folic acid daily for 3 months ▪ if the women is more than 36 weeks gestation or if breathing rate is 30 or more, she should be treated in hospital ▪ if the woman is less than 36 weeks gestation and has no respiratory or cardiac symptoms, she should be asked to return to the clinic 1 week and 4 weeks after therapeutic supplementation has begun ▪ if the woman's condition has worsened at the one week follow-up visit of her condition shows no improvement at the 4 week follow-up, she must be referred to hospital for further medical attention ▪ after completing 3 months of therapeutic supplementation, the woman should continue preventive supplementation (i.e. 60 mg iron + 400 μg daily)

[27] See the guidelines for RPR testing, which follow.

[28] International Nutritional Anaemia Consultative Group, World Health Organization, United Nations Children's Fund. *Guidelines for the Use of Iron Supplements to Prevent and Treat Iron Deficiency Anaemia*. Washington, International Life Sciences Institute 1998.

Routine Nutrition Supplementation

Screening	Management
▪ At the first antenatal visit, measure the mid-upper arm circumference (MUAC). ▪ Weigh the woman at the first and all subsequent antenatal visits. ▪ Use the same scale each time the woman is weighed. ▪ Make sure that the scale is balanced before weighing the woman. ▪ If the woman loses weight between antenatal visits or has visible wasting, screen for other problems such as TB and HIV.	▪ Women in the first trimester of pregnancy who have a MUAC < 22 cm should be provided with weekly CSB[29] supplementation from the first antenatal visit. The next antenatal visit should be according to the routine schedule, unless the woman is severely wasted or has a risk factor which would require her to return to the clinic sooner. ▪ All other women should be advised that they are entitled to weekly CSB supplementation during the second and third trimester of pregnancy. ▪ Explain that the supplementation is being provided to help maintain good nutritional status during pregnancy. ▪ Tell the woman which day of the week and where she can collect her CSB. ▪ Remind her that the CSB is for her, rather than for other members of her family. ▪ If the woman does not gain weight between antenatal visits, ask her about her diet, determine whether she is using the CSB for herself, and provide advice about food intake during pregnancy. ▪ Make sure that a TBA (i.e. the TBA responsible for covering the block/street in which the woman lives) provides weekly follow-up to ensure that the woman is using the CSB for herself.

Prophylaxis/Management for/of Intestinal Parasites

Assessment	Management
Ask the woman when she last had a dose of mebendazole. **Note: mebendazole should not be given in the first trimester of pregnancy.**	Give mebendazole 500 mg, **only if**: ▪ the woman has not had a dose in the last six months and ▪ she is not in the first trimester of pregnancy Make sure that the woman understands what the medicine is for.

RISK FACTORS RELATED TO PREGNANCY

The assessment of risk factors should be an ongoing process throughout pregnancy, labour, delivery and the postnatal period. The following risk factors imply a need for **careful monitoring** to prevent complications arising and enable **early identification and management** when they occur:

- Poor obstetric history.
- Very short stature.
- Very young maternal age (<15 years); elderly primipara (>35 years).

[29] CSB = 200 grams unimix; 20 grams oil; and 20 grams sugar.

- Primiparity or grand multiparity.
- Size-date discrepancy.
- Unwanted pregnancy.
- Extreme social disruption or deprivation.
- Preterm labour in previous pregnancy.
- Multiple gestation.
- Abnormal lie/presentation.
- Previous operative delivery.

Antenatal care activities for these risk factors need to be added to normal pregnancy care. As with normal pregnancy, the approach suggested for the identification and management of risk factors generally follows the same three steps: **assessment, health promotion, and care provision.**

Poor obstetric history – women with a history of an operative delivery, stillbirth, neonatal death, or low birth weight baby are at risk of adverse events in subsequent deliveries. The outcome of the last pregnancy is most important. It is critical to identify women with such a history at the ***first visit*** and to assess whether the complication is likely to recur and whether it needs to be treated in the antenatal period.

History of operative delivery – women with a history of a previous caesarean section need to be monitored carefully during labour in a health facility at which obstetric surgery can be performed. In most cases this will be a hospital. Traditional birth attendants and peripheral health care workers at facilities that cannot perform caesarean section need to identify and refer immediately any women with a history of caesarean section who come to them in labour.

History of stillbirth or neonatal death – for women with a history of stillbirth or neonatal death, efforts should be made to determine the cause (e.g. for a stillbirth, were there complications such as malpresentation, long labour, labour or delivery complications, positive syphilis serology? and for neonatal deaths, how long did the baby live, did it feed, what does the mother think caused the death?).

History of low birth weight infant – information should be obtained about birth weight; gestational age at delivery; complications of pregnancy; condition at birth; ability to suck; and current health status of child.

Short stature – recognized short stature can be used as a basis for advising women about their level of risk and appropriate choice of place of birth; however, it is important that health workers recognize that although short stature may be associated with a small pelvis, maternal height is not generally a good predictor of prolonged/obstructed labour. Nevertheless, women who are “strikingly” short in a given community should be delivered at a health facility (e.g. hospital) with the capacity to provide the interventions needed for prolonged and obstructed labour.

Very young maternal age - very young women are at increased risk of maternal and perinatal mortality and morbidity due to anaemia, obstructed labour and pre-eclampsia/eclampsia because their own physical growth and maturation is not complete. Additional risks may be present if the pregnancy is unplanned or unwanted. Counselling and emotional support should be provided and girls <15 years of age should be referred to hospital for delivery.

Primiparity and grandmultiparity – primiparous women are at increased risk associated with obstructed labour and hypertensive disorders of pregnancy. Grandmultiparus women are at risk for antepartum haemorrhage, postpartum haemorrhage and obstructed labour associated with abnormal foetal lie/presentation. Ideally, primiparous women should be

delivered at a facility that allows for easy transfer and referral if prolonged/obstructed labour or pre-eclampsia/eclampsia occur. Grandmultiparous women should be delivered in hospital.

Size-date discrepancy – although accurate identification of intrauterine growth retardation is difficult and effective interventions are not well understood, the prevalence and contribution of this condition to perinatal and infant health is recognized. Multiple pregnancy is frequently the cause of size-date discrepancy.

Unwanted pregnancy – unwanted pregnancies are associated with increased risk of unsafe abortion and possible psychological problems, preterm labour, and potential neglect/abuse of the baby. Counselling and support should be provided during the pregnancy and postpartum period.

Extreme social disruption/deprivation – all women need some psychological support during pregnancy. In most cases, reassurance and health information will provide the needed support. However, some women, particularly those with an unwanted pregnancy, the very young, refugees, members of ethnic minorities, those with stigmatizing diseases, the poor and those who are victims of domestic violence, will need more intensive help and careful monitoring of the pregnancy.

Multiple gestation – multiple gestation is associated with increased risk of preterm birth, hypertensive disorders of pregnancy, obstructed labour, and postpartum haemorrhage. The woman should be monitored carefully during pregnancy and delivered in hospital.

Abnormal lie and presentation – abnormal lie and presentation in labour are associated with increased risk of obstructed labour. Abnormal lie and presentation before 36 weeks is common and not predictive of lie and presentation at the onset of labour. However, abnormal lie and presentation later in pregnancy (after 36 weeks) is more likely to persist at the time of onset of labour. Delivery should take place in hospital.

COMMUNITY HEALTH PROMOTION MESSAGES FOR ANTENATAL CARE

In order to achieve the aims of antenatal care, an important first step is to provide health promotion messages to the community at large. It is important to convey messages to women, their partners and families, and the community about **the health needs of women during pregnancy, labour and the postnatal period**. Common methods used by health workers for conveying health promotion information include group presentations, one-to-one teaching sessions, poster displays, and radio messages. Some of the important ideas and activities related to maternal and newborn care which need to be promoted through health care messages are included below. **In refugee camps**, TBAs and women representatives could be used to communicate these messages; however, it is important to ensure that they have a clear understanding of the messages before they begin conveying them to the community at large.

Antenatal Visits - encourage women to come for the first antenatal visit early in pregnancy (i.e. in the first trimester).

Basic Services - ensure community awareness of the basic services provided for pregnant women – e.g. where and when the services are available.

Clean and Safe Delivery - promote messages explaining clean and safe delivery practices. Messages should emphasize clean environment, clean hands, clean surface for delivery, clean perineum, and clean cord cutting instruments.

Danger Signs - inform women, their families and communities about danger signs in the antenatal, delivery and postnatal periods and ensure that they know where to seek care. The danger signs to be emphasized include any vaginal bleeding during pregnancy, severe

headache, dizziness or blurred vision, generalized oedema, convulsions, breathlessness and tiredness, labour lasting more than 12 hours, excessive bleeding during labour or after delivery, ruptured membranes for more than 12 hours before labour begins, and fever with or without offensive vaginal discharge after delivery.

Responding to Emergencies - ensure that all pregnant women, their families and the community know where the nearest facility is for emergency care and are aware of the need to plan in advance for emergency transportation should the need arise.

Newborn Care - provide clear messages about essential newborn care, including early and exclusive breast feeding, keeping the baby warm, prevention of infections, resuscitation if necessary, and immunization.

Family Planning - stress the advantages of family planning and birth spacing and provide information about the availability of services to all individuals of reproductive age. Particular emphasis should be given to male involvement in family planning.

STDs/HIV/AIDS - pregnant women and their partners should be aware of the adverse effects sexually transmitted diseases have on pregnancy and the newborn and the need for early treatment and follow-up. Pregnant women infected with HIV should be provided with information about the importance of a nourishing diet, adequate rest, good hygiene to reduce the risk of infection, and the avoidance of all medicines except those prescribed by a health care worker. Counselling on sexual practices and breast-feeding should also be provided.

Teenage Pregnancy - stress the benefits of delaying age at marriage and first pregnancy. Particular emphasis should be placed on the health benefits to the mother, child and family of delaying the first pregnancy.

GUIDELINES FOR RPR TESTING

All pregnant women should be screened for syphilis at their **first antenatal visit** using the RPR test. If for some reason a woman does not have an RPR test done at her first antenatal visit, the test must be done at the next visit.

The equipment required for the RPR test is as follows:

- vacutainer tubes and needles OR
- regular glass test tubes and 5 ml syringes and needles
- gloves (to be worn when taking blood samples and washing test tubes)
- test tube rack
- tourniquet
- alcohol and swabs
- RPR kit which includes:
  - reagent (POS, NEG, TEST)
  - dispensing bottle
  - dispensing needle
  - reaction cards
  - disposable pipettes/mixers

Steps in the Procedure

1. Number the test tube(s).

2. Number the test card(s) with corresponding numbers. **Note:** the No.1 circle on the test card should be used for the **Positive Control** and the No. 2 circle for the **Negative Control** – if more than one card is being used (i.e. if there are more that six mothers to be tested at one antenatal clinic) it is not necessary to repeat the positive and negative controls on the second card.

3. Explain the purpose of RPR testing to the woman.

4. Enter the necessary information in the RPR registry book.

5. Apply a tourniquet to the upper arm.

6. Clean the venous puncture site with alcohol.

7. Draw 5 mls of blood (note: if blood is drawn using a vacutainer, stand the labelled test tube in the test tube rack; if blood is drawn using a 5 ml syringe and needle, transfer the blood into a labelled test tube and stand it in the test tube rack).

8. Allow up to 2 hours for serum separation.

9. Do a positive and negative control, using the samples provided with the test kit.

10. Use a disposable pipette/mixer to draw serum from the test tube and dispense one drop in the centre of the circle corresponding to the number on the test tube.

11. Spread the serum over the circle using the “mixer” end of the pipette/mixer. Repeat steps 10 and 11 for each sample, using a new pipette/mixer for each sample.

12. Dispense one drop of antigen (shake well first) onto each sample, using the dispensing bottle or a syringe.

13. Mix the serum and the antigen by gently rotating the card for 8 minutes.

14. In a good light, read the reaction for each of the samples, as follows:

    STRONGLY POSITIVE: indicated by the development of clearly visible clumps of aggregates in the centre of the test circle.

    WEAKLEY POSITIVE: indicated by the development of clearly visible clumps of aggregates around the edge of the test circle.

    NEGATIVE: the carbon particles remain in smooth suspension and no aggregates are visible.

15. Record the results in the register .

16. Empty and soak the test tubes in a 0.5% chlorine solution (dilute Jik 1:7 parts water to obtain a 0.5% solution) for at least 10 minutes, then sterilize them by boiling.

17. Ensure safe disposal (incineration) of the examination cards, syringes needles, pipettes/mixers.

18. When the woman returns **next day** for the result, write it on her antenatal card.

19. A woman who has a positive result must be counselled and treated, **on the spot**, with Benzathin Penicillin 2.4 IU, and asked to bring her partner(s) to the antenatal clinic for counselling and treatment. Where penicillin is contraindicated (i.e. if the woman or her partner(s) has a penicillin allergy) use one of the following treatment regimens:

    Tetracycline 500mg orally four times daily for 15 days, OR

    Erythromycin 500 mg orally four times daily for 10 days, OR

    Sulfisoxazole 500 mg orally four times daily for 10 days, (equivalent doses of other sulphonamides may also be used).

Note: ciprofloxacin, doxycycline and tetracycline should not be used during pregnancy or lactation.

Record the treatment for the woman and her partner(s) on her antenatal card.

GUIDELINES FOR POSTNATAL CARE

Postnatal care is care provided to the woman and her baby during the six-week period immediately following delivery. Postnatal care involves the promotion of healthy behaviour and early identification and management of complications.

The postnatal period constitutes a critical passage for the woman and her newborn, during which physiological and social-emotional adjustments take place.

Aims of postnatal care

- To promote the psychosocial well-being of mother, baby and family.
- To recognize complications early and provide appropriate management.
- To encourage early and exclusive breast feeding.
- To provide individualized health promotion messages for the maintenance of optimum health of mother and baby.
- To provide information, screening and management of STD/HIV/AIDS.
- To provide information and counselling related to family planning.

Frequency and timing of postnatal visits

Most maternal deaths take place during the postnatal period. Therefore, postnatal care should not be neglected. Women should be encouraged to seek postnatal care early so that problems can be recognized and managed early. While some women will require more postnatal visits than others, the minimum schedule of visits is as follows.

- **First visit during the first week postpartum** - to check postpartum bleeding, hypertension, puerperal infection, thromboembolic disorders, complications related to the urinary system and the perineum and vulva, establishment of lactation, psychological problems, condition of the baby (see guidelines for care of the newborn), and discuss family planning.

- **Second visit in the sixth week postpartum** - as above

Note: Women who deliver at home should be checked by a trained midwife during the first 24 hours after delivery. The woman should then be encouraged to follow the schedule indicated above.

CONTENT OF POSTNATAL VISITS

The content of postnatal care should involve the same three main components as antenatal care.

- **Assessment** (history, physical and obstetric examination and laboratory tests, if needed)
- **Health Promotion**

- **Care Provision**

Assessment

The activities listed below are for both the ***first postnatal visit (first week)*** and ***second postnatal visit (sixth week)***. The assessment information collected may vary; for example, if the health worker has provided antenatal and/or delivery care for the woman, she should already be familiar with the woman's history.

History

- name, age, address
- married/not married
- parity
- date of delivery
- details of delivery (where and by whom; type of delivery; hours in labour; trauma to genital tract such as lacerations; interventions such as episiotomy; complications such as bleeding, hypertension, infection)
- condition of baby at birth
- social history and support (e.g. living with partner)
- medical problems
- any other complaints or problems
- follow-up on advice, care, referral from previous visit

Physical Examination

- general appearance
- head to toe examination
- clinical signs of anaemia
- clinical signs of infection
- abdominal examination – fundal height, tenderness, pain
- examination of breasts – tenderness, pain, inflammation
- inspection of perineum – note colour and smell of lochia
- inspection of legs – note inflammation, tenderness, pain, oedema
- blood pressure, temperature and pulse (a body temperature of 38^{o} C is abnormal, especially during the first days after delivery)
- complete physical examination of the baby

Health promotion

The following aspects of the woman's health and her post-pregnancy needs should be discussed, as necessary, at ***each postnatal visit***.

- nutrition – importance of a well balanced diet, danger of food taboos
- rest – adequate rest and avoidance of heavy physical work
- breast feeding – breast care, adequacy of milk supply, resolution of problems associated with breast feeding
- perineal hygiene – regular washing and changing of pad/cloth/rag
- family planning and child spacing – choice of methods and when to begin
- resumption of sexual relations – when to resume sexual intercourse
- STDs/HIV/AIDS prevention – emphasis should be on prevention
- care of baby – cleanliness, breast feeding, immunization
- immunization – BCG and OPV at birth, followed by the established schedule for infants

Care provision

The following minimum aspects of care should be provided, as needed, at ***each postnatal visit.***

- management of anaemia
- treatment of infection
- immunization and growth monitoring for baby
- family planning counselling and provision of contraceptive of choice
- psychosocial support
- referral for major complications
- STD/HIV/AIDS management, as needed
- provision of Vitamin A supplementation for breast feeding mothers
- timing of next visit

Iron Supplementation[30] Women should be given iron and folic acid supplementation (60 mg iron + 400 μg folic acid daily) for the first three month postpartum.

Vitamin A Supplementation[31] Breast feeding mothers should be given a single dose of vitamin A (200,000 IU). This should be given at the first postnatal visit (i.e. the first week postpartum).

Possible complications

The main life threatening complications in the postnatal period are as follows:

- haemorrhage
- anaemia
- genital trauma
- hypertension
- sepsis
- active or recurrent urinary tract infection
- mastitis

COMMUNITY HEALTH PROMOTION MESSAGES FOR POSTNATAL CARE

In order to achieve the aims of postnatal care, an important step is to provide health promotion messages to the community at large. It is important to convey messages to women, their partners, families and the community about the needs of the postpartum woman and her newborn. Common methods used by health workers for conveying health promotion information include group presentations; one-to-one teaching sessions; poster displays; and radio messages. Other means include newspapers, school curricula, and mass media campaigns. **In refugee camps**, TBAs and women representatives could be used to communicate these messages; however, it is important to ensure that they have a clear understanding of the messages before they begin conveying them to the community at large.

Postnatal Visits – encourage women to come for their first postnatal visit during the first week following delivery and again at six weeks, and at any time in between if a complication

[30] International Nutritional Anaemia Consultative Group, World Health Organization, United Nations Children's Fund. *Guidelines for the Use of Iron Supplements to Prevent and Treat Iron Deficiency Anaemia*. Washington, International Life Sciences Institute 1998.

[31] World Health Organization. Safe Vitamin A Dosage During Pregnancy and Lactation. WHO/NUT/98.4. Geneva, World Health Organization 1998.

occurs or if their is a need for information and counselling related to the health of the mother and baby.

Basic Services – ensure community awareness of the basic services provided for postpartum women.

Danger Signs – inform women, their families and communities about the danger signs during the postpartum period. These include heavy bleeding, abdominal tenderness and pain, offensive smelling lochia, fever, tenderness or pain in one or both breasts, and pain or tenderness in the calf of one or both legs. For the baby, the danger signs may include discharge from cord stump, fever, inability to suck, difficulty in breathing, eye discharge, and diarrhoea.

Newborn Care – provide clear messages about exclusive breast feeding, cleanliness, warmth, immunization and growth monitoring. Avoid putting medicines or paste on the cord stump.

Family Planning – stress the health benefits for mother, baby and family of birth spacing and limiting family size, and provide information about the availability of family planning services – particular emphasis should be given to encouraging male involvement in family planning.

STDs/HIV/AIDS – women and their partners should be made aware of the adverse effects of sexually transmitted diseases and the need for early treatment and follow-up. Counselling on sexual practices to prevent STDs/HIV should be provided. Women infected with HIV should be provided with information about the importance of a nourishing diet, adequate rest, good hygiene to reduce the risk of infection, and the avoidance of all medicines except those prescribed by a health care worker. Counselling on breast feeding should also be provided to these women.

GUIDELINES FOR THE CARE OF PRETERM AND/OR LOW BIRTH WEIGHT BABIES

Most low birth weight babies in developing countries are born at, or near, term; they have reached maturity and have the full potential to survive. However, because of their reduced weight and a lack of fat as the source of energy and insulation, they are at increased risk of hypothermia and poor growth. The **best source of warmth is the mother's body** and the **best food is breast milk**.

Thermal protection

Skin-to-skin contact with the mother will provide the necessary warmth and permit frequent breast feeding. A low birth weight baby should not be separated from its mother solely on the basis of birth weight. If the baby does not have difficulty breathing and can be breast-fed, it should remain with its mother. When the baby is not in skin-to-skin contact with the mother, it should be loosely wrapped in several layers of light but warm cloth – tight swaddling should be avoided as this does not provide good insulation.

Breast Feeding

The following points must be considered when feeding pre-term and low birth weight babies:

- The need for fluid (breast milk) in pre-term and low birth weight babies increases from 80ml/kg on the first day of life to 150ml/kg towards the 10th day.
- For good growth, these babies need between 150 and 200ml/kg of breast milk per day.
- Weight gain is nil, or at least slow, for the first two weeks of life – weight loss of around 10% of birth weight is common.
- When they begin taking the required amount of breast milk, they should gain 20-25 grams per day.
- Good weight gain is 140-180 grams per week.
- The main reason that these babies do not gain weight is that they are not taking enough breast milk.

If a preterm or low birth weight baby is not able to breast feed initially, the mother must be taught to express her breasts by hand[32], and the expressed breast milk must be fed to the baby by an alternative method (e.g. cup and spoon or naso-gastric tube).

Expression of milk should **commence on the day of birth** – the colostrum produced during the first days after birth is very important for all babies, and particularly important for pre-term or low birth weight babies. Milk should be expressed **at least** 6 to 8 times in a 24-hour period, **including during the night**.

The principles of hand expression of breast mild should be taught to all mothers of babies who are unable to breast feed, as follows:

[32] Lang, S. *Breast Feeding Special Care Babies*. London, Bailliere Tindall 1996.

1. Place the fingers of one hand under the breast. The little finger can be placed against the chest wall, and the other fingers spread evenly under the breast toward the nipple, supporting the breast.

2. Place the thumb on the top of the breast just behind the areola, opposite the first finger.

3. With the first finger and thumb, gently palpate the breast tissue. It should be possible to feel the small fibrous thickenings or grape-like structures situated beneath, or at the margins of, the areola and behind the nipple. These are the lactiferous sinuses. Pressure should be applied just behind these sinuses or, if they cannot be located, just behind the areola.

4. To remove the milk from the sinuses, compress and release the breast tissue with the thumb and fingers. This action should be repeated regularly during hand expression.

5. To express sufficient milk for a feed, the thumb and forefinger need to move around the outside edge of the sinuses or areola to ensure that all of the lactiferous sinuses are drained.

6. Movement of the skin (rather than the tissue beneath the skin) should be avoided as this may cause damage to the skin.

The mother's expressed breast milk can be fed to the baby using a cup and spoon or a naso-gastric tube, as mentioned earlier. The amount of breast milk required should be calculated according to the baby's weight (see previous page).

Important Note

The baby should be fed every three hours, day and night, until weight gain is satisfactory. When this is achieved, and the baby is sleeping at night, the feeding schedule can be adjusted accordingly; however, the remaining feeds must be increased to ensure that the baby is receiving the required intake.

GUIDELINES FOR THE ASSESSMENT AND MANAGEMENT OF NEWBORN ILLNESS

The most important element of newborn care at the health facility is the identification of signs that suggest severe disease (e.g. meningitis, sepsis, severe pneumonia, neonatal tetanus, hypoxic-eschaemic encephalopothy, severe hypothermia, severe hyperthermia, dehydration). In order to identify signs associated with these diseases, a thorough assessment of the newborn is required.

Assessment

Assessment of the sick newborn involves:

- taking a history from the mother
- examining the newborn

History from mother	Examination of newborn
Has the baby had convulsions? Has the baby had diarrhoea? If so, for how long?	**Breathing:** ▪ count the number of breaths in one minute ▪ look for chest indrawing ▪ look for nasal flaring ▪ listen for grunting **Consciousness:** ▪ see if the baby is difficult to wake ▪ look and feel for neck stiffness and/or bulging fontanelle ▪ look at baby's movements (are they less than expected, symmetrical?) ▪ listen to the baby's cry (is it high-pitched, weak or absent?) **Temperature:** ▪ measure temperature (is it above or below 36.5°C?) **Local Infections:** ▪ look at the umbilicus (is it red and draining pus, does the redness extend to the skin?) ▪ is pus draining from the ears or eyes? **Jaundice:** • look for jaundice on hands and feet
Is there any difficulty in feeding? Is the baby breast-fed and how many times per day? Has the baby been given any other fluids or foods?	**Feeding:** ▪ weigh the baby; determine weight for age ▪ if necessary, assess breast feeding (look for positioning, attachment and suckling) ▪ look for white patches in the mouth (thrush)

On the basis of the assessment the health worker should classify the findings in one of the following categories:

1. **Severe bacterial infection.** The baby should be identified as having a severe bacterial infection if any of the following are found on assessment: convulsions; fast breathing (**>**60/min), severe chest indrawing; nasal flaring, grunting; lethargic or unconscious, bulging fontanelle; less than normal movement; high-pitched, weak or absent cry; fever (37.5°C or above) or low body temperature (36°C or below); diarrhoea; umbilicus draining pus, redness extending to skin. Diarrhoea in the early

newborn period, with or without dehydration, with or without blood in the stool, is considered a sign of a bacterial infection because it is often associated with severe bacterial infection.

The management of severe bacterial infections should include the following:

- intramuscular administration of antibiotics
- admit to appropriate ward or urgent referral to hospital
- mother to accompany baby, if possible
- skin-to-skin contact with mother during transfer
- breast feeding during transfer, if possible, or expressed breast milk by spoon, or sugar water by spoon before transfer

2. **Local bacterial infection.** If the baby has no danger signs, but signs of omphalitis, conjunctivitis or pustules are found, the condition should be classified as local bacterial infection.

The management of local bacterial infection should include the following:

- intramuscular administration of antibiotics
- admit to appropriate ward
- for mild infections (e.g. cord stump, skin, eye), treat as needed with antibiotics, counsel mother about home care, and follow up in two days

3. **Severe jaundice.** If the baby has no other danger signs, but has yellow feet and hands, the condition will be classified as severe jaundice.

The management of severe jaundice should include the following:

- admit to appropriate ward or referral to hospital
- advise mother to continue to breast feed and to keep baby warm (skin-to-skin contact) during transfer

4. **Not able to feed.** If the baby is not able to feed at all, this may be a sign of serious bacterial infection and he/she should be admitted to appropriate ward or referred to hospital. If feeding is poor, potential problems should be assessed and counselling given to the mother. The baby should be weighed and weight for age assessed.

Common newborn diseases

The following table contains the most common newborn diseases in the first week of life, the presenting signs, and the diagnostic category.

Diseases/Conditions	Presenting Signs	Category
Birth Asphyxia Hypoxic-ischemic encephalopathy	Convulsions Floppiness Unconsciousness Lethargy (difficult to wake)	Hypoxic-ischemic encephalopathy
Intracranial haemorrhage	High-pitched, weak, or absent cry Unable to feed	Severe bacterial infection

Diseases/Conditions	Presenting Signs	Category
Sepsis, meningitis	Difficulty breathing Lethargy, difficult to wake Weak, absent cry Less than normal movement Unable to feed, poor suck Hypothermia Fever Bulging fontanelle Convulsions	Severe bacterial infection
Pneumonia	Difficulty breathing: • fast breathing >60/min • severe chest indrawing • nasal flaring • grunting • cough	Severe bacterial infection
Neonatal tetanus	Convulsions Rigidity Difficulty feeding	Severe bacterial infection
Congenital syphilis	Rash Nasal discharge Snuffles	Severe bacterial infection
Omphalitis	Umbilical redness extending to skin Umbilicus draining pus	Local bacterial infection
Conjunctivitis, ophthalmia	Eyes swollen, draining pus	Local bacterial infection
Skin infection	Pustules	Local bacterial infection
Diarrhoea	Loose watery excessive stools, bloody stools	Diarrhoea Severe bacterial infection
Hyperbilirubinaemia, haemolytic, non-haemolytic, other Kernicterus	Yellow skin (hands and feet) Convulsions Stiffness	Jaundice, if no other signs
Hypothermia	Cold to touch (<36.5°C) Lethargy, hypotonia, poor suck, weak cry, shallow breathing, hardening of skin (on back and limbs)	Hypothermia Severe bacterial infection
Hyperthermia	Warm to touch (>38°C), irritable, fast breathing, red face then pale later, lethargy	Hyperthermia Severe bacterial infection

Early detection of newborn illness at home

Mothers and families need to know the danger signs of newborn illness, where to go for treatment, and why they **must respond quickly** if the danger signs occur. Whenever a health worker has contact with a mother or other family members, he/she should take the opportunity to communicate health promotion messages about cleanliness, breast feeding, immunization, and the danger signs related to newborn illness. The danger signs which should be recognized early by mothers, other family members, and health workers are included below:

	Danger Signs
Respiratory	laboured, fast, difficult breathing / grunting /cough
Behavioural	convulsions / lethargy / floppiness / stiffness / rigidity / lockjaw
Feeding	poor or no suck, especially in a newborn who was previously sucking well
Skin colour	yellow
Skin to touch	cold or hot
Skin for abnormalities	Pustules / rashes
Cord	redness / pus / bleeding
Eyes	redness / swelling / pus

Guidelines for Safe Motherhood in Refugee Settings: Kigoma and Ngara

Part 2

These guidelines were developed as part of a technical assistance mission, supported by UNHCR/PTSS and undertaken from September to November 1998. The purpose of the mission was to review and strengthen safe motherhood services in the refugee camps in Kigoma and Ngara, Tanzania. The guidelines are an important outcome of the mission and were developed in collaboration with and endorsed by the following implementing agencies: IFRC/TRCS; Christian Outreach; IRC; UMATI; and NPA.

Preface

The following guidelines contain basic information for the providers of safe motherhood services (e.g. midwives, doctors and clinical officers) at the health facilities in refugee camps in Kigoma and Ngara.

The guidelines are presented in two parts. Part 1 covers antenatal care, postnatal care, the care of pre-term and low birth weight babies, and the assessment and management of newborn illness. The reason for including the assessment and management of newborn illness in Part 1 is that the staff who provide postnatal care must be capable of detecting newborn illness and initiating early management (e.g. immediate referral to the camp doctor or clinical office, when necessary). In addition, staff must be capable of advising mothers about early detection of newborn illness at home.

Part 2 covers care during labour and delivery, management of antepartem haemorrhage, postpartum haemorrhage, obstructed labour, pre-eclampsia and eclampsia, puerperal sepsis, and abortion complications, and newborn care, including care of pre-term and low birth weight babies. Part 2 also contains guidelines for infection prevention.

The information contained in the guidelines should remind health care providers of the theory learned during pre-service and/or in-service training. While the guidelines are not intended to be used as teaching-learning materials, they may be used as a basis for developing the details of training activities.

The guidelines should be kept at the workplace: Part 1 at the location where antenatal and postnatal care are provided, and Part 2 at the maternity ward.

A final but very important point about the guidelines is that they will facilitate the standardization of safe motherhood services for refugee women in Kigoma and Ngara.

GUIDELINES FOR CARE DURING LABOUR AND DELIVERY

The aim of care during labour and delivery is to achieve a healthy mother and baby with as little intervention as possible. The health care worker who is assigned the care of the women during labour and delivery is responsible for the following:

- Support of the physical and emotional needs of the woman, her partner and family during labour, at the moment of childbirth and in the period following.
- Observation of the labouring woman, monitoring of the foetal condition and of the condition of the baby after birth, assessment of risk factors, and early detection of problems.
- Performing minor interventions, if necessary, such as amniotomy and episiotomy.
- Care of the infant after birth.
- Referral to a higher level of care (e.g. health centre to district hospital or, if necessary, to a level II hospital) if risk factors become apparent or complications develop that cannot be managed appropriately at the present level.

Clean and safe delivery practices

Cleanliness during labour and delivery are essential to protect both mother and baby from infection. In addition, there are other conditions which must be fulfilled to optimize and ensure the safety of both mother and baby.

Clean delivery practices include the following:

- **Clean Environment** - cleanliness in the delivery room should be maintained at all times. This includes daily sweeping, mopping, damp dusting with disinfectant of all surfaces, furniture, walls and windows. After each delivery the bed/delivery table and mackintosh should be cleaned thoroughly.
- **Clean Hands** - hands must be washed before and after each contact with client. Hand washing is the most practical procedure for preventing cross-infection.
- **Clean Delivery Surface** - clean linen should be used on the delivery table and should be changed between deliveries.
- **Clean Perineum** - the perineum should be washed with soap and water and nothing unclean should be introduced into the vagina.
- **Clean Cord Cutting Instruments** - cord cutting scissors and cord ties/clamp should be part of the sterile delivery pack.

These practices also pertain to home deliveries. For example, the room in which the mother delivers should be clean; the birth attendant's hands should be clean; the surface on to which the baby is delivered should be clean; the woman's perineum should be clean and the birth attendant should not introduce anything unclean into the vagina; and a new razor blade should be used to cut the cord and the cord ties should be clean.

Health care workers who attend deliveries should, where possible, wear gloves, even though the risk of an infected mother transmitting HIV to a person who assists at delivery is very low.

Admission of the woman in labour

When a woman is admitted in labour a complete evaluation of her condition and the condition of the foetus should be carried out. The following activities should be included in the admission procedure:

- Review obstetric records and individualized birth plan (developed during antenatal care) when available.
- History.
- Physical examination.
- Empty bladder/urinalysis.
- Vaginal examination.
- Record time and date of admission.
- Record time membranes ruptured.
- Record time contractions began.
- Presence of show.
- Make woman comfortable.
- Allow partner, a relative or friend to stay with the women, in accordance with institutional policy.

Monitoring progress of labour

Regular assessment of the progress of labour and maternal and foetal condition should be carried out using a partograph. The clean delivery practices outlined above should be observed in relation to the following activities for all women:

Progress of Labour

- Vaginal examination on admission, repeated at least every four hours to assess cervical dilatation and descent of the presenting part **(vaginal examination should be performed only by health workers trained in the procedure; the health worker must have clean hands, covered by sterile gloves).**
- Abdominal examination to assess the descent of the presenting part.
- Frequency, duration and intensity of contractions, recorded hourly – in normal labour, contractions should become more frequent and last longer as labour progresses.
- **If the latent phase of labour lasts more than eight hours, be alert to the potential need for action – e.g. referral to a facility where the appropriate intervention is possible (e.g. caesarean section).**

Foetal Condition

- Foetal heart rate, recorded half-hourly – a rate >160 beats/minute and <120 beats/minute may indicate foetal distress; if the heart rate is abnormal, listen every 15 minutes immediately after a contraction and if it remains abnormal for three observations, action is needed unless delivery is very close; a rate of 100 or lower indicates very severe distress requiring immediate action.
- State of liquor (clear, blood-stained, meconium stained, absent), recorded four hourly at the time of each vaginal examination – meconium stained liquor or absent liquor at the time of membrane rupture, may indicate foetal distress .
- Moulding of the foetal skull bones, recorded four hourly – increasing moulding is a critical sign of cephalopelvic disproportion.

Maternal Condition

- Maternal temperature and blood pressure, recorded four hourly; pulse recorded half hourly – a dyastolic blood pressure of = 90 mm Hg is indicative of pre-eclampsia – recording should be increased to half hourly.
- Urinalysis, if possible, for protein and acetone, recorded four hourly –mother should be asked to empty bladder every two to four hours; the presence of acetone may indicate dehydration; the presence of protein, together with a diastolic blood pressure = 90 mm Hg, is indicative of pre-eclampsia/impending eclampsia.

Second Stage of Labour

- Observations as above.
- Foetal heart recorded after each contraction.
- Perform episiotomy, **only if necessary**, at the right time (i.e. not too soon – it is best to do so when the perineum is thin and bulging and about 4 to 5 cm of the baby's head is visible).

Immediate Care of the Baby

- Place baby on mother's abdomen.
- Dry baby thoroughly with clean cloth and wrap in dry warm cloth to prevent hypothermia.
- Ensure airway is clear and respiration is established.
- Record APGAR score.

Third Stage of Labour

- Give ergometrine 0.5 mg IM after delivery of the baby.
- Clamp/tie and cut the cord.
- Use controlled cord traction to deliver the placenta.

Immediate Postpartum Care

- Examine the genital tract carefully for tears/lacerations and repair as necessary or, if unable to do so, refer to the next level facility capable of providing the care needed (this may apply in cases of high vaginal and cervical lacerations if skilled assistance and the necessary supplies and equipment are not available).
- Examine the placenta and membranes carefully for completeness and abnormalities.
- Record mother's temperature, pulse and blood pressure.
- Make mother comfortable (sponge and change linen).
- **The most important observations during the first hour postpartum are the amount of blood loss and uterine contraction:** record contraction of uterus and vaginal bleeding quarter hourly for one hour; if blood loss is abnormal and the uterus is contracting poorly, gently rub up uterus to expel clots – it should be ensured that uterine contraction is not inhibited by a full bladder.
- Weigh and label baby (for institutional deliveries).
- Encourage mother to breast feed baby.
- Keep mother and baby at health care facility for minimum of eight hours.

GUIDELINES FOR THE MANAGEMENT OF ANTEPARTUM HAEMORRHAGE

Antepartum haemorrhage is haemorrhage from the genital tract occurring after 28 weeks of pregnancy but before delivery of the baby; it **commonly occurs because of placenta praevia** or **abruptio placentae**. However, it is much less common than postpartum haemorrhage.

Placental Antepartum Haemorrhage includes placenta praevia; abruptio placenta; placenta vasa praevia; miscellaneous causes, circumvallate.

Non-Placental Antepartum Haemorrhage includes cervical erosion; polyps, varicosities and cancer of the cervix ; decidual bleeding.

Unclassified Antepartum Haemorrhage includes all other causes not classified above.

Management of placenta praevia

Painless and unexplained haemorrhage, especially in a multigravida, is usually due to placenta praevia; the placenta may be positioned close to or over the cervical os.

The signs and symptoms may be as follows:

- Unprovoked, painless vaginal bleeding or repeated spotting occurring most commonly about the 32nd week.
- The bleeding is bright red, usually starts suddenly and may stop spontaneously.
- The presenting part may be high, the position may be abnormal, and there may be failure to engage.
- Signs of hypovolaemic shock may be present.
- Anaemia may be present.

Management of placenta praevia should include the following steps:

1. Assess the patient's condition (pulse, blood pressure, colour, consciousness) and estimate how much blood has been lost.

2. If the woman is in shock, make sure that her airway is open; turn her head to the side, and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

3. Take blood for cross-matching and Hb estimation and identify potential blood donors. **Note**: Selective use of blood transfusions is important to reduce the risk of transmitting infectious agents such as hepatitis and HIV. It is preferable to manage acute blood loss by using normal saline and plasma expanders, rather than packed red cells or whole blood. Only women who have both a low haemoglobin level and symptoms of acute blood loss or severe anaemia should be given a blood transfusion.

4. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

5. If the bleeding stops, the woman should be kept at the health facility and monitored closely.

6. If the bleeding continues, the woman should be transferred, without delay, to a referral facility where caesarean section can be performed. She should be accompanied by a health worker capable of monitoring her condition during transfer, maintaining fluid replacement, ensuring warmth and comfort, and providing a detailed account of the woman's condition on arrival at the referral facility.

7. Keep accurate records.

Important Note

Never do a routine vaginal examination on a woman suspected of having placenta praevia.

Management of abruptio plancentae

Abruptio placentae involves bleeding following premature separation of a normally situated placenta. Depending on the degree of separation of the placenta, there may or may not be vaginal bleeding, uterine tenderness may vary from mild to marked, and maternal shock and foetal distress may or may not be present.

Management of abruptio placentae should include the following steps:

1. Assess the patient's condition (pulse, blood pressure, colour, consciousness) and estimate how much blood has been lost.

2. If the woman is in shock, make sure that the airway is open; turn her head to the side, and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

3. Take blood for cross-matching and Hb estimation and identify potential blood donors. **Note**: Selective use of blood transfusions is important to reduce the risk of transmitting infectious agents such as hepatitis and HIV. It is preferable to manage acute blood loss by using normal saline and plasma expanders, rather than packed red cells or whole blood. Only women who have both a low haemoglobin level and symptoms of acute blood loss or severe anaemia should be given a blood transfusion.

4. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

5. If the symptoms are mild, the woman should be kept at the health facility and monitored closely.

6. If the symptoms are severe, the woman should be transferred, without delay, to a referral facility where caesarean section can be performed. She should be accompanied by a health worker capable of monitoring her condition during transfer, maintaining fluid replacement, ensuring warmth and comfort, and providing a detailed account of the woman's condition on arrival at the referral facility.

7. Keep accurate records.

GUIDELINES FOR THE MANAGEMENT OF POSTPARTUM HAEMORRHAGE

Postpartum haemorrhage is the loss of more than 500 ml of blood from the genital tract in the first 24 hours after delivery of the baby. It is important to note, however, that for a woman who is anaemic or who has other medical conditions such as cardiac disease, blood loss of less than 500 ml may cause her condition to deteriorate.

Primary Postpartum Haemorrhage includes all occurrences of bleeding within 24 hours after delivery.

Secondary Postpartum Haemorrhage includes all cases of postpartum haemorrhage occurring between 24 hours after delivery and 6 weeks postpartum.

Retained Placenta describes the situation when the placenta has not been delivered within one hour after the birth of the baby.

Atonic Bleeding occurs from the placental site because the uterus is unable to contract adequately and thus the blood vessels are not compressed and bleeding is not controlled.

Traumatic Bleeding occurs as a result of injury to the genital tract.

Managing primary postpartum haemorrhage

The principles of managing postpartum haemorrhage are: speed, skill and priorities. The importance of working quickly and according to priorities so that urgent things are done first, cannot be overemphasized. **The priorities in managing PPH are:**

- Call for help (to assist in controlling bleeding).
- Assess the patient's condition.
- Find the cause of the bleeding.
- Stop the bleeding.
- Stabilize or resuscitate the woman.
- Prevent further bleeding.

Managing atonic bleeding

A sign that bleeding is atonic is that the uterus is not well contracted. It is soft, distended and lacking tone. The management of atonic bleeding will depend on whether the placenta is delivered or retained.

Placenta Delivered

The management of atonic bleeding which occurs after the placenta has been delivered, should include the following steps:

1. Rub up a contraction and expel any clots.

2. Assess the patient's condition (pulse, blood pressure, colour, consciousness, uterine tone) and estimate how much blood has been lost.

3. If the woman is in shock, make sure that the airway is open; turn her head to the side, and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

4. Give an oxytocic -- **oxytocin 10 IU IV or ergometrine 0.5 mg IV** – give IM only if the IV route is not possible.

5. Take blood for cross-matching and Hb estimation and identify potential blood donors. **Note**: Selective use of blood transfusions is important to reduce the risk of transmitting infectious agents such as hepatitis and HIV. It is preferable to manage acute blood loss by using normal saline and plasma expanders, rather than packed red cells or whole blood. Only women who have both a low haemoglobin level and symptoms of acute blood loss or severe anaemia should be given a blood transfusion.

6. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

7. Empty the bladder and keep it empty; insert a catheter if the woman is unable to void.

8. Check that the placenta and membranes are complete.

9. Keep the uterus well contracted. Add **40 units of oxytocin to one litre of normal saline** and run it at 40 drops per minute. Try putting the baby to the breast or use nipple stimulation if the baby will not suckle.

10. If the bleeding persists and **the uterus keeps relaxing**, use bimanual compression. If this is not effective and bleeding is profuse, manual compression of the abdominal aorta may be useful while the cause of bleeding is determined or during transfer of the patient to a referral facility where the required care is available.

11. If the bleeding persists and **the uterus is well contracted**, examine the vagina and cervix for lacerations.

12. In case of severe shock, give plasma expanders or blood transfusion (see note above), if available. If there are any indications that infection may be present, including fever, chills, or foul smelling vaginal discharge, start broad spectrum antibiotics (see management of secondary postpartum haemorrhage).

13. Keep accurate records.

Placenta Retained

The management of atonic bleeding due to retained placenta should include the following steps:

1. Assess the patient's condition (pulse, blood pressure, colour, consciousness, uterine tone) and estimate how much blood has been lost.

2. If the woman is in shock, make sure that her airway is open; turn her head to the side and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

3. Give an oxytocic -- **oxytocin 10 IU IV or ergometrine 0.5 mg IV** – give IM only if the IV route is not possible.

4. Take blood for cross-matching and Hb estimation and identify potential blood donors. **Note**: Selective use of blood transfusions is important to reduce the risk of transmitting infectious agents such as hepatitis and HIV. It is preferable to manage acute blood loss by using normal saline and plasma expanders, rather than packed red cells or whole blood. Only women who have both a low haemoglobin level and symptoms of acute blood loss or severe anaemia should be given a blood transfusion.

5. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

6. Empty the bladder and attempt controlled cord traction. If successful, examine the placenta to ensure that it is complete.

7. Keep the uterus well contracted by massaging the fundus. Add **40 IU of oxytocin to one litre of normal saline** and run it at 40 drops per minute. Put the baby to the breast or use nipple stimulation if the baby will not suckle.

8. If controlled cord traction is not successful, a gentle vaginal examination should be performed. If the placenta can be felt protruding through the cervix, it should be grasped with the fingers and steadily withdrawn from the uterus, which should be supported through the abdominal wall by the other hand.

9. If the placenta cannot be delivered, manual removal should be carried out, after the administration of plasma expanders or blood transfusion (see note above), if needed.

10. After manual removal of the placenta, continue IV infusion of oxytocic, as in step 7 above, and massage the uterus.

11. Start broad spectrum antibiotics (see management of secondary postpartum haemorrhage).

12. Keep accurate records.

Managing traumatic bleeding

The management of traumatic bleeding should include the following steps:

1. Assess the patient's condition (pulse, blood pressure, colour, consciousness, uterine tone) and estimate how much blood has been lost.

2. If the woman is in shock, make sure that her airway is open; turn her head to the side, and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

3. Take blood for cross-matching and Hb estimation and identify potential donors. **Note**: Selective use of blood transfusions is important to reduce the risk of transmitting infectious agents such as hepatitis and HIV. It is preferable to manage acute blood loss by using normal saline and plasma expanders, rather than packed red cells or whole blood. Only women who have both a low haemoglobin level and symptoms of acute blood loss or severe anaemia should be given a blood transfusion.

4. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

5. Place the woman in the lithotomy position and use good lighting to examine the genital tract.

6. Find the bleeding point if visible and clamp it.

7. Suture the tear.

8. Start the woman on a broad spectrum antibiotic such as **ampicillin 1 g stat IM followed by 500 mg every 6 hours for five days or amoxicillin 1g stat orally followed by 500 mg every 8 hours.**

9. Keep accurate records.

Continuing management for both atonic and traumatic bleeding should include the following:

Monitor the patient's condition carefully over the next 24-48 hours, including:

- Checking that the uterus is firm and well contracted.
- Blood loss (to estimate accurately, put a sanitary napkin or other clean material under the woman's buttocks and ask her to extend her legs and cross them at the ankles for about 20-30 min: the blood will then collect in the area of the pubic triangle).
- Temperature, pulse, respiration, and blood pressure.
- General condition (e.g. colour, level of consciousness).
- Fluid intake (after the woman is stabilized, IV fluids should be given at a rate of 1 litre in 6-8 hours).
- Blood transfusion should be monitored and the volume transfused recorded as part of the fluid intake.
- Urinary output.

Before the woman goes home, her Hb should be checked and iron supplementation should be given, if indicated.

Important Note

Never leave the patient alone until:

Bleeding is controlled
General condition is good

Never insert a vaginal pack in cases of atonic bleeding

Managing secondary postpartum haemorrhage

The causes of secondary postpartum haemorrhage are as follows:

- Retained products (membrane or placental tissue).
- Shedding of dead tissue following obstructed labour (this may involve cervix, vagina, bladder or rectum).
- Breakdown of the uterine wound after caesarean section or ruptured uterus.

The management of secondary postpartum haemorrhage should include the following steps:

1. Rub up a contraction by massaging the uterus, if it is still palpable.

2. Assess the patient's condition (pulse, blood pressure, colour, consciousness, uterine tone).

3. If the woman is in shock, make sure that her airway is open; turn her head to the side, and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

4. If bleeding is severe, give an oxytocic -- **oxytocin 10 IU IV or ergometrine 0.5 mg IV** – give IM only if the IV route is not possible.

5. Take blood for cross-matching and Hb estimation and identify potential blood donors. **Note**: Selective use of blood transfusions is important to reduce the risk of transmitting infectious agents such as hepatitis and HIV. It is preferable to manage acute blood loss by using normal saline and plasma expanders, rather than packed red cells or whole blood. Only women who have both a low haemoglobin level and symptoms of acute blood loss or severe anaemia should be given a blood transfusion.

6. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

7. Empty the bladder and keep it empty; insert a catheter if the woman is unable to void.

8. Start broad spectrum antibiotics, using one of the following regimens:

   benzylpenicillin 5 million IU IV followed by 2 million IU every 6 hr + gentamicin 100 mg stat IM followed by 80 mg every 8 hours + metronidazole 500 mg orally every 8 hours

   OR

   ampicillin 1 g IV stat followed by 500 mg IV every 6 hours + metronidazole 500 mg orally every 8 hours

   OR

   benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + gentamicin 100 mg stat IM followed by 80 mg every 8 hours

   OR

   benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + chloramphenicol 500 mg IV every 6 hours

   Note: the first regimen provides the broadest coverage.

9. If it is not possible to examine the woman under anaesthetic, she should be urgently transferred to a facility where this is possible. She should be accompanied by a health worker capable of monitoring her condition during transfer, maintaining fluid replacement, ensuring warmth and comfort, and providing a detailed account of the woman's condition on arrival at the referral facility. The purpose of the examination is to gently explore the uterus to remove any shedding tissue and/or re-suture uterine wound, if necessary.

10. Keep accurate records.

GUIDELINES FOR THE MANAGEMENT OF OBSTRUCTED LABOUR

Obstructed labour occurs when, in spite of strong contractions of the uterus, the foetus cannot descend because of mechanical factors. Obstruction usually occurs at the brim, but it may occur in the cavity or outlet of the pelvis. Complications resulting from obstructed labour can be avoided if a woman is monitored carefully during labour and obstructed labour is identified early.

In cases of obstructed labour, there will be signs of:

- Dehydration and ketoacidosis (ketonuria, fast pulse, dry mouth).
- Fever.
- Pain.
- Shock (rapid pulse, anuria, cold extremities, pale complexion, low blood pressure), which may be due to a ruptured uterus or sepsis.

Signs of obstructed labour found on abdominal examination may include the following:

- The foetal head can be felt above the pelvic brim because it is unable to descend.
- Frequent and strong uterine contractions (however if a woman has been in labour for a long time contractions may have stopped because of uterine exhaustion).
- The uterus may have gone into tetanic contraction and sits tightly moulded around the foetus.
- Bandl's ring may be present.

Signs of obstructed labour found on vaginal examination may include:

- Foul-smelling meconium draining.
- Amniotic fluid already drained away.
- Oedema of the vulva, especially if the woman has been pushing for a long time.
- Vagina hot and dry because of dehydration.
- Oedema of the cervix.
- Incomplete dilatation of the cervix (may be fully dilated in case of outlet obstruction)
- A large caput succedaneum may be felt.
- The cause of the obstruction, such as severely moulded head stuck in pelvis, shoulder presentation, prolapsed arm.

Obstructed labour may also be revealed if the readings on the partograph indicate:

- A prolonged first stage of labour (active phase) with a secondary arrest.
- A prolonged second stage.
- Foetal distress (foetal heart rate less than 120/min, foul-smelling meconium draining).
- Poor cervical dilation in spite of strong contractions.

Ruptured uterus should be suspected if:

- The patient has a sudden sharp pain in the lower abdomen.
- Contractions stop and the patient feels relief from pain.

- The patient becomes pale and exhibits signs of shock.
- Vaginal bleeding is present.
- The urine is bloodstained.
- Foetal parts are more easily palpated through the abdomen than usual.
- There is abdominal or shoulder pain due to the presence of blood in the peritoneal cavity.

Management of obstructed labour

Management of obstructed labour should include the following steps:

1. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

2. If the woman is not in shock but is dehydrated, ketotic and exhausted, give dextrose 5% 1-2 litres in 6 hours.

3. Start broad spectrum antibiotics, using one of the following regimens:

   Ampicillin 1 g IV or IM stat followed by 500 mg every 6 hours
   OR
   Benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + Chloramphenicol* 1 g IV stat followed by 0.5 g IV every 6 hours
   OR
   Benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + Gentamicin 100 mg IM stat followed by 80 mg IM daily

4. If the **foetus is alive** and if **rupture of the uterus is likely**, the woman must be referred urgently for delivery by caesarean section. She should be accompanied by a health worker capable of monitoring her condition during transfer, maintaining fluid replacement, ensuring warmth and comfort, and providing a detailed account of the woman's condition on arrival at the referral facility.

5. If the **foetus is alive**, the **uterus is intact** and the **cervix is fully dilated,** vertex presentations should be delivered as follows:
   in cases where descent is 0/5, vacuum extraction
   in cases where descent is 1/5-2/5, symphysiotomy
   in cases where descent is 3/5 or above, caesarean section

6. If the **cervix is not fully dilated**, and in the case of other cephalic presentations, caesarean section should be performed. In the case of transverse lie, decrease labour using a tocolytic agent and refer urgently for caesarean section.

7. If the **foetus is dead** and **rupture of the uterus is likely**, the method of delivery should be caesarean section.

8. If **the foetus is dead**, the **uterus is intact**, and the cervix is 10 cm dilated and descent of head is 2/5 or more, craniotomy and destructive delivery is required. In all

* Warning: Chloramphenicol has some serious side-effects such as anaemia or leucopenia. If chloramphenicol is given, the woman's blood count must be monitored.

other situations, the method of delivery should be caesarean section.

9. In cases of transverse lie, decrease labour using a tocolytic agent and refer urgently for caesarean section.

Remember

- The aim of management is to **save life** and **prevent damage.**
- It is important to **avoid unnecessary delay.**
- Delay may mean **death or damage.**
- When labour is not progressing as it should and obstruction is suspected, **urgent referral** of the woman may be necessary.

GUIDELINES FOR THE MANAGEMENT OF PRE-ECLAMPSIA /ECLAMPSIA

Pre-eclampsia is a condition specific to pregnancy, arising after the 20th week of gestation, characterized by hypertension and proteinuria. Oedema may also be present. Pre-eclampsia is classified as follows:

Classifying pre-eclampsia

Finding	Mild Pre-eclampsia	Severe Pre-eclampsia
diastolic blood pressure	rises 15-20 mmHg or absolute level is >90 but <100	rises >20 mmHg or absolute level is >100
proteinuria	trace or 1+	2+ or greater, persistently
generalized oedema (including face and hands)	absent	present
headache	absent	present
visual disturbances	absent	present
upper abdominal pain	absent	present
oliguria	absent	present
diminished foetal movement	absent	present

Eclampsia is a condition peculiar to pregnant or newly delivered women. It is characterized by fits followed by more or less prolonged coma. The woman usually has hypertension and proteinuria. The fits may occur in the antepartum, intrapartum or postpartum periods.

Pre-eclampsia and eclampsia are part of the same disorder. Pre-eclampsia almost always precedes eclampsia; however, not all cases follow an orderly progression from mild disease to severe; some women develop severe pre-eclampsia or eclampsia suddenly.

It is important to note that convulsions can occur at what are usually considered to be normal blood pressure levels: in some persons the normal blood pressure is low, in the order of 100/60 mmHg, and in these individuals eclampsia could occur at a blood pressure level of 120/80. In these persons, an elevation to 120/80 would represent hypertension. This re-emphasizes that it is the rise in blood pressure that counts more than the absolute value.

Management of pre-eclampsia

The management of pre-eclampsia should include the following steps:

1. If the **diastolic blood pressure is 80-90 mmHg or rises less than 15 mmHg** and there is **no proteinuria**, the woman should be advised to stay at home and rest as much as possible.

2. Have the woman return to the clinic weekly and at each visit:

- Check the blood pressure.
- Test the urine for protein.
- Weigh the patient.
- Check for oedema.
- Exclude symptoms of severe pre-eclampsia.
- Monitor foetal growth, ask mother about foetal movements.
- Check foetal heart beat.

3. If the **diastolic blood pressure is 90 mmHg or more or rises by more than 15 mmHg**, if there are **symptoms of severe pre-eclampsia**, or if there is **evidence of poor foetal growth**, the woman must be admitted to hospital for observation and management.

4. During hospitalization:
   - Have the woman rest in bed in a quiet room.
   - Check the blood pressure 4 hourly (2 hourly if the woman is severely effected).
   - Test the urine for protein twice daily.
   - Monitor the foetal heart rate twice daily.
   - Weigh the woman twice weekly if possible.
   - Give anticonvulsants only if the condition is severe (e.g. diazepam 10-20 mg orally or intramuscularly and repeat according to doctors orders).
   - Give antihypertensive drugs only if the diastolic pressure is 110 mmHg or more and according to the doctors orders.

5. In either of the above cases, the woman must be delivered in hospital.

Management of eclampsia

Eclamptic fits can begin before, during or after delivery. The management is the same in each case but if the patient is still undelivered, she should be delivered as soon as possible.

The management of eclampsia should include the following steps:

1. Make sure that the woman can breathe:
   - Place her on her side (in the semi-prone position) so that mucous or saliva can drain easily.
   - Clean the mouth and nostrils gently and remove secretions; use suction apparatus very gently.
   - Give oxygen (if available) and continue for five minutes after each fit, or longer if cyanosis persists.
   - Stay with the woman to make sure that her airway remains clear and that injury is prevented during the clonic stage of fits.

2. Control fits according to one of the following drug regimens (magnesium sulphate is the drug of choice for the management of eclamptic fits because it has been shown to be more effective than diazepam or phenytoin in preventing the recurrence of fits):

   Magnesium sulphate combined IV/IM loading dose of 4 gram (20 ml of 20% solution), given slowly over 5 minutes and two 5 grams injections, deep in the

upper quadrant of each buttock (10 grams total IM)

OR

IM loading dose of three 5 gram injections, deep in the upper quadrant of each buttock (total 15 grams).

3. Repeat doses of magnesium sulphate can be given every fours hours, **only if**:

   - urine output is at least 100 ml per four hours
   - knee reflexes are present
   - respiratory rate is at least 16 per minute

Repeat doses are as follows:

magnesium sulphate 4 grams (20 ml of a 20% solution) by slow intravenous injection OR
magnesium sulphate 5 grams (8 ml of a 50% solution) by deep intramuscular injection.

Important Note

- maximum dose of magnesium sulphate = 40 grams in 24 hours
- continue magnesium sulphate until 24 hours after birth or after the last convulsion (whichever is later)

4. If **magnesium sulphate is not available**, give **diazepam 10mg IV**. Then give repeated intravenous doses of 10 mg, every 4-6 hours (maximum of 100 mg per 24 hours).

5. If the diastolic blood pressure reaches 110mmHg or more on two readings, give a slow intravenous injection of **hydralazine 5 mg**. Take 10 minutes to give the injection. Monitor blood pressure carefully during this time. Give **hydralazine 10 mg IV every 20 minutes** if diastolic blood pressure reaches 110 mmHg or more. Use an alternative antihypertensive drug if hydralazine is not available.

6. Insert an indwelling urinary catheter with an open drainage system to measure urine output. Record the urine output every 4 hours.

7. Give sodium lactate or 5% dextrose in water at the rate of 60 ml, to a maximum of 125 ml per hour, unless there is unusual fluid loss from vomiting, diarrhoea, excessive blood loss at delivery.

8. Suspect kidney failure if the urine output is less than 80 ml per 4 hours. In such a case, the total fluid intake should not exceed 500 ml per 24 hours plus an amount equal to the amount of urine passed. Maintenance of proper fluid balance is essential to prevent water intoxication, dehydration, hyponatraemia, or pulmonary oedema. Diuretics should **not** be used.

9. Labour should be induced by rupturing the membranes and giving oxytocin, **only if**:

   - The cervix is very ripe (almost fully effaced, dilatation 2-3cm).
   - The foetus is of normal or small size.
   - The pelvis appears of normal size on vaginal examination.
   - No other contra-indications for vaginal delivery exist.

10. Caesarean section should be performed if:
    - There is a contra-indication to induction.
    - Active labour does not follow within four hours of induction.

11. If caesarean section is necessary the anaesthetist should take into account the drugs already given. This is particularly important with regard to magnesium sulphate, which will lessen the amount of muscle relaxant needed.

12. Vaginal delivery of an eclamptic woman in the active phase of first stage labour should be allowed, **only if**:
    - Labour is progressing quickly (on the alert line of the partograph or to the left of it).
    - There are no contra-indications to vaginal delivery.

13. Difficult deliveries must be avoided. If there is delay, caesarean section must be carried out immediately.

Important Note

- An eclamptic woman in the second stage of labour should be delivered by the quickest and easiest route – difficult vaginal deliveries should be avoided.
- Ergometrine should not be given in the third stage because it may cause a rise in blood pressure – instead, give oxytocin 10 IU IM.

14. If the patient has fits after delivery, continue close observation and management for 48 hours after the last fit.

15. Monitor blood pressure hourly. Continue giving **hydralazine 10-20 mg IM** until diastolic blood pressure drops below 110 mmHg.

16. Continue to monitor urinary output. If the woman retains fluid it is because the kidneys are slow to excrete the extra fluid after delivery. This can cause a rise in blood pressure. Be careful not to give too much fluid intravenously during this period.

17. If after 48 hours there are no fits, the urinary output is adequate, and the diastolic blood pressure is below 100 mmHg, continue 4-hourly blood pressure checks for several more days.

18. Keep accurate records.

GUIDELINES FOR THE MANAGEMENT OF PUERPERAL SEPSIS

Puerperal sepsis is an infection of the genital tract at any time between the onset of rupture of membranes or labour and the 42nd day following delivery or abortion in which two or more of the following signs and symptoms are present:

- Pelvic pain.
- Fever of 38.5°C or more measured orally on any one occasion.
- Abnormal vaginal discharge.
- Abnormal smell, foul odour of discharge.
- Delay in the rate of reduction of the size of the uterus.

Women who are anaemic or malnourished, or who have experienced prolonged labour, may be more susceptible to puerperal sepsis.

Management of puerperal sepsis

The management of puerperal sepsis should include the following steps:

1. Assess the patient's condition (pulse, blood pressure, colour, consciousness, uterine tone).

2. If the woman is in shock, make sure that her airway is open; turn her head to the side, and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

3. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until the woman stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

4. Determine the source of infection – take swabs from surgical wounds (e.g. caesarean section wound or episiotomy) and from vagina (high vaginal swab) to determine the causative organisms.

5. Start broad spectrum antibiotics, using one of the following regimens.

   If the woman is not very ill (e.g. fever absent or low grade, pulse not very high, normal state of consciousness), recommended regimens are:

   amoxicillin 1 g stat orally followed by 500 mg every 8 hours for 7 days + metronidazole 400 or 500 mg every 8 hours for 7 days

   OR

   amoxicillin 1 g stat orally followed by 500 mg every 8 hours for 7 days + tetracycline* 1 g stat orally followed by 500 mg every 6 hours for 7 days.

* Tetracycline should only be given to breast feeding mothers if there is no suitable alternative antibiotic available.

If the woman is very ill, (e.g. very high fever, rapid pulse, confused), often more than one kind of bacteria is involved. Recommended regimens are:

benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + gentamicin 100 mg stat IM followed by 80 mg every 8 hours + metronidazole 400 or 500 mg orally every 8 hours

OR

ampicillin 1 g IV stat followed by 500 mg IM every 6 hours + metronidazole 400 or 500 mg orally every 8 hours

OR

benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + gentamicin 100 mg stat IM followed by 80 mg every 8 hours

OR

benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + chloramphenicol* 500 mg IV every 6 hours

Note: the first regimen provides the broadest coverage.

6. If the woman does not improve after 48 hours or the laboratory report states that the bacteria are resistant to these antibiotics, the antibiotics must be changed. Do not change the antibiotics until you have considered whether the original diagnosis is correct.

7. Nurse the woman in a separate room or, if this is not possible, in the corner of the ward, separated from the other patients. Use a gown and gloves when attending to the woman and use this particular gown and gloves only when attending to her. Wash hands carefully before and after attending to the woman.

8. Intravenous therapy should continue until the woman has had no fever for at least 48 hours. Antibiotics can then be given orally for another week, on an outpatient basis.

9. If there is a possibility that the woman was exposed to tetanus (if for example cow dung, mud or herbs were inserted into the vagina), and there is uncertainty about her vaccination history, then give her tetanus toxoid.

10. Keep accurate records.

* Warning: Chloramphenicol has some serious side effects such as anaemia or leucopenia. If chloramphenicol is given, the woman's blood count should be monitored.

GUIDELINES FOR THE MANAGEMENT OF THE COMPLICATIONS OF INCOMPLETE ABORTION

Shock, severe bleeding, intra-abdominal injury and sepsis are the most common life-threatening complications associated with abortion. Even if these complications are absent when a woman presents at a health care facility, incomplete abortion can become life-threatening if treatment is delayed.

Abortion The term refers to the termination of pregnancy from whatever cause before the foetus is capable of extrauterine life.

Spontaneous Abortion The term refers to terminated pregnancies for which no deliberate steps have been taken to end the pregnancy. Spontaneous abortion affects approximately 10-15% of all known or suspected pregnancies.

Induced Abortion The term refers to the termination of pregnancy through deliberate interference to end the pregnancy. Induced abortion may take place in a safe health care setting and in accordance with the law and health policy guidelines or it may occur outside of the health care system and the provisions of the law.

Unsafe Abortion The term refers to the termination of pregnancy by persons lacking the necessary skills or in an environment lacking the minimal standards of care or both. Depending on the events following an abortion and the care the woman receives, both spontaneous and induced abortions can be unsafe.

Septic Abortion Infection associated with abortion may be limited to the genital organs and endometrium or it may progress to peritonitis, septicaemia and septic shock. Septic abortion can result from spontaneous or induced abortion. The main causes of infection are retained tissue, pathogens introduced as a result of unsafe attempts to terminate a pregnancy, and infection which existed in the genital tract before the abortion.

Complete Abortion Complete abortion usually occurs before the 8^{th} week of pregnancy and is the expulsion from the uterus of all the products of conception.

Incomplete Abortion Incomplete abortion usually occurs in the second trimester of pregnancy and is the partial expulsion of the products of conception. All or part of the placenta may be retained resulting in profuse bleeding. Women who seek emergency treatment for complications of abortion, whether they have had a spontaneous or induced abortion, are most often diagnosed with incomplete abortion.

Threatened Abortion A threatened abortion involves vaginal bleeding with or without abdominal pain and without cervical dilation. The symptoms may resolve and a viable pregnancy may continue. If the symptoms continue, the pregnancy will result in an inevitable, complete or incomplete abortion.

Inevitable Abortion An inevitable abortion involves vaginal bleeding, abdominal cramping and progressive dilation of the cervix, with or without rupture of the membranes. It is impossible for the pregnancy to continue and eventual expulsion of the products of conception will occur.

Management of incomplete abortion should include the following steps:

1. Obtain the following information, either from the patient or from a relative: date of last menstrual period; duration and amount of bleeding, presence of clots or pieces of tissue; duration, severity and location of cramping; presence of abdominal or shoulder pain; presence of fever, chills, general malaise or fainting.

2. Assess the patient's condition (pulse, blood pressure, colour, consciousness).

3. If the woman is in shock, make sure that her airway is open; turn her head to the side and give her oxygen, if available, at 6-8 litres per minute by mask or nasal cannulae.

4. Take blood for cross-matching and Hb estimation, if the woman is in shock, and identify potential blood donors. **Note**: Selective use of blood transfusions is important to reduce the risk of transmitting infectious agents such as hepatitis and HIV. It is preferable to manage acute blood loss by using normal saline and plasma expanders, rather than packed red cells or whole blood. Only women who have both a low haemoglobin level and symptoms of acute blood loss or severe anaemia should be given a blood transfusion.

5. Set up an IV infusion. Use normal saline or sodium lactate initially; if the woman is in shock, give 1 litre/15 minutes, until she stabilizes (it may be necessary to infuse up to 3 litres to correct shock). Signs that the woman is stabilizing include a rising blood pressure (aim for a systolic blood pressure of at least 100 mmHg) and a stabilizing heart rate (aim for a pulse rate of less than 90/minute).

6. Identify the source of bleeding (e.g. bleeding related to retained products of conception, cervical or genital tract lacerations, or intra-abdominal injury). Perform a pelvic examination to remove any visible products of conception from the vaginal canal or cervical os; note if there is any foul smelling discharge; note the amount of bleeding and whether the cervix is open or closed; check for cervical lacerations; perform bimanual examination to estimate the size of uterus, check for pelvic masses, pelvic pain.

7. Evacuate the uterus if retained products of conception are the cause of bleeding. The method of choice for evacuating the uterus will depend on the completed weeks of pregnancy. The techniques for uterine evacuation used in emergency abortion care in the first trimester (any time up to 12 weeks LMP; i.e. 12 weeks from the first day of the last menstrual period) are MVA (manual vacuum aspiration) or D&C (dilatation and curettage). Uterine evacuation up to 12-14 LMP may be done by vacuum aspiration using an electric or foot-operated pump with a large cannulae or by dilatation and curettage.

8. Examine the products of conception; the tissue removed from the uterus must be examined immediately following the evacuation procedure, before the woman leaves the treatment/procedure room.

9. Repair genital tract lacerations if these are the source of severe bleeding.

10. If uterine perforation is suspected, either as a result of an induced abortion outside of the health facility or because of a procedural complication during uterine evacuation, the woman should be transferred, without delay, to a facility where appropriate treatment is available. She should be accompanied by a health worker capable of monitoring her condition during transfer, maintaining fluid replacement, ensuring warmth and comfort, and providing a detailed account of the woman’s condition on arrival at the referral facility.

11. If the woman shows signs of severe infection, a combination of antibiotics should be given to provide the broadest coverage possible. Useful regimens include:

benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + gentamicin 100 mg stat IM followed by 80 mg every 8 hours + metronidazole 400 or 500 mg orally every 8 hours

OR

ampicillin 1 g IV stat followed by 500 mg IM every 6 hours + metronidazole 400 or 500 mg orally every 8 hours

OR

benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + gentamicin 100 mg stat IM followed by 80 mg every 8 hours

OR

benzylpenicillin 5 million IU IV stat followed by 2 million IU every 6 hours + chloramphenicol[33] 500 mg IV every 6 hours.

If the woman does not improve within 48 hours of starting antibiotics or the laboratory report indicates that the bacteria are resistant to the antibiotics given, they must be changed.

12. Provide family planning counselling and, if required, a contraceptive method, before the woman goes home. This is particularly important if there is a possibility that the pregnancy was unwanted.

13. Keep accurate records.

[33] **Warning:** Chloramphenicol has some serious side-effects such as anaemia and leucopenia. If you give chloramphenicol you must be able to monitor the patient's blood count.

GUIDELINES FOR ESSENTIAL NEWBORN CARE

All health care workers (including TBAs) who attend deliveries, whether at home or in a health care facility, should be familiar with the essential interventions for newborn care. The following interventions for newborn care are recommended by the WHO Technical Working Group on Essential Newborn Care[34]:

Cleanliness

Clean delivery and cord care implies observing principles of cleanliness throughout labour and delivery and after birth until separation of the cord stump.

The principles of cleanliness at birth are:

- Clean hands.
- Clean perineum.
- Nothing unclean to be introduced into the vagina.
- Clean delivery surface.
- Cleanliness in cutting the umbilical cord and cord care.

The hands of the health worker who attends the delivery must be washed with soap and water. The perineum of the labouring woman must also be washed with soap and water. The surface on which the baby is delivered must be clean. Instruments, gauze and ties for cutting the cord should be sterile. Nothing should be applied either to the cutting surface or to the stump. The stump should be allowed to dry and to mummify and should not be covered with dressing, binding or bandages; it will remain clean if protected with clean, dry clothing.

There are many traditional practices related to cutting the umbilical cord, many of which are harmful. Those which observe the principles of cleanliness can be preserved but others must be changed. For home deliveries, the use of simple disposable delivery kits will help in achieving the principles of clean delivery.

Thermal protection

The normal body temperature of the newborn infant is 36.5°C - 37.5°C Hypothermia occurs when the body temperature drops below 36.5°C. The newborn infant is most sensitive to hypothermia during the stabilization period in the first 6 - 12 hours after birth, although hypothermia may occur at any time if the environmental temperature is low and thermal protection is inadequate.

The principles of preventing hypothermia in newborn infants are:

- A warm room for delivery.
- Immediate drying of the baby following delivery.
- Wrapping the baby in a dry, warm cloth.
- Giving the baby to its mother as soon as possible.

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[34] World Health Organizarion. *Essential Newborn Care: Report on a Technical Working Group*, 1994. WHO/FRH/MSM/96.13. Geneva, World Health Organization 1996.

The baby's mother is the best source of warmth; early skin-to-skin contact for the first few hours after birth not only provides warmth, it also enables early breast feeding and prevents hypoglycaemia.

The temperature of the newborn infant should be checked regularly. Families need to know how to recognize hypothermia by touching the feet and body of the baby, and how to rewarm the baby by skin-to-skin contact with the mother or father. Other simple methods of rewarming at home include wrapping (but not tightly) the baby in layers of warm clothes and changing them frequently. Families also need to know that if the baby remains cold, they must seek help at the nearest health centre or hospital, as an unexplained fall in body temperature may be an indication of severe infection.

Initiation of breathing/resuscitation

If a newborn infant does not cry after initial stimulation by drying, it must be assessed for breathing. If the infant is not breathing or the breathing is poor, active resuscitation must be undertaken. Newborn infants may have difficulty initiating breathing because of prolonged and/or obstructed labour, prematurity, infection, and many unknown causes. However, because it is often impossible to anticipate that a newborn will have difficulty initiating breathing, basic resuscitation equipment and skills should be available for every birth (see guidelines for basic newborn resuscitation, which follow).

The principles of resuscitation are:

- Aspiration of the mouth and nostrils.
- End ventilation with positive pressure.

Proper ventilation of the infant is the most important aspect of resuscitation. Positive pressure ventilation with a self-inflating bag and mask using additional oxygen is a common method for managing birth asphyxia. When additional oxygen is not available, infants should be resuscitated using air. If no equipment is available, mouth-to-mouth ventilation can be effective for initiating breathing in newborns with mild to moderate asphyxia. The vast majority of infants with asphyxia can be successfully managed by appropriate ventilation without drugs, volume expanders or other interventions.

Early and exclusive breastfeeding

Breast feeding should be started within an hour of birth. Feeding should be as frequent as the baby demands, without prelacteal feeds or other fluids and food. Messages about breast feeding should be provided to families and communities as well as health workers and managers.

The factors related to establishing and maintaining breast feeding after birth are:

- Giving the first feeding within one hour of birth.
- Correct positioning of the baby to allow good attachment to the breast.
- Frequent feeds.
- No prelactal feeds or other supplements.
- Psychological support for the breast feeding mother.

The signs of good attachment to the breast are as follows:

- Baby's chin is touching breast.
- Mouth is wide open.
- Lower lip is turned downward.
- More areola is visible above than below the mouth.

All of these signs should be present if attachment is good.

Early contact (immediately after birth) between the mother and the baby has a beneficial effect on breast feeding. Early suckling provides the baby with colostrum which offers protection from infection, gives important nutrients, and has a beneficial effect on maternal uterine contractions. In addition, the baby's skin and gastrointestinal tract are colonized with the mother's micro-organisms, against which she has antibodies in her breast milk.

Eye care

Eye prophylaxis involves:

- Cleaning the eyes immediately after birth.
- Applying 1% tetracycline ointment (or 1% silver nitrate if tetracycline ointment is not available) **within the first hour after birth.**

Ophthalmia neonatorum is defined as any conjunctivitis with discharge occurring during the first two weeks of life. It typically appears 2-5 days after birth, although it may appear as early as the first day or as late as the 13th. Most often both eyelids become swollen and red with purulent discharge. Infection by *neisseria gonorrhoea* and *chlamydia trachomatis* are the two main causes of ophthalmia, but they cannot be accurately distinguished on clinical grounds alone. Complications are more severe and appear more rapidly in gonococcal ophthalmia.

Infection can be prevented by following the guidelines indicated above. However, newborns given tetracycline or silver nitrate are still at risk of infection (3% and 7% respectively) if mother is infected. Silver nitrate is not effective in preventing *chlamydia* conjunctivitis, and some strains of *neisseria gonorrhoea* are resistant to tetracycline.

Immunization

- BCG should be given as soon after birth as possible in all populations at risk of tuberculosis infection.
- A single dose of OPV at birth or in the first two weeks after birth is recommended to increase early protection.
- It is recommended by WHO that Hepatitis B vaccine be integrated into national immunization programmes in all countries by 1997, and where perinatal infections are common it is important to administer the first dose as soon as possible after birth.

GUIDELINES FOR BASIC NEWBORN RESUSCITATION

All delivery rooms should be equipped with the following basic newborn resuscitation equipment:

- A self inflating bag – newborn size.
- Two infant masks (one for normal newborn and one for small newborn).
- A suction device.
- Warm towels and a blanket.
- A clock.

Basic resuscitation of the newborn should include the following steps:

1. Immediately dry the newborn with a clean towel/cloth. Remove the wet towel/cloth and wrap/cover the baby, except for the face and upper chest, with a second dry towel/cloth (note that, so as to make the important details clear in the figures included below, the baby is not wrapped)

2. If the baby is not breathing or is gasping, immediately begin resuscitation measures.

3. Position the head so that it is slightly extended. A folded piece of cloth placed under the shoulders may help accomplish this.

4. Clear the airway by **first suctioning the mouth** and **then the nose**. Be especially thorough if there is blood or meconium in the baby's mouth and/or nose. Suctioning may be enough to stimulate breathing, in which case no immediate further action is required. If the baby is still not breathing, continue as follows.

5. Place the mask on the baby's face, so that it covers the chin, mouth and nose. Form a seal between the mask and the baby's face. Check the seal by ventilating two or three times and observing the rise of the chest.

6. If the chest is not rising, the most probable obstacles are inappropriate head position, poor seal between the mask and the face, insufficient ventilation pressure, or mucous, blood or meconium in the airway.

7. Reposition the baby's head, suction the mouth and nose again, **only if necessary**, reposition the face mask, increase ventilation pressure by pressing the bag with the whole hand.

8. Once a seal is ensured and chest movement is present, ventilate the baby at a rate of 40 breaths per minute (the range is 30-60 per minute).

9. After ventilating for about one minute, stop and look for spontaneous breathing. If there is none, continue ventilating until spontaneous cry/breathing begins.

10. Observe breathing when the baby stops crying. If breathing is normal – that is 30-60/minute – and there is no chest or costal indrawing and no grunting for one minute, no further resuscitation is needed.

11. If breathing is slow – that is, <30/minute – or if there is severe indrawing, continue ventilating and send for the help of the doctor/clinical officer.

12. If there is no gasping or breathing at all after 20 minutes of ventilation, stop ventilating. If there was gasping but no spontaneous breathing after 30 minutes of ventilation, stop ventilating.

Important Note

The following practices are not effective or are potentially harmful:

- Routine aspiration (suction) of the baby's mouth and nose as soon as the head is born or later, when the amniotic fluid is clear.
- Routine aspiration (suction) of the baby's stomach at birth.
- Stimulation by slapping or by flicking the soles of the baby's feet.
- Postural drainage, and slapping the baby's back.
- Squeezing the chest to remove secretions from the airway.
- Routine giving of sodium bicarbonate to newborns who are not breathing.
- Intubation by an unskilled person.

GUIDELINES FOR THE CARE OF PRETERM AND/OR LOW BIRTH WEIGHT BABIES

Most low birth weight babies in developing countries are born at, or near, term; they have reached maturity and have the full potential to survive. However, because of their reduced weight and a lack of fat as the source of energy and insulation, they are at increased risk of hypothermia and poor growth. The **best source of warmth is the mother's body** and the **best food is breast milk**.

Thermal protection

Skin-to-skin contact with the mother will provide the necessary warmth and permit frequent breast feeding. A low birth weight baby should not be separated from its mother solely on the basis of birth weight. If the baby does not have difficulty breathing and can be breast-fed, it should remain with its mother. When the baby is not in skin-to-skin contact with the mother, it should be loosely wrapped in several layers of light but warm cloth – tight swaddling should be avoided as this does not provide good insulation.

Breast Feeding

The following points must be considered when feeding pre-term and low birth weight babies:

- The need for fluid (breast milk) in pre-term and low birth weight babies increases from 80ml/kg on the first day of life to 150ml/kg towards the 10^{th} day.
- For good growth, these babies need between 150 and 200ml/kg of breast milk per day.
- Weight gain is nil, or at least slow, for the first two weeks of life – weight loss of around 10% of birth weight is common.
- When they begin taking the required amount of breast milk, they should gain 20-25 grams per day.
- Good weight gain is 140-180 grams per week.
- The main reason that these babies do not gain weight is that they are not taking enough breast milk.

If a preterm or low birth weight baby is not able to breast feed initially, the mother must be taught to express her breasts by hand[35], and the expressed breast milk must be fed to the baby by an alternative method (e.g. cup and spoon or naso-gastric tube).

Expression of milk should **commence on the day of birth** – the colostrum produced during the first days after birth is very important for all babies, and particularly important for pre-term or low birth weight babies. Milk should be expressed **at least** 6 to 8 times in a 24-hour period, **including during the night**.

The principles of hand expression of breast mild should be taught to all mothers of babies who are unable to breast feed, as follows:

1. Place the fingers of one hand under the breast. The little finger can be placed against the chest wall, and the other fingers spread evenly under the breast toward the nipple, supporting the breast.

[35] Lang, S. *Breast Feeding Special Care Babies*. London, Bailliere Tindall 1996.

2. Place the thumb on the top of the breast just behind the areola, opposite the first finger.

3. With the first finger and thumb, gently palpate the breast tissue. It should be possible to feel the small fibrous thickenings or grape-like structures situated beneath, or at the margins of, the areola and behind the nipple. These are the lactiferous sinuses. Pressure should be applied just behind these sinuses or, if they cannot be located, just behind the areola.

4. To remove the milk from the sinuses, compress and release the breast tissue with the thumb and fingers. This action should be repeated regularly during hand expression.

5. To express sufficient milk for a feed, the thumb and forefinger need to move around the outside edge of the sinuses or areola to ensure that all of the lactiferous sinuses are drained.

6. Movement of the skin (rather than the tissue beneath the skin) should be avoided as this may cause damage to the skin.

The mother's expressed breast milk can be fed to the baby using a cup and spoon or a naso-gastric tube, as mentioned earlier. The amount of breast milk required should be calculated according to the baby's weight (see previous page).

Important Note

The baby should be fed every three hours, day and night, until weight gain is satisfactory. When this is achieved, and the baby is sleeping at night, the feeding schedule can be adjusted accordingly; however, the remaining feeds must be increased to ensure that the baby is receiving the required intake.

GUIDELINES FOR INFECTION PREVENTION

Universal precautions are recommended for health care workers in all clinical settings, especially in emergency care settings where the risk of exposure to blood is increased and the infection status of the patient is usually unknown. **Universal precautions apply to blood and other body fluids containing visible blood, semen, vaginal secretions and amniotic fluid.**

All health care workers at risk of having their skin or mucous membrane contaminated with blood or other body fluids should use protective barriers. The types of barriers available will vary by health care setting but should be appropriate for the procedures being performed and the potential exposure that may occur.

Handwashing is important in reducing the spread of infection because the friction of washing with soap and water removes many of the pathogens responsible for disease transmission. Hands and other exposed surfaces should be washed immediately and thoroughly if contaminated with blood or other body fluids. Hands should be washed:

- **Before and after** attending to patients.
- **Before** putting on gloves.
- **After** handling soiled instruments.
- **After** touching mucous membranes, tissue, blood or other body fluids.
- **After** taking off gloves.
- **Between** contact with different patients.

Injuries from needles and sharp instruments may pose the greatest risk of HIV transmission in the health care setting. To prevent these injuries, health workers should be careful during procedures, when cleaning used instruments, during disposal of used sharp instruments and when handling sharp instruments after procedures. Where disposable needles are not available and recapping is practiced, the cap should not be held in the hand, but rather placed on a surface, so that the needle can be inserted without the risk of puncturing the skin.

Ventilation devices should be available at health facilities so as to minimize the need for mouth-to-mouth resuscitation.

Health care workers who have weeping skin lesions or weeping dermatitis should refrain from all direct patient care and from handling equipment used in patient care until the condition resolves.

Basic infection prevention processes

Decontamination

Immediately after use, instruments and surfaces which may have touched and been contaminated by blood or bodily fluids (e.g. amniotic fluid) should be placed in a 0.5% chlorine solution immediately after use for at least 10 minutes.

Cleaning

After decontamination, all instruments should be cleaned thoroughly. After cleaning instruments with a brush and soapy water, they should be thoroughly rinsed with water to remove detergent residue and then dried with a clean towel or cloth or by allowing to air dry.

Sterilization and High-Level Disinfection

Instruments that may have been in contact with blood, body fluid or tissue, should be sterilized. If this is not possible, high-level disinfection is the only acceptable alternative. Instruments in this category include cannulae, currettes, dilators, needles, syringes, and forceps. Processes for sterilization and high-level disinfection include:

- Autoclaving.
- Gas sterilization.
- Boiling.
- Soaking in chemical high-level disinfectants.

The appropriate method for sterilization or high-level disinfection depends on the type of instruments and the resources available at a facility.

Boiling is the simplest and most reliable method for inactivating most pathogenic microbes, including Hepatitis B virus and HIV, when sterilization either by steam or dry heat is not possible.

Glove Use in Clinical Care

- Examination gloves should be used for patient care procedures involving contact with mucous membranes.
- Gloves should be changed between patients.
- Sterile gloves should be used for procedures involving contact with normally sterile areas of the body.
- Where possible, disposable gloves should be used, and should not be washed or disinfected for reuse.
- In situations where disposable gloves are not available and gloves are processed for reuse, the standard protocols for decontamination, cleaning and sterilization or high-level disinfection apply.
- Gloves should be used when collecting blood samples, to reduce the risk of contamination.
- General-purpose utility gloves should be used for housekeeping chores involving potential contact with blood, such as instrument-cleaning and decontamination procedures.

Waste Disposal

- Needles and sharp instruments or materials **must** be placed in a puncture-proof container immediately after use and should preferably be incinerated.
- Disposable solid waste such as gauze and cotton, laboratory and pathology wastes should be placed in properly marked, leak-proof containers or plastic bags and then incinerated or buried.
- Liquid wastes such as blood and tissue, excretions and secretions should be carefully poured down a drain connected to an adequately treated sewer system, or disposed of in a pit latrine.