

**Guidelines for  
Antenatal Care and  
Skilled Attendance at Birth  
by ANMs/LHVs/SNs**



सत्यमेव जयते

Maternal Health Division  
Ministry of Health and Family Welfare  
Government of India  
April 2010



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## Health Minister's Message



Women are strong pillars of any vibrant society. Motherhood is an event of joy and celebration for every family. However, high maternal mortality during pregnancy and childbirth is a matter of great concern worldwide. Maternal mortality is a strong indicator for measuring the attention paid to the health care of the women.

The burden of maternal mortality is quite high in India at 254 deaths per 100,000 live births as per the data of Sample Registration System (SRS) for the period 2004-06. However, India is committed to meet the MDG 5 target of less than 100 deaths per 100,000 live births by the year 2015.

GoI's strategy for maternal mortality reduction focuses on building a well functioning Primary Health Care System, which can provide essential obstetric care services with a backbone of skilled birth attendant for every birth, whether it takes place in the facility or at home, which is linked to a well developed referral system with an access to emergency obstetric care for all women who experience complications.

The revised guidelines are meant for orientation and training of our ANMs/LHVs and SNs who are there at the Primary level of health care and are the first contact of care, particularly for women residing in rural areas. I hope these guidelines will help in knowledge and skill acquisition of all the service providers involved in mid-wifery care services and will thus help in reduction of maternal mortality.

I complement Maternal Health division for bringing out the guidelines along with the training tools.

**(Ghulam Nabi Azad)**

Union Minister for Health &  
Family Welfare  
Ministry of H&FW  
Government of India

New Delhi  
Date: April 2010

## Preface



Government of India has a commitment under National Population Policy, NRHM/RCH to ensure universal coverage of all births with skilled attendance both in the institution and at community level and to provide access to emergency obstetric and neonatal care services for women and the new born.

In accordance with the GoI's commitment for universal skilled birth attendance, a policy decision was taken to permit ANMs/LHVs and SNs to give certain injections and undertake interventions for Basic Management of Complications which might develop while providing care during pregnancy and child birth. Accordingly, guidelines for Ante-Natal Care & Skilled Attendance at Birth by ANMs/LHVs and SNs as well as training tools were published in the year 2005.

However, based on the evidence of implementation and also due to certain technical advancements, there was a need to revise these guidelines and also the training package. The revised Guidelines for Antenatal Care and Skilled Attendance at Birth by ANMs/LHVs and SNs have been updated, which will help the trainees in skill and acquisition of knowledge in various technical interventions.

The Maternal Health Division of the Ministry based on inputs from experts, NGOs and development partners has revised the guidelines accordingly for use by State and District program Officers, Trainers and also ANMs/LHVs and SNs who are involved in practicing mid-wifery. It is hoped that the revised guidelines would improve the quality of SBA Training in the states and help in providing quality essential obstetric services thereby accelerating the reduction of maternal mortality.



**(K. Sujatha Rao)**  
Secretary (Health & FW)  
Ministry of H&FW  
Government of India

New Delhi  
Date: April 2010

## Foreword



NRHM has a commitment for reduction of maternal and infant mortality/morbidity so as to meet the National and Millennium Development goals. The quality of services rendered and also handling of Basic and Comprehensive Obstetric Care services at the health facilities particularly at primary and secondary level has a bearing on reduction of maternal mortality ratio.

To achieve these objectives, steps have been taken under NRHM to appropriately strengthen and operationalise the 24X7 PHCs and designated FRUs in handling Basic and Comprehensive Obstetric Care including Care at Birth. For improvement of service delivery, it is important that the service providers particularly the ANMs/LHVs and SNs are oriented on care during pregnancy & childbirth so that the primary and secondary health facilities can effectively handle complications related to pregnancy and care of new born.

GoI has already launched the guidelines and training package for training of paramedical workers i.e., ANMs/LHVs and SNs for developing their skills in provision of care during pregnancy and child birth. However, based on the feedback received and due to new technical advancements, there was a need to revise the guidelines and also the training package.

The training guidelines for Antenatal Care and Skilled Attendance at Birth by ANMs/LHVs and SNs have now been updated and revised. This will assist the health personnel involved in midwifery practice particularly at sub-centre and 24x7 PHCs to effectively provide the requisite quality based services for women and newborns nearest to their place of residence.

It is expected that the trainers as well as the trainees will be benefitted in updating their knowledge and skills by using these guidelines along-with the training tools and thus help reducing the maternal mortality and morbidity by early identification and management of basic complications during pregnancy, childbirth and in post partum period.



New Delhi  
Date: April 2010

**(P. K. Pradhan)**  
AS & MD, NRHM  
Ministry of H&FW  
Government of India

## Acknowledgement



National and international evidences indicate that reduction of maternal and infant mortality and morbidity can be accelerated if women are provided skilled care during pregnancy and child birth.

Based on these evidences, the Government of India has taken a policy decision that every birth, both institutional and domiciliary, should be attended by a skilled birth attendant. Accordingly, necessary policy decisions were taken for empowering ANMs/LHVs and SNs for handling basic obstetric care and common complications including Essential Newborn Care and Resuscitation Services. Pre-service and in-service training for these paramedical workers has already been initiated and is being implemented in the states to make them proficient in the provision of care during pregnancy and child birth.

From time to time, there is a need to update the technical knowledge and training tools, these being first published in the year 2005. Maternal Health Division of this Ministry with inputs from development partners like WHO, UNFPA, UNICEF and Professional Bodies like FOGSI, IAP, NNF has now revised the first edition of the guidelines. The revised version has to be now disseminated to the states.

The second edition of the Guidelines would not have been possible without the active interest, and encouragement provided by Ms K. Sujatha Rao, Secretary (H&FW) and Shri Naresh Dayal, Ex Secretary, Ministry of Health & Family Welfare. I also take this opportunity to appreciate the inputs given by development partners specially Dr. Rajesh Mehta, Dr. Sunanda Gupta and Dr. Vinod Anand of WHO- India, Dr Sonia Trikha, UNICEF-India and Dr. Dinesh Aggarwal, UNFPA. Contribution of TNAI, INC, JICA, USAID, DFID and also from states particularly Dr. Ajeesh Desai from Gujarat and Dr. Archana Mishra from Madhya Pradesh is also acknowledged.

I also take this opportunity to thank Dr. Bulbul Sood, Dr. Aparajita Gogoi, Ms. Medha Gandhi, Dr. Annie Mathew of CEDPA India and Dr. Manju Chhugani, Faculty, College of Nursing from Jamia Hamdard University for extending their support while the guidelines and training tools were being drafted. The contributions from FOGSI and other experts particularly Dr. Sudha Salhan & Dr. H.P. Anand from Safdarjung Hospital, Dr. Kamla Ganesh, Ex HOD & Dr. Sagar Trivedi and her team from Lady Harding Medical College Hospital, Dr. Reva Tripathi from Maulana Medical College hospital also needs special mention.

For achieving the revision of the guidelines, hard-work and untiring efforts of Dr. Himanshu Bhushan, AC(MH), Dr. Manisha Malhotra, AC(MH), Dr. Avani Pathak and Rajeev Agarwal of Maternal Health Division is highly appreciated. The inputs from RCH, Family Planning & Child Health Division helped in firming up various components of these guidelines

I hope the guidelines and the training tools will help the states in strengthening the technical interventions and in better implementation of SBA Training.

New Delhi  
Date: April 2010



**(Amit Mohan Prasad)**  
Joint Secretary (RCH)  
Ministry of H& FW  
Government of India



## Programme Officer's Message

GoI has a commitment under NRHM/RCH to ensure universal coverage of all births with skilled attendance both in the institution and at community level and to provide access to emergency obstetric and neonatal care services for women and the new born. With this objective in mind, SBA Training for ANMs/LHVs and SNs is presently being undertaken in all the State/UTs to equip Auxillary Mid-Wives (ANMs) and Staff Nurses (SNs) for managing normal deliveries, identify complications, do basic management and then refer at the earliest to higher facilities thereby empowering them to save the life of both the mother and new born.

The earlier Guidelines in the year 2005 for Antenatal Care and Skilled Attendance at Birth by ANMs/LHVs and SNs has been revised and updated based on current scientific evidence and certain technical updates in the field. The revised Guidelines along with the Handbook provides up-to-date, comprehensive, evidence based information and defines and illustrates the skills needed to keep pregnant women, mothers and their newborns healthy, including routine and preventive care as well as early detection and management of life threatening problems. It will require effective training, logistics and supportive supervision to make skilled attendance at every birth in the country, a reality.

I hope that states will adopt the revised training package for effective implementation of the SBA training to enhance the quality. It is suggested that the training centres must be proficient and practicing the technical protocols defined and illustrated in the guideline before they take up the training batches. The first step for this should be the orientation/training of all the health professionals involved in care during pregnancy and child birth at the training centre itself. Timely nomination, Provision of essential supplies such as Partographs, mannequins, drugs and structured monitoring through Quality Assurance Cell at the State, District and Facility level should be the next step. Up-scaling SBA Training by creating more training centres either at the government health facility or through Public-Private Partnership is another important step for achieving our commitment for attending every births by skilled personnel.

I am optimistic that if all the above inputs are implemented in a coordinated manner, the time is not far away for achieving universal coverage of births with skilled attendance both in the institution and at community level. I take this opportunity to thank everyone who has contributed in framing the training package.

New Delhi  
Date: April 2010



**(Dr. Himanshu Bhushan)**  
Assistant Commissioner  
Maternal Health Division  
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Government of India



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# Abbreviations

AMTSL	: Active Management of the Third Stage of Labour
ANC	: Antenatal Check-Up
ANM	: Auxiliary Nurse Midwife
APH	: Antepartum Haemorrhage
ASHA	: Accredited Social Health Activist
AWW	: Anganwadi Worker
CBO	: Community-Based Organisation
CCT	: Controlled Cord Traction
CHC	: Community Health Centre
COC	: Combined Oral Contraceptive
CPD	: Cephalopelvic Disproportion
DDK	: Disposable Delivery Kit
DMPA	: Depot Medroxyprogesterone Acetate
ECP	: Emergency Contraception Pill
EDD	: Expected Date of Delivery
FHR	: Foetal Heart Rate
FHS	: Foetal Heart Sound
FRU	: First Referral Unit
FS	: Female Sterilisation
GoI	: Government of India
HBsAg	: Hepatitis B Surface Antigen
HCG	: Human Chorionic Gonadotrophin
HIV	: Human Immunodeficiency Virus
HLD	: High Level Disinfection
HMIS	: Health Management Information System
HPS	: High Performing States
ICTC	: Integrated Counselling and Testing Centre
IFA	: Iron Folic Acid
IMNCI	: Integrated Management of Neonatal and Childhood Illness
IUCD	: Intrauterine Contraceptive Device
IUD	: Intrauterine Death
IUGR	: Intrauterine Growth Retardation
JSY	: Janani Suraksha Yojana
KMC	: Kangaroo Mother Care
LAM	: Lactational Amenorrhea Method
LHV	: Lady Health Visitor
LLIN	: Long-Lasting Insecticidal Net
LMP	: Last Menstrual Period
LPS	: Low Performing States
MMR	: Maternal Mortality Ratio
MO	: Medical Officer
MoHFW	: Ministry of Health and Family Welfare

MoWCD	: Ministry of Women and Child Development
MPHW	: Multipurpose Health Worker
MTP	: Medical Termination of Pregnancy
MVA	: Manual Vacuum Aspiration
NFHS	: National Family Health Survey
NGO	: Non-Governmental Organisation
NRHM	: National Rural Health Mission
NSV	: No-Scalpel Vasectomy
NVBDCP	: National Vector-Borne Disease Control Programme
ORS	: Oral Rehydration Solution
P/V	: Per Vaginum
PHC	: Primary Health Centre
PIH	: Pregnancy-Induced Hypertension
PIP	: Programme Implementation Plan
PNC	: Postnatal Check-Up
PNDT	: Pre-Natal Diagnostic Technique
POC	: Products of Conception
PPH	: Post-partum Haemorrhage
PPTCT	: Prevention of Parent-to-Child Transmission
PRI	: Panchayati Raj Institution
PROM	: Premature Rupture of Membranes
RCH	: Reproductive and Child Health
RDK	: Rapid Diagnostic Kit
RPR	: Rapid Plasma Reagin
RR	: Respiratory Rate
RTI	: Reproductive Tract Infection
SBA	: Skilled Birth Attendant
SC	: Sub-Centre
SDM	: Standard Days' Method
SHG	: Self-Help Group
SN	: Staff Nurse
STI	: Sexually Transmitted Infection
TBA	: Traditional Birth Attendant
TT	: Tetanus Toxoid
UT	: Union Territory
UTI	: Urinary Tract Infection
VDRL	: Venereal Disease Research Laboratory
VHND	: Village Health and Nutrition Day

# Introduction

Pregnancy and childbirth are normal events in the life of a woman. Though most pregnancies result in normal birth, it is estimated that about 15% may develop complications, which cannot be predicted. Some of these may be life threatening for the mother and/or her baby. The presence of skilled attendants is therefore, crucial for the early detection and also for appropriate and timely management of such complications. The Government of India (GoI) has a commitment under its National Rural Health Mission (NRHM)/Reproductive and Child Health (RCH)-II programme to ensure universal coverage of all births with skilled attendance, both at the institutional and at the community level and to provide access to emergency obstetric and neonatal care services for women and newborns, and thereby restrict the number of maternal and newborn deaths in the country.

**Maternal death** is defined as the death of a woman while pregnant or within 42 days of the termination of pregnancy (delivery or abortion), irrespective of the duration and site of pregnancy, from any cause related to or aggravated by pregnancy or its management, but not due to accidents, trauma or incidental causes.

The Maternal Mortality Ratio (MMR), i.e. number of maternal deaths per 100,000 live births in India is very high. According to the latest data given by the Registrar General of India for the period 2004-2006, the MMR was estimated to be 254 per 100,000 live births. Like elsewhere in the world, the five major direct obstetric causes of maternal mortality in India are haemorrhage, puerperal sepsis, hypertensive disorders of pregnancy, obstructed labour and unsafe abortions contributing to about 70% of maternal deaths in the country. Maternal anaemia is a major contributor to the 'indirect' obstetric causes. While most of these causes cannot be reliably predicted, early detection and timely management can save most of these lives.

Women below the age of 18 years or above 40 years have greater chances of having pregnancy related complications. Primigravidas and grand multiparas (those who have had four or more pregnancies) are at a higher risk of developing complications during pregnancy and labour. Research shows that women who have spaced their children less than 36 months apart have greater chances of delivering premature and low birth weight babies, thereby increasing risk of infant mortality. An interval of less than two years from the previous pregnancy or less than three months from the previous abortion increases the chances of the mother developing anaemia.

Since any pregnancy can develop complications at any stage, so timely provision of obstetric care services is extremely important for management of such cases and as such, every pregnancy needs to be cared for by a Skilled Birth Attendant (SBA) during pregnancy, childbirth and the post-partum period. *GoI considers an SBA to be a person who can handle common obstetric and neonatal emergencies and is able to timely detect and recognise when a situation reaches a point beyond his/her capability, and refers the woman/newborn to an appropriate facility without delay.*

To be called an *SBA*, the health workers (Auxiliary Nurse Midwives (ANMs), Lady Health Visitors (LHVs) and Staff Nurses (SNs)) must possess technical competence related to routine care provision including identification and immediate management of complications arising during pregnancy and childbirth.

In India, 52.3% of births take place at home and of these, just 5.7% of births are attended by a skilled person (District Level Household and Facility Survey [DLHS]-3, 2007–08). These figures highlight that a high proportion of births in the country are still being undertaken by an unskilled person and as such, contribute to large number of maternal deaths. Therefore, the presence of an *SBA* at every delivery, along with the availability of an effective referral system, can help reduce maternal morbidity and mortality to a considerable extent. Past experiences with Traditional Birth Attendants (TBAs) have indicated that TBAs were not able to identify and manage complications during pregnancy and child birth despite repeated trainings, therefore, GoI does not consider TBAs as SBAs.

What can be done to combat maternal deaths?

- Most of the maternal deaths are linked with three types of delays which can result in an increase in maternal morbidity and mortality. They are:

Delay 1: **Delay in recognising** the problem (lack of awareness of danger signs) and **deciding to seek care** (due to inaccessible health facility, lack of resources to pay for services/supplies and medicines)

Delay 2: **Delay in reaching** the health facility (due to unavailability of transport, lack of awareness of appropriate referral facility)

Delay 3: **Delay in receiving** treatment once a woman has arrived at the health facility (due to inadequately equipped health facility, lack of trained personnel, emergency medicines, blood, etc.)

Sensitising the community and family for right decision at right time and timely referral through pre-identified transport can address the first two delays and would help women access the services available as and when required. Simultaneously, the health workers need to be technically competent and facility adequately equipped to provide services/care to the woman reaching the health facilities. This would help in ensuring the provision of skilled attendance to all women during pregnancy and childbirth.

- The ANM has an important role to play in reducing the MMR by fulfilling the role of a *SBA*: providing comprehensive Antenatal Care (ANC) and Postnatal Care (PNC); identifying complications in a timely manner, and referring women with complications after basic management to a higher centre for further management.

Another major step in this direction is the GoI policy initiative to empower the ANM, LHV, SN and Multipurpose Health Worker – Female (MPHW-F) for undertaking certain life saving measures to make them competent (Annexure ix). These measures are as follows:

- To undertake Active Management of Third Stage of Labour (AMTSL).
- To use uterotonic drugs for the prevention of Post-Partum Haemorrhage (PPH).
- To use drugs in emergency situations to stabilise the patient prior to referral.
- To perform basic procedures in emergency situations.

This guideline is a tool for empowering ANMs, LHVs, SNs or for any other paramedical health worker engaged in providing maternal care during pregnancy, childbirth and thereafter. It has been prepared keeping in mind that these workers would be providing care at the level of the Sub-Centres (SCs) or in a domiciliary setting. However, ANMs/LHVs/SNs can also use the guideline while working at the Primary Health Centre (PHC) or any other health care facility. Medical Officers (MOs) and LHVs may follow this while providing supportive supervision to SBAs at the SCs and PHCs.

The guideline incorporates evidence-based best practices for the provision of skilled care by providers during pregnancy, at birth and in post-partum period. It is hoped that this will serve as reading material during SBA training in the RCH-II programme under the NRHM.

Infrastructure and programmatic support must be in place to enable health personnel adhere to the recommended guidelines for the delivery of services. Necessary efforts to ensure availability of equipment, drugs and supplies for the corresponding interventions must be made by concerned persons. Programme managers and supervisors should monitor the implementation of these guidelines during their routine supervisory visits. Adequate budgeting for these activities should be reflected in the Programme Implementation Plan (PIP) of the state.

This training module can also be used by Non-Governmental Organisations (NGOs) and private sector health facilities engaged in the delivery of services.







Module I

Management of Normal  
Pregnancy, Labour and  
the Post-partum Period



# Care During Pregnancy—Antenatal Care

## KEY MESSAGES

- Register every pregnancy within 12 weeks.
- Track every pregnancy by name for provision of quality ANC, skilled birth attendance and postnatal services.
- Ensure four antenatal visits to monitor the progress of pregnancy. This includes the registration and 1<sup>st</sup> ANC in the first trimester.
- Give every pregnant woman Tetanus Toxoid (TT) injections and Iron Folic Acid (IFA) supplementation.
- Test the blood for haemoglobin, urine for sugar and protein at EVERY VISIT.
- Record blood pressure and weight at EVERY VISIT.
- Advise and encourage the woman to opt for institutional delivery.
- Maintain proper records for better case management and follow up.
- Do not give a pregnant woman any medication during the first trimester unless advised by a physician.

## Antenatal care

Antenatal care is the systemic supervision of women during pregnancy to monitor the progress of foetal growth and to ascertain the well-being of the mother and the foetus. A proper antenatal check-up provides necessary care to the mother and helps identify any complications of pregnancy such as anaemia, pre-eclampsia and hypertension etc. in the mother and slow/inadequate growth of the foetus. Antenatal care allows for the timely management of complications through referral to an appropriate facility for further treatment. It also provides opportunity to prepare a birth plan and identify the facility for delivery and referral in case of complications. As provider of ante natal care, you are involved in ensuring a healthy outcome both for the mother and her baby.

However, one must realise that even with the most effective screening tools, one cannot predict which woman will develop pregnancy-related complications during and immediately after child birth. You must therefore:

- Recognise that 'Every pregnancy is special and every pregnant woman must receive special care'.
- Complications being unpredictable may happen in any pregnancy/child birth and we should be ready to deal with them if and whenever they happen.
- Ensure that ANC is used as an opportunity to detect and treat existing problems, e.g. essential hypertension.
- Prepare the woman and her family for the eventuality of an emergency.
- Make sure that services to manage obstetric emergencies are available on time.

Quality ANC has several components, which are described below.

**A. A few primary steps:**

- Ensure early registration and see to it that the first check-up is conducted within 12 weeks (first three months of pregnancy).
- Track every pregnancy for conducting at least four antenatal check-ups (including the first visit for registration), keeping in mind all the essential components listed under section B.
- Administer two doses of TT injection.
- Provide at least 100 tablets of IFA.

**B. Essential components of every antenatal check-up:**

- Take the patient's history.
- Conduct a physical examination—measure the weight, blood pressure and respiratory rate and check for pallor and oedema.
- Conduct abdominal palpation for foetal growth, foetal lie and auscultation of Foetal Heart Sound (FHS) according to the stage of pregnancy.
- Carry out laboratory investigations, such as haemoglobin estimation and urine tests (for sugar and proteins).

**C. Desirable components**

- Determine the blood group, including the Rh factor.
- Conduct the Venereal Disease Research Laboratory (VDRL)/Rapid Plasma Reagin (RPR) test to rule out syphilis.
- Test the woman for Human Immuno deficiency Virus (HIV\*).
- Check the blood sugar.
- Carry out the Hepatitis B Surface Antigen (HBsAg) test.

**D. Counselling**

- Help the woman to plan and prepare for birth (birth preparedness/micro birth plan). This should include deciding on the place of delivery and the presence of an attendant at the time of the delivery.
- Advantages of institutional deliveries and risks involved in home deliveries.
- Advise the woman on where to go if an emergency arises, and how to arrange for transportation, money and blood donors in case of an emergency.
- Educate the woman and her family members on signs of labour and danger signs of obstetric complications.
- Emphasise the importance of seeking ANC and PNC.
- Advise on diet (nutrition) and rest.
- Inform the woman about breastfeeding, including exclusive breastfeeding.
- Provide information on sex during pregnancy.
- Warn against domestic violence (explain the consequences of violence on a pregnant woman and her foetus).
- Promote family planning.
- Inform the woman about the Janani Suraksha Yojana (JSY)/any other incentives offered by the state.

\*Tie up with the nearest Integrated Counselling and Testing Centre (ICTC)/Prevention of Parent-to-Child Transmission (PPTCT) facility for counselling and testing for HIV.

## Early registration

### Timing of the first visit/registration

The first visit or registration of a pregnant woman for ANC should take place as soon as the pregnancy is suspected. Every woman in the reproductive age group should be encouraged to visit her health provider if she believes she is pregnant. Ideally, the first visit should take place within 12 weeks. However, even if a woman comes for registration later in her pregnancy, she should be registered and care should be provided to her according to the gestational age. Her husband and mother-in-law should be counselled to give her support during pregnancy, delivery, after an abortion and during the post-partum period.

Early detection of pregnancy is important for the following reasons:

- It facilitates proper planning and allows for adequate care to be provided during pregnancy for both the mother and the foetus.
- Record the date of the Last Menstrual Period (LMP), and calculate the Expected Date of Delivery (EDD).
- The health status of the mother can be assessed and any medical illness that she might be suffering from can be detected and also to obtain/record baseline information (on blood pressure, weight, haemoglobin, etc.)
- Helps in timely detection of complications at an early stage and manage them appropriately by referral as and where required.
- This also helps in providing the woman the option of an early abortion. If so, then refer the woman at the earliest to a 24-hour PHC or First Referral Unit (FRU) (whichever is closer) that provides safe abortion services. It is important to find out as early as possible whether the woman wants to go in for an abortion so that the procedure can be done safely as per the legal provisions laid down under the Medical Termination of Pregnancy (MTP) Act, 1972.

### Remember

- Before referring the woman for the abortion, make sure that the closest 24-hour PHC provides safe abortion services.
- Manual Vacuum Aspiration (MVA) is a safe and simple technique for termination of early pregnancy and is available at 24x7 PHCs (upto 8 weeks) and other higher facilities (upto 12 weeks) for safe abortion.
- *Be alert to the possibility of pregnant women undergoing pre natal sex determination. Diagnosis of sex of foetus is illegal under the provisions of PC-PNDT Act.*
  - *However, as per the MTP Act, abortions are legal for up to 20 weeks of pregnancy, though they can be conducted only under certain circumstances (which exclude sex selection).*
- If a pregnancy is detected early and the woman is provided care from the initial stage, it facilitates a good interpersonal relationship between you and her. She will thus, be more likely to express her particular needs and wants while planning for the delivery.

- All women in the reproductive age group should be advised to have folic acid for 2–3 months pre-conception and continue with it during the first 12 weeks of pregnancy. This remarkably reduces the incidence of neural tube defects in the foetus. A daily dose of 400 µg folic acid taken orally is the recommended daily dose.
- Low iodine levels during pregnancy can cause cretinism, which can lead to mental/physical retardation of the baby. So regular consumption of iodated salts is advised, as a prophylactic measures.

## Detection of pregnancy

The simplest way for you to confirm pregnancy in the first trimester is to conduct a urine examination using a pregnancy test kit. The pregnancy test should be offered to any woman in the reproductive age group who comes to you with a history of amenorrhoea or symptoms of pregnancy.

The GoI has made the ‘Nischay’ pregnancy test kit available across the country. Other test kits are also available in the market. These kits detect pregnancy on the basis of the presence of Human Chorionic Gonadotrophin (hCG) hormone in the urine. This test can be performed soon after a missed period and is simple to perform. It requires just five minutes and two drops of the woman’s urine. Pregnancy test kits have also been provided to Accredited Social Health Activists (ASHAs)/link workers in your area, and they might use the kits during their community visits. Ensure that the kits are available to them and they report positive results to you. The woman should be counselled appropriately on the results of the test.

*(Practice the steps of Detection of Pregnancy using a Pregnancy Test Kit - Checklist No: 1.4 in the SBA Handbook)*

## Number and timing of visits

- Ensure that every pregnant woman makes at least four visits for ANC, including the first visit/registration. It should be emphasised that this is only a minimum requirement and that more visits may be necessary, depending on the woman's condition and needs.
- Suggested schedule for antenatal visits
  - ◆ **1<sup>st</sup> visit:** Within 12 weeks—preferably as soon as pregnancy is suspected—for registration of pregnancy and first antenatal check-up
  - ◆ **2<sup>nd</sup> visit:** Between 14 and 26 weeks
  - ◆ **3<sup>rd</sup> visit:** Between 28 and 34 weeks
  - ◆ **4<sup>th</sup> visit:** Between 36 weeks and term

It is advisable for the pregnant woman to visit the MO at the PHC for an antenatal check-up during the period of 28–34 weeks (third visit). Besides this, she may also be advised and guided to avail investigation facilities, which are not available with you like Blood Grouping etc. at the nearest PHC/CHC/FRU.

## Seek help for early registration and antenatal check-up

Registering every pregnancy within 12 weeks is primarily the responsibility of the ANM. Opportunities such as the Village Health and Nutrition Day (VHND) should be optimally utilised for ensuring early registration and antenatal check-ups.

You can take the help of various people who are likely to be aware of the pregnant women in the village and will help in updating your list. These include ASHAs, *Anganwadi* Workers (AWWs) as well as various community-based functionaries, such as members of Mahila Mandals, Self-Help Groups (SHGs), NGOs, panchayat and village health committees. School teachers and other important people in the village could also be in the know.

### Estimate the number of pregnancies in your area

- To ensure complete registration, it is essential that you know the estimated number of pregnancies to be registered annually in your area.
- Calculating the expected number of annual pregnancies in your area will help you judge how good your pregnancy registration is. In case the number of pregnancies registered is less than that of the estimated pregnancies, you need to track down the pregnancies you have missed with the help of ASHAs and AWWs.
- Estimating the number of pregnancies will also help you judge whether you have an adequate stock of the supplies required to provide routine ANC (such as TT injections, IFA tablets and ANC record forms) and tackle any complications that arise during this period.

The following steps may be followed to calculate the expected number of pregnancies annually:

- You must know the birth rate and population size of the area under your jurisdiction.
- The birth rate of your area can be obtained from the MO at the PHC or you can consult the available district/state/national figures. It is advisable to use the available local figures for the birth rate for correct estimation.
- To know the exact population of the area under your jurisdiction, use the latest demographic data/census reports.

The expected number of live births may be calculated as shown in Box 1.

#### Box 1: Total number of expected pregnancies/year

Expected number of live births (Y)/year:

$$\frac{\text{Birth rate (per 1000 population) X population of the area}}{1000}$$

- *As some pregnancies may not result in a live birth (i.e. abortions and stillbirths may occur), the expected number of live births would be an under-estimation of the total number of pregnancies. Hence, a correction factor of 10% is required, i.e. add 10% to the figure obtained above.*

So, the total number of expected pregnancies (Z)=  
Y + 10% of Y

**As a thumb rule, in any given month, approximately half the number of pregnancies estimated above should be in your records.**



### Box 2: Estimation of the number of pregnancies annually

Birth rate	=	25/1000 population
Population under the SC	=	5000
Therefore, expected number of live births	=	(25 X 5000)/1000
	=	125 births
Correction factor (pregnancy wastage)	=	10% of 125 (i.e. [10/100] X 125)
	=	13
Therefore, total no. of expected pregnancies in a year	=	125 + 13 = 138
In any month, the ANM should have about		69 pregnancies registered with her.

- If the number of women registered with you is less than expected, then you should approach community leaders and key people mentioned earlier, in order to ensure that more pregnant women are registered and come for ANC. The matter should also be communicated to the ASHA/link worker so that she can visit every house in the area and ensure that all pregnant women are registered.
- Some women may be receiving ANC from the private sector. Ensure that their names together with the names of the facilities where they are registered are mentioned in your antenatal register.

### Keep a track of all pregnant women by name

- As the ANM, you must refer to your register to keep track of all pregnant women in your area. In case a woman who is registered with you does not return for her antenatal check-up, then she must be followed up at her home and counselled to go for regular antenatal check-ups.
- An antenatal check-up after a missed appointment should include all the components of the missed visit(s) as well as those that correspond to the present visit. For example, the woman should be given her TT injection and supply of IFA tablets, her weight and blood pressure should be checked and recorded and she should be counselled besides being screened for complications.
- It is very likely that women might not come for ANC early in their pregnancy. You should take the help of the AWWs, ASHAs, panchayat members and so on to track pregnant women who have not come for their antenatal check-ups.
- Once such women have been tracked down, arrangements should be made to give them ANC as soon as possible. These women should also be counselled on the importance of complete ANC for the better health of the baby and the mother.
- A policy decision has been taken for a name-based tracking system whereby pregnant women and children can be tracked for their ANCs and immunisation along with a feedback system for the ANM, ASHA etc. This has been done to ensure that all pregnant women receive their ANCs and PNCs and children receive full immunisation. This will also help in tracking and ensuring ANC/PNC for missed/left out cases.

## Record keeping

For the purpose of record keeping, the following must be done:

- A Mother and Child Protection Card should be duly completed for every woman registered by you. The case record should be handed over to the woman. She should be instructed to bring the record with her during all subsequent check-ups/visits and also to carry it along with her at the time of delivery. (*Annexure 1 –Mother and Child Protection Card*).
- This card has been developed jointly by the Ministry of Health and Family Welfare (MoHFW) and Ministry of Women and Child Development (MoWCD) to ensure uniformity in record keeping. This will also help the service provider to know the details of previous ANC/PNCs both for routine and emergency care.
- The information contained in the card should also be recorded in your antenatal register as per the Health Management Information System (HMIS) format.

## Antenatal check-up

### Preparing for and conducting antenatal check-ups

- Before beginning each antenatal check-up at your SC or during the VHND, ensure that all the required instruments and equipment are available and are in working condition. These include a stethoscope, blood pressure apparatus, weighing scale, inch tape, foetoscope, thermometer, Mother and Child Protection Card and register, watch, gloves, 0.5% chlorine solution, syringes and needles, hub cutter, spirit swabs, IFA tablets, TT injections, and equipment for testing haemoglobin and urine.
- You must greet every pregnant woman in a friendly manner at each visit.
- Listen to the woman's problems and concerns, and counsel her and her relatives. Remember, all women need social/psychological support during pregnancy.
- The antenatal examination should be carried out at an appropriate place where there is enough privacy for conducting abdominal palpation.
- All findings must be accurately recorded.

## Components of Antenatal Check-up

### I. History-taking

During the first visit, a detailed history of the woman needs to be taken to:

- (i) Confirm the pregnancy (first visit only).
- (ii) Identify whether there were complications during any previous pregnancy/confinement that may have a bearing on the present one.
- (iii) Identify any current medical/surgical or obstetric condition(s) that may complicate the present pregnancy.

While taking the history, please find and record the following information from the pregnant woman:

#### Menstrual history to calculate the EDD

It is important to record the date of the LMP during the first visit as this helps to calculate the EDD and prepare a birth plan.

- Remember that the LMP refers to the *FIRST* day of the woman's last menstrual period. Make sure that the woman is not referring to the date of the first *missed* period, i.e. the date when menstruation was expected to occur the following month and failed to occur. This mistake will lead to a miscalculation of the gestational age and EDD by about four weeks.
- If the woman is unable to remember the exact date, encourage her to remember some major event, festival or occurrence which she might link with her LMP. A calendar with the Indian system of months and local festivals might come in handy while determining the LMP.
- If the exact date of the LMP is not known and it is late in the pregnancy, ask for the date when the foetal movements were first felt. This is known as 'quickening' and is felt at around 20 weeks of gestation. This information would give a rough idea about the period of gestation, which needs to be correlated with the fundal height to estimate the gestational age. Calculate the EDD on this basis. A special note should be made of such cases in the records.
- If the woman is not able to recollect any of the above things, encourage her to mention what she believes is her current month of pregnancy. For example, if a woman has come to the ANC clinic on 20 September and says that she completed eight months of her pregnancy 10 days ago, it becomes clear that she will be completing her ninth month on 10 October and her EDD (9 months plus 7 days) is 17 October.
- If the woman has undergone a test to confirm the pregnancy, ask her the approximate date of the test and also, after how many days of amenorrhoea it was conducted. This will also assist you in estimating her LMP.
- The LMP is used to calculate the gestational age at the time of check-up and the EDD. The following formula is used to calculate the EDD. It is based on the assumption that the menstrual cycle of the woman was regular before conception and that it was a 28–30 days' cycle.

$$\text{EDD} = \text{Date of LMP} + 9 \text{ months} + 7 \text{ days}$$

### Symptoms during pregnancy

You must ask the woman about the symptoms that might be causing her some discomfort. Symptoms can be normal for any pregnancy or it can indicate a complication which needs immediate attention. Ask her about the following symptoms:

#### Box 3: Symptoms indicating discomfort

- Nausea and vomiting
- Heartburn
- Constipation
- Increased frequency of urination

#### Box 4: Symptoms indicating complications

- Fever
- Persistent vomiting
- Abnormal vaginal discharge/itching
- Palpitations, easy fatigability
- Breathlessness at rest/on mild exertion
- Generalised swelling of the body, puffiness of the face
- Severe headache and blurring of vision
- Passing smaller amounts of urine and burning sensation during micturition
- Vaginal bleeding
- Decreased or absent foetal movement
- Leaking of watery fluid per vaginum (P/V)

Note: In case the symptoms mentioned in Boxes 3 and 4 are present, refer to Table 2 at the end of this chapter.

#### Obstetric history/history of previous pregnancies

It is essential to ask a woman about her previous pregnancies or obstetric history. This is important especially if she had any complications in previous pregnancies, as some complications may recur during the present pregnancy. Be particular about asking for records to validate the history given of the previous pregnancy.

#### Obstetric history

The following information must be obtained while taking the obstetric history:

- Ask about the number of previous pregnancies. Confirm whether they were all live births, and if there was any stillbirth, abortion or any child who died.
- Ascertain the date and outcome of each event, along with the birth weight, if known. It is especially important to know about the last pregnancy. Find out if there was any adverse perinatal (period between 7 days before birth and 28 days after birth) outcome.
- Obtain information about any obstetric complications and events in the previous pregnancies (specify which pregnancy). The complications and events to be inquired about are as follows:
  - ◆ Recurrent early abortion
  - ◆ Post-abortion complications
  - ◆ Hypertension, pre-eclampsia or eclampsia
  - ◆ Ante-Partum Haemorrhage (APH)
  - ◆ Breech or transverse presentation
  - ◆ Obstructed labour, including dystocia
  - ◆ Perineal injuries/tears
  - ◆ Excessive bleeding after delivery
  - ◆ Puerperal sepsis.
- Ascertain whether the woman has had any obstetrical operations (caesarean sections/instrumental delivery/vaginal or breech delivery/manual removal of the placenta).
- Ask for a history of blood transfusions.

A bad obstetric history (as detailed in Box 5) is an indication for referral to a higher health facility, where further antenatal check-ups and the delivery can be conducted.

**Box 5: Indications for referral to the 24-hour PHC for ANC and delivery as per the previous obstetric history**

- Stillbirth or neonatal loss
- Three or more spontaneous consecutive abortions
- Obstructed labour
- Premature births, twins or multiple pregnancies
- Weight of the previous baby <2500 g or >4500 g
- Admission for hypertension or pre-eclampsia/eclampsia in the previous pregnancy
- Surgery on the reproductive tract
- Congenital anomaly
- Treatment for infertility
- Spinal deformities, such as scoliosis/kyphosis/polio
- Rh negative in the previous pregnancy

**History of any current systemic illness(es)/past history of illness**

Find out whether the woman has or is suffering from any of the following:

- High blood pressure (hypertension)
- Diabetes
- Breathlessness on exertion, palpitations (heart disease)
- Chronic cough, blood in the sputum, prolonged fever (tuberculosis)
- Renal disease
- Convulsions (epilepsy)
- Attacks of breathlessness or asthma
- Jaundice
- Malaria
- Other illnesses, e.g. Reproductive Tract Infection (RTI), Sexually Transmitted Infection (STI) and HIV/AIDS.

**Family history of systemic illness**

Once you have ruled out the presence of any systemic illness, ask the woman whether there is a family history of hypertension, diabetes or tuberculosis. If present, such a history predisposes the woman to developing these problems during pregnancy (e.g. hypertensive disorders of pregnancy and gestational diabetes). As pregnancy is a physiologically stressful period, it can unmask the underlying tendency to develop these disorders.

In addition, ask whether there is a family history of thalassaemia or whether anybody in the family has received repeated blood transfusions. You must also ask if anybody in the family has had twins and/or given birth to an infant with congenital malformation, as the presence of such a history in the family increases the chances of the woman giving birth to a child with the same condition.

**History of drug intake or allergies**

It is important to find out if the woman is allergic to any drug, or if she is taking any drug

that might be harmful to the foetus. Find out whether she has taken any treatment or drugs for infertility. If so, she has a higher chance of having twins or multiple pregnancies.

### **History of intake of habit-forming or harmful substances**

Ask the woman if she chews or smokes tobacco and/or if she takes alcohol. If so, she needs to be counselled to discontinue the use of these substances during pregnancy, as they harm the developing foetus. The woman should be advised to continue to abstain from taking alcohol and using tobacco even after the delivery because it may cause other problems/complications, such as addiction and/or cancer. Further, passive smoking can harm the foetus.

*(Practise history-taking during antenatal check-up - Checklist No1.1 in SBA Handbook)*

## **II. Physical examination**

This activity will be nearly the same during all the visits. The initial readings may be taken as a baseline with which the later readings are to be compared.

### **A. General examination**

#### ***Pallor***

The presence of pallor indicates anaemia. The woman should be examined for pallor at each visit. For this, one needs to examine the woman's conjunctiva, nails, tongue, oral mucosa and palms. Increasing pallor should be co-related with Hb estimation and would require investigation or referral to the MO.

Estimate the woman's haemoglobin using a haemoglobinometer.

#### ***Jaundice***

- Jaundice is a yellowish staining of the skin and sclera (the whites of the eyes), caused by high levels of the chemical bilirubin in the blood. Jaundice is not a disease, but a sign that can occur in many different diseases.
- Look for yellowish discolouration of the skin and sclera. The colour of the skin and sclera vary depending on the level of bilirubin. When the bilirubin level is mildly elevated, they are yellowish. When the bilirubin level is high, they tend to be brown.
- Approximately 3%–5% of pregnant women have abnormal liver function tests and however, jaundice in pregnancy is relatively rare but has potentially serious consequences for maternal and foetal health.

#### ***Pulse***

The normal pulse rate is 60–90 beats per minute. If the pulse rate is persistently high or low, with or without other symptoms, the woman requires medical attention at the PHC/FRU.

#### ***Respiratory rate***

It is important to check the Respiratory Rate (RR), especially if the woman complains of breathlessness. Normal respiratory rate is 18–20 breathes per minute. If the RR is above 30 breaths per minute and pallor is present, it indicates that the woman may have severe anaemia, heart disease or associated medical problems. She must be immediately referred to the MO for further investigation and management of any illness that may be present.

### **Oedema**

- Oedema (swelling), which appears in the evening and disappears in the morning after a full night's sleep, could be a normal manifestation of pregnancy.
- Any oedema of the face, hands, abdominal wall and vulva is abnormal. Oedema can be suspected if a woman complains of abnormal tightening of any rings on her fingers. She must be referred immediately for further investigations.
- If there is oedema in association with high blood pressure, heart disease, anaemia or proteinuria, the woman should be referred to the MO.
- Non-pitting oedema indicates hypothyroidism or filariasis and requires immediate referral for investigations.

### **Blood pressure**

- Measure the woman's blood pressure *at every visit*. This is important to rule out hypertensive disorders of pregnancy.
- Hypertension is diagnosed when two consecutive readings taken four hours or more apart show the systolic blood pressure to be 140 mmHg or more and/or the diastolic blood pressure to be 90 mmHg or more.
- High blood pressure during pregnancy may signify Pregnancy-Induced Hypertension (PIH) and/or chronic hypertension.
- If the woman has high blood pressure, check her urine for the presence of albumin. The presence of albumin (+2) together with high blood pressure is sufficient to categorise her as having pre-eclampsia. Refer her to the MO immediately.
- If the diastolic blood pressure of the woman is above 110 mmHg, it is a danger sign that points towards imminent eclampsia. The urine albumin should be estimated at the earliest. If it is strongly positive, the woman should be referred to the FRU IMMEDIATELY.
- If the woman has high blood pressure but no urine albumin, she should be referred to the MO at 24 hours PHC.
- A woman with PIH, pre-eclampsia or imminent eclampsia requires hospitalisation and supervised treatment at a 24-hour PHC/FRU.

### **Weight**

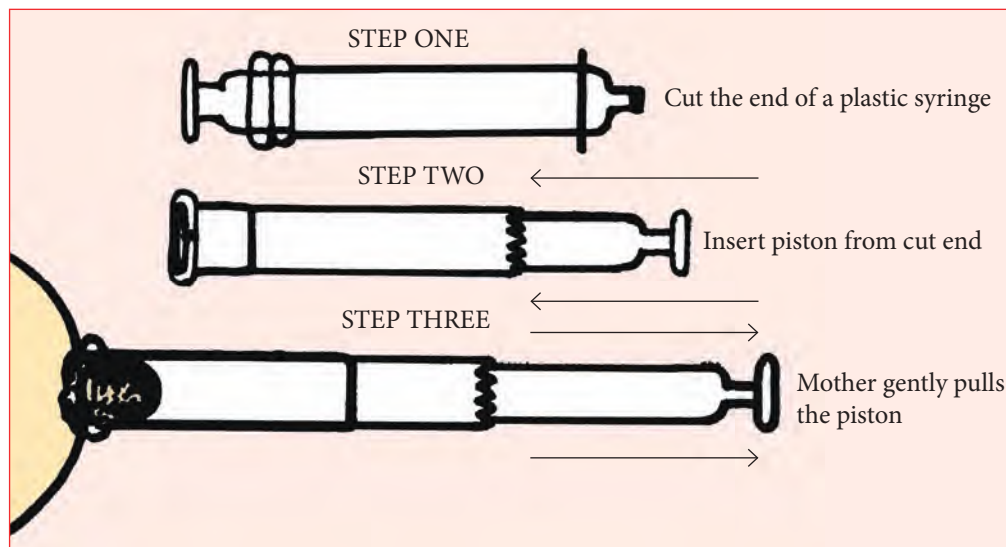
- A pregnant woman's weight should be taken *at each visit*. The weight taken during the first visit/registration should be treated as the baseline weight. As you might find it difficult to carry the weighing scale provided to you when you go to conduct ANC at the village level, it is advisable that you borrow the AWW's weighing machine, making sure that it works properly.
- Normally, a woman should gain 9–11 kg during her pregnancy. Ideally after the first trimester, a pregnant woman gains around 2 kg every month.
- If the diet is not adequate, i.e. if the woman is taking less than the required amount of calories, she might gain only 5–6 kg during her pregnancy. An inadequate dietary intake can be suspected if the woman gains less than 2 kg per month. She needs to be put on food supplementation. You should take the help of the AWW in this matter, especially for those categories of women who need it the most. Low weight gain usually leads to Intrauterine Growth Retardation (IUGR) and results in the birth of a baby with a low birth weight.
- Excessive weight gain (more than 3 kg in a month) should raise suspicion of pre-eclampsia, twins (multiple pregnancy) or diabetes. Take the woman's blood pressure

and test her urine for proteinuria or sugar. If her blood pressure is high, i.e. more than 140/90 mmHg, and her urine has proteins or sugar, refer her to the MO at the PHC.

### **Breast examination**

- Observe the size and shape of the nipples for the presence of inverted or flat nipples. Try and pull out the nipples to see if they can be pulled out easily. Flat nipples that can be pulled out do not interfere with breastfeeding. Truly inverted nipples might create a problem in breastfeeding. If the nipples are inverted, the woman must be advised to pull on them and roll them between the thumb and index finger.
- A 10 cc or 20 cc disposable plastic syringe can also be used for correcting inverted nipples. Cut the barrel of the syringe from the end where the needle is attached. Take out the plunger and put it in from the opposite end, which is the cut end of the syringe. Push the piston forward fully, and gently place the open end of the barrel in such a way that it encircles the nipple and areola. Pull back the plunger, thus creating negative pressure. The nipple will be sucked into the barrel and pulled out in the process.

**Figure 1: Correcting an inverted nipple using a syringe**



- Look for crusting and soreness of the nipples. If these are present, the woman must be advised on breast hygiene and the use of emollients such as milk cream.
- The breasts must be palpated for any lumps or tenderness. If there are lumps or tenderness, refer the woman to the MO.

*(Practise conducting general examination: pallor, pulse; respiratory rate; oedema; BP; weight; jaundice and breast examination – Checklist No 1.2 in SBA Handbook)*

### **B. Abdominal examination**

Examine the abdomen to monitor the progress of the pregnancy and foetal well-being and growth. The abdominal examination includes the following:

1. Measurement of fundal height
2. Determination of foetal lie and presentation by fundal palpation, lateral palpation and pelvic grips



3. Auscultation of the FHS
4. Inspection of scars/any other relevant abdominal findings.

**Preparation for abdominal examination**

- Ask the woman to empty her bladder (give her a clean bottle to collect a sample of urine for testing) immediately before proceeding with the abdominal examination. This is important as even a half-full bladder might result in an increase in the fundal height.
- Ask the woman to lie on her back with the upper part of her body supported by cushions. Never make a pregnant woman lie flat on her back, as the heavy uterus may compress the main blood vessels returning to the heart and cause fainting (supine hypotension). Ask her to partially flex her hips and knees.
- Stand on the woman’s right side to examine her in a systematic manner.
- You may divert the woman’s attention with conversation.
- Your hand must be warm and should be placed on the abdomen till the uterus is relaxed before you begin palpation. Poking the abdomen with the fingertips should be avoided at all costs.
- Maintain privacy throughout the examination.

**Fundal height**

This indicates the progress of the pregnancy and foetal growth. The uterus becomes an abdominal organ after 12 weeks of gestation. **The gestational age (in weeks) corresponds to the fundal height (in cm) after 24 weeks of gestation.** Remember that while measuring the fundal height, the woman’s legs should be kept straight and not flexed.

The normal fundal height is different at different weeks of pregnancy. To estimate the gestational age through the fundal height, the abdomen is divided into parts by imaginary lines. The most important line is the one passing through the umbilicus. Then divide the lower abdomen (below the umbilicus) into three parts, with two equidistant lines between the symphysis pubis and the umbilicus. Similarly, divide the upper abdomen into three parts, again with two imaginary equidistant lines, between the umbilicus and the xiphisternum.

- See where the fundus of the uterus is and judge according to the indicators given below:

**Figure 2: Measurement of Fundal Height**

At 12 <sup>th</sup> week	Just palpable above the symphysis pubis	
At 16 <sup>th</sup> week	At lower one-third of the distance between the symphysis pubis and umbilicus	
At 20 <sup>th</sup> week	At two-thirds of the distance between the symphysis pubis and umbilicus	
At 24 <sup>th</sup> week	At the level of the umbilicus	
At 28 <sup>th</sup> week	At lower one-third of the distance between the umbilicus and xiphisternum	
At 32 <sup>nd</sup> week	At two-thirds of the distance between the umbilicus and xiphisternum	
At 36 <sup>th</sup> week	At the level of the xiphisternum	
At 40 <sup>th</sup> week	Sinks back to the level of the 32 <sup>nd</sup> week, but the flanks are full, unlike that in the 32 <sup>nd</sup> week	

If there is any disparity between the fundal height and the gestational age as calculated from the LMP or if there is a difference of 3 cm or more or if there is no growth compared to the previous check-up, then it should be considered significant. Such cases require further investigation and should be referred to the MO.

If the height of the uterus is more or less than that indicated by the period of amenorrhea, the possible reasons could be as follows:

*Height of the uterus more than that indicated by the period of amenorrhea*

- Wrong date of LMP
- Full bladder
- Multiple pregnancy/large baby
- Polyhydramnios
- Hydrocephalus
- Hydatidiform mole

*Height of the uterus less than that indicated by the period of amenorrhea*

- Wrong date of LMP
- IUGR
- Missed abortion
- Intrauterine Death (IUD)
- Transverse lie

***Foetal lie and presentation***

Determining the foetal lie and presentation is relevant only in late pregnancy (32 weeks onwards). Before that, it is important to only palpate the foetal parts while conducting an abdominal examination.

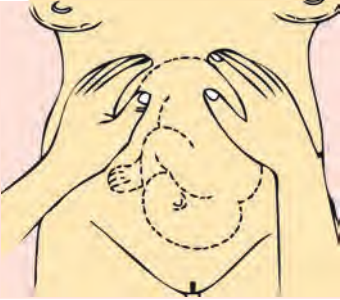



The normal lie at term in the majority of pregnancies is longitudinal, with a cephalic presentation. Any other lie is abnormal and the woman must be referred to an FRU for the delivery.

**Palpation to determine foetal lie and presentation**

The pelvic grips (four in number) are performed to determine the lie and the presenting part of the foetus.

- Palpate for the foetal lie and assess whether it is longitudinal, transverse or oblique. Remember that even if a malpresentation is diagnosed before 36 weeks, no active management or intervention is recommended at that point of time. Advise the woman to go in for an institutional delivery.
- All health workers should be able to recognise a transverse lie. Missing it can be disastrous because there is no mechanism by which a woman with a transverse lie can deliver normally, i.e. vaginally. The woman needs an elective caesarean section, i.e. she must not go into labour. She should, therefore, be referred to an FRU where emergency obstetric services and facilities for a caesarean section are available. Failure to perform a timely caesarean section can lead to obstructed labour, rupture of the uterus and death of the woman and the foetus.

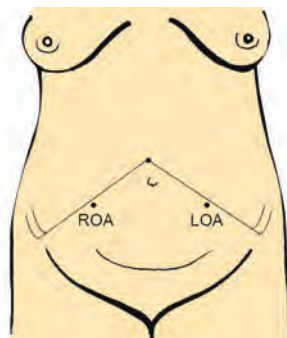
**Figure 3: Foetal lie and Presentation**

A. Fundal palpation/fundal grip	B. Lateral palpation/lateral grip
This manoeuver helps determine the lie and presentation of the foetus.	This manoeuver is used to locate the foetal back.
	
C. First pelvic grip/superficial pelvic grip	D. Second pelvic grip/deep pelvic grip
The third manoeuver must be performed gently. It helps to determine whether the head or the breech is present at the pelvic brim. If the head cannot be moved, it indicates that the head is engaged. In the case of a transverse lie, the third grip will be empty.	This manoeuver, in experienced hands, will be able to tell us about the degree of flexion of the head.
	

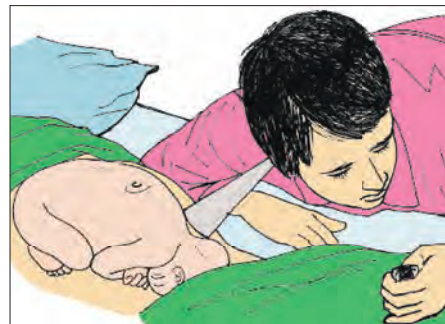
**Foetal heart sound and foetal heart rate**

- If the Foetal Heart Rate (FHR) is between 120 and 160 beats per minute, it is normal. If it is less than 120 beats per minute or more than 160 beats per minute, the woman should be referred to the MO.
- Remember that the FHS cannot be heard through the abdomen with the help of a stethoscope or foetoscope before 24 weeks of pregnancy. Hence, checking for the FHS should start only when the gestational age is more than 24 weeks.

**Figure 4: Location of FHS using foetoscope**



(Note: ROA right occipitoanterior  
LOA left occipitoanterior)



### ***Foetal movements***

Foetal movements are a reliable sign of foetal well-being. Foetal movements, also called 'quickening', begin at around 18–22 weeks of pregnancy. They are felt earlier in a multigravida and later in a primigravida. At every antenatal visit, the ANM should ask the pregnant woman about the foetal movements. Decreased movements may be an indication of foetal distress. Women in whom the foetal movements are decreased need to be referred to the FRU.

Although the pattern of foetal movement may change prior to labour due to reduced space, foetal activity should continue throughout pregnancy and labour.

***How to count foetal movements:*** Ask the woman to lie down in the left lateral position for an hour, three times a day after meals. Count the number of foetal movements in each hour. If the total number of movements in all three periods is less than 10, the woman should be referred to the FRU.

### ***Multiple pregnancy***

This must be suspected if the following are detected on abdominal examination:

- An unexpectedly large uterus for the estimated gestational age
- Multiple foetal parts discernable on abdominal palpation.

If a multiple pregnancy is suspected, refer the woman to the MO in the PHC for confirmation of the diagnosis and counsel her to have her delivery in an institution.

*(Practise abdominal examination: determining fundal height; foetal lie and presentation; counting foetal heart rate; examination for multiple pregnancy – Checklist No 1.3 in SBA Handbook)*

## **III. Laboratory investigations**

The following laboratory investigations can be carried out at the facilities indicated below:

### **At the SC:**

- Pregnancy detection test
- Haemoglobin estimation
- Urine test to assess the presence of sugar and proteins
- Rapid malaria test

### **At the PHC/CHC/FRU:**

- Blood group, including Rh factor
- VDRL/RPR
- HIV testing
- Rapid malaria test (if unavailable at SC)
- Blood sugar testing
- HBsAg

### **Haemoglobin estimation**

The initial haemoglobin level will serve as a baseline with which the later results, obtained at the three subsequent antenatal visits, can be compared. Haemoglobin estimation can be done at SCs or the outreach level by the Sahli method.

A woman who has a haemoglobin level below 11 g/dl at any time during the pregnancy is considered to be suffering from anaemia.

#### Box 6: Levels of Anaemia in Pregnancy

Haemoglobin level	Degree of anaemia
> 11 g/dl	Absence of anaemia
7–11 g/dl	Moderate anaemia
Less than 7 g/dl	Severe anaemia

If the woman is found to be anaemic, start her on a therapeutic dose of IFA [see below, under 'IFA supplementation']. Estimate the haemoglobin level again after one month. If it has not increased, refer the woman to a higher facility with a good laboratory infrastructure and trained personnel so that the cause of the anaemia can be determined and the requisite treatment started.

#### Blood grouping and Rh factor

During the third antenatal visit, i.e. between 28 and 34 weeks, encourage the woman to go to the PHC/FRU and get her blood group, including the Rh factor, tested. In case the woman suffers from haemorrhage, knowledge regarding her blood group would come in handy if blood transfusions have to be arranged, helping to save precious time and the life of the woman. It also detects Rh negative pregnancies and appropriate management can be initiated.

#### Testing the urine for the presence of protein (albumin)

This is a very important test used for the detection of pre-eclampsia, which (along with eclampsia) is one of the five major causes of maternal mortality. This test is to be carried out at the field level at every antenatal visit.

#### Testing the urine for the presence of sugar

This is a test used to diagnose women with gestational diabetes. This test is to be carried out at the field level at every antenatal visit. If a woman's urine is positive for sugar, refer her to the MO to get her blood sugar examined and a glucose tolerance test carried out, if required.

*(Practise steps of estimation of Hb; urine for protein and sugar – Checklist No. 1.4 in SBA Handbook)*

## IV. Interventions

### IFA supplementation

- While talking to the pregnant woman, stress the need for increased intake of iron during pregnancy and also if she is anaemic. This helps preventing the complications due to anaemia. Besides recommending IFA supplementation, counsel the woman to increase her dietary intake of iron-rich foods, such as green leafy vegetables, whole pulses, jaggery, meat, poultry and fish. Ensure that you have adequate supplies of IFA in your stock to meet the requirements of all pregnant women registered with you.
- *Prophylactic dose:* All pregnant women need to be given one tablet of IFA (100 mg elemental iron and 0.5 mg folic acid) every day for at least 100 days, starting after the

first trimester, at 14–16 weeks of gestation. This is the dose of IFA given to prevent anaemia (prophylactic dose). This dosage regimen is to be repeated for three months post-partum.

- *Therapeutic dose:* If a woman is anaemic (haemoglobin less than 11 g/dl) or has pallor, she needs two IFA tablets per day for three months. This means that a pregnant woman with anaemia needs to take at least 200 tablets of IFA. This is the dose of IFA needed to correct anaemia (therapeutic dose). This dosage regimen is to be repeated for three months post-partum in women with moderate to severe anaemia.

The haemoglobin should be estimated again after a month. If the level has increased, continue with two tablets of IFA daily till it comes up to normal. If it does not rise in spite of the administration of two tablets of IFA daily and dietary measures, refer the woman to the MO at the PHC.

- Women with severe anaemia (haemoglobin of less than 7 g/dl), or those who have breathlessness and tachycardia (pulse rate of more than 100 beats per minute) due to anaemia, should be started on the therapeutic dose of IFA and referred immediately to the MO in the FRU for further management.

### **Counselling**

Many women do not take IFA tablets regularly due to some common side-effects such as nausea, constipation and black stools. Inform the woman that these side-effects are common and not serious. Explain the necessity of taking IFA and the dangers associated with anaemia. The woman should be counselled on the issues mentioned below:

- IFA tablets must be taken regularly, preferably early in the morning on an empty stomach. In case the woman has nausea and pain in the abdomen, she may take the tablets after meals or at night. This will help avoid nausea.
- Dispel the myths and misconceptions related to IFA and convince the woman about the importance of IFA supplementation. An example of a common myth is that the consumption of IFA may affect the baby's complexion.
- It is normal to pass black stools while consuming IFA. Tell the woman not to worry about it.
- In case of constipation, the woman should drink more water and add roughage to her diet.
- IFA tablets should not be consumed with tea, coffee, milk or calcium tablets as these reduce the absorption of iron.
- IFA tablets may make the woman feel less tired than before. However, despite feeling better, she should not stop taking the tablets and must complete the course, as advised by the health care provider.
- Ask the woman to return to you if she has problems taking IFA tablets. Refer her to the MO for further management.
- Emphasise the importance of a high protein diet, including items such as black gram, groundnuts, *ragi*, whole grains, milk, eggs, meat and nuts, for anaemic women.
- Encourage the woman to take plenty of fruits and vegetables containing vitamin C (e.g. mango, guava, orange and sweet lime), as these enhance the absorption of iron.

### **Administration of TT injection**

- The administration of two doses of TT injection is an important step in the prevention of maternal and neonatal tetanus (tetanus of the newborn).

- The first dose of TT should be administered as soon as possible, preferably when the woman registers for ANC.
- The second dose is to be given one month after the first, preferably at least one month before the EDD. *If the woman skips one antenatal visit, give the injection whenever she comes back for the next visit.*
- If the woman receives the first dose after 38 weeks of pregnancy, then the second dose may be given in the postnatal period, after a gap of four weeks.
- If the woman has been previously immunised with two doses during a previous pregnancy within the past three years, then give her only one dose as early as possible in this pregnancy.
- The dosage of TT injection to be given is 0.5 ml. Tetanus toxoid to be administered by deep intramuscular injection. It should be given in the upper arm, and not in the buttocks as this might injure the sciatic nerve.
- Inform the woman that there may be a slight swelling, pain and/or redness at the site of the injection for a day or two.

### **Malaria prophylaxis and treatment**

- No prophylaxis is recommended, but insecticide-treated bed nets or Long-Lasting Insecticidal Nets (LLIN) should be given on a priority basis to pregnant women in malaria-endemic areas. These women should be counselled on how to use the LLINs.
- Check with the MO of your PHC whether your area is malaria-endemic or not.
- In non-endemic areas, all clinically suspected cases as per the National Vector-Borne Disease Control Programme (NVBDCP) guidelines should preferably be investigated for malaria with the help of microscopy or a Rapid Diagnostic Kit (RDK), if these are available with you.
- In high malaria-endemic areas, pregnant women should be routinely tested for malaria at the first antenatal visit. Screen the woman for malaria every month by conducting the rapid diagnostic test even if she does not manifest any symptoms of malaria. If a pregnant woman shows symptoms of malaria at any time, she should be tested. If the result is positive, refer her to the PHC for treatment.

## **V. Micro-birth Planning & Counselling**

### **Micro-birth planning**

The JSY is a centrally sponsored demand promotion scheme for promoting institutional delivery among poor pregnant women. The scheme integrates cash assistance with delivery and post-delivery care. The objective of the scheme is to reduce maternal and neonatal mortality through institutional care. The details of the JSY are given in Annexure II. Micro-birth planning is an integral part of the JSY.

Under the scheme, ANMs have to draw up a micro-birth plan or birth preparedness plan for each pregnant woman in their area. It is necessary to draw up the micro-birth plan in advance to prepare the pregnant woman and her family for any unforeseen complications and to prevent maternal morbidity and mortality due to delays.

*As a community worker, you have to help the ASHAs to bring pregnant women to you as early as possible to ensure that a birth plan is prepared for each pregnant woman. This will help you*

*to track down these women for the provision of regular ANC, referral in case of emergency and counselling to convince them to opt for institutional delivery. The Maternal and Child Protection Card should be correctly and completely filled by you. Counsel the woman to bring this card along at every visit.*

Micro-birth planning has the following components:

1. Registration of pregnant woman and filling up of the Maternal and Child Protection Card and JSY card/below poverty line (BPL) certificates/necessary proofs or certificates for the purpose of keeping a record.
2. Informing the woman about the dates of antenatal visits, schedule for TT injections and the EDD.
3. Identifying the place of delivery and the person who would conduct the delivery.
4. Identifying a referral facility and the mode of referral.
5. Taking the necessary steps to arrange for transport for the beneficiary.
6. Making sure that funds are available to the ANM/ASHA.

## **Counselling**

### **A. Planning and preparing for birth (birth preparedness)**

Details of the activities to be carried out while planning and preparing for birth are listed below:

1. **Registration of the pregnant woman:** During the woman's first antenatal visit, fill up the Maternal and Child Protection Card and the antenatal register.  
Inform her of the dates of her subsequent antenatal visits and emphasise the importance of making all these visits in time.
2. **Identification of a skilled provider for birth:** Help all pregnant women to reach a decision regarding the health care provider they want for conducting their delivery. An SBA should be preferred over an unskilled birth attendant. (Note that TBAs, trained or untrained, do not fall into the category of SBAs.) Other factors such as the condition of the pregnant woman, her financial situation, the distance to the health care facility and transport facilities, all need to be kept in mind before finally reaching a decision on the choice of the SBA.

### ***Institutional delivery***

All pregnant women must be encouraged to opt for an institutional delivery.

Explain to the woman why delivery at a health facility is recommended and emphasise the following:

- Complications can develop at any time during pregnancy, during delivery or in the postnatal period. These complications are not always predictable. If they are not handled by professionals at the health facility, they can cost the mother and/or the baby their life.
- Since a health facility has staff, equipment, supplies and drugs, it can provide the best care. It also has a referral system should the need for referral arise.

### ***Home delivery***

If in spite of all your efforts the pregnant woman decides to go for a home delivery, tell her that there are situations when complications arise and a home delivery may be risky and



potentially life-threatening. Disposable Delivery Kits (DDKs) are to be supplied to those pregnant women in your community who insist on having a home delivery.

Explain the 'six cleans' to such women. These are clean surface, clean hands, clean cord cut, clean cord tie, clean umbilical stump and clean perineum. Counsel and help them to maintain the 'six cleans' during delivery at home.

You should keep a record of such women and continue counselling them during all their subsequent antenatal visits to opt for an institutional delivery. You should prepare yourself to attend to such women at their home during delivery. The pregnant woman, her family members or the ASHA should call you (the ANM) to conduct the delivery at home.

The items required during and immediately after delivery at home include:

- Presence of an ANM for conducting the delivery
- The Maternal and Child Protection Card (for complete information regarding the antenatal period)
- Clean towels/cloth for drying and wrapping the baby
- Clean clothes that have been washed and sun-dried for the mother and the baby
- Sanitary pads/clean cloth for the mother
- Supplies like Inj. Oxytocin, Tab. Misoprostol, Cord Clamps, Sterile Surgical Knife with Blade, Paediatric size Bag and Mask and other emergency drugs
- A dry and comfortably warm environment\room
- Food and water for the woman and the support person.

**3. Recognising the signs of labour:** Advise the woman to go to the health facility or inform the ASHA to contact the SBA if the woman has any one of the following signs, which indicate the start of labour:

- A bloody, sticky discharge from the vagina ('show')
- Painful uterine contractions increasing in duration, frequency and intensity with the passage of time.

**4. Identify and arrange for referral transport:** Delay in reaching a health care facility is one of the major 'delays' responsible for maternal mortality. It is, therefore, necessary to ensure the following:

- If the woman has decided to deliver at a health facility, ensure that a vehicle is available to transport her to the health facility whenever required.
- Even if the woman decides to deliver at home, a vehicle should be identified and kept ready to transport her to the nearest health facility or referral centre in case she or the newborn develops complications.

The contact number of the ambulance or vehicle provided by the state, private or any other provider, should be available with the ANM/ASHA, and should be communicated to the pregnant woman and her family members.

If a vehicle is not available in the village, help of the panchayat, village health committee, Mahila Mandals, youth groups or any other such groups can be taken to decide on how to obtain a vehicle in case of an emergency.

5. **Locate the nearest PHC/FRU:** The woman and her family members should be aware of the nearest health facilities: the PHC, where 24-hour emergency obstetric care services are available and the FRU, where facilities for a blood transfusion and surgery are available.
6. **Identify support people:** These people are needed to help the woman look after her children and/or household, arrange for transportation, and/or accompany her to the health facility. Seek help from either the close relatives of the woman or community-based health functionaries, such as the AWW/ASHA.
7. **Finances:** The woman and her family should be assisted in calculating an estimate of expenses of the delivery and related aspects (such as transport). They should also be advised to keep an emergency fund, or have a source for emergency funding in case of complications. Keep in mind the various schemes that are available for assisting women with transportation facilities or providing funds for maternal health (such as the JSY) and whatever other schemes may have been launched in your state. Help the woman and her family access these schemes and collect the allocated funds to pay for the delivery.

Also, keep yourself up to date on any new schemes that may be launched by the GoI and the state government from time to time.

## B. Complication readiness—recognising danger signs during pregnancy, labour and after delivery/abortion

The pregnant woman and her family/caretakers should be informed about the potential danger signs during pregnancy, delivery and in the post-partum period. She must be told that if she has any of the following signs during pregnancy or delivery or in the post-partum/post-abortion period, she should immediately visit a PHC/FRU *without waiting*, be it day or night. Also, counsel her to inform you and the ASHA.

In case you detect a complication during examination or the woman arrives at your centre with complications, you must refer her to the FRU/24-hour PHC. Also, see to it that she carries a filled in referral slip with her (*see* Annexure III for referral slip).

### Box 7: Danger signs during pregnancy and labour and after delivery/abortion

Visit FRU	Visit 24 hour PHC
<ul style="list-style-type: none"> <li>● Malpresentation</li> </ul>	<ul style="list-style-type: none"> <li>● High fever with or without abdominal pain, too weak to get out of bed</li> </ul>
<ul style="list-style-type: none"> <li>● Multiple pregnancy</li> </ul>	<ul style="list-style-type: none"> <li>● Fast or difficult breathing</li> </ul>
<ul style="list-style-type: none"> <li>● Any bleeding P/V during pregnancy and after delivery (a pad is soaked in less than 5 minutes)</li> </ul>	<ul style="list-style-type: none"> <li>● Haemoglobin 7–11 g% even after consuming IFA tablets for 30 days</li> </ul>
<ul style="list-style-type: none"> <li>● Severe headache with blurred vision</li> </ul>	<ul style="list-style-type: none"> <li>● Excessive vomiting, unable to take anything orally</li> </ul>
<ul style="list-style-type: none"> <li>● Haemoglobin &lt;7 g%</li> </ul>	<ul style="list-style-type: none"> <li>● Breathlessness at rest</li> </ul>
<ul style="list-style-type: none"> <li>● Convulsions or loss of consciousness</li> </ul>	<ul style="list-style-type: none"> <li>● Reduced urinary output with high BP</li> </ul>
<ul style="list-style-type: none"> <li>● Decreased or absent foetal movements</li> </ul>	<ul style="list-style-type: none"> <li>● High BP (<math>\geq 140/90</math> mmHg) with or without proteins in the urine</li> </ul>

● Active labour lasting longer than 12 hours in a primipara and more than 8 hours in a multipara	
● Continuous severe abdominal pain	
● Premature rupture of membranes (PROM) before 37 weeks	
● High BP ( $\geq 140/90$ mmHg) with proteins in the urine, and severe headache with blurred vision or epigastric pain	
● Temperature more than 38°C	
● Foul smelling discharge before or after delivery/abortion	
● Ruptured membranes for more than 18 hours	
● FHR $>160$ /minute or $<120$ /minute	
● Perineal tear ( 2 <sup>nd</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup> degree)	

Note: If the ANM is not able to decide on whether she should send a case to the FRU or 24 hour PHC, she should refer the case to the FRU.

### C. Diet and rest

- The woman should be advised to eat more than her normal diet throughout her pregnancy. Remember that a pregnant woman needs about 300 kcal extra per day, over and above her usual diet, and 500 kcal extra in the post-partum period. She should be told that she needs these extra calories in order to maintain her health as a mother and meet the needs of the growing foetus, and for successful lactation.
- Special categories of women who require additional nutrition during pregnancy have been identified. These include the following:
  - ◆ Women who are underweight (less than 45 kg)
  - ◆ Women who have an increased level of physical activity, above the usual levels, during pregnancy
  - ◆ Adolescent girls who are pregnant
  - ◆ Those who become pregnant within two years of the previous delivery
  - ◆ Those with multiple pregnancy
  - ◆ Women who are HIV positive.
- The woman's food intake should be especially rich in proteins, iron, vitamin A, vitamin C, calcium and other essential micronutrients.
- Other members of the family especially those who take decisions regarding the type of food brought home and/or to be given to the pregnant woman such as the woman's husband and mother-in-law should also be taken into confidence and counselled on the recommended diet for the pregnant woman. Encourage them to help ensure that the woman eats enough and avoids hard physical work.
- Some of the *recommended dietary* items are cereals, milk and milk products (such as curd and paneer), green leafy vegetables and other vegetables, pulses, eggs, meat (including fish and poultry), groundnuts, *ragi*, jaggery and fruits (like mango, guava, orange, sweet lime and watermelon).
- The woman should avoid taking tea, coffee or milk within an hour after a meal, as these have been shown to interfere with the absorption of iron. Also, advise her to take foods

rich in proteins and vitamin C (e.g. lemon, *amla*, guava and oranges), as both help in the absorption of iron.

- The diet should be rich in fibre to avoid constipation.
- While giving dietary advice, keep in mind the woman's socio-economic status, food habits and taste, as well as the locally and seasonally available produce.
- Taboos against certain foods must be looked into while counselling the woman on her dietary intake. If there are taboos related to nutritionally important foods, the woman should be advised against these taboos. Certain communities adhere to particular taboos (especially omissions) for the purpose of sex selection of the foetus. These should be strongly discouraged.
- If a woman has PIH, she should be encouraged to take a normal diet with no restrictions on fluid, calories and/or salt intake. Such restrictions do not prevent PIH from turning into pre-eclampsia and may be harmful for the foetus.
- The woman should be advised to sleep for eight hours at night and rest for another two hours during the day. She should be told to refrain from doing heavy work, especially lifting heavy weights as this can adversely affect the birth weight of the baby. The other members of the household should be taken into confidence and advised to help the woman carry out her routine household chores.
- The woman should be advised to refrain from taking alcohol, tobacco in any form or addictive drugs such as opium derivatives during pregnancy as these have adverse effects on the foetus. For example, they can slow growth *in utero* and even after delivery.
- The woman should be advised *not* to take any medication unless prescribed by a qualified health practitioner.
- All pregnant women should be told to lie on their left side while resting and avoid the supine position (lying flat on the back), especially in late pregnancy, as it affects both the maternal and foetal circulation. Due to the pressure exerted by the pregnant uterus on the main pelvic veins, a reduced quantity of circulating blood reaches the right side of the heart. This causes a reduced supply of oxygen to the brain and can lead to a fainting attack, a condition referred to as the supine hypotension syndrome. It can also result in abnormal FHR patterns and in addition, may cause a reduction in the placental blood flow. If the supine position is preferred, recommend the use of a small pillow under the lower back, at the level of the pelvis.

#### D. Breastfeeding

Pregnancy is the ideal time to counsel the mother on the benefits of breastfeeding her baby. Though breastfeeding is almost universal in India, the following key messages need to be given to the would-be mother:

##### Box 8: Key messages on breastfeeding

- Initiate breastfeeding especially colostrum feeding within an hour of birth.
- Do not give any pre-lacteal feeds.
- Ensure good attachment of the baby to the breast.
- Exclusively breastfeed the baby for six months.
- Breastfeed the baby whenever he/she demands milk.
- Follow the practice of rooming in.

- **Initiation of breastfeeding:** Counsel the mother that breastfeeding should ideally be initiated immediately after birth, preferably within one hour, even if the birth has been by caesarean section. *The sucking and rooting reflexes of the newborn, which are essential for the baby to successfully start breastfeeding, are the strongest immediately after delivery, making the process of initiation much easier for the mother and the baby.* These reflexes gradually become weaker over the span of a few hours, thus making breastfeeding difficult later on.

It is a common practice in India to delay the initiation of breastfeeding. It is a myth that colostrum (the first milk) is harmful for the baby and should be discarded, and pre-lacteal feeds given instead. Pre-lacteal feeds may not be hygienic and can cause intestinal infections in the baby leading to diarrhoea.

### **Advantages of initiation of early breastfeeding**

These are as follows:

- ◆ The sucking and rooting reflexes in the newborn are the strongest immediately after delivery, making breastfeeding easier.
  - ◆ Sucking helps in the release of Oxytocin which helps in contraction of uterus and thus helps in preventing PPH.
  - ◆ The newborn's sucking helps to produce more breast milk.
  - ◆ The baby receives colostrum, which is very rich in vitamin A and protective antibodies. This protects the baby from infections such as diarrhoea, tetanus and respiratory tract infections.
  - ◆ Mothers have less bleeding after birth if they breastfeed immediately.
  - ◆ Early breastfeeding helps the mother and baby to develop a close bond.
- **Exclusive breastfeeding for six months:** Impress upon the mother *that only breast milk and nothing but breast milk is to be given to the baby for the first six months.* The baby should not be given even water. The mother should be assured that breast milk has enough water to quench the baby's thirst (even in the peak of summer) and satisfy his/her hunger for the first six months. The mother should be advised to take special care in the case of a female child seeing to it that she is adequately breastfed and not discriminated against because of her sex.
  - **Demand feeding:** This refers to the practice of breastfeeding the child whenever he/she 'demands' milk by crying. The practice of feeding the child by the clock should be actively discouraged. After a few days of birth, most children will develop their own 'hunger cycle' and will require to be fed every 2–4 hours. Remember that each child is different as far as the feeding requirement and timings are concerned. The practice of giving night feeds should be actively encouraged. Often, there is a misconception that breastfeeding the baby at night disturbs the mother's sleep, thus depriving her of adequate rest. Inform the woman and her husband that this is not so. Night feeds help the baby to sleep more soundly.
  - **Rooming in (keeping the mother and baby together):** This refers to the practice of keeping the mother and baby in the same room, preferably on the same bed. This is usually practiced in the Indian setting. This practice should be encouraged as it has many advantages, such as the following:
    - ◆ It makes demand feeding easier to practice, as the mother can hear the child cry, and also helps in the early detection of aspiration, if it occurs.

- ◆ It keeps the baby warm, thus preventing hypothermia in the newborn.
- ◆ It helps to build a bond between the mother and the baby.

Advise the woman not to keep the baby too close to herself in the bed so as to prevent smothering.

### **E. Sex during pregnancy**

- It is safe to have sex throughout pregnancy, as long as the pregnancy is uncomplicated.
- Sex should be avoided during pregnancy if there is a risk of abortion (history of previous recurrent spontaneous abortions, or threatened abortion in the current pregnancy), a risk of pre-term delivery (history of previous pre-term labour), or a history of APH or PROM.
- Some women experience a decreased desire for sex during pregnancy. The husband should be informed that this is normal and the woman's consent should be sought before engaging in sex.
- Some couples find engaging in sex uncomfortable during pregnancy. The husband must see to the comfort of the woman while engaging in sexual activities.
- Advise couples to have safe sex and use condoms especially if the woman has discharge or itching in the vaginal area or the husband has urethral discharge or experiences burning while urinating.
- The couple should be advised to abstain from having sex during the first six weeks post-partum or longer if the perineal wounds have not healed by then.

### **F. Domestic violence**

Pregnancy should be a time of peace and safety, but for many women it can be a time when they face violence. According to the National Family Health Survey III (2005-6), in India 39.7% of ever married women suffer from either physical and/or sexual violence. Domestic abuse and violence against pregnant women has immediate and lasting effects both on the pregnant woman and the foetus. Some of the complications might be visible directly, such as blunt trauma to the abdomen, haemorrhage (including placental separation), uterine rupture, miscarriage/still birth, pre-term labour and PROM, all of which need to be ruled out. At times such trauma/violence can have indirect effects leading to psychological stress which might have long lasting effects both for the mother and foetus.

The husband and immediate family members of the pregnant woman should be briefed about the serious consequences that violence could have on the pregnancy, on the woman's health and on the physical and mental health of the child to be born. The woman herself should be counselled in private, and enabled to access support systems from within or outside the family, during and after the pregnancy. Health workers should be alert to signs of continuing violence even in the post-partum period.

### **G. Family Planning**

Pregnancy is the best period for family planning counselling as it gives the couple time to think about and choose the method they would want to use after the birth of their baby. The woman should be advised on birth spacing or limiting, as necessary. Explain to her and her husband that if after the delivery she is not exclusively breastfeeding and has unprotected sex, she can become pregnant as early as six weeks after delivery. Therefore, it is important to start thinking in advance about which family planning method to use.

The couple should be advised to abstain from having sex during the first six weeks post-partum, or longer if the perineal wounds have not healed by then.

Ask about the couple's plans for having more children. If they desire more children then advice them that a gap of 3–4 years between pregnancies is healthy for the mother and the child.

The couple should be given advice on the range of contraceptive methods available to them. These include the ones described below:

#### **Lactational Amenorrhoea Method (LAM)**

A woman can use a natural method, such as lactational amenorrhoea, as a method of contraception, provided she keeps three points in mind:

- *Amenorrhoea*: The woman should be amenorrhoeic and her menstrual cycle should not have resumed after delivery. Whenever it resumes, she cannot use this method.
- *Lactation*: The woman should be exclusively breastfeeding her baby, i.e. the baby should be given no complementary foods or fluids. She should be feeding the baby eight times or more during the day, with a gap of not more than four hours between feeds, including at least one night feed. Even a single missed feed increases the risk of pregnancy.

**Table 1: Methods of post-partum contraception**

Contraceptive method	COC	DMPA	ECP	IUCD	FS	NSV (For husband)
<b>Breastfeeding (fully or nearly fully or partial)</b>						
<6 weeks post-partum	No	No (unless other more suitable options are not available)	Yes	<b>Post- placental insertion</b> within 10 minutes of delivery, only by trained provider	<b>Immediate post-partum sterilisation</b> after 24 hours to 7 days of childbirth	Any time
≥6 Weeks to <6 months post-partum	No	Yes	Yes	<b>Immediate post-partum</b> <48 hours of childbirth by trained provider	<b>or</b> > 6 weeks post-partum	
≥6 Months post-partum	Yes (linked with return of menstrual cycles)	Yes	Yes	<b>Post-partum</b> >6 weeks post-partum		
<b>Not breastfeeding</b>						
<21 days	No	Yes	Yes	<48 hours after childbirth or >6 weeks post-partum	After 24 hours to 7 days of after childbirth	Any time
>21 days	Yes	Yes	Yes		<b>or</b> >6 weeks post-partum	

COC: combined oral contraceptive, DMPA: depot medroxyprogesterone acetate, ECP: emergency contraception pill, IUCD: intrauterine contraceptive device, FS: female sterilisation, NSV: no-scalpel vasectomy

- *Six months*: The woman cannot use this method for more than six months post-partum, even if she has not started menstruating again.

### ***Intrauterine Contraceptive Device (IUCD)***

Copper-containing IUCDs can be inserted within 48 hours of childbirth (post-placental insertion: within 10 minutes of the delivery of the placenta; immediate post-partum insertion: within 48 hours of the delivery) by a service provider who is trained specifically for post-placental IUCD insertion. Alternatively, they can be inserted more than six weeks post-partum. The expulsion rate is high after post-partum insertion compared with interval insertion. The IUCD has the advantage of offering protection for 10 years or even more, depending on the type of IUCD inserted. Those IUCDs which contain copper are safe and reliable, and women should be advised to visit the PHC or FRU for insertion.

### ***Condoms***

These can be safely used as soon as, and for as long as, the woman/couple so desires. It should be impressed upon the couple that condoms should be used correctly and consistently, during each act of sexual intercourse. The brand supplied free of cost by the government is 'Nirodh'. Many other brands are available, which are either socially marketed or available in the open commercial market. These may also be offered to the couple if they are interested.

### ***Injectables***

Injectable hormonal depot preparations for contraception are commercially available in the market. They are safe for lactating mothers as they do not interfere with lactation and have no known side-effects on the infant. Depot Medroxyprogesterone Acetate (DMPA) acts for three months and is commonly available. The injection can be given immediately after an abortion or delivery.

### ***Natural methods***

Natural methods of contraception, such as abstinence, periodic abstinence (e.g. the Standard Days' Method [SDM]), and cervical mucus method, may be discussed with the couple. This is especially important in cases where religious bindings prohibit the couple from using any other method of contraception.

### ***Oral contraceptive pills***

The use of combined oral contraceptive pills (such as the government supplied Mala-N and Mala-D, and other commercially and socially marketed brands) is *not* advisable during the post-partum period, as the woman is lactating during that time. Combined oral contraceptive pills are known to decrease the milk output. However, the woman may be advised to use them after six months of delivery, once her menstrual cycle resumes.

The woman may, however, use progestin-only pills six weeks after childbirth if she is breastfeeding the baby, or immediately after birth if she is not breastfeeding the baby. At present, these are not supplied by the government and have to be bought from the commercial market. These pills have the advantage of having no effect on the output of breast milk and can therefore, be safely used by lactating women.



***Emergency contraception pills***

Emergency Contraception Pills (ECPs) can be used any time during the post-partum period, within 72 hours following unprotected sexual intercourse. However, women should be counselled that ECPs have to be used for emergency purposes only and not as a regular form of contraception. They should be advised to shift to regular and more effective methods of contraception.

***Female sterilisation***

If the couple has achieved its desired family size, the woman may be advised to undergo a tubectomy, a permanent method of contraception. Immediate post-partum female sterilisation, using the minilaparotomy technique, can be offered 24 hours after the delivery of the baby up to seven days post-partum. Apart from immediate post-partum female sterilisation, female sterilisation can also be offered any time after six weeks of the delivery.

***No-scalpel vasectomy***

If the couple has achieved its desired family size and wishes to adopt a permanent method of contraception, the husband may be encouraged to opt for No-Scalpel Vasectomy (NSV). This is a simple and safe surgical procedure, which provides lifelong and effective protection against pregnancy. It can be performed any time during the post-partum period. However, the couple must be warned that the procedure will take three months to become effective and hence, they need to use other back-up methods of contraception, such as condoms and oral contraceptive pills, for three months after the NSV.

*(Practice antenatal counselling – Checklist No 1.5 in SBA Handbook)*

(Annexure IV – A table of activities to be carried out at each ANC visit)

**Table 2. Symptoms and signs that an ANM might encounter, probable diagnosis and action to be taken at SC level**

	Symptoms	Signs/ investigations	Most probable diagnosis	Action(s) to be taken
A	Heartburn and nausea	-	<ul style="list-style-type: none"> <li>Reflux oesophagitis</li> </ul>	<ul style="list-style-type: none"> <li>Advise the woman to avoid spicy and oily foods.</li> <li>Ask her to take cold milk during attacks.</li> <li>If severe, antacids may be prescribed.</li> </ul>
B	Vomiting during the first trimester	-	May be physiological (morning sickness)	<ul style="list-style-type: none"> <li>Advise the woman to eat small frequent meals; avoid greasy food; eat lots of green vegetables; and drink plenty of fluids.</li> <li>If vomiting is excessive in the morning, ask her to eat dry foods, such as <i>roti/paratha</i>, biscuits or toast, after waking up in the morning.</li> </ul>
C	Excessive vomiting, especially after the first trimester	The woman may be dehydrated— dry tongue, loss of skin turgor, decreased urine output in severe cases. Tachycardia may be present.	<ul style="list-style-type: none"> <li>Hyper- emesis gravidarum</li> </ul>	<ul style="list-style-type: none"> <li>Start IV Ringer lactate, 500 ml, and refer the woman to the MO at 24 hour PHC/FRU.</li> </ul>
D	Palpitations, easy fatiguability, breathlessness at rest	<ul style="list-style-type: none"> <li>Conjunctival and/or pallor of the palm present</li> <li>Hb &lt;7 g/dl</li> </ul>	<ul style="list-style-type: none"> <li>Severe anaemia</li> </ul>	<ul style="list-style-type: none"> <li>Refer her to the MO at FRU for further management.</li> <li>Advise her to have a hospital delivery.</li> </ul>
E1	<ul style="list-style-type: none"> <li>Puffiness of the face, generalised body oedema</li> </ul>	<ul style="list-style-type: none"> <li>Check protein in urine.</li> <li>Check BP.</li> </ul> <p>If BP &gt;140/90 mmHg on 2 readings and proteinuria absent</p>	Hypertensive disorder of pregnancy	<ul style="list-style-type: none"> <li>Advise her to reduce workload and to rest.</li> <li>Advise on danger signs.</li> <li>Re-assess at the next antenatal visit or in one week if more than eight months pregnant.</li> <li>If hypertension persists after one week or at next visit, refer to hospital or MO.</li> </ul>
		<p>If diastolic BP is <math>\geq 90</math> mmHg on two readings and 2+ proteinuria</p>	Pre-eclampsia	<ul style="list-style-type: none"> <li>Refer to hospital.</li> <li>Revise birth plan.</li> </ul>
E2	<ul style="list-style-type: none"> <li>Puffiness of the face, generalised body oedema</li> <li>Severe headache</li> <li>Blurred vision</li> <li>Epigastric pain</li> <li>Reduced urine output</li> </ul>	<p>If diastolic BP is <math>\geq 110</math> mmHg and 3+ proteinuria</p>	Severe pre-eclampsia	<ul style="list-style-type: none"> <li>Give Inj Magsulf, 5 g (10 ml), deep IM, in each buttock.</li> <li>Refer urgently to hospital.</li> </ul>
F	Increased frequency of urination up to 10–12 weeks of pregnancy		<ul style="list-style-type: none"> <li>May be physiological due to pressure of the gravid uterus on the urinary bladder.</li> </ul>	<ul style="list-style-type: none"> <li>Re-assure her that it will be relieved on its own.</li> </ul>

G	Increased frequency of urination after 12 weeks, or persistent symptoms, or burning on urination	<ul style="list-style-type: none"> <li>• Tenderness may be present at the sides of the abdomen and back.</li> <li>• Body temperature may be raised.</li> </ul>	<ul style="list-style-type: none"> <li>• UTI</li> </ul>	<ul style="list-style-type: none"> <li>• Refer the woman to the MO at the PHC.</li> </ul>
H	Constipation		<ul style="list-style-type: none"> <li>• Physiological</li> </ul>	<ul style="list-style-type: none"> <li>• Advise the woman to take more fluids, leafy vegetables and a fibre rich diet.</li> <li>• If not relieved, give her Isabgol (2 tablespoons to be taken at bedtime, with water or milk).</li> <li>• Do NOT prescribe strong laxatives as they may start uterine contractions.</li> </ul>
I	Pain in the abdomen	<ul style="list-style-type: none"> <li>• Fainting</li> <li>• Retropubic/suprapubic pain</li> </ul>	<ul style="list-style-type: none"> <li>• Ectopic pregnancy</li> <li>• UTI</li> </ul>	<ul style="list-style-type: none"> <li>• Refer the woman to the MO at the FRU.</li> </ul>
J	Bleeding P/V, before 20 weeks of gestation	<ul style="list-style-type: none"> <li>• Check the pulse and BP to assess for shock.</li> <li>• Ask for history of violence.</li> </ul>	<ul style="list-style-type: none"> <li>• Threatened abortion/spontaneous abortion/hydatidiform mole/ectopic pregnancy</li> <li>• Spontaneous abortion due to violence</li> </ul>	<ul style="list-style-type: none"> <li>• If the woman is bleeding and the retained products of conception can be seen coming out from the vagina, remove them with your finger.</li> <li>• Start IV fluids.</li> <li>• Refer her to the MO of a 24-hour PHC/FRU.</li> <li>• Put her in touch with local support groups.</li> <li>• Do NOT carry out a vaginal examination under any circumstances.</li> </ul>
K	Bleeding P/V, after 20 weeks of gestation	<ul style="list-style-type: none"> <li>• Check the pulse and BP to assess for shock.</li> </ul>	<ul style="list-style-type: none"> <li>• Antepartum haemorrhage</li> </ul>	
L	Fever	<ul style="list-style-type: none"> <li>• Body temperature is raised</li> <li>• Peripheral smear for malarial parasite +ve</li> </ul>	<ul style="list-style-type: none"> <li>• Site of infection somewhere, including possible sepsis</li> <li>• Malaria</li> </ul>	<ul style="list-style-type: none"> <li>• Refer her to the MO at 24 hour PHC/FRU.</li> <li>• If malaria is diagnosed, refer her to the PHC for management of malaria according to the NVBDCP guidelines.</li> </ul>
M	Decreased or absent foetal movements	<ul style="list-style-type: none"> <li>• FHS heard, and is within the normal range of 120–160/minute.</li> </ul>	<ul style="list-style-type: none"> <li>• Baby is Normal.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-assure the woman.</li> <li>• Repeat FHS after 15 minutes.</li> <li>• If the FHS is still out of the normal range, refer her to the MO at 24 hour PHC/FRU.</li> </ul>
		<ul style="list-style-type: none"> <li>• FHS heard, but the rate is &lt;120/minute or &gt;160/minute</li> </ul>	<ul style="list-style-type: none"> <li>• Foetal distress</li> </ul>	<ul style="list-style-type: none"> <li>• Inform the woman and her family that the baby might not be well.</li> <li>• Refer her to the MO at 24 hour PHC/FRU.</li> </ul>
		<ul style="list-style-type: none"> <li>• FHS not heard</li> </ul>	<ul style="list-style-type: none"> <li>• Intrauterine foetal death</li> </ul>	
N	Abnormal vaginal discharge, with or without abdominal pain	<ul style="list-style-type: none"> <li>• Vaginal discharge with or without odour</li> </ul>	<ul style="list-style-type: none"> <li>• RTI/STI</li> </ul>	<ul style="list-style-type: none"> <li>• Refer the woman to the MO.</li> <li>• Advise her on vaginal hygiene, i.e. cleaning the external genitalia with soap and water.</li> </ul>
O	<ul style="list-style-type: none"> <li>• Leaking of watery fluids P/V</li> </ul>	<ul style="list-style-type: none"> <li>• Wet pads/cloths</li> </ul>	PROM	<ul style="list-style-type: none"> <li>• Refer the woman to the MO at FRU.</li> </ul>

FRU: first referral unit; NVBDCP: National Vector Borne Disease Control Programme; FHS: foetal heart sound; BP: blood pressure; UTI: urinary tract infection; RTI: reproductive tract infection; STI: sexually transmitted infection; PROM: premature rupture of membranes; P/V: per vaginam

# Care During Labour and Delivery—Intra-partum Care

## KEY MESSAGES

### *Mother*

- Let the woman choose the position she desires and feels comfortable during labour.
- Maintain a partograph which will help you recognise the need for action at the appropriate time and thus ensure timely referral.
- Ensure active management of the third stage of labour, thereby preventing post-partum haemorrhage (PPH).

### *Newborn*

- Maintain airway and breathing.
- Maintain body temperature and prevent hypothermia.
- Initiate breastfeeding within the first hour of birth.
- Recognise danger signs and make timely and appropriate referrals.

## Introduction

Normal labour is a spontaneous process of expulsion of the foetus and placenta. However it is important to remember that during the intra partum period the woman and the baby go through physical as well as mental trauma. You, as an SBA, have the responsibility of providing the necessary care for the management of labour as well as emotional support, and must ensure a successful outcome for the mother and the baby.

## Assessment, Supportive Care and Vaginal Examination during Labour

### Assessment

Assessment consists of the following components:

- Inquire about the woman's history of labour, asking the following questions:
  - ◆ When did the contractions begin?
  - ◆ How frequent are the contractions? How strong are they?
  - ◆ Has there been any watery discharge? If so, what colour was it?
  - ◆ Has there been any bleeding? If so, how much?
  - ◆ Is the baby moving?
  - ◆ Are there any other complaints?
- Check the woman's record for history of the present pregnancy, e.g. the haemoglobin status, TT immunisation, Rh status, any complications and any other significant history. If there is no record, then ask the following:
  - ◆ When was the LMP/what is the period of amenorrhea? On this basis, determine the EDD.
  - ◆ Ask for the history of any past pregnancy.
  - ◆ Any other significant history.

- Conduct general physical examinations, record the temperature, pulse, blood pressure and weight, and check for pallor, oedema, and so on.  
*(Refer Checklist 1.1 and 1.2 in SBA Handbook).*
- Conduct an abdominal examination to assess the foetal lie and presentation, FHR, and frequency and duration of contractions.  
*(Refer Checklist 1.3 in Handbook).*
- Conduct a P/V examination to decide the stage of labour (as mentioned later in this section).

### Supportive care

- Encourage and re-assure the woman that things are going well.
- Maintain and respect the privacy of the woman during examination and discussion.
- Explain all examinations and procedures to be carried out on the woman, seek her permission before conducting them and discuss the findings with her.
- Encourage the woman to bath or wash herself and her genitals at the onset of labour.
- Make sure that the birthing area is clean, so as to prevent infection.
- See to it that the room where the delivery is to take place is warm and draught-free, and the temperature is between 25°C and 28°C.
- Encourage the woman to empty her bladder frequently. Remind her to pass urine every two hours or so.
- The presence of a second person or a birth companion of the woman's choice, in addition to an SBA, is beneficial. However, the number of birth companions should be limited to one. Birth companions provide comfort, emotional support, re-assurance, encouragement and praise. At a practical level too, the presence of a second person is valuable. Additional assistance may be required at any time during the labour or in the event of an emergency. The companion can be useful even if it is only to go and seek help.
- The woman should be allowed to remain mobile during the first stage of labour as this helps to make the labour shorter and less painful.
- The woman should be free to choose any position she wishes to and feels comfortable during labour and the delivery. She may choose the left lateral, squatting, kneeling, or even standing (supported by the birth companion) position. Remember, given a choice, the woman will often change positions as no position is comfortable for a long period of time.
- Encourage the birth companion to help relieve the woman's pain by:
  - ◆ Massaging her back
  - ◆ Holding her hand
  - ◆ Sponging her face between contractions.
- There are certain other non-pharmacological methods of relieving pain during labour, like:
  - ◆ Speaking to woman in calm, soothing and gentle voice.
  - ◆ Praise the woman and offer her encouragement and re-assurance.
  - ◆ Practising relaxation techniques, such as deep breathing exercises, is beneficial.
  - ◆ Placing a cool cloth on the woman's forehead is soothing.
  - ◆ Assisting the woman in voiding urine and changing her position will make her more comfortable.

- Women who are not likely to require general anaesthesia, can (if they wish) have light, easily digestible, low-fat food during labour. This is because labour requires large amounts of energy. In the case of women who have not eaten for some time or who are undernourished, the effects of labour can quickly lead to physiological exhaustion, dehydration and ketosis (maternal acidosis), which can result in foetal distress. Therefore, encourage the woman to eat and drink as she wishes throughout labour.
- An enema should **not** be routinely given during labour. It should be given only if there is an indication, e.g. if the woman complains of constipation on admission or at the onset of labour. *Please remember that a soap and water enema should never be given.*  
(Practise conducting assessment of woman in labour - Checklist No 2.1 in SBA Handbook)

### Vaginal examination

During a vaginal examination, determine the following:

- Pelvic adequacy*
- Progress of labour*
- Stage of labour*

#### Remember

- Vaginal examinations are rarely required during pregnancy.
- During labour, vaginal examination should not be attempted more than once every four hours (to avoid unnecessary infection).
- **Do not carry out a vaginal examination if the woman is bleeding at the time of labour or at any time during pregnancy. Manage this as a case of 'vaginal bleeding in pregnancy' [refer to Module 2].**
- Do not start a vaginal examination during a contraction.

#### Steps for doing a P/V examination:

- *Do not* shave the perineal area.
- Explain to the woman what is being done and always ask for her consent before doing a vaginal examination.
- Ask the woman to pass urine.
- Wash your hands with soap and water before and after each examination. Carry out the vaginal examination under strict aseptic conditions.
- Place the woman in the supine position with her legs flexed and apart.
- Perform the vaginal examination very gently, wearing clean/sterile gloves.
- Clean the vulva and perineal area with a mild antiseptic solution. Wipe the vulva first, then labia majora and lastly labia minora with cotton swabs from the anterior to the posterior direction. Use a swab only once. Use separate swabs for each side.
- Separate the labia with the thumb and forefinger of the left hand and clean the area once again.
- Use two fingers of the right hand (index and middle fingers) and insert them gently into the vaginal orifice without hurting the woman.

### A. Pelvic adequacy

- Pelvic assessment is important in the case of both primigravidas and multigravidas, who have a past history of prolonged or difficult labour, which could be associated with Cephalopelvic Disproportion (CPD).
- In a normal pelvis:
  - ◆ The sacral promontory is not reached.
  - ◆ The sacrum is well curved.
  - ◆ The ischial spines are not prominent and both ischial spines cannot be felt by the finger inserted, at the same time.

### B. Determining progress of labour—cervical effacement and cervical dilatation in centimeters

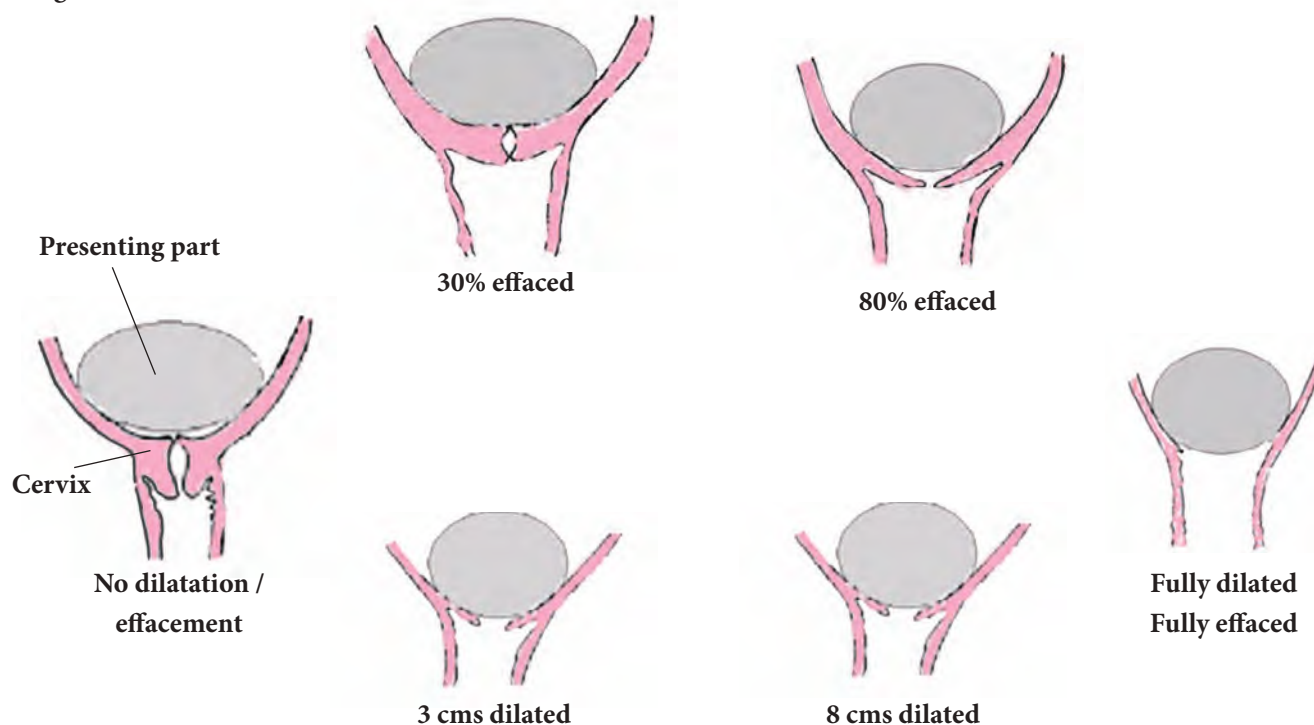
Assessing cervical effacement and dilatation during a vaginal examination is important to monitor the progress of labour.

- Cervical effacement: This is progressive shortening and thinning of the cervix during labour.
- Cervical dilatation: This is an increase in the diameter of the cervical opening in centimeters (distance in centimeters between the outer aspects of both examining fingers.) A fully dilated cervix has an opening of 10 cm—at this stage, the cervix is no longer felt on vaginal examination.

Normal effacement and dilatation will facilitate expulsion of the foetus in the second stage of labour.

*(Practise vaginal examination to decide the stage of labour and pelvic assessment - Checklist No. 2.2 in SBA Handbook)*

**Figure 5: Cervical effacement and dilation**



- **True labour pain versus false labour pain:** True labour pain has the following features and can be clearly differentiated from false labour pain:

### Box 9: True Vs False labour pain

True labour pain	False labour pain
● Begins irregularly but becomes regular and predictable	● Begins irregularly and remains irregular
● Felt first in the lower back and sweeps around to the abdomen in a wave pattern.	● Felt first abdominally and remains confined to the abdomen and groin
● Continues no matter what the woman's level of activity	● Often disappears with ambulation or sleep
● Increases in duration, frequency and intensity with the passage of time	● Does not increase in duration, frequency or intensity with the passage of time
● Accompanied by 'show' (blood-stained mucus discharge)	● Show absent
● Achieves cervical effacement and cervical dilatation	● Does not achieve cervical effacement and cervical dilatation

### C. Deciding the stages of labour

#### Box 10: Stages of labour

<b>First stage</b>	This is the period from the onset of labour pain to the full dilatation of the cervix, i.e. to 10 cm. This stage takes about 12 hours in primigravidas and 6–8 hours for multigravidas. It is divided into the latent and active stages. <ul style="list-style-type: none"> <li>● Latent stage (not in active labour): <ul style="list-style-type: none"> <li>◆ Cervix is dilated &lt;4 cm</li> <li>◆ Contractions weak (less than 2 contractions in 10 minutes)</li> </ul> </li> <li>● Active stage: Cervix is dilated ≥4 cm</li> </ul>
<b>Second stage</b>	This is the period from full dilatation of the cervix to the delivery of the baby. This stage takes about two hours for primigravidas and about half an hour for multigravidas.
<b>Third stage</b>	This is the period from after delivery of the baby to delivery of the placenta. This stage takes about 15 minutes to half an hour, irrespective of whether the woman is a primigravida or multigravida.
<b>Fourth stage</b>	This is the first two hours after the delivery of the placenta. This is a critical period as PPH, a potentially fatal complication, is likely to occur during this stage.

## Monitoring and managing the stages of labour

### First stage of labour

Oxytocic drugs for inducing/accelerating labour should not be administered before delivery as their use is associated with a high incidence of rupture of the uterus.

#### Box 11: Monitoring and managing first stages of labour

Monitoring	Action/Management
Latent stage, i.e. not in active labour	
<b>Monitor the following every one hour:</b> <ul style="list-style-type: none"> <li>● Contractions: <ul style="list-style-type: none"> <li>◆ Frequency—how many contractions in 10 minutes</li> <li>◆ Duration—for how many seconds each contraction lasts.</li> </ul> </li> <li>● FHR: Normal FHR is between 120 and 160 beats/minute</li> <li>● Presence of any sign of an emergency (difficulty in breathing, shock, vaginal bleeding, convulsions or unconsciousness)</li> </ul>	<ul style="list-style-type: none"> <li>● Record time of rupture of membranes and colour of amniotic fluid.</li> <li>● Never leave the woman alone.</li> <li>● Allow her to remain mobile.</li> <li>● Let her choose the position in which she is comfortable.</li> <li>● If after eight hours, the contractions are stronger and more frequent but there is no progress in cervical dilatation, with or without rupture of the membranes, it indicates non-progress of labour. Refer the woman urgently to an FRU.</li> </ul>
<b>Monitor the following every four hours:</b> <ul style="list-style-type: none"> <li>● Cervical dilatation (in cm)</li> <li>● Temperature</li> <li>● Pulse</li> <li>● Blood pressure</li> </ul>	<ul style="list-style-type: none"> <li>● If after eight hours, there is no increase in intensity/frequency/duration of contractions, the membranes are not ruptured and there is no progress in cervical dilatation, ask the woman to relax. Advise her to come/send for you again when the pain/discomfort increases, and/or there is vaginal bleeding, and/or the membranes rupture.</li> </ul>



## Active stage

### **Monitor the following every 30 minutes:**

- Maternal pulse
- Contractions—frequency and duration
- FHR
- Presence of signs such as meconium blood-stained amniotic fluid, prolapsed cord.

### **Monitor the following every four hours:**

- Cervical dilatation (in cm) by P/V
- Temperature
- Blood pressure

- Never leave the woman alone.
- **Start maintaining a partograph when the woman reaches active labour.**
- Re-assess the woman and consider criteria for referral.
- Call a senior person, if available. Alert emergency transport services.
- Encourage the woman to empty her bladder.
- Ensure adequate hydration but omit solid foods.
- Encourage her to maintain an upright position and walk, if she wishes.
- Monitor intensively, using the partograph. Refer immediately if there is no progress.

## **Partograph**

The partograph is a graphic recording of the progress of labour and the condition of the mother and foetus. It is a tool which helps assess the need for action and recognises the need for referral at the appropriate time. This facilitates timely referral to save the life of the mother and foetus.

Follow the instructions below carefully while filling the partograph:

**Identification data**—Note down the woman's name and age, parity, date and time of admission, registration number and time of rupture of the membranes.

### **Foetal condition**

- Count the FHR every half an hour.
  - ◆ Count the FHR for one full minute.
  - ◆ The rate should be preferably counted immediately after a uterine contraction.
  - ◆ If the FHR is below 120 beats per minute or above 160 beats per minute, it indicates foetal distress. Manage as indicated later under 'Foetal Distress'.
  - ◆ Remember that each of the small boxes in the vertical column of the partograph represents a half-hour interval.
- Note the condition of the membranes and observe the colour of the amniotic fluid as visible at the vulva every half an hour.
  - ◆ Record in the partograph as follows:
    - Membranes intact (mark 'I')
    - Membranes ruptured:
      - Clear liquor (mark 'C')
      - Meconium-stained liquor (mark 'M')

### **Labour**

- Begin plotting on the partograph only when active labour starts. Active labour starts when the cervical dilatation is 4 cm or more and the woman is having at least two good contractions every 10 minutes.
- Record the cervical dilatation in centimeters *every four hours*.
- In this phase, cervical dilatation progresses by approximately 1 cm per hour and is often quicker in multigravidae.

- Plot the first recording of cervical dilatation on the Alert line. Write the time accordingly in the corresponding row for time. After four hours, conduct a vaginal examination and plot the cervical dilatation in centimeters on the graph.
- If the Alert line is crossed (the plotting moves to the right of the Alert line), it indicates prolonged/obstructed labour and you should be alert that something is abnormal with the labour.
- Note the time when the Alert line is crossed. The woman needs to be referred urgently to the FRU. Please remember to send the partograph along.
- Crossing of the Action line (the plotting moves to the right of the Action line) indicates the need for intervention. There is a difference of four hours between the Alert line and the Action line. By the time the Action line is crossed, the woman should ideally have reached the FRU for the appropriate intervention. **Refer as soon as Alert line is crossed and do not wait for referral till the Action line is crossed.**
- Chart the contractions every half an hour; count the number of contractions over 10 minutes and note their duration in seconds. Record the number of good uterine contractions (lasting more than 20 seconds) in 10 minutes every half an hour and accordingly, blacken the boxes on the partograph.

#### **Maternal condition**

- Record the maternal pulse on the graph every half an hour and mark with a dot (·).
- Record the woman's blood pressure on the graph every four hours, using a vertical arrow (↕) with the upper end of the arrow signifying the systolic blood pressure and the lower end indicating the diastolic blood pressure.
- Record the temperature every four hours and note it on the temperature graph.

#### **Interventions**

- Mention any drug that has been administered during labour, including the dosage, route and time of administration. Also include the food items and liquids consumed by the woman during labour.

#### **Box 12: Indications for referral to the FRU on the basis of the partograph**

- If the FHR is <120 beats/minute or >160 beats/minute
- If there is meconium- and/or blood-stained amniotic fluid
- When the cervical dilatation plotting crosses the Alert line (moves towards the right side of the Alert line)
- If the contractions do not increase in duration, intensity and frequency.
- If the maternal vital signs, i.e. the **pulse** (more than 100/min), **BP** (>140/90 mmHg) and **temperature** (>38° C), cross the normal limits.

*(A simplified version of the partograph is provided below for your reference.)*

*(Practise Management of First Stage of Labour - Checklist No 2.3 and Case studies 1–3 in SBA Handbook)*

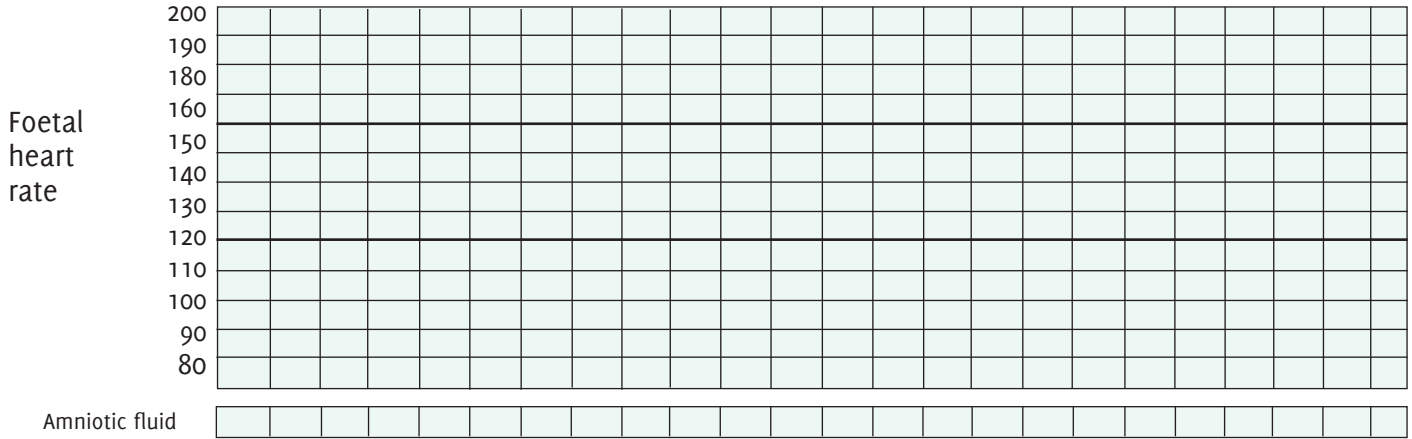
# THE SIMPLIFIED PARTOGRAPH

## IDENTIFICATION DATA

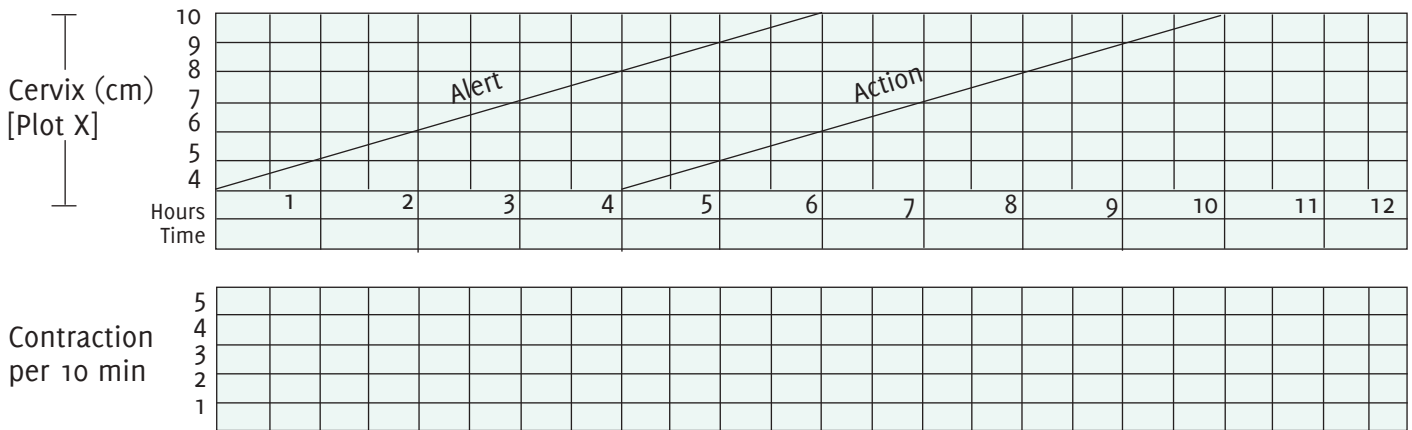
Name: \_\_\_\_\_ W/o: \_\_\_\_\_ Age: \_\_\_\_\_ Parity: \_\_\_\_\_ Reg. No: \_\_\_\_\_

Date & Time of Admission: \_\_\_\_\_ Date & Time of ROM: \_\_\_\_\_

### A) Foetal Condition



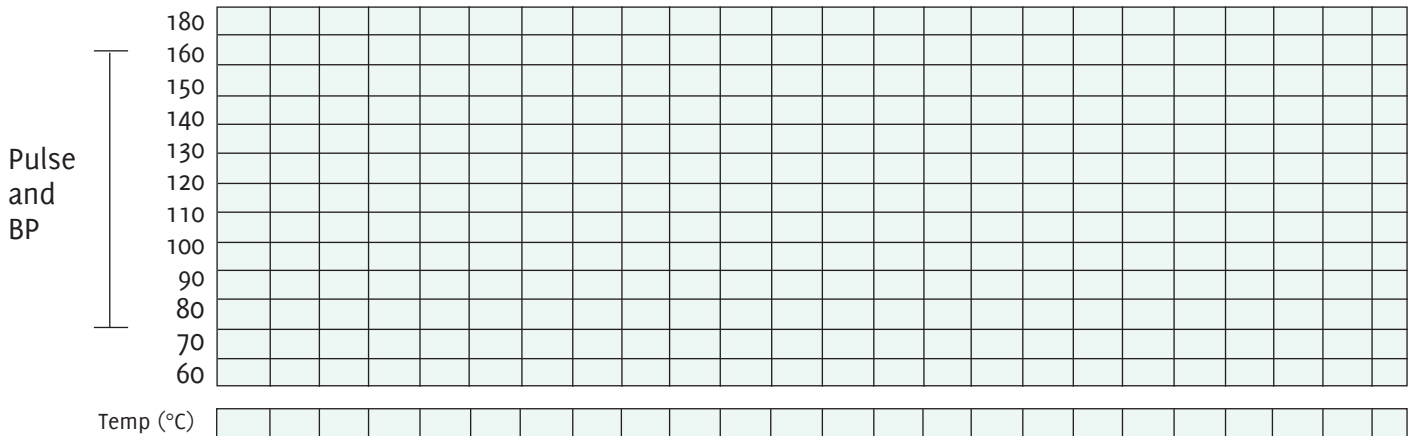
### B) Labour



### C) Interventions

Drugs and IV fluids given \_\_\_\_\_

### D) Maternal Condition



## Second stage of labour

The second stage of labour begins when the cervix is fully dilated and ends with the expulsion of the foetus. When the woman reaches this stage, she should be transferred to the labour room if she is in another room. She should not be allowed to walk during this stage.

- The following are the signs of imminent delivery:
  - ◆ Vulval gaping
  - ◆ Thinned-out and bulging perineum
  - ◆ Anal pouting
  - ◆ Visibility of the baby's head at the vulva.
- Usually, the above signs of imminent delivery appear within two hours of full dilatation of the cervix in primigravidas and one hour in multigravidas.
- Monitor the frequency and duration of the contractions every half an hour. Count the number of contractions occurring every 10 minutes and their duration in seconds, and also monitor the FHR every five minutes. Be vigilant regarding the presence of any emergency signs, such as shock, difficulty in breathing, vaginal bleeding, convulsions and unconsciousness.
- During delivery, positions such as standing, squatting and being on all fours make pushing easier. Therefore, if the woman finds it difficult to push, or there is slow descent of the presenting part, you should help her to change her position.

√	<ul style="list-style-type: none"><li>● When the cervix is fully dilated, during a contraction, encourage the woman to take deep breaths and push down.</li></ul>
×	<ul style="list-style-type: none"><li>● Bearing down efforts are not required until the head has descended into the perineum. Therefore, the woman should be advised not to push actively until the foetal head is distending the perineum.</li><li>● Occasionally, the woman may feel the urge to push before the cervix is fully dilated. This must be discouraged as it can result in oedema of the cervix, which may delay the progress of labour.</li><li>● Do not apply fundal pressure on the abdomen to facilitate expulsion of the baby.</li></ul>

### Delivery of the head

Take the following precautions to ensure that the delivery of the head is a controlled one:

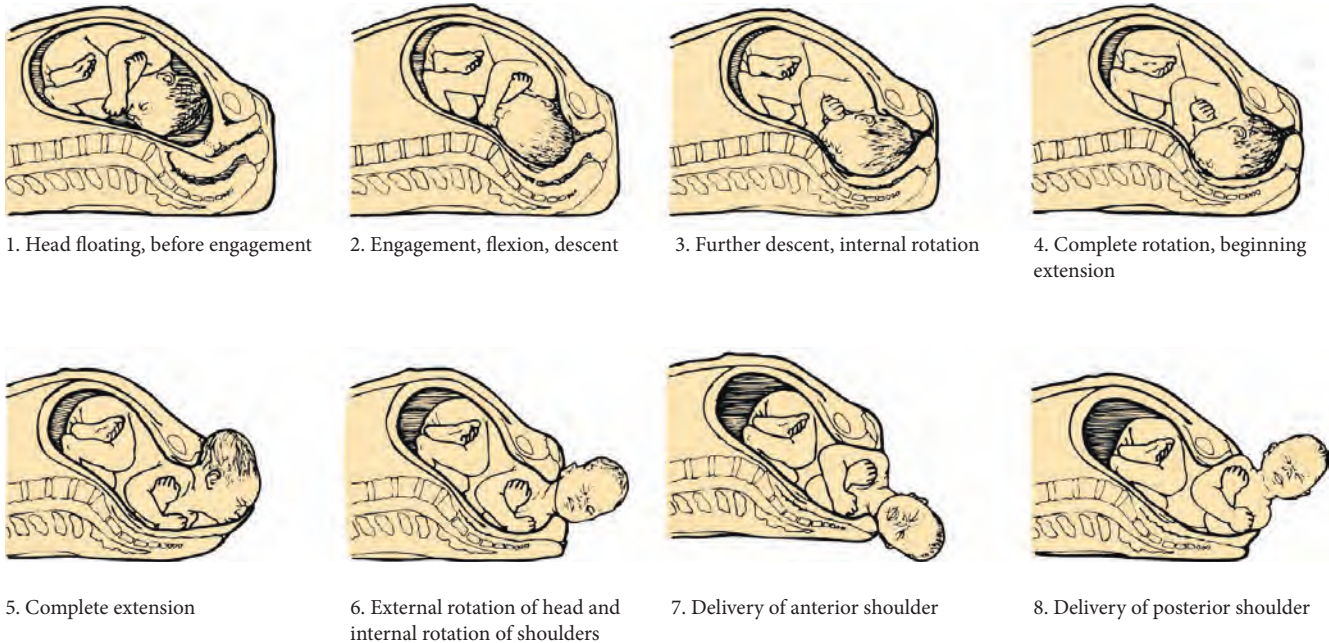
- Keep one hand gently on the head as it advances with the contractions.
- Support the perineum with the other hand and cover the anus with a pad held in position by the side of the hand
- Ask the mother to take deep breaths and to bear down only during a contraction.
- Once the head is out, use gauze to gently wipe the mucus off the baby's face.
- Feel gently around the baby's neck for the presence of the umbilical cord, check:
  - ◆ If the cord is present and is loose around the neck, deliver the baby through the loop of the cord, or slip the cord over the baby's head.
  - ◆ If the cord is tight around the neck, place two clamps on the cord and cut between the clamps, and then unwind it from around the neck.

### Delivery of the shoulders and the rest of the baby

- Wait for spontaneous rotation and delivery of the shoulders. This usually happens within 1–2 minutes.
- Apply gentle pressure downwards to deliver the top (anterior) shoulder.

- Then lift the baby up, towards the mother's abdomen, to deliver the lower (posterior) shoulder.
- The rest of the baby's body follows smoothly.

**Figure 6: Delivery of head and shoulders: Fetal head movements during labour (left occiput anterior position)**



- Note the time of birth and put identification tag on the baby.
- Place the baby on the mother's abdomen. (If the baby is not delivered onto the mother's abdomen, make sure there is a warm towel or cloth to receive the baby.)
- Look for meconium. If there is none, proceed to dry the baby with a warm towel or piece of clean cloth. (Do not wipe off the white greasy substance covering the baby's body. This substance, called vernix, helps to protect the baby's skin.)
- After drying, the wet towels or clothes should be replaced and the baby is loosely wrapped in a clean, dry and warm towel. If the baby remains wet, it leads to heat loss.
- Wipe both the eyes (separately) with sterile gauze.
- If meconium is present and the baby is not crying, apply suction to the mouth and then the nose.
- To assess the baby's breathing:
  - ◆ *If the baby is breathing well and the chest is rising regularly, between 30–60 times a minute, provide routine care.*
  - ◆ *If the baby is not breathing or is gasping, call for help. The steps of resuscitation (as described at the end of this chapter) need to be carried out immediately. Anticipate the need for resuscitation, especially if the woman has a history of eclampsia, bleeding, prolonged/obstructed labour or pre-term birth.*

Clamp the cord when cord pulsation stops. It normally takes about 1–3 minutes for the cord to stop pulsating. Put clean thread ties tightly around the cord at approximately 2–3 cm from

the baby's abdomen and cut between the ties with a sterile, clean blade. If there is oozing, place a second tie between the baby's skin and the first tie. Cutting the cord after an interval of 1–3 minutes, helps to avoid neonatal anaemia, as it results in transfusion of an increased amount of blood into the foetal circulation.

Leave the baby between the mother's breasts to start skin-to-skin care. Cover the baby's head with a cloth. Cover the mother and the baby with a warm cloth.

*(Practise Management of Second Stage of Labour - Checklist No. 2.4 in SBA Handbook)*

## Third stage of labour

### Active Management of the Third Stage of Labour (AMTSL)

AMTSL is recommended for all deliveries and consists of the following three activities:

1. **Uterotonic drug**— Inj. Oxytocin is the drug of choice for all health facilities (including SC), whereas Tab. Misoprostol is to be used when adequate refrigeration of Injection Oxytocin is not possible during high temperature. Tab. Misoprostol can also be used for home delivery or any OR delivery.
2. **Controlled cord traction.**
3. **Uterine massage.**

#### 1) Uterotonic drug

An uterotonic drug enhances contraction of the uterine muscles, thereby facilitating expulsion of the placenta and diminishing bleeding. This helps to prevent PPH. An uterotonic drug should be given after the delivery. *Rule out the presence of another baby before giving the uterotonic drug.*

- Oxytocin is the drug of choice for AMTSL at the SC/PHC/FRU/health facility. It should be kept at a temperature 4–8°C but should not be frozen. It should ideally be stored in a refrigerator.
- Administer 10 units of oxytocin injection (intramuscular) to the mother if the delivery has taken place at the SC/PHC/FRU/health facility *or* give her a Tablet Misoprostol tablet (600 mcg) orally if the mother has been delivered at home and Injection Oxytocin is not available due to the problems of high ambient temperatures and unavailability of a refrigerator.
- You can also use it at the SC/PHC in case an Oxytocin injection is not available or if there are problems related to refrigeration. Inform the woman that shivering and gastrointestinal disturbances are common side-effects of Misoprostol, and should not be a cause for worry.

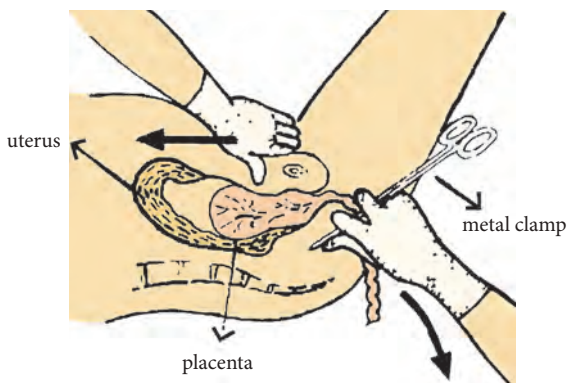
#### 2) Controlled Cord Traction (CCT)

CCT is a technique that assists in the expulsion of the placenta, and helps to reduce the chances of a retained placenta and subsequent bleeding, i.e. PPH.

- Clamp the maternal end of the umbilical cord close to the perineum with a pair of artery forceps.
- Hold the clamped end of the cord with one hand.
- Place the other hand on the mother's abdomen to feel the uterine contraction.
- Maintain slight tension on the cord.

- When the uterus contracts, as will be evidenced by the uterus becoming hard and globular, gently pull downwards on the cord to deliver the placenta. Simultaneously, place one hand just above the pubic symphysis to apply counter-traction (pressure in the opposite/upward direction towards the umbilicus) on the uterine fundus.
- If the placenta does not descend within 30–40 seconds of CCT, do *not* continue to pull on the cord.
- Wait for the uterus to contract strongly again and repeat CCT with counter-traction. Do *not* exert excessive traction on the cord while performing CCT. Do not repeat the manoeuvre more than once.
- As the placenta delivers, hold it with both hands to prevent tearing of the membranes. Normally, the placenta delivers within five minutes of the birth of the baby if the third stage of labour is managed actively.
- If the membranes do not slip out spontaneously, gently turn the placenta so that the membranes are twisted into a rope and move them up and down to assist separation. If pulled at, the thin membranes can tear off and get retained in the uterus.
- If the membranes tear, use your fingers or a pair of sponge forceps to remove any pieces

Figure 7: Controlled cord traction



- of membrane that might be present.
- **Remember, you should never apply cord traction (pull) without a contraction and without applying counter traction (push) above the pubic symphysis with the other hand.**
- Ensure that the placenta is delivered completely with all the membranes. Retained placental fragments or pieces of membrane will cause PPH. This can be suspected if a portion of the maternal surface of the placenta is missing or the membranes with their vessels are torn.
- If the placenta is not delivered after 30 minutes of inj. Oxytocin or Tablet Misoprostol, refer the woman to an FRU. Information on the drugs given, the dosage and time of administration on the referral slip, should also be sent along with the woman.

Figure 8: Examination of the placenta



### Examination of the placenta, membranes and the umbilical cord

Examine the placenta and the membranes for completeness as follows:

- Maternal surface of the placenta:
  - ◆ Hold the placenta in the palms of the hands, keeping the palms flat and the maternal surface facing you. Look for the following:
    - All the lobules (15–20) must be present.
    - The lobules should fit together.
    - There should be no irregularities in the margins.
  - ◆ If any of the lobes are missing or the lobules do not fit together, suspect that some placental fragments may have been left behind in the uterus.

- *Foetal surface*
  - ◆ Hold the umbilical cord in one hand and let the placenta and membranes hang down like an inverted umbrella.
  - ◆ The umbilical vessels will be seen passing from the cord and gradually fading into the edge of the placenta.
  - ◆ Look for free-ending vessels and holes which may indicate that a lobule has been left behind in the uterus.
  - ◆ Look for the insertion of the cord, particularly the velamentous insertion (the point where the cord is inserted into the membranes and from where it travels to the placenta).
  
- *Membranes*
  - ◆ Both the layers (chorion and amnion) can be seen at the edge of the hole where the membranes rupture and the foetus comes out.
  - ◆ If the membranes are ragged, place them together and make sure that they are complete.
  
- *Umbilical cord*
  - ◆ Normally, the umbilical cord has two arteries and one vein. If only one artery is found, look for congenital malformations in the baby.

### 3) Uterine massage

This technique helps in contraction of the uterus and thus prevents PPH.

- Immediately after delivery of the placenta, massage the fundus of the uterus through the woman's abdomen until it is well contracted. Repeat the uterine massage every 15 minutes for the first two hours.
- Ensure that the uterus does not become relaxed (soft) after you stop the uterine massage. If the uterus remains soft and flabby, the woman may be suffering from Atonic PPH. Manage as per the steps given for management of Atonic PPH in Module 2.

*(Practise Conducting AMTSL - Checklist No. 2.5 in SBA Handbook)*

### Fourth stage of labour

The first two hours after the delivery of the placenta are referred to as the fourth stage of labour. This stage comprises both observation and care of the mother and newborn. The mother and her newborn should not be separated, unless required.

#### Care of the mother

- After the delivery of the placenta, check to see if the uterus is well contracted (i.e. it is hard and round) and ascertain that there is no heavy bleeding. Repeat the check every 15 minutes.
- If the uterus is not well contracted and there is bleeding, massage the uterus and expel the clots. If the bleeding continues, manage as indicated under '*Management of post-partum haemorrhage*'.
- Examine the perineum, lower vagina and vulva for tears. If present, manage as indicated under '*Management of vaginal and perineal tears*', Module 2.
- Clean the woman and the area beneath her. Put a sanitary pad or a folded cloth under her buttocks to collect the blood. Counting the number of pads/cloths soaked will help in estimating the amount of blood lost.



- Estimate the amount of blood loss throughout the third stage of labour and immediately afterwards. If the bleeding has stopped, observe the woman for the next 24 hours. If bleeding has not stopped, then manage as post-partum haemorrhage, as per steps given in module II.
- Check the following every 15 minutes for the first two hours:
  - ◆ General condition, blood pressure and pulse
  - ◆ Vaginal bleeding
  - ◆ Uterus, to make sure that it is well contracted.
- Dispose of the placenta in the correct, safe and culturally appropriate manner. Use gloves while handling the placenta. Put the placenta into a leak-proof bag containing bleach. Incinerate the placenta or bury it at least 10 metres away from a source of water in a pit that is 2 metres deep.
- Counsel the mother to breastfeed, including colostrum feeding, within an hour of the birth. Ask her to take warm fluids, eat well, take adequate rest, sleep and maintain hygiene. The latter would include maintaining perineal hygiene, taking a bath every day and washing her hands before handling the baby.
- Encourage the woman to pass urine. If the woman has difficulty in passing urine, or the bladder is full (as evidenced by a swelling over the lower abdomen just above the symphysis pubis) and she is uncomfortable, help her pass urine by gently pouring warm water over her vulva.
- Ask the birth companion to stay with the mother and not leave her and the newborn alone. Ask the companion to call for help if any of the following conditions occur:
  - ◆ Excessive bleeding per vaginum
  - ◆ Dizziness, severe headache, visual disturbance or epigastric pain
  - ◆ Convulsions
  - ◆ Increased pain in the perineum
  - ◆ Urinary incontinence or inability to pass urine.

### Care of the newborn

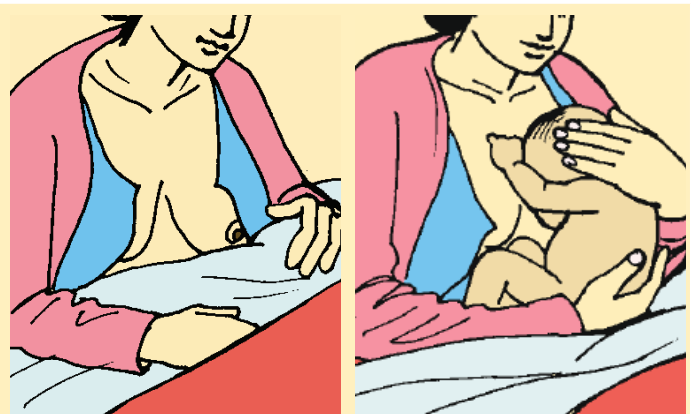
- Place an identity label with the mother's name and any other identification information as may be required on the baby's wrist or ankle, if not done earlier.
- Give the baby a vitamin K injection 1.0 mg, intra muscular to all newborns weighing 1500 gms and above and in a dose of 0.5 mg to newborns weighing less than 1500 gm. As per the current provision SNs/LHVs are permitted to administer Injectable drugs like Vitamin K to new born.
  - ◆ The site for the injection is the quadriceps muscle group of the upper, outer thigh by Sterile 1-inch needle of the smallest size, available.
  - ◆ Vitamin K is needed for prevention of hemorrhagic disease of new born. Babies have very little vitamin K in their bodies at birth. Vitamin K does not cross the placenta into the developing baby, and the gut does not have any bacteria to make vitamin K before birth. There is very little vitamin K in breast milk and it takes several weeks before the normal gut bacteria start making it.
- Examine the baby quickly for malformations or any birth injury. If there is major malformation or severe birth injury, refer the baby to the newborn unit in the FRU. Ensure that the baby is warm during the examination and when being transported.

- Check the baby's colour and breathing every five minutes.
- If the baby becomes cyanotic (bluish) or is having difficulty in breathing (less than 30 or more than 60 breaths per minute), make initial attempts at resuscitation. If this does not help, a referral to the MO at the FRU is necessary.
- Check if the baby is warm, by feeling his/her feet every 15 minutes.
  - ◆ If the baby's feet feel cold, check the axillary temperature.
  - ◆ If the baby's temperature is below 36.5°C, provide warmth to the baby by placing him/her under a radiant warmer.
  - ◆ Teach the mother to provide skin-to-skin contact, a component of Kangaroo Mother Care (KMC).
  - ◆ Two components of KMC are skin-to-skin contact and exclusive breastfeeding.

**Figure 9: How to provide KMC**

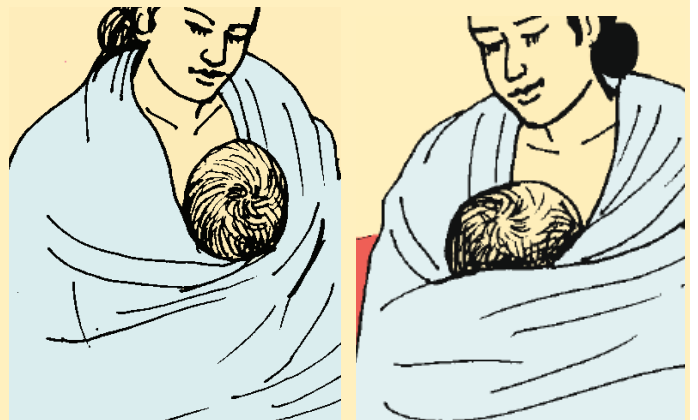
**Provide privacy to the mother.**

- Request the mother to sit or recline comfortably.
- Undress the baby gently. However, keep the cap, nappy and socks on.
- Place the baby prone on the mother's chest in an upright and extended posture, between her breasts, in skin-to-skin contact. Turn the baby's head to one side to keep the airway clear.
- Cover the baby with the mother's blouse, 'pallu' or gown. Wrap both baby and mother with a blanket or shawl.
- Ask the mother to breastfeed the baby frequently.
- If possible, warm the room with a heating device.
- If the mother is not available, skin-to-skin contact may be provided by the father or any other adult.



**When skin-to-skin contact is not possible:**

- Keep the room warm with a home heating device.
- Clothe the baby in 1–2 layers (summer).
- Clothe the baby in 3–4 layers (winter) and cover the head, hands and feet with a cap, gloves and socks, respectively.
- Let the baby and mother lie together on soft, thick bedding.
- Cover the baby and the mother with an additional quilt, blanket or shawl in cold weather.



- Check the cord for bleeding every 15 minutes.
  - ◆ If the cord is bleeding, re-tie it more tightly.
  - ◆ Do not apply any substance to the stump.
  - ◆ Leave the stump uncovered and dry.
- Wipe off any meconium or blood from the baby's skin.
- Encourage breastfeeding within an hour of birth.
  - ◆ Emphasise the importance of colostrum, which helps to protect the baby against infections.
  - ◆ Check if the baby's position and his/her attachment to the breast are correct at the first feed.

- ◆ The baby can feed whether the mother is lying down or sitting. What is important is that both mother and baby should be comfortable.
- ◆ Do not give artificial teats or pre-lacteal feeds, such as sugar water or local foods, or even water to the newborn.
- Weigh all babies before they leave the delivery room.
- Delay the baby's first bath to beyond 24 hours of birth.
- Ensure that the baby is dressed warmly and is with the mother.
- Watch for complications such as convulsions, coma and feeding problems. Refer the baby if these are present.

*(Practise Care of the Mother and Newborn - Checklist No. 2.6 in SBA Handbook)*

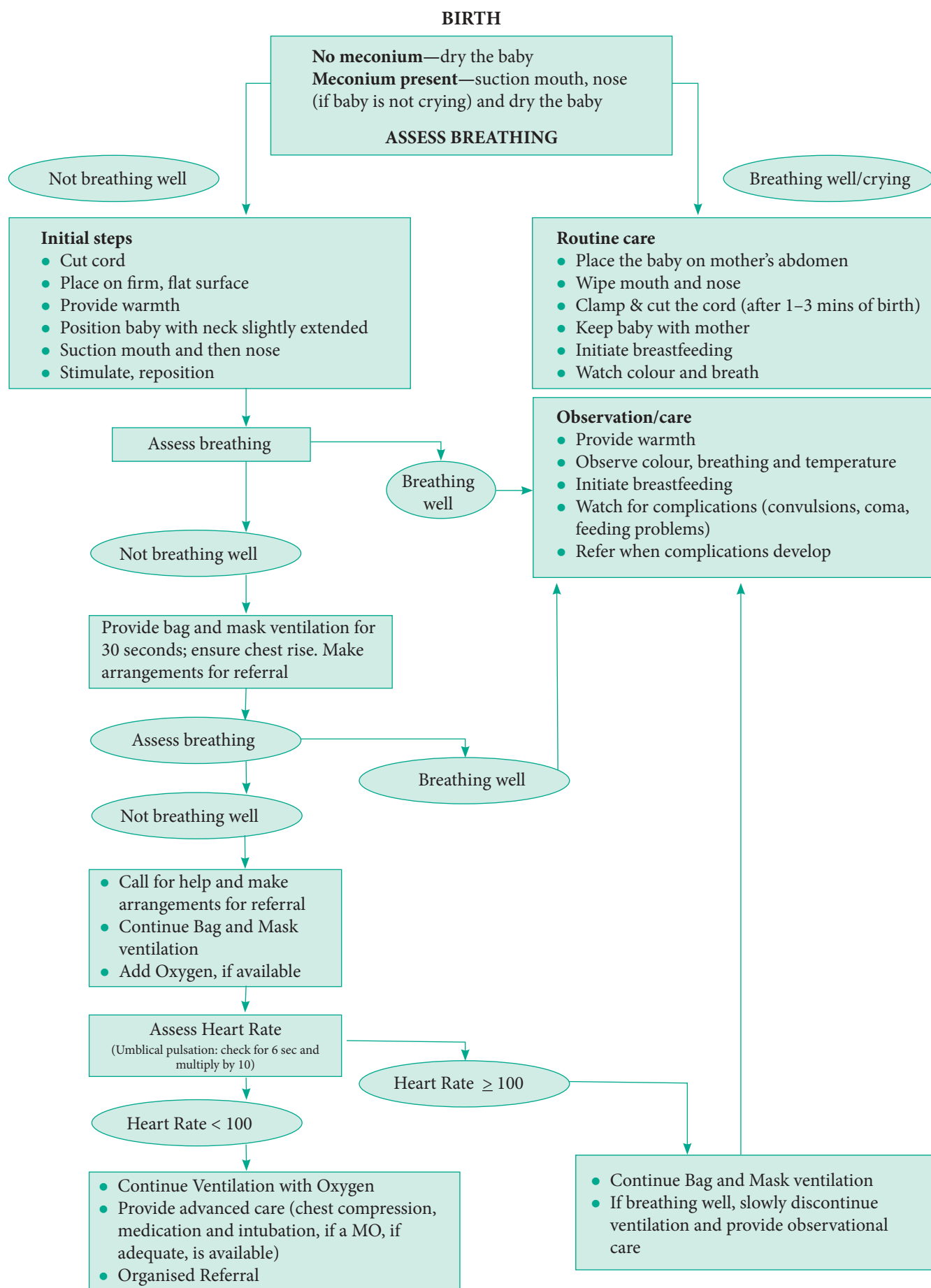
### **Newborn Resuscitation**

- Approximately 10% of newborns require some assistance to begin breathing at birth; about 1% need extensive resuscitative measures to survive.
- It is not possible to predict which babies will require resuscitation. It is, therefore, important to be prepared to resuscitate every newborn.
- Resuscitation must be anticipated at each birth. Up to half of newborns who require resuscitation have no identifiable risk factors before birth. An increased risk of breathing problems may occur in babies who are:
  - ◆ Pre-term
  - ◆ Born after a long traumatic labour
  - ◆ Born to mothers who received sedation during the late stages of labour
- Babies who are not breathing or are gasping need resuscitation.
- If the baby needs resuscitation, initiate all the initial steps in the flowchart below within a few seconds.

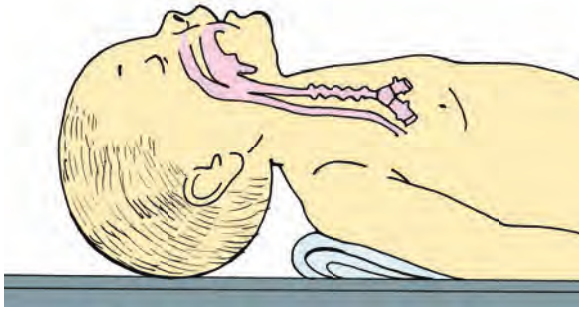
### **Box 13: Equipment used for resuscitation**

Bag and mask equipment	Self-inflating bag (volume 250–500 ml); face masks, size 0 and 1 (cushioned-rim masks preferred)
Suction equipment	Mucus extractor/mechanical suction and tubing
Miscellaneous	Radiant warmer Firm, padded resuscitation surface Warm linen Clock with a seconds hand Oxygen source with flowmeter (if available) Gloves Shoulder roll Cord tie/clamp Sterile blade/scissors

## Newborn Resuscitation



**Figure 10: Correct position of the head for ventilation**



### Steps of resuscitation

**1. Provide warmth.** Dry and shift the baby to a newborn corner, and place him/her under a radiant warmer. The baby should not be covered with a blanket or towels.

**2. Position the baby.** Place the baby on its back. Position the head by slightly extending the neck in the sniffing position. Care should be taken to prevent hyperextension or flexion of the neck. To help maintain the correct position, you may place a towel or a rolled blanket under the baby's shoulders.

### 3. Clear airway

- Suction the mouth first and then the nose, using the mucus extractor/mechanical suction and tubing.
- If mechanical suction is used, gently introduce the suction tube 5 cm into the baby's mouth, until the 5-cm mark is at the baby's lips.
- Use suction while withdrawing the tube.
- Next, introduce the suction tube 1–2 cm into each nostril.
- Use suction while withdrawing the tube and until there is no mucus.

### 4. Dry, stimulate to breathe and reposition

- Often, positioning the baby and suctioning will provide enough stimulation to initiate breathing. Drying will also provide stimulation. Wet towels should be discarded and fresh pre-warmed towels should be used for continued drying and stimulation.
- Forms of stimulation that are safe and appropriate and provide additional tactile stimulation include:
  - ◆ Flicking the soles of the feet
  - ◆ Gently rubbing the newborn's back, trunk or extremities.

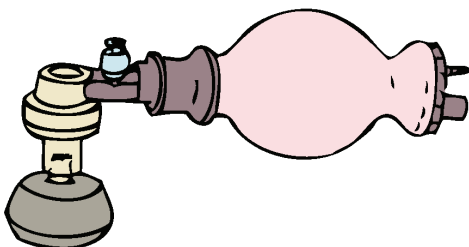
*If there is still no breathing and you have the resuscitation equipment, start ventilation.*

### 5. Ventilation

Check the following before beginning ventilation:

- Select a mask of the appropriate size. It should cover the mouth, nose and tip of the chin, but not the eyes.
- Be sure there is a clear airway.
- Position the baby's head.
- Position yourself at the bedside, beside the baby's head, to use a resuscitation device effectively. This position leaves the chest and abdomen unobstructed for visual monitoring of the baby.

**Figure 11: Self-inflating bag**



- Use a self-inflating resuscitation bag (Ambu bag). Check the bag before use.
- Use oxygen with an oxygen reservoir (if available) to increase oxygen delivery to the baby.

### Positioning the bag and mask on the face

The mask is held on the face with the thumb, index and/or middle finger, which should encircle much of the rim of the mask, while the ring and fifth fingers bring the chin forward to maintain a patent airway.

An airtight seal between the rim of the mask and the face is essential to achieve the ventilation (positive pressure) required to inflate the lungs. Look for the presence of chest rise with each ventilation.

### Frequency of squeezing the bag

During the initial stages of resuscitation, breaths should be delivered at a rate of 40–60 breaths per minute. To help maintain this rate, try saying to yourself:

Squeeze----- Two----- Three----- Squeeze

If you squeeze the bag and release while you say, ‘Two, three,’ you will probably find you are ventilating at a proper rate.

If the chest does not expand adequately, it may be due to one or more of the following reasons:

- The seal is inadequate—re-apply the mask to the face and try to form a better seal.
- The airway is blocked—correct the baby’s position and clear any secretions present from the mouth and nose.
- Not enough pressure is being given—you may be squeezing the bag with inadequate pressure. Increase the pressure by squeezing adequately.

### 6. Assess breathing

Assess breathing again after 30 seconds. If the baby is breathing well, provide observational care, such as providing warmth. Record the baby’s breathing and temperature and watch for complications (convulsions, coma, breathing problems).

If the baby is not breathing well, call for help, continue to use the bag and mask, and start using oxygen if it has not been started earlier and is available.

*Assess heart rate:*

- Feel the pulse in the umbilical cord or listen to the heart beat with a stethoscope while you stop ventilation for 6 seconds.
- Feel the pulse in the umbilical cord where it is attached to the baby’s abdomen.
- If no pulse can be felt in the cord, you or your helper must listen over the left side of the chest with the stethoscope and count the heart beat.

To count the heart rate, count the number of beats in 6 seconds and multiply this by 10. This can provide a quick estimate of the beats per minute (e.g. if you count 8 beats in 6 seconds,

Figure 12: Correctly positioning the mask on the face

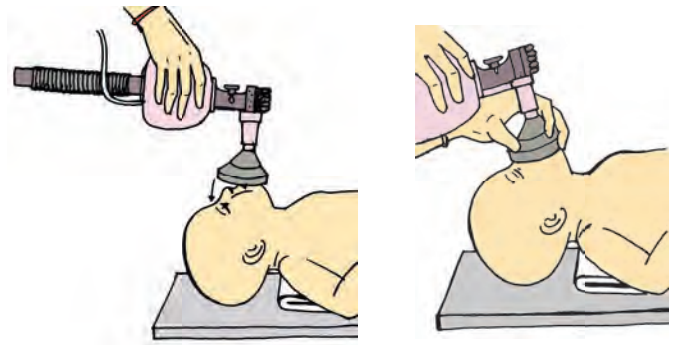



Figure 13: Ventilation with bag and mask



the baby's heart rate is 80 beats per minute). A heart rate of above 100 beats is normal, while one less than 100 beats per minute is slow.

If the heart rate is 100 or more per minute, continue ventilation and assess breathing. If the baby is breathing well, slowly discontinue ventilation and provide observational care. If the heart rate is less than 100 per minute, or if the baby is not breathing well after continued ventilation, a referral is necessary. A newborn will benefit from transfer only if it is properly ventilated and kept warm during transport.

	<p><b>Resuscitation practices that are not effective or are harmful</b> These include:</p> <ul style="list-style-type: none"> <li>● Routine aspiration (suction) of the baby's stomach at birth</li> <li>● Postural drainage</li> <li>● Squeezing the chest to remove secretions from the airway</li> <li>● Routinely giving sodium bicarbonate to newborns</li> </ul>
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*(Practise Conducting Resuscitation of Newborn - Checklist No. 2.7 in SBA Handbook)*

## Preparing for discharge (Annexure VII)

The following should be kept in mind before the baby is discharged. The box below also lists certain danger signs which require the baby or mother to return for care immediately.

### Box 14: Discharge of the mother and the baby

Baby	Mother
<p>Ensure that the baby is warm, breathing normally, and accepting and retaining breast milk, and that the cord is clean.</p> <p>The baby should receive:</p> <ul style="list-style-type: none"> <li>● BCG</li> <li>● OPV – 0</li> <li>● Hepatitis B – 0</li> </ul> <p>vaccinations preferably before discharge from the health facility. A record of these vaccinations should be entered in the baby's card.</p>	<p>Ensure that the uterus is hard and is not bleeding.</p> <p>Counsel the mother about:</p> <ul style="list-style-type: none"> <li>● Diet and rest</li> <li>● Exclusive breastfeeding</li> <li>● Need to take iron tablets</li> <li>● Family planning</li> <li>● Hygiene to prevent infection of mother and her baby</li> <li>● Avoiding sexual intercourse till perineal wound heals</li> <li>● When to return for follow-up</li> <li>● Complete immunisation of baby</li> </ul>
<p><b>Danger signs—return immediately:</b></p> <ul style="list-style-type: none"> <li>● If baby is breastfeeding poorly</li> <li>● If baby develops fever or feels cold to the touch</li> <li>● Breathes fast</li> <li>● Has difficulty in breathing</li> <li>● Has blood in the stool</li> <li>● If the palms and soles are yellow</li> <li>● Has convulsions</li> </ul>	<p><b>Danger signs—return immediately</b></p> <ul style="list-style-type: none"> <li>● Increase in vaginal bleeding</li> <li>● Convulsions</li> <li>● Fast or difficult breathing</li> <li>● If mother has fever and is too weak to get out of bed</li> <li>● Severe abdominal pain</li> <li>● Swollen, red or tender breasts</li> <li>● Dribbling of urine or inability to pass urine</li> <li>● Pain in the perineum or draining pus</li> <li>● Foul smelling lochia</li> </ul>

# Care after Delivery—Post-partum Care

## KEY MESSAGES

### *Mother*

- Make at least four post-partum visits to ensure that complications during the post-partum period are recognised in time.
- Look out for symptoms and signs of PPH and puerperal sepsis during post-partum visits as they are the major causes of maternal mortality.
- Advise the mother on colostrum feeding and exclusive breastfeeding.
- Advise the couple on family planning.

### *Newborn*

- Keep the baby warm.
- Ensure care of the umbilicus, skin and eyes.
- Ensure good suckling while breastfeeding.
- Screen the newborn for danger signs.
- Advise the mother and family members on immunisation.

Conventionally, the first 42 days (six weeks) after delivery are considered the post-partum period. The first 48 hours of the post-partum period, followed by the first one week, are the most crucial period for the health and survival both of the mother and her newborn. Most of the fatal and near-fatal maternal and neonatal complications occur during this period. Evidence has shown that more than 60% of maternal deaths take place during the post-partum period.

## Post-partum visits

### Number and timing of post-partum visits by ANM/ASHA

#### Box 15: Post-partum visits

Visits	After home delivery/ delivery at SC	After delivery at PHC/FRU (woman discharged after 48 hours)
First visit	1st day (within 24 hours)	Not applicable
Second visit	3 <sup>rd</sup> day after delivery	3 <sup>rd</sup> day after delivery
Third visit*	7 <sup>th</sup> day after delivery	7 <sup>th</sup> day after delivery
Fourth visit	6 weeks after delivery	6 weeks after delivery

- There should be three additional visits in the case of babies with low birth weight, on days 14, 21 and 28 (as per the Integrated Management of Neonatal and Childhood Illness [IMNCI] guidelines).
- The first 48 hours after delivery are the most critical in the entire post-partum period. Most of the major complications of the post-partum period, such as PPH and eclampsia,



which can lead to maternal death, occur during this period. Hence, a woman who has just delivered needs to be closely monitored during the first 48 hours. It is your duty to inform the woman about the importance of staying at the health facility where she has delivered for at least 48 hours, so that proper care is provided to her. You must emphasise that monitoring is essential for her and the baby.

If you have not been involved in conducting the delivery, you should go and pay a visit to the mother during the first 24 hours after delivery or as soon as the woman reaches her home from the health facility. Ask her for the Mother and Child Protection Card and or discharge/delivery card (if delivered at an institution). The card will have all the antenatal and delivery details if she has visited a health facility for antenatal check-ups and her delivery. Take her history and conduct a quick examination, as described below. If the woman has delivered at home, find out who attended the delivery and ask the birth attendant about the delivery. If the birth attendant is not an SBA (for example, she might be a relative of the woman or a TBA), and is staying with the woman during the initial post-partum period, explain to her the possible complications that could arise, the symptoms and signs to look for, and the necessary action to be taken, including referral.

- The next most critical period is the first week following the delivery. A considerable number of complications can occur during this period, both for the mother as well as the baby. Hence, visits have to be made to the mother and the baby on the 3rd and 7th days after delivery.

### **First visit for mother**

#### **A. History-taking**

This is especially important if you were not present for the delivery. Review the events at labour and birth to identify any risk factor or events during the birth that may be important in the management of the mother and the baby. Ask the following:

1. Where did the delivery take place?
2. Who conducted the delivery?
3. Is there a history of :
  - a. any complications during the delivery?
  - b. bleeding P/V (how many pads or pieces of cloth are getting soaked with blood)
  - c. convulsions or loss of consciousness
  - a. pain in the legs
  - d. abdominal pain
  - e. fever
  - f. dribbling or retention of urine
  - g. any breast tenderness, etc.
4. Has the mother started breastfeeding the baby?
5. Has she started her regular diet?
6. Are there any other complaints?

#### **B. Examination**

1. Check the woman's pulse, blood pressure, temperature and respiratory rate.
2. Check for the presence of pallor.

3. Conduct an abdominal examination. Normally, the uterus will be well contracted, i.e. hard and round. If it is soft and uterine tenderness is present, then refer the woman to the FRU.
4. Examine the vulva and perineum for the presence of any tear, swelling or discharge of pus. If any of these is present, refer the woman to the FRU.
5. Examine the pad for bleeding to assess if the bleeding is heavy, and also see if the lochia is healthy and does not smell foul (for puerperal sepsis). If these signs are present, refer the woman to the FRU.
6. Examine the breasts for any lumps or tenderness, check the condition of the nipples and observe breastfeeding. If the woman has any complaints regarding the condition of her breasts, refer her to the MOs at PHC/FRU. (Refer to *Module 2 - Breast conditions*).

### **C. Management/counselling**

Give the woman and her family the following advice:

1. Post-partum care and hygiene
  - ◆ She should have someone near her for the first 24 hours to take care of her and the baby.
  - ◆ She should wash the perineum daily and after passing stools.
  - ◆ The perineal pads must be changed every 4–6 hours or more frequently if there is heavy lochia. This is essential to ensure that the woman does not contract any infection.
  - ◆ Cloth pads should be washed with soap and water and dried in the sun. It is, however, preferable to use sanitary pads, which can be thrown away.
  - ◆ She should bathe daily.
  - ◆ She should take enough rest and sleep.
  - ◆ She should wash her hands before and after handling the baby, especially after cleaning and before feeding the baby.
  - ◆ Rooming in of the mother with the baby is advisable.
  - ◆ Advise the mother on how to look after her newborn, e.g. how to bathe the newborn, maintain warmth and exclusive breastfeeding.
2. Nutrition
  - ◆ She should increase her intake of food and fluids.
  - ◆ Advise her to refrain from observing taboos that exist in the community against nutritionally healthy foods (e.g. the taboo against eating solid food for six days).
  - ◆ Talk to the woman's family members, such as her husband and mother-in-law, to encourage them to ensure that she eats enough and avoids heavy physical work.
3. Contraception
  - ◆ Advise the couple regarding the return of fertility.
  - ◆ Advise the couple on birth spacing or limiting the size of the family.
  - ◆ Advise the couple to abstain from sexual intercourse for about 6 weeks post-partum, or till the perineal wounds heal.

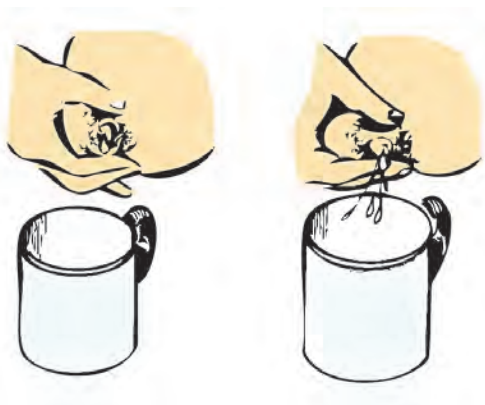
#### 4. Breastfeeding

- ◆ Ask the mother whether breastfeeding was initiated within one hour of the birth. If breastfeeding is still not initiated, then assist her in breastfeeding the baby immediately.
- ◆ Observe breastfeeding and check if there is good attachment and effective suckling.
- ◆ Advise her to feed the baby colostrum.
- ◆ Ask her to breastfeed in a relaxed environment, free from any mental stress.
- ◆ Explain that breast milk is sufficient and the best for the baby. Stress exclusive breastfeeding and demand feeding.
- ◆ She should breastfeed frequently, i.e. at least 6–8 times during the day and 2–3 times during the night. She should not give water or any other liquid to the baby. Emphasise that breast milk is enough in quantity to satisfy the baby's hunger and that the baby does not even require water while on breastfeeds.
- ◆ She should breastfeed from both breasts during a feed. The baby should finish emptying one breast to get the rich hind milk before starting on the second breast.
- ◆ Breastfeeding problems:
  - If the mother is having difficulty breastfeeding, teach her the correct position to ensure good attachment.
  - If the nipples are cracked or sore, she should apply hind breast milk, which has a soothing effect, and ensure correct positioning and attachment of the baby.
  - If she continues to experience discomfort, she should feed expressed breast milk with a clean spoon from a clean bowl.
    - If the breasts are engorged, encourage the mother to let the baby continue to suck without causing too much discomfort to the mother. Putting a warm compress on the breast may help to relieve breast engorgement.
    - If an abscess is suspected in one breast, advise the mother to continue feeding from the other breast and refer her to the FRU.

Figure 14: Expressing breast milk



Massaging the breast



Express breast milk by pressing thumb and other fingers in towards the body

**Pre-lacteal feeds should not be given.**

#### 5. Registration of birth

- ◆ Explain the importance of getting the birth of the baby registered with the local *panchayat*. This is a legal document. The child will require the birth certificate for many purposes in the future, e.g. school admission.

#### 6. IFA supplementation

- ◆ She should take one IFA tablet daily for three months.
- ◆ If she was anaemic prior to the delivery, recheck her Hb level.
- ◆ If Hb < 11g/dl, then advise her to take two IFA tablets daily for three months and if after one month her Hb level hasn't improved, refer her to PHC
- ◆ If Hb is < 7 g/dl refer to FRU.

## 7. Danger signs

- ◆ Counsel the mother to go directly to the FRU without waiting if she notices the following danger signs:
  - Excessive bleeding, i.e. soaking more than 2–3 pads in 20–30 minutes after delivery.
  - Convulsions
  - Fever
  - Severe abdominal pain
  - Difficulty in breathing
  - Foul-smelling lochia

### First visit for baby

#### A. History-taking

This is especially important if you were not present at the delivery. Keep the following in mind and ask the mother/relative taking care of the mother and baby:

1. When did the child pass urine and meconium?
2. Has the mother started breastfeeding the baby and are there any difficulties in breastfeeding?
3. Is there a history of problems such as the following:
  - ◆ The baby has fever.
  - ◆ The baby is not suckling well (could have ulcers or white patches in the mouth—thrush).
  - ◆ The baby has difficulty in breathing.
  - ◆ The umbilical cord is red or swollen, or is discharging pus.
  - ◆ The movements of the newborn are less than normal (normally, newborns move their arms or legs or turn their head several times in a minute).
  - ◆ There is skin infection (pustules)—red spots which contain pus or a big boil.
  - ◆ There are convulsions.
4. Are there any other complaints?
5. If any of the above problems is present, refer the newborn to the FRU. However, there is no need for referral in case of umbilical discharge or if the number of skin pustules is less than 10. Provide home treatment, as detailed in IMNCI guidelines for these problems and refer the baby to the FRU only if there is no improvement after two days.

#### B. Examination

1. Count the respiratory rate for one minute. The normal respiratory rate is 30–60 breaths per minute. If it is less than 30 breaths per minute or more than 60 breaths per minute, refer the baby to the FRU as per the steps for referral set forth in Box 17.  
*(Practise 'How to Count Respiratory Rate' – Checklist No. 3.1 in SBA Handbook)*
2. Look for severe chest indrawing:
  - ◆ Mild chest indrawing is normal in an infant because the chest wall is very soft.
  - ◆ Severe chest indrawing (lower chest wall goes *in* when the infant breathes *in*) is a sign of pneumonia and is serious in an infant.

- ◆ Refer the baby to an FRU as per the steps for referral set forth in Box 17.  
(Practise 'How to Look for Chest Indrawing' – Checklist No. 3.1 in SBA Handbook)
3. Check the baby's colour:
    - ◆ Check for pallor.
    - ◆ Check for jaundice. It is not normal if appears less than 24 hours after birth and the palms and soles are yellow. Refer the baby to an FRU as per the steps for referral detailed in Box 17.  
(Practise 'How to Look for Jaundice' – Checklist No. 3.1 in SBA Handbook)
    - ◆ Check for central cyanosis (blue tongue and lips). This is an abnormality and such cases need to be urgently referred. Follow the steps for referral detailed in Box 17.
  4. Check the baby's body temperature. The temperature can be assessed by recording the axillary temperature or feeling the infant's abdomen or axilla.
    - ◆ If the temperature is less than 36.5° C or above 37.4° C, the newborn needs to be urgently referred to an FRU, as per the steps for referral listed in Box 12.  
(Practise 'How to Check Temperature – Checklist No. 3.1 in SBA Handbook)
  5. Examine the umbilicus for any bleeding, redness or pus. If there is any, provide treatment and refer the baby to an FRU if there is no improvement after two days.
  6. Examine for skin infection:
    - ◆ Red rashes on the skin may be seen 2–3 days after birth. These are normal.
    - ◆ If there are 10 or more pustules (red spots or blisters which contain pus) or a big boil/abscess, refer the newborn to the FRU immediately.
  7. Examine the newborn for cry and activity:
    - ◆ If the newborn is not alert and/or has a poor cry; is lethargic/unconscious; or if the movements are less than normal, he/she needs to be referred to the FRU.
  8. Examine the eyes for discharge. Check if they are red or if the eyelids are swollen. Provide treatment and refer the baby to the FRU if there is no improvement after two days.
  9. Examine for congenital malformations and any birth injury. If there are any, refer the newborn to the FRU.

### **C. Management/counselling**

Give the mother the following advice:

1. She should maintain hygiene while handling the baby.
2. She should delay the baby's first bath to beyond 24 hours after birth.
3. In cool weather, the baby's head and feet should be covered and he/she should be dressed in extra clothing. The baby must be kept warm at all times.
4. She should not apply anything on the cord, and must keep the umbilicus and cord dry.
5. She should observe the baby while breastfeeding and try to ensure proper/good attachment.

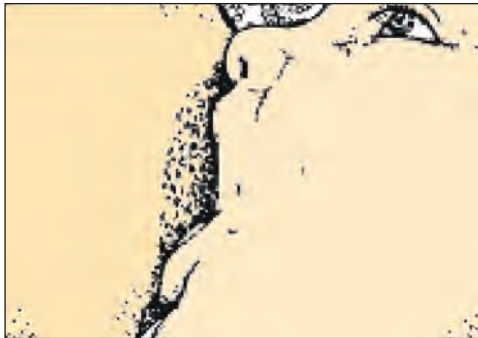
**Good attachment of the baby to the mother's breast:** Ensure that the baby's mouth is attached correctly to the breast.

### Box 16: Signs of good attachment of the baby to the mother's breast

The four signs of good attachment are:

1. Chin touching breast (or very close)
2. Mouth wide open
3. Lower lip turned outward
4. More areola visible above than below the mouth

**Figure 15: A baby well attached to the mother's breast**



**Figure 16: A baby poorly attached to the mother's breast**



- Poor attachment results in the following:
  - ◆ It causes pain and/or damage to the nipples, leading to sore nipples.
  - ◆ The breast does not get completely emptied of milk, resulting in breast engorgement.
  - ◆ The milk supply becomes poor, so that the baby is not satisfied and is irritable after feeding.
  - ◆ The baby does not put on enough weight.
- If the baby is having the following problems, take him/her immediately to the MO at the FRU:
  - ◆ The baby is not breastfeeding.
  - ◆ The baby looks sick (lethargic or irritable).
  - ◆ The baby has fever or feels cold to the touch.
  - ◆ Breathing is fast or difficult.
  - ◆ There is blood in the stools.
  - ◆ The baby looks yellow, pale or bluish.
  - ◆ The baby's body is arched forward.
  - ◆ The movements of the body, limbs or face are irregular.
  - ◆ The umbilicus is red, swollen or draining pus.
  - ◆ The baby has not passed meconium within 24 hours of birth.
  - ◆ There is diarrhoea.
- Counsel the mother on where and when to take the baby for immunisation. (*Annexure 1 – Mother and Child protection card and Immunisation schedule*)  
(*Practise conducting Care of the Mother and Newborn during 1<sup>st</sup> Post-partum Visit – Checklist No. 3.1 in SBA Handbook*)

## **Second and third visits for mother**

### **A. History-taking**

A similar history needs to be taken as during the first visit. Apart from the questions asked during the first visit, also ask the mother the following:

- Is there continued bleeding P/V? This, i.e. post-partum bleeding occurring 24 hours or more after delivery, is known as 'delayed' PPH. (Manage as indicated in 'PPH', Module 2.)
- Is there foul-smelling vaginal discharge? This could be indicative of puerperal sepsis. (Manage as indicated in 'Puerperal sepsis', Module 2.)
- Has there been any fever?
- Is there a history of swelling (engorgement) and/or tenderness of the breast? (Refer to 'Breast conditions' Module 2.)
- Is there any pain or problem while passing urine (dribbling or leaking)?
- Is there fatigue and is she 'not feeling well'?
- Does she feel unhappy or cry easily? This indicates post-partum depression, and usually occurs 4–7 days after delivery. Assure her that everything will be fine and refer her to the MO only if the problem persists.
- Are there any other complaints?

### **B. Examination**

This is similar to the examination conducted during the first visit. It includes the following:

- Check the pulse, blood pressure and temperature.
- Check for pallor.
- Conduct an abdominal examination to see if the uterus is well contracted (hard and round), and to rule out the presence of any uterine tenderness. If there is a problem, refer the woman to the FRU.
- Examine the vulva and perineum for the presence of any swelling or pus. If either of these is present, refer her to the FRU.
- Examine the pad for bleeding and lochia. Assess if it is profuse and whether it is foul-smelling. If so, refer her to the FRU.
- Examine the breasts for the presence of lumps or tenderness. If either is present, then refer her to the FRU.
- Check the condition of the nipples. If they are cracked or sore, manage as described earlier.

### **C. Management/counselling**

#### **● Diet and rest**

- ◆ Inform the mother that during lactation, she needs to eat more than her normal pre-pregnancy diet. This is because she needs to regain her strength during the period of exclusive breastfeeding and also for her baby to derive its full nutritional requirements from breast milk.
- ◆ She should be advised to take foods rich in calories, proteins, iron, vitamins and other micro-nutrients (milk and milk products, such as curd and cottage cheese; green leafy vegetables and other seasonal vegetables; pulses; eggs; meat, including fish and poultry; groundnuts; *ragi*; jaggery; fruits, such as mango, guava, orange, sweet lime and watermelon).

- ◆ The taboos on food imposed by the family and community are usually stronger and greater in number in the post-partum period and during lactation than during pregnancy. These should be enquired into and the mother advised against following them if they are harmful to her and/or her baby.
  - ◆ The mother needs sufficient rest during the post-partum period; to be able to regain her strength. Advise her to refrain from doing any heavy work during the post-partum period, and to focus solely on looking after herself and her baby. Her family members should also be advised to ensure this.
- **Contraception**
    - ◆ Inform the mother that whenever her periods begin again and/or she stops exclusive breastfeeding, she can conceive even after a single act of unprotected sex.
    - ◆ Inform the couple about the various choices of contraceptive methods available and help them choose the method most suitable to them. (Refer to Annexure V— Post-partum family planning.)

## Second and third visits for baby

### A. History-taking

- The same questions should be asked during history-taking as during the first post-partum visit. If any of the problems inquired about is present, refer the baby to the FRU.

### B. Examination

Observe the baby and record the following:

- Whether he/she is sucking well
- If there is difficulty in breathing (fast or slow breathing and chest indrawing).
- If there is fever or the baby is cold to the touch.
- If there is jaundice (yellow palms and soles)
- Whether the cord is swollen or there is discharge from it
- If the baby has diarrhoea with blood in the stool
- If there are convulsions or arching of the baby's body

Refer the baby to the PHC/FRU if any of the above is present.

### C. Management/counselling

In addition to the lines along which counselling was provided during the first visit, counsel the mother on the following:

- She should exclusively breastfeed the baby for six months.
- She should feed the baby on demand.
- She should be encouraged to “room in”.
- Supplementary foods should be introduced at 6 months of age. She can continue breastfeeding simultaneously.

Also talk to the mother about the following:

- *Baby's weight loss*: The baby loses a little weight in the first three days after birth. This is a normal process and the mother should not worry about it. After the third day, the baby starts gaining weight and regains its birth weight by the first week.



- *Hygiene of the baby:* While bathing the baby, special attention should be paid to the head, face, skin flexures, cord and napkin area. These should be dried properly with soft cloth.
- *When and where to seek help in case of signs of illness:* Inform the mother when to seek help and where to go in case the baby shows any signs of illness.
- *Immunisation:* The baby should be immunised as per the Universal Immunisation Programme (see Annexure I.a — Vaccination chart for infants and children).  
(Practise conducting Care of the Mother and Newborn during 2<sup>nd</sup> & 3<sup>rd</sup> Post-partum Visit – Checklist No 3.2 in SBA Handbook)

#### **Fourth visit for mother**

##### **A. History-taking**

Ask the mother the following:

- Has the vaginal bleeding stopped?
- Has her menstrual cycle resumed?
- Is there any foul-smelling vaginal discharge?
- Does she have any pain or problem while passing urine (dribbling or leaking)?
- Does she get easily fatigued and/or 'does not feel well'?
- Is she having any problems with breastfeeding?
- Are there any other complaints?

##### **B. Examination**

This examination includes the following:

- Check the woman's blood pressure.
- Check for pallor.
- Examine the vulva and perineum for the presence of any swelling or pus.
- Examine the breasts for the presence of lumps or tenderness. If either is present, refer her to the MO.

##### **C. Management/counselling**

- Diet and rest:
  - ◆ As in the second and third visits, emphasise the importance of nutrition.
- Contraception:
  - ◆ Emphasise the importance of using contraceptive methods for spacing or limiting the size of the family.

#### **Fourth visit for baby**

##### **A. History-taking**

Ask the mother the following:

- Has the baby received all the vaccines recommended so far?
- Is the baby taking breastfeeds well?
- How much weight has the baby gained?
- Does the baby have any kind of problem?

### **B. Examination**

- Check the weight of the baby.
- Check if the baby is active/lethargic.

### **C. Management/counselling**

- Emphasise the importance of exclusive breastfeeding.
- Tell the mother that if the baby is having any of the following problems, he/she should be taken immediately to the MO at the FRU.
  - ◆ The baby is not accepting breastfeeds.
  - ◆ He/she looks sick (lethargic or irritable).
  - ◆ The baby has fever or feels cold to the touch.
  - ◆ The baby has convulsions.
  - ◆ Breathing is fast or difficult.
  - ◆ There is blood in the stools.
  - ◆ The baby has diarrhoea.
- Counsel the mother on where and when to take the baby for further immunisation.  
*(Practise Post-partum Care - Checklist 3.1 and 3.2 in SBA Handbook)*

### **Box 17: Steps for transfer and referral of the baby**

If the baby needs to be transferred to a 24 hour PHC/FRU, ensure that the transfer is safe and timely. It is important to prepare the baby for the transfer, communicate with the receiving facility and provide care during the transfer.

#### **Preparation**

- Explain to the family the reason for transferring the baby to a higher facility.
- If possible, transfer the mother with the baby so that she can continue to breastfeed or provide expressed breast milk.
- You or another health care worker should accompany the baby.
- Ensure that the baby is not exposed to heat or cold.
- Ask a relative to accompany the baby and mother, if possible.

#### **Communication**

- Fill up a referral form with the baby's essential information and send it with the baby.
- If possible, contact the health care facility in advance so that it can be prepared to receive the baby.

#### **Care during transfer**

- Keep the baby in skin-to-skin contact with the mother. If this is not possible, keep the baby dressed and covered and have the mother/relative accompany you.
- In hot weather, ensure that the baby does not become overheated.
- Ensure that the baby receives breastfeeds. If the baby cannot be breastfed, give expressed breast milk with a clean spoon or from a cup.
- Maintain and clear the airway, if required.
- If the baby is receiving oxygen, check the oxygen flow and tubing every 15 minutes.
- Assess the baby's respiratory rate every 15 minutes. If the baby is not breathing at all, is gasping or has a respiratory rate of less than 30 breaths per minute, resuscitate him/her using a bag and mask.





## Module II

Management of  
Complications during  
Pregnancy, Labour and  
Delivery, and in the  
Post-partum Period



# Management of Complications during Pregnancy, Labour and Delivery, and in the Post-partum Period

## KEY MESSAGES

- Educate the woman, her family and the community regarding the danger signs during pregnancy, labour and delivery and the post-partum period.
- Make local arrangements for transporting the woman to a higher health facility should the need arise.
- Always refer the woman to the appropriate health facility with a referral slip.
- Encourage and prepare the family members to donate blood should the need arise
- Do not carry out a vaginal examination on women who have bleeding during pregnancy beyond 12 weeks.
- Manage PPH by giving intravenous Oxytocin (20 IU) in 500 ml of Ringer Lactate at the rate of 40–60 drops per minute and refer the woman to a higher health facility immediately.
- Unless proven otherwise, assume that all cases of convulsions during pregnancy, labour and the post-partum period are due to eclampsia. Magnesium sulphate injection is the drug of choice for controlling eclamptic fits.

## Vaginal bleeding

Vaginal bleeding can occur during pregnancy, delivery or in the post-partum period.

### Types of vaginal bleeding:

- Early pregnancy (before 20 weeks of pregnancy).
- Late pregnancy (after 20 weeks of pregnancy) or APH
- PPH—blood loss of 500 ml or more following and up to six weeks after delivery
  - ◆ Types of PPH:
    - Immediate PPH/primary PPH—during and within 24 hours of delivery
    - Delayed PPH/secondary PPH—after 24 hours of delivery until six weeks post-partum

### A. Vaginal bleeding in early pregnancy

**This refers to vaginal bleeding before 20 weeks of pregnancy.**

The probable causes could be a threatened or spontaneous abortion, an ectopic pregnancy or a hydatidiform mole. In some cases, it may be a very early pregnancy, and the woman might not even be aware that she is pregnant. On the other hand, the woman might not be pregnant, and the vaginal bleeding might instead be menorrhagia (excessive bleeding during periods).

### Incomplete spontaneous abortion

The following are the signs of incomplete spontaneous abortion:

- There is heavy bleeding and lower abdominal pain.
- There is a history of expulsion of the products of conception (POC).
- Abdominal examination shows the presence of uterine tenderness and the fundal height is less than the period of gestation.

- **Management:**
  - ◆ If retained POC are seen in the vagina, remove them gently with a finger. The procedure must be carried out under aseptic conditions.
  - ◆ If the bleeding does not stop and/or the woman is in shock, establish an intravenous line immediately and give intravenous fluids rapidly.
  - ◆ Send the woman to the MO with a referral slip.

### **Complete abortion**

The following are the signs of complete abortion:

- There is light bleeding or there has been heavy bleeding which has now stopped.
- There is lower abdominal pain.
- There is a history of expulsion of POC.
- Abdominal examination shows a uterus that is softer than normal, and the fundal height is less than the period of gestation.
- **Management:**
  - ◆ Observe the woman for 4–6 hours. Advise her to take rest.
  - ◆ If the bleeding decreases or stops, explain the facts to her, reassure her and advise her to go home after you have checked her vital signs.
  - ◆ Advise her to return to you or the MO if the bleeding recurs.

### **Threatened abortion**

The following are the signs of threatened abortion:

- There is light bleeding.
- The woman complains of lower abdominal pain.
- There is no history of expulsion of POC.
- Abdominal examination shows the uterus to be softer than normal, and the fundal height corresponds to the period of gestation.
- On P/V examination, the cervical os is found to be closed.
- **Management:**
  - ◆ If the bleeding decreases or stops, explain the facts to the woman, reassure her and advise her to go home after you have checked her vital signs.
  - ◆ Advise her to avoid strenuous exercise/work and to avoid sexual intercourse.
  - ◆ Advise her to take bed rest.
  - ◆ Send her to the MO with a referral slip for further advice.

### **Care and advice after an abortion**

The care of a woman who has been through an abortion consists of the following and she should be advised as described below.

*Follow up:* Advise the woman to return for follow up and to go directly to the MO for treatment if:

- There is increased bleeding.
- The bleeding does not decrease even after a week.
- There is foul-smelling vaginal discharge.
- There is abdominal pain.
- She has a fever and feels unwell.
- There is weakness, dizziness or fainting.

**Self-care: The woman must be given advice on self-care**

- Ask her to rest for a few days, especially if she is feeling tired.
- Advise her to use disposable sanitary napkins, if available. If not, then she should change the cloth/pad every 4–6 hours. The cloth should be washed with soap and water and dried in the sun.
- She should wash the perineum daily with soap and water.
- Advise her to avoid sexual intercourse until the bleeding stops.

**Family planning: Give the woman advice on family planning methods**

- Explain to her that she can conceive soon after the abortion if she resumes sexual intercourse, unless she uses a contraceptive.
- Any family planning method can be used after a first-trimester (up to 12 weeks' gestation) abortion.
- If the woman has an infection, the insertion of an IUCD or female sterilisation should be delayed till the infection is treated completely.
- Give advice on the correct and consistent use of condoms if she or her partner is at risk for STI or HIV infection.
- Address her concerns regarding future pregnancy through counselling.

Tell the woman that if, after the abortion, there is a delay of six weeks or more in the resumption of her menstrual cycle, she should go to the MO for an examination and advice

**B. Vaginal bleeding in late pregnancy (APH)**

Vaginal bleeding any time after 20 weeks of pregnancy is called APH. The most serious causes are placenta praevia (placenta lying at or near the cervix), abruptio placentae (detachment of the placenta before the birth of the foetus) or a ruptured uterus. *Any bleeding (light or heavy) at this time of pregnancy is dangerous.*

**Remember**

P/V should not be performed in women who have bleeding during pregnancy beyond 20 weeks. Immediate management of bleeding in late pregnancy:

- Establish an intravenous line and start intravenous fluids (Ringer lactate/normal saline).
- Refer the woman to an FRU which has facilities for blood transfusion.

*(Practise Management of Vaginal Bleeding in Early pregnancy - Case study No. 4 and 5 Checklist No. 4.1 in SBA Handbook)*

**C.1. Bleeding during and within 24 hours of delivery (immediate PPH)**

PPH is defined as the loss of 500 ml or more of blood during or within 24 hours of the birth and up to six weeks after delivery.

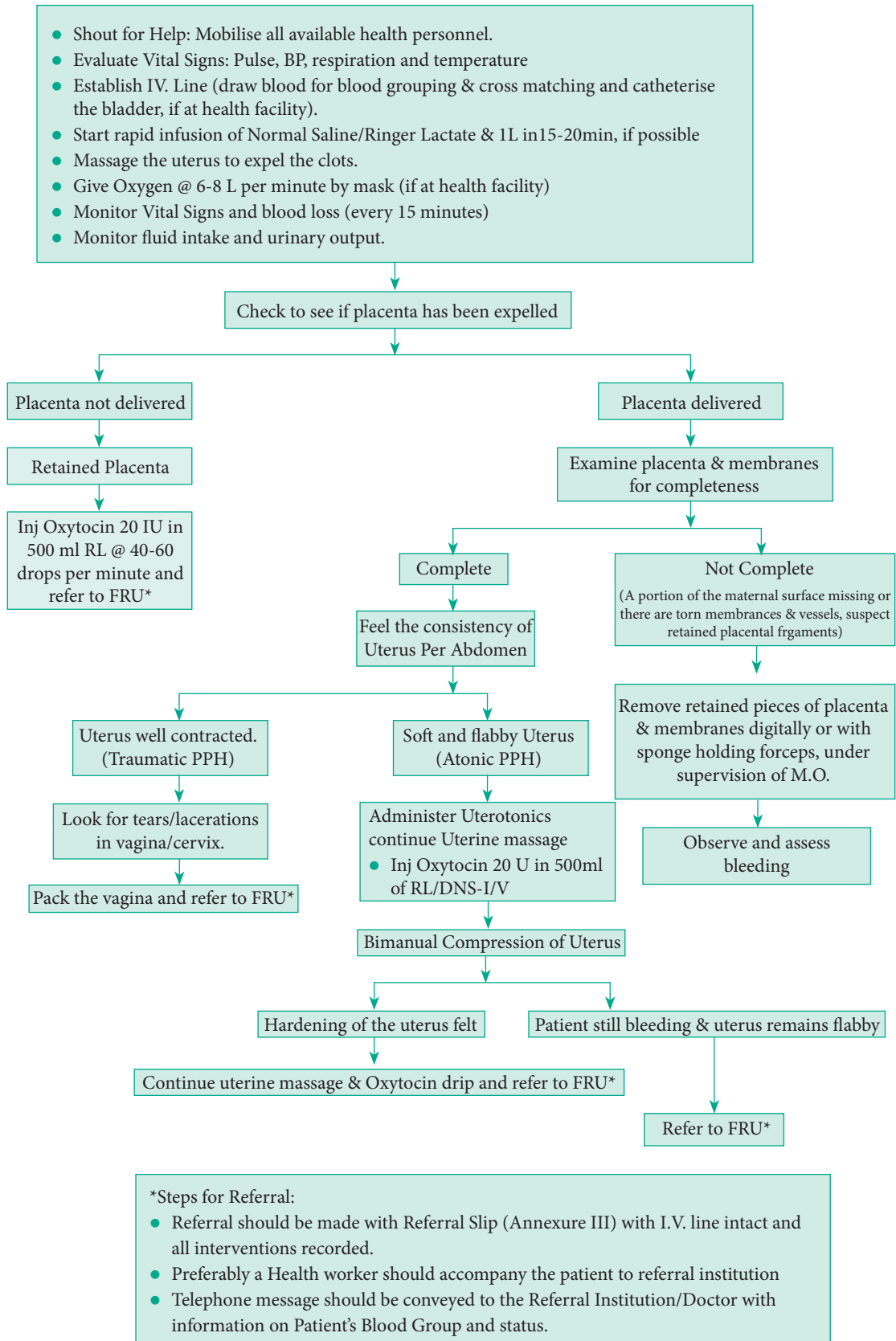
PPH may be immediate or delayed.

- Immediate PPH may be due to a number of causes, such as:
  - ◆ Atonic uterus
  - ◆ Tears in the lower vagina, cervix or perineum
  - ◆ Retained placenta or placental fragments
  - ◆ Inverted or ruptured uterus



The following flowchart gives the method by which the cause of immediate PPH can be diagnosed and managed. You have to ascertain from the records whether oxytocin injection has been given as part of the AMTSL.

### Management of PPH



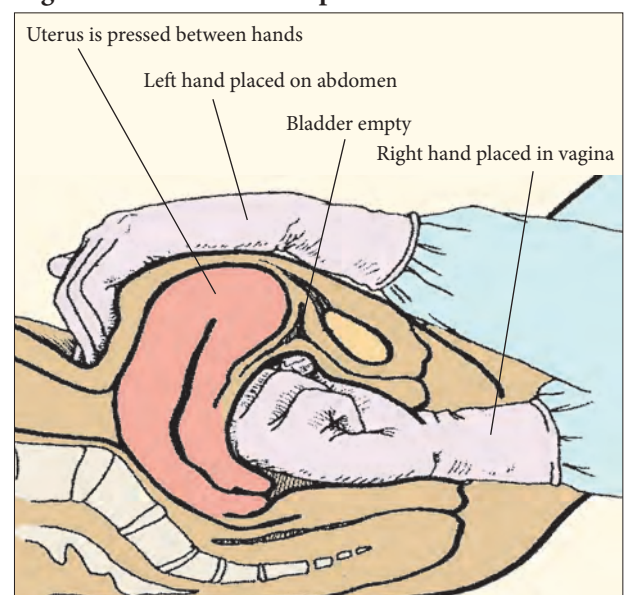
The general steps to be taken for the management of PPH, before referring the woman to an FRU, are as follows.

- Evaluate her general condition and look for signs of shock (cold, clammy skin), check the level of consciousness, pulse (should not be weak or fast, at 110 per minute or more), blood pressure (systolic should not be less than 90 mmHg), respiration (the RR should not be more than 30 breaths per minute) and temperature
- Monitor the vital signs every 15 minutes and estimate the amount of blood loss.
- Try and ascertain the cause of PPH using the flowchart given above.
- Give the woman an Oxytocin injection (10 IU, intramuscular stat). (If she has already received a prophylactic Oxytocin injection or a Misoprostol tablet during AMTSL, this is not required).
- Massage the uterus to expel blood and blood clots. Blood clots trapped in the uterus will inhibit effective contractions.
- Establish an intravenous line and start an intravenous infusion of Ringer Lactate or normal saline. Do not use dextrose solutions unless others are unavailable.
- Add 20 IU of oxytocin to 500 ml of Ringer Lactate/normal saline that is running intravenously at the rate of 40–60 drops per minute. (If an intravenous line cannot be established, give her an intramuscular Oxytocin injection(10 IU) stat).
- If the bleeding persists and the uterus continues to be in the relaxed state (i.e. it is soft), make arrangements for transporting the woman to the FRU, where facilities for blood transfusion and appropriate surgical care are available.
- Do not give the woman anything to eat or drink since she may require an obstetric intervention under anaesthesia.
- If the woman is bleeding heavily, i.e. soaking one pad or cloth in less than five minutes, or if she is in shock, give her fluids rapidly (60 drops per minute) through another drip.
- Raise the foot end of the bed so that her head is lower than her body. This will help increase the flow of blood to the heart.
- Keep the woman warm and covered with a blanket. If she is in shock, she might feel cold even in warm weather.
- Utilise the intervening time to perform bimanual compression.

**Steps of Bimanual compression are:**

- ◆ Use a Foley catheter (preferable)/Plain catheter to catheterise and empty the urinary bladder.
- ◆ Use a pair of sterile gloves.
- ◆ Insert a gloved hand in the vagina and remove any clots from the lower part of the uterus or the cervix.
- ◆ Form a fist and place it in the anterior vaginal fornix and apply pressure against the anterior wall of the uterus.
- Ensure that family members/attendants accompany the woman to the FRU. You should also accompany her, if possible.
- Arrange for two or three donors to donate blood in case a blood transfusion is required. The donors should also accompany the woman during referral.

**Figure 17: Bimanual Compression**



- On the way to the FRU, try and estimate the amount of blood lost (by counting the number of pads soiled).

**Remember that the interval from the onset of PPH to death can be as little as two hours, unless appropriate life-saving steps are taken immediately.**

## C.2. Bleeding 24 hours after delivery (delayed/secondary PPH)

Delayed PPH refers to bleeding which occurs 24 hours after delivery up to six weeks post-partum. It could be due to retained clots or placental fragments, or due to an infection in the uterus.

### Management

- Give an Oxytocin injection (10 IU, intramuscular) stat.
- Start an intravenous infusion: inject 20 IU of Oxytocin into 500 ml of Ringer Lactate/normal saline and administer at the rate of 40–60 drops per minute.
- An infection is suspected if there is fever and/or foul-smelling vaginal discharge. Give the woman the first dose of antibiotics (Ampicillin capsule, 1g orally; Metronidazole tablet, 400mg orally; and a Gentamicin injection, 80mg intramuscular stat).
- Refer the woman to the FRU.  
*(Practise Management of Shock and Vaginal bleeding after delivery – Case study 6 and How to establish an IV line – Checklist 4.7 in SBA handbook)*

## Pregnancy-induced hypertension

PIH includes:

- Hypertension—systolic blood pressure of 140 mmHg or more and/or diastolic blood pressure of 90 mmHg or more, on two consecutive readings taken four hours or more apart
  - Pre-eclampsia—hypertension with proteinuria
  - Eclampsia—hypertension with proteinuria and convulsions
- Measure the woman's blood pressure during every antenatal and postnatal visit. If it is high (more than 140/90 mmHg), check it again after four hours. If the situation is urgent, the blood pressure should be measured after one hour.
  - If the woman has hypertension, check her urine for the presence of proteins. The combination of a raised blood pressure and proteinuria is sufficient to categorise the woman as having pre-eclampsia.
  - Refer the woman to the 24 hour PHC/FRU so that she can receive anti-hypertensive medication. She should be managed at home as per the advice of the MO.
  - Keep in touch with the woman or her family, and undertake appropriate follow up of these cases.

### Box 18: Follow-up care of women with pre-eclampsia

- Advise the woman to come to you for a check-up twice a week regularly.
- Monitor her blood pressure, her urine for the presence of proteins, and the foetal condition.
- Encourage her to take rest.
- Encourage her to take a normal diet. She should not be advised to restrict her intake of salt and fluids.
- Advise her to go for an institutional delivery.
- Inform her family members to take her urgently to the PHC/FRU if there are danger signs such as:
  - Headache (increasing in frequency and duration)
  - Visual disturbances (blurring, double vision, blindness)
  - Oliguria (passing less than 400 ml urine in 24 hours)
  - Upper abdominal pain
  - Oedema, especially of the face, sacrum/lower back
- Women who have a history of hypertension in previous pregnancies have a greater chance of having a raised blood pressure in the present pregnancy also.

*(Practise Management of PIH - Case study No. 7 and Checklist No. 4.3 and 4.8 in SBA Handbook)*

### Convulsions—Eclampsia

Convulsions that occur during pregnancy, delivery or in the post-partum period should be assumed to be due to eclampsia, unless proved otherwise.

Eclampsia is characterised by:

- Convulsions
- High blood pressure (a systolic blood pressure of 140 mmHg or more and/or a diastolic blood pressure of 90 mmHg or more)
- Proteinuria +2 or more.
- Keep in touch with the woman or her family and undertake appropriate follow up of the cases.

If the woman has convulsions, offer supportive care. The initial management of convulsions includes the following:

- Ensure that the airway is clear and she is breathing well
  - ◆ If the woman is unconscious, position her on her left lateral side to reduce the risk of aspiration (vomitus and blood).
  - ◆ Clean the mouth and nostrils by applying gentle suction and remove the secretions.
  - ◆ Remove any visible obstruction or foreign body from her mouth.
- Keep a padded mouth gag between the upper and lower jaw to prevent tongue bite (do not attempt this during a convulsion).
- Administer the first dose of Magnesium Sulphate injection (as described below).
- Keep her in the left lateral position.

### The first dose of Magnesium Sulphate injection:

- Magnesium Sulphate injection has been provided in your kit (Magnesium Sulphate 50% w/v, 1 g in each 2 ml vial).
- A 22-gauge needle and a 10 cc syringe has been provided in your kit.
- Inform the woman, if she is conscious, that she may feel warm during the injection.
- Inject 10 ml (5 g) of Magnesium Sulphate in each buttock (a total of 20 ml (10 g). Ensure that this is given deep intramuscularly because otherwise, an abscess can form at the site of injection.
- After receiving the injection, the woman may have flushing, may feel thirsty, get a headache, feel nauseous or even vomit.
- Do not repeat the dose of Magnesium Sulphate.

- Do not leave the woman alone. The presence of an attendant is mandatory.
- Protect the woman from fall or injury.
- Maintain a record of the vital signs.
- Immediately arrange to refer the woman to an FRU and ensure that she reaches the FRU as early as possible, preferably within two hours of receiving the first dose of Magnesium Sulphate injection.
- Accompany the woman to the FRU, if possible. Manage any convulsions that may occur on the way.

If delivery is imminent, you may not have the time to transport the woman to an FRU. In this case, deliver the baby after giving the first dose of Magnesium Sulphate injection. *After the delivery, you must refer her, together with the baby, to the FRU for further management. (Practise Management of Convulsions in Eclampsia - Case study No. 8 and Checklist No. 4.4 and 4.6 in SBA Handbook)*

## Anaemia

A haemoglobin level of less than 11 g/dl at any time during pregnancy or the post-partum period is termed anaemia. A haemoglobin level of less than 7 g/dl is severe anaemia.

- Prophylactic treatment against anaemia, in the form of IFA tablets, should be given to every pregnant woman from the second trimester onwards. Each tablet should contain 100 mg elemental iron and 0.5 mg folic acid, and the dosage should be one tablet daily for three months. The prophylactic treatment against anemia should be continued for three months even in the post-partum period
- All women with anaemia (haemoglobin less than 11g/dl) must be given the therapeutic dose of IFA, i.e. one tablet *twice a day*, a period of at least 100 days (three months). The treatment should be continued till the level of haemoglobin rises. The therapeutic dosage of IFA should be continued for three months even in the post-partum period.
- The woman should be given dietary advice regarding foods rich in iron, e.g. green leafy vegetables, eggs, meat, lentils, beans and nuts. Foods rich in Vitamin C, such as citrus fruits, increase the absorption of iron. Anaemic women should be advised to increase their overall dietary intake.
- A woman with severe anaemia and/or severe palmar/conjunctival/nail pallor, along with any of the following, should be referred to the FRU for detailed tests and a blood transfusion, if necessary:
  - ◆ 30 breaths or more per minute

- ◆ Easy fatigability
- ◆ Breathlessness even at rest
- ◆ A woman with severe anaemia must deliver in an institutional setting.

## Urinary tract infection

When a woman complains of fever and/or burning on urination and/or pain in either of the flanks, UTI should be suspected.

- Ask her to drink plenty of water and fluids.
- Refer her to the MO for further management.

## Pre-term labour

Pre-term labour is defined as the onset of labour prior to the completion of 37 weeks of gestation.

- If the delivery is not imminent, i.e. there is enough time to transport the woman, refer her to the FRU. This is because the newborn may need specialised care, which might not be possible at the domiciliary level/SC.
- If the delivery is imminent, perform the delivery and refer the woman and baby to the FRU, where facilities for neonatal care are available. The risk to the baby's life under such circumstances should be explained to the mother and the family. Do take appropriate measures for thermal protection and early initiation of breastfeeding during transport.

## Premature or pre-labour rupture of membranes (PROM)

PROM is the rupture of membranes (bag of waters) before labour has begun. It can occur either when the foetus is immature (before 37 weeks) or when it is mature (term).

- The woman may complain of watery fluid-like discharge P/V (leaking), which may be a slight trickle or a gush of water before the onset of labour.
- Ask her when the LMP was and calculate the gestational age.
- Examine the discharge/fluid on her underwear/pad (if there is no evidence of fluid/discharge, give her a pad to wear and assess again after an hour) for evidence of the following:
  - ◆ Amniotic fluid: Amniotic fluid has a typical odour, by which one can confirm whether it is a case of PROM. If amniotic fluid is present, assess its colour, i.e. whether it is greenish or colourless. A greenish colour indicates foetal distress.
  - ◆ Foul-smelling vaginal discharge.
- If the membranes rupture after 37 weeks and there is no fever or foul-smelling discharge, it could signify the beginning of labour. If the woman plans to deliver in a health facility, refer her to the FRU. If she plans to deliver at home or an SC, wait for the uterine contractions to begin. If the contractions start within 8–12 hours of the rupture of the membranes, manage the case like a normal delivery.
- Refer the woman to the FRU in the following cases:

- ◆ If the membranes rupture after 37 weeks of pregnancy and labour pains do not start even after 12 hours.
- ◆ If the membranes rupture before 37 weeks (there is a risk of ascending infection, resulting in uterine and foetal infection)
- ◆ If the woman has fever (temperature of above 38°C), or has foul-smelling vaginal discharge (indicates infection)

In the above conditions, before referral, give the woman the first dose of antibiotics (ampicillin capsule, 1 g orally; Metronidazole tablet, 400 mg orally; and Gentamicin injection, 80 mg intramuscular stat).

## Foetal distress

Foetal distress indicates foetal hypoxia (lack of oxygen in the blood).

It can be diagnosed by:

- Abnormal FHR (<120 or >160 beats/minute)
  - Meconium-stained amniotic fluid
- Check the FHR every 15 minutes.
  - If the FHR remains below 120 or above 160 beats per minute even after 30 minutes and the woman is in early labour, then do the following:
    - ◆ Explain the situation to the family.
    - ◆ Start an intravenous line with Ringer Lactate.
    - ◆ Administer intranasal oxygen, if available.
    - ◆ Keep the woman lying on her left side throughout the time she is being transported.
    - ◆ Refer her to an FRU, which has facilities for the resuscitation of newborns.
  - If the FHR remains below 120 or above 160 beats per minute even after 30 minutes; the woman is in late labour and delivery is imminent; and there is no time for transportation, then do the following:
    - ◆ Call for assistance (MO, if available or any other person trained in care during pregnancy and child birth).
    - ◆ While conducting the delivery, monitor the FHR after every contraction. If it does not return to normal, explain to the woman and her family that the baby may not be well.
    - ◆ Be prepared to resuscitate the newborn.
    - ◆ Let the assistant manage the woman after the delivery while you focus on the process of neonatal resuscitation.

## Obstructed labour

When the foetus cannot be delivered via the natural passage due to mechanical obstruction, labour is said to be 'obstructed'. Obstructed labour is a major obstetric emergency and causes a high proportion of maternal and neonatal deaths.

With proper antenatal care and close monitoring of labour with a partograph, the problem of obstructed labour can be avoided altogether.

## Identifying Obstructed Labour

- Strong uterine contractions not leading to descent of the presenting part. The partograph showing – graph crossing the alert line. Strong uterine contractions, both in number and duration; foetal distress and rapid maternal pulse.
- Horizontal ridge across the abdomen, below the level of the umbilicus.
- Transverse lie and abnormal presentations are commonly associated with obstructed labour. All cases of obstructed labour require management at a referral centre. Refer the woman immediately to an FRU.
- The following steps should be taken during transportation.
  - ◆ Establish an intravenous line and give fluids at a moderate rate (30 drops per minute). If you cannot establish an intravenous line, give the woman sips of sweet fluids or Oral Rehydration Solution (ORS) to prevent hypoglycaemia and dehydration. Do not give solid food as she may need surgery.
  - ◆ Give the woman the first dose of antibiotics (ampicillin capsule, 1 g orally; Metronidazole tablet, 400 mg orally; and Gentamicin injection, 80 mg intramuscular stat).
  - ◆ Ensure that you or any other health worker, who has sufficient knowledge and skills related to labour and delivery, accompany the woman to the FRU.

## Prolapsed cord

Prolapsed cord is the condition in which the umbilical cord lies in the birth canal below the foetal presenting part, or is visible at the vagina following rupture of the membranes. This is associated with foetal distress and can lead to death of the foetus because of an obstruction of the blood flow to the foetus from the placenta.

- The foetal outcome is poor in cases of prolapsed cord. The family should be counselled and the woman referred to the FRU as early as possible.
- When delivery is imminent, be prepared to resuscitate the newborn and also, to refer the woman and infant to the FRU.

## Retained placenta and placental fragments

The placenta is said to be retained if it is not delivered within half an hour of the birth of the baby. Bleeding may or may not occur in cases of retained placenta.

A partially separated placenta or retained placental fragments cause continuous vaginal bleeding, leading to PPH. Manage such cases as in the case of PPH.

- If the placenta is already separated and is lying in the birth canal, then remove it gently.
- If it is not separated, refer the woman immediately to the FRU for manual removal of the placenta. Do not attempt to undertake this procedure.

## Vaginal and perineal tears

There are four degrees of tears:

- A first-degree tear involves the vaginal mucosa and connective tissues.
- A second-degree tear involves the vaginal mucosa, connective tissues and underlying muscles.
- A third-degree tear involves complete transection of the anal sphincter.
- A fourth-degree tear involves the rectal mucosa.



- Distinguish between superficial (first-degree) and deep perineal tears. You are only permitted to manage first-degree tears.
- A superficial tear that is not bleeding need not be sutured. All that needs to be done is to clean the area and cover it with a clean pad.
- If the superficial tear is bleeding, apply pressure on it for some time, approximately 10–15 minutes. This will help control the bleeding.
- For deeper perineal tears (i.e. second-, third- and fourth-degree tears), refer the woman to a 24 hour PHC/FRU.
  - ◆ Before transporting the woman, cover the tear with a sterile pad or gauze. Put the legs of the woman together, but do not cross the ankles.
  - ◆ If the woman is bleeding heavily because of tears and you are unable to decide the degree of the tear, put a vaginal pad into the vaginal cavity and refer the woman to the FRU.
  - ◆ Before referral, establish an intravenous line and infuse fluids rapidly. Raise the foot end of the stretcher and keep the woman warm during transportation.

## Puerperal sepsis

Puerperal sepsis is infection of the genital tract at any time between the onset of rupture of membranes or labour and till 42 days after delivery or abortion. Any two or more of the following signs and symptoms are present.

- Fever (temperature  $>38^{\circ}\text{C}$  or  $> 100.5^{\circ}\text{F}$ )
- Lower abdominal pain and tenderness
- Abnormal and foul-smelling lochia, may be blood-stained
- Burning micturition
- Uterus not well contracted
- Feeling of weakness
- Vaginal bleeding

Fever in the post-partum period could be due to causes other than puerperal sepsis such as urinary tract infection (UTI), mastitis or other non-obstetric causes.

- If the general condition of the woman is fair, give her the first dose of antibiotics (i.e. ampicillin capsule, 1 g orally; Metronidazole tablet, 400 mg orally; and Gentamicin injection, 80 mg intramuscular stat) and refer her to a PHC/FRU.
- If the general condition of the woman is poor and she has the above signs and symptoms, start her on intravenous fluids and give her the first dose of antibiotics. Refer her to a MO at 24 hour PHC/FRU immediately.

*(Practise Management of Puerperal Sepsis - Case study No. 9 in SBA Handbook)*

## Breast conditions

Breast conditions include mastitis, cracked/fissured nipples and breast engorgement (being too full) and breast abscess. Breast examination should be an essential part of routine post-partum examination.

- Give the following advice.
  - ◆ Encourage the mother to continue breastfeeding. Tell her that if she does not breastfeed, there will be further engorgement of the breasts.

- ◆ If the breasts are engorged, and the baby is unable to take the areola and nipple in and suckle, tell the mother to apply hot, wet cloths on the breasts for 5–10 minutes to make them soft. Ask her to hand-express a small amount of milk before putting the baby to the breast.
- ◆ Ask the mother to feed the baby from both the breasts during each feed.
- ◆ If engorgement persists despite regular feeding, the mother may be advised to express breast milk. She should empty her breasts at regular intervals and feed the expressed milk to the baby.
- ◆ Applying hind milk (the milk which comes out during the latter part of breastfeeding) to sore and cracked nipples has a healing effect.
- ◆ Ask the mother to avoid wearing tight-fitting bras.
- ◆ If there is accompanying fever, redness or pain that does not subside despite the above measures, refer the woman to the PHC.

### Steps to be followed during referral of a woman

Keep the following points in mind while referring the woman to a higher centre.

- After appropriate management of the emergency, discuss the decision to refer with the woman and her relatives, especially those who are decision-makers in the family.
- Quickly organise transport and possible financial aid.
- Inform the referral centre by phone, if possible.
- Accompany the woman, if possible; otherwise send another health worker/ASHA.
- Send relatives who can donate blood, should the need arise.
- Carry drugs and supplies such as an intravenous drip and set, antibiotics, Oxytocin injection and Magsulph injection (provided in your delivery kit) (see Annexure VII) in the vehicle in which the woman is being transported.
- If the referral is being made after the delivery, send the baby with the mother, if possible.
- Write a referral note (see Annexure III) to the health personnel at the referral centre. The note should contain the salient points about the following:
  - ◆ History
  - ◆ Main clinical findings
  - ◆ Medication given (dose, route and time of administration)
  - ◆ Other interventions done, if any
- During the journey:
  - ◆ Watch the intravenous infusion.
  - ◆ Give appropriate treatment on the way, if the journey is long.
  - ◆ Keep a record of all the intravenous fluids and medications given, including the time of administration, and of the condition of the woman from time to time.





Module III

Ensuring the Quality of Care



# Community Involvement

## KEY MESSAGES

- Raise awareness among the community regarding danger signs during pregnancy, labour and delivery, and the post-partum period.
- Seek the cooperation of other partners in the community, such as SHGs, Community-Based Organisations (CBOs), Non-Governmental Organisations (NGOs) and other community-level health functionaries.

Informing and involving the community in the process of improving the health of women will go a long way in bringing down maternal mortality. The community should be empowered to tackle the health problems affecting the women. The VHNDs should be utilised to generate awareness among communities and educate them on maternal health issues.

The following is a list of things that you can do as a part of your responsibility to empower the community to improve the health status of mothers and infants and share critical information regarding maternal and child health issues with them.

- Find out what the people know about maternal morbidity and mortality in their area. Ask them to share this information with you and discuss how deaths and morbidity can be prevented.
- Discuss the role of families and communities in preventing these illnesses and deaths.
- Share key messages on maternal and child health with community members and dispel their misconceptions.
- Discuss practical ways in which families and others in the community can support the woman during pregnancy, delivery, after abortion and in the post-partum period. Mention the need for the following:
  - ◆ Recognising and rapidly responding to emergency/danger signs during pregnancy, delivery and the post-partum period
  - ◆ Accompanying the woman when she goes for delivery
  - ◆ Providing financial support for payment of medical fees and supplies
  - ◆ Providing care for children and other family members when the woman needs to be away from home during delivery or when she needs rest
  - ◆ Motivating partners to help with the workload, accompany the woman to the hospital, allow her to rest and ensure that she eats properly
  - ◆ Communication between husband and wife, including discussion regarding post-partum family planning needs.
- Discuss the following issues to support the community in preparing an action plan to respond to emergencies. Engage other groups, such as SHGs, CBOs, NGOs and various community-level functionaries (ASHAs, AWWs, etc.) in these discussions.

- ◆ How to identify emergency/danger signs: when to seek care
  - ◆ The importance of a rapid response to emergencies in reducing maternal death, disability and illness
  - ◆ The transport options available, giving examples of how transport can be organised
  - ◆ Reasons for delay in seeking care and possible difficulties
  - ◆ What services (emergency obstetric care) are available and where
  - ◆ Costs and options for payment
  - ◆ A response plan during emergencies, including roles and responsibilities
  - ◆ The importance of blood transfusion for the mother in an emergency, and the need for blood donation
  - ◆ Violence against women during pregnancy and its adverse effect on maternal and newborn health outcomes.
- It is important to establish links with ASHAs, AWWs, SHGs and other community health workers who provide health care to the community. People have faith in them and are likely to seek their help. Give them the correct information on safe motherhood and seek their cooperation in reducing maternal mortality.
    - ◆ Discuss how you can support each other.
    - ◆ Respect their knowledge, experience and influence in the community.
    - ◆ Share with them the information you have on maternal morbidity and mortality, and listen to their opinions on these issues. Provide them with copies of the health education material that you distribute to community members and discuss the content with them. Have them explain to you the knowledge that they share with the community. Together, you can create information that is more locally appropriate.
    - ◆ Review together with families and groups how you can provide support for maternal health to women
    - ◆ Involve them in counselling sessions for families and other community members.
    - ◆ Discuss the recommendation that all deliveries should be conducted by an SBA. Also discuss the requirements for a safe delivery at home (when it is not possible to follow this recommendation), post-partum care and when to seek emergency care.

### Review of maternal deaths

- Maternal deaths are rare events at the village or SC level and therefore the community may not register their importance. You, as the ANM and the health worker visiting the area should build a rapport with SHGs and Panchayati Raj Institution (PRI) members to undertake a social review of the maternal deaths reported from the villages under your care. This 'review' focuses on finding the social factors responsible for maternal deaths. Thus you should find out about the utilisation of ANC services, the place of delivery, who attended the birth, and so on. Find out who made the decision to seek care in the event of the obstetric complication and how soon this was done after the complication arose. Find out about the availability of transport, the attitude of the health provider, access to money, whether blood and donors were available when required, and so on. A member of the bereaved family should also be included in this exercise. The findings of the social review should be shared in PRI/SHG meetings with a view to prevent the recurrence of such an event in the future. All maternal deaths in your area must be reported to M.O. at block PHC for further review by him.

# Counselling and Supportive Environment

## KEY MESSAGES

- Respect the right of women to receive maternity care services.
- Respectful communication and genuine empathy are the most important elements of quality maternal care.

Pregnancy is a physiological event and is typically a time of joy and anticipation. Any complication or risk of a complication that could lead to a problem shatters the dreams of the pregnant woman and her family members. Often one comes across instances when family members blame the health providers for adverse pregnancy outcomes, which leads to unpleasant situations. An increasing trend of initiating legal cases against service providers is also being noticed. Much of this can be avoided if women and their families are better informed about care during pregnancy and signs of complications and appreciate the need to seek care from a skilled health provider. You have an important role to play in ensuring that correct information is disseminated on how to make pregnancies safer among women and their families.

To prevent all the unpleasantness, you, as the health-care provider at the community level, should keep the following points in mind while dealing with the woman and her family.

- Respect the woman's dignity and her right to privacy.
- Be sensitive and responsive to the woman's needs.
- Be non-judgemental about the decisions that the woman and her family have made regarding her care. You should provide corrective counselling, if required, but only after the complication has been dealt with and not before or during the management of problems.
- Respect the right of women to receive maternity care services.

## Rights of women

As the health-care provider, you should be aware of the rights women; when they receive maternity care services. These are as follows.

- Every woman receiving care has a right to information about her health.
- Every woman has the right to discuss her concerns in an environment in which she feels confident.
- Every woman should know, in advance, all the relevant information regarding the type/s of procedure/s that will be performed on her.
- Every woman has a right to privacy. While working in a facility, procedures should be conducted in an environment (e.g. labour wards) in which the woman's right to privacy is respected.
- Every woman has a right to express her views about the care and services she receives.



When you talk to a woman about her pregnancy or a related complication, you should use simple language and basic communication techniques. This will help you establish an honest, caring and trusting relationship with the woman. If a woman trusts you and feels that you have her best interests at heart she will be more likely to either go to the PHC or call you at home to conduct her delivery. She will also be more likely to approach you early in case she feels there is a complication and share her experience with other women in the community who might also be encouraged to use the services provided by you and at the PHC.

### **Supportive care during a normal delivery**

- Ensure that the woman has a companion of her choice and wherever possible the same caregiver throughout labour and delivery. Supportive companionship can enable a woman to face fear and pain and reduce loneliness and distress.
- When possible, encourage the companion to take an active part in the care of the woman. Position the companion at the head end of the woman to allow her/him to focus on talking to the woman and caring for her emotional needs.
- Both during and after the delivery/event, provide as much privacy as possible to the woman and her family.

### **Supportive care during an emergency/complication**

#### **Emotional and psychological reactions of the woman and her family**

The reaction of various members of the family to an emergency situation depends on the social, cultural and religious circumstances, the personalities of the people involved and the gravity of the problem. Common reactions of people to obstetric emergencies or maternal death include:

- Denial (feelings of ‘it can’t be true’)
- Guilt regarding possible responsibility
- Anger (frequently directed towards the health care staff, but often masking anger directed at oneself for ‘failure’)
- Depression and loss of self-esteem, which may be long-lasting
- Disorientation

#### **General principles of communication and support**

While each emergency situation is unique, the following general principles offer guidance on how to handle emergencies. Communication and genuine empathy are probably the most important components of effective care in such situations.

##### **At the time of the event**

- Listen to those who are distressed. The family/woman will need to discuss their hurt and sorrow.
- Do not change the subject or move on to easier or less painful topics of conversation. Show empathy.
- Tell the family/woman as much as you can and as much as they can understand about what is happening. Understanding the situation and its management can reduce their anxiety and prepare them for what happens next.

- Be honest. Do not hesitate to admit what you do not know. Maintaining trust matters more than appearing knowledgeable.
- If language/dialect is a barrier to communication identify someone to translate for you.

#### **After the event**

- Give practical assistance, information and emotional support.
- Respect traditional beliefs and customs, and accommodate the family's needs as far as possible.
- Explain the problem to help reduce anxiety and guilt. Repeat information several times and give written information, if possible. People going through an emergency will not remember much of what is said to them.
- Many families and women blame themselves for what has happened. Counsel the family and woman and allow them to reflect on the event.
- Listen and express understanding and acceptance of the woman's feelings. Non-verbal communication may speak louder than words: a touch of the hand or a look of concern can say an enormous amount.
- You yourself may feel anger, guilt, sorrow, pain and frustration in the face of obstetric emergencies that may lead you to avoid talking to the family/woman. Remember, expressing your emotions is not a weakness.

# Prevention of Infection

## KEY MESSAGES

- Hand washing is one of the most important measures for reducing transmission of microorganisms and preventing infection.
- Always wear gloves when conducting procedures where there is a risk of touching blood, body fluids, secretions, excretions or contaminated items.
- Proper handling of contaminated waste minimises the spread of infection to health care personnel and to the local community.
- 0.5% bleach solution is the least expensive and the most rapid-acting and effective agent to use for decontamination.

The major objectives of prevention of infection are to prevent the occurrence and minimise the risk of transmitting infections such as Hepatitis B, Hepatitis C and HIV/AIDS to clients and the health-care staff when providing services.

## Sources of infection

The sources of infection may be the health care delivery personnel or patients/people in the community carrying microorganisms, the environment, blood, body fluids, secretions, excretions, placenta, or contaminated sharps and other equipment.

## Why should infection be prevented?

With appropriate practices for the prevention of infection, you can:

- Prevent post-procedure infection including surgical-site infections, i.e. stitch abscess.
- Prevent infections in service providers and other housekeeping staff
- Protect the community from infections that originate in health care facilities
- Lower the costs of health care since prevention is cheaper than the treatment of infections and complications related to them.

## Principles of prevention of infection

The following principles are recommended for prevention of infection.

- All objects that come in contact with the patient should be considered potentially contaminated.
- Every person (members of the community/patients/health-care personnel) must be considered potentially infectious.
- If an object is disposable it should be discarded appropriately as waste. If it is reusable then transmission of infective agents must be prevented by decontamination, cleaning, disinfection or sterilisation.

## Standard precautions for prevention of infections

Standard precautions should be followed with every client/patient, regardless of whether or not you think the client/patient might have an infection. This is important because it is not possible to tell who is infected with HIV and the hepatitis viruses, and often infected persons themselves do not know that they are infected.

### Box 19: Standard precautions for prevention of infections

- Hand washing
- Use of protective attire
- Processing of used items/equipment
- Proper handling and disposal of sharps
- Maintaining a clean environment
- Biomedical waste disposal

#### 1. Hand-washing

Proper washing of hands is the most important way to reduce the spread of infection in any health care setting.

*Appropriate times for health care staff to wash hands:*

- Immediately after arriving at work
- Before and after examining each patient
- After contact with blood, secretions, excretions or contaminated items/equipment
- After handling specimens
- Before putting on gloves
- After removing gloves
- Before leaving work

The main forms of hand hygiene

### Box 20: Forms of Hand Hygiene

Technique	Main purpose	Agents	Residual effect
Routine hand washing	Cleansing	Non-medicated soap	Short
Careful hand washing	Cleansing after contact with patient	Non-medicated soap	Short
Hygienic hand rub	Disinfection after contamination	Alcohol	Disinfection
Surgical hand disinfection	Pre-operative disinfection	Antibacterial soap, alcoholic solutions, antiseptic solutions	Long

*Tips for hand washing:*

- Keep the soap bar in a soap dish and allow drainage.
- Always use running water to wash hands—avoid dipping or washing your hands in a basin of standing water.
- Always use a separate towel or air dry your hands. Do not use shared towels to dry your hands.
- Make sure that your nails are clipped short.
- Roll your sleeves up to the elbow before washing your hands.

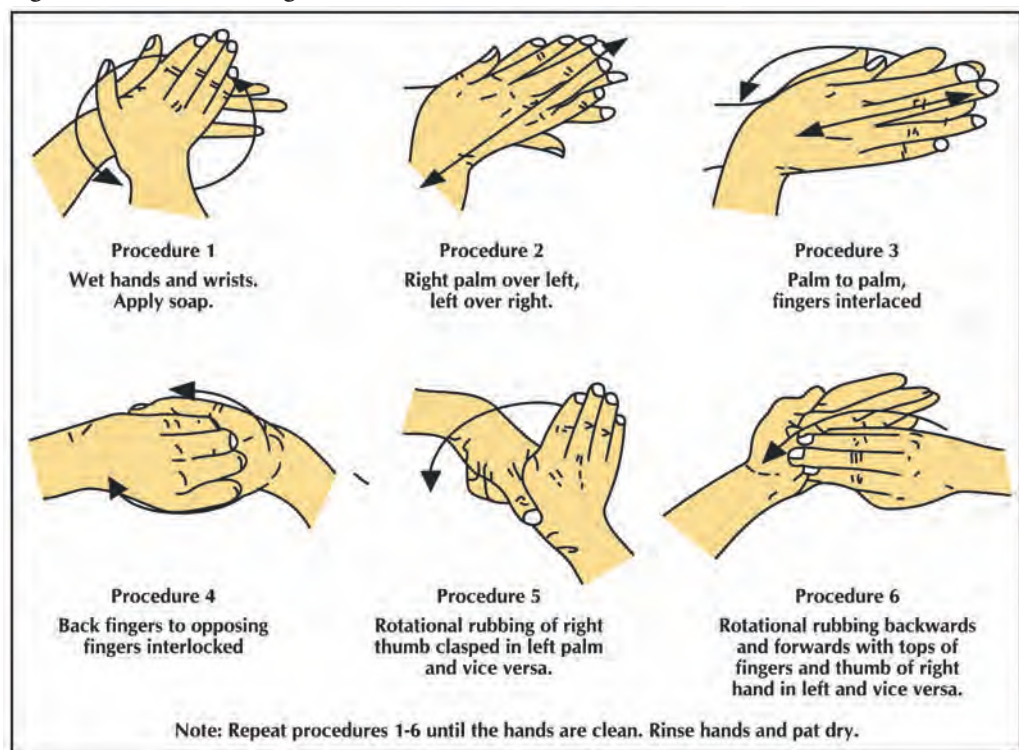
## Procedure for washing hands

Roll up your sleeves to above the elbow. Remove your wrist watch, bangles, rings, or anything that you may be wearing on the hands.

Wash your hands for two minutes in the following sequence:

1. Palms and fingers and web (inter-digital spaces)
2. Back of hands
3. Fingers and knuckles
4. Thumbs
5. Finger tips
6. Wrists and forearm up to elbow

Figure 18: Hand washing



- Using plain water and soap, apply soap and lather thoroughly up to the elbow.
- Always keep the elbows dependent, i.e. lower than your hands.
  - ◆ Rub for a minimum of 10–15 seconds.
  - ◆ Clean under the fingernails with a soft brush.
  - ◆ If running water is not available, use a bucket and pitcher. Do not dip your hands into a bowl to rinse, as this re-contaminates your hands.
- Close the tap with your elbow.
- Dry your hands with a single-use sterile napkin or autoclaved newspaper pieces, or air dry them.
- Discard the napkin in the bin kept for the purpose. If you have used newspaper pieces, throw them in the black bucket.

Once you have washed your hands, do not touch anything, e.g. hair, pen or any fomite, till you carry out the required job.

**Remember:**

Rinsing the hands with alcohol is NOT A SUBSTITUTE for proper hand-washing.

## 2. Use of protective attire

### Gloves

- Wear gloves when there is a risk of touching blood, body fluids, secretions, excretions or contaminated items during the procedure. Put on clean/sterile gloves just before touching the mucous membranes and non-intact (broken) skin.
- A separate pair of gloves should be used for each client to avoid cross-contamination.
- Although disposable gloves are preferred, when resources are limited, surgical gloves can be reused provided they have been:
  - ◆ Decontaminated by soaking in 0.5% chlorine solution for 10 minutes
  - ◆ Washed and rinsed
  - ◆ Sterilised by autoclaving or High Level Disinfection (HLD), i.e. by steaming or boiling
- Do not use gloves that are cracked or peeling, or have detectable holes or tears.
- Sterile, clean gloves should be worn during all delivery procedures.

### Masks

- Masks prevent microorganisms expelled during talking, coughing or breathing from entering the client and protect the provider's mouth from splashes of blood or other fluids.
- Masks should be worn while performing any procedure/intervention, such as while conducting a delivery.

### Eye covers

- Eye covers are used to protect the eyes from accidental splashes of blood or other body fluids. They should be used, for example, while conducting a delivery or cleaning instruments.

### Gowns/aprons

- Gowns and waterproof aprons prevent microorganisms from the provider's arms, body and clothing from entering the client's body and protect the provider's skin and clothes from splashes of blood and other fluids.

### Caps

- Caps prevent microorganisms from the hair and skin on the provider's head from entering the client.

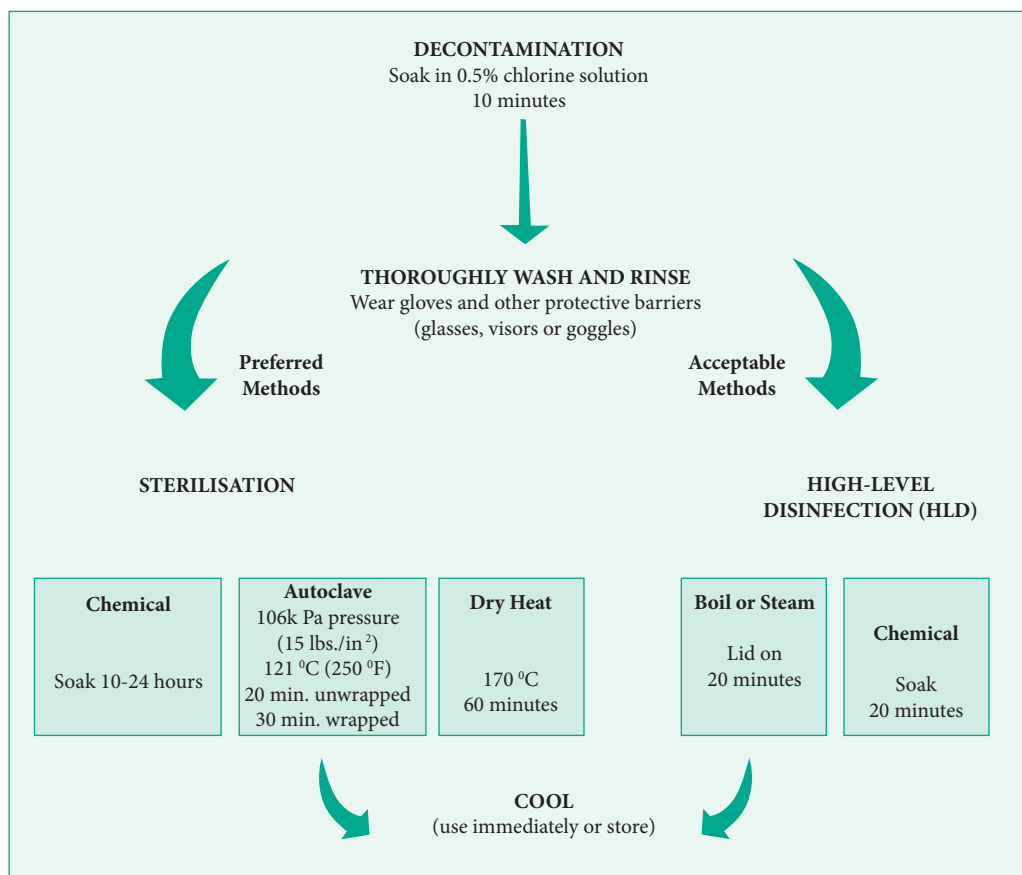
### Footwear

- Footwear that is clean and sturdy helps minimise the number of microorganisms brought into the surgical/procedure area and protects the service provider's feet from injury or splashes of blood and other fluids.

### 3. Processing of items to be used

Processing instruments and other items used during clinical and surgical procedures consists of four steps:

- A) Decontamination
- B) Cleaning
- C) Sterilisation and HLD
- D) Storage



**A) Decontamination:** This kills viruses such as Hepatitis B, other Hepatitis viruses and HIV and many other microorganisms making items safer for handling by staff that performs cleaning and further processing. To decontaminate items use 0.5% bleach solution.

**B) Cleaning:** Cleaning refers to scrubbing with a brush, detergent and water and is a crucial step in processing. Detergent is important for effective cleaning because water alone will not remove protein, oils and grease.

Do not use hand soap for cleaning instruments and other items as fatty acids in soap will react with the minerals of hard water, leaving behind a residue that is difficult to remove.

**C) Sterilisation and HLD:** Sterilisation ensures that items are free of all microorganisms (bacteria, viruses, fungi and parasites) including endospores. Sterilisation kills all microorganisms and is therefore recommended for items such as needles and surgical

instruments that come in contact with the bloodstream or tissues under the skin. When sterilisation is not available HLD is the only acceptable alternative.

## Sterilisation

There are three methods of sterilisation:

- Steam sterilisation/autoclaving/pressure cooker autoclave
- Dry heat sterilisation (electric oven)
- Chemical (cold) sterilisation

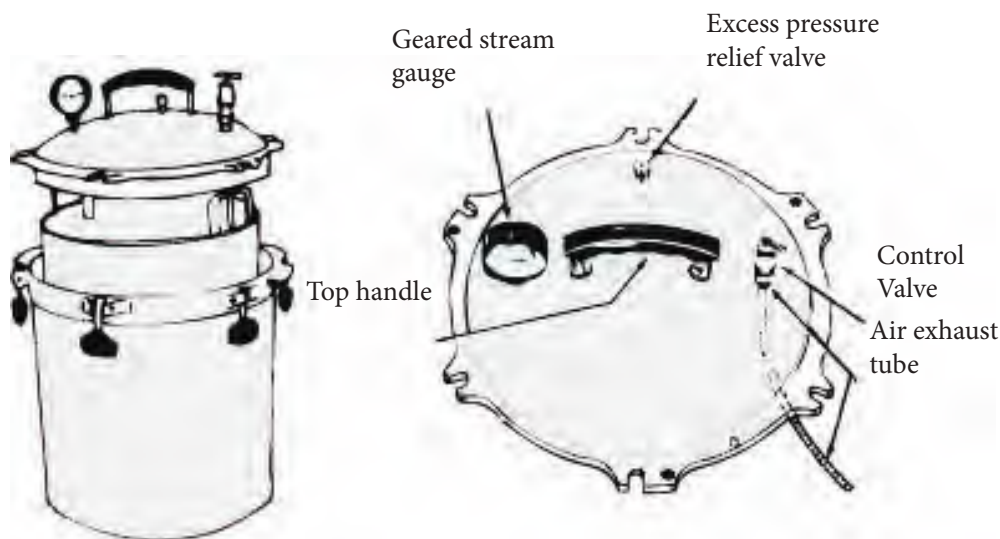
### Steam sterilisation/autoclaving/pressure cooker autoclave

A pressure cooker type autoclave is commonly used in rural areas. To use it properly fill water in the autoclave (up to the ridge on the inner wall). Place the items loosely in it, place the autoclave over the heat source (stove) and turn to high heat. Once steam starts coming out of the pressure valve begin timing the sterilisation cycle. For this type of autoclave a cycle of 20 minutes is suggested regardless of whether the items are wrapped or unwrapped. After 20 minutes remove the autoclave from the heat source, open the pressure valve to release the steam and allow it to cool for 15–30 minutes before opening it.

### Dry heat sterilisation (electric oven)

When available, dry heat is a practical way to sterilise needles and other instruments. A convection oven with an insulated stainless steel chamber and perforated shelving to allow

Figure 19: Steriliser/Pressure cooker



the circulation of hot air is recommended, but dry heat (170° C for 60 minutes) sterilisation can be achieved with a simple oven as long as a thermometer is used to verify the temperature inside the oven.

### Chemical (cold) sterilisation

An alternative to high-pressure steam or dry-heat sterilisation is chemical sterilisation often called cold sterilisation. If objects need to be sterilised but high-pressure steam or dry heat sterilisation would damage them then they can be chemically sterilised. Some high level disinfectants kill endospores after prolonged exposure (10–24 hours). A commonly used chemical disinfectant is 2%–4% glutaraldehyde (the items must be soaked for at least 10 hours).



### High-level disinfection

HLD eliminates bacteria, viruses, fungi and parasites but does not kill all endospores which cause diseases for example those causing tetanus and gas gangrene.

#### There are three methods of HLD.

- Boiling: Boiling in water is an effective, practical way of HLD of instruments and other items. Although boiling instruments in water for 20 minutes will kill all vegetative forms of bacteria, viruses, yeast and fungi, it will not kill all endospores. Boiling is not sterilisation.
- Chemical HLD: Although a number of disinfectants are commercially available four routinely used disinfectants are chlorine, glutaraldehyde, formaldehyde and hydrogen peroxide.
- Steaming: A steamer pan with holes in its bottom is used for steaming gloves, cannulae, etc. for a duration of 20 minutes.

**D) Storage:** Sterilised items should be used or properly stored immediately after processing so that they do not become contaminated. If they are not stored properly all the effort and supplies used to properly process them will be wasted and the items may get contaminated.

*Note: No matter what method is used do not store instruments or other items such as scalpel blades and suture needles in solution; **always store them dry**. Microorganisms can live and multiply in both antiseptic and disinfectant solutions and items left soaking in contaminated solutions can lead to infections in clients.*

### 4. Proper handling and disposal of sharps

The following measures should be strictly followed while handling needles and syringes.

- Use each disposable needle and syringe only once.
- Always wear utility gloves while handling sharps.
- Dispose of the needle with a hub cutter which cuts the plastic hub of the syringe and not the metal part of the needle.
- Dispose of needles and syringes in a puncture-proof container.
- Do not disassemble the needle and syringe after use. Make needles unusable after single use by burning them in a needle destroyer.
- Do not recap, bend or break needles before disposal.
- Never burn syringes.
- Dispose of the waste as follows: (i) dispose of needles and broken vials in a pit/tank, and (ii) send the syringes and unbroken vials for recycling or to a landfill.

### 5. Maintaining a clean environment

- The general cleanliness and hygiene of a facility are vital for the health and safety of the staff, clients, visitors and the community at large. Maintaining a clean environment with the help of good housekeeping and waste disposal practices is the foundation of infection prevention.
- The three following types of cleaning solutions are used during housekeeping at a health facility.

- ◆ Plain detergent and water: scrubbing with plain detergent and water easily removes dirt and organic material such as grease, oil and other matter.
- ◆ Disinfectant (0.5% chlorine solution): this is used to clean up spills of blood or other body fluids.
- ◆ Disinfectant cleaning solution (containing a disinfectant, detergent and water): such solutions e.g. phenol and lysol, are used for cleaning areas such as operating theatres, procedure rooms and latrines.

## 6. Biomedical waste disposal

Biomedical waste is waste that is generated during the diagnosis, treatment or immunisation of human beings. There is evidence that viruses causing infections such as Hepatitis B and HIV are transmitted via health care waste. These viruses can be transmitted through injuries from needles that are contaminated with human blood.

The purpose of waste disposal is to:

- Minimise/prevent the spread of infection to hospital personnel who handle waste
- Prevent the spread of infection to the local community
- Protect those who handle waste from accidental injury

The four steps of waste disposal are as shown below:

**Figure 20: Steps of Waste Disposal**

### 1. Segregation



### 2. Collection and storage



INCORRECT



CORRECT

### 3. Transportation

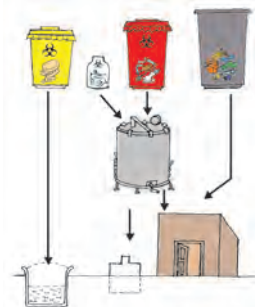


INCORRECT



CORRECT

### 4. Treatment and disposal



- ANMs who conduct deliveries at home or at the SC should collect all waste material such as needles, syringes, gloves, placenta and cotton/gauze, in a leak-proof container/puncture-proof cardboard box.
- All the waste should then be disposed of in a pit that is two metres deep and situated at a distance of 10 metres away from the water source. Ensure that all the waste is sprinkled with bleach powder and covered with soil.

## Dos and Don'ts of waste management

### I. Segregation

#### Dos

1. Always segregate waste into infectious and non-infectious waste at the source of generation.
2. Segregate infectious waste into:
  - ◆ Sharps: needles, blades, broken ampoules, vials and slides. These should be disposed of in a puncture-proof container.
  - ◆ Non-sharps: soiled waste, such as syringes, dressings, gloves and masks. These are to be disposed of in the red plastic bin/bag.
  - ◆ Anatomical waste, such as placenta. This is to be disposed of in the yellow plastic bin/bag.
3. Non-infectious (general) waste such as waste similar to household waste including packaging material, cartons, fruit and vegetable peels, syringe and needle wrappers and medicine covers, should be disposed of in the black plastic bin/bag

#### Don'ts

Never mix infectious and non-infectious waste at the source of generation or during the collection, storage, transportation or final disposal of waste.

### II. Collection and storage

#### Dos

1. Always collect the waste in covered bins.
2. Fill the bin up to the three-quarter level.
3. Clean the bin regularly with soap and water.

#### Don'ts

1. Never overfill bins.
2. Never mix infectious and non-infectious waste in the same bin.
3. Never store waste beyond 48 hours.

### III. Transportation

#### Dos

1. When carrying/transporting waste from the source of generation to the site of final disposal, always carry it in closed containers.
2. Use dedicated waste collection bins for transporting waste.

### Don'ts

1. Never transport waste in open containers or bags. It may spill and cause spread of infections.
2. Never transport waste with sterile equipment.

## IV. Treatment and disposal

### Dos

1. Always remember to disinfect and shred the waste before its final disposal.
2. Remember the following while treating waste
  - ◆ Anatomical waste is to be buried deep at the SC.
  - ◆ Syringes are to be cut (with hub cutters) and chemically disinfected at the source of generation before they are finally disposed of in the sharps pit located at the PHC.

### Don'ts

1. Never throw infectious waste into general waste without any pre-treatment and shredding

*(Practise using checklist No. 5.1 & No. 5.2. in SBA Handbook)*





# ANNEXURES



# ANNEXURE I: Mother and Child Protection Card

## Integrated Child Development Services National Rural Health Mission



### Mother and Child Protection Card

Photograph of Mother & Child

Family Identification	
Mother's Name _____	Age <input type="text"/>
Father's Name _____	
Address _____	
Mother's Education: illiterate/primary/middle/high school/graduate	
Pregnancy Record	
Mother's ID No. _____	
Date of the last menstrual period	<input type="text"/> / <input type="text"/> / <input type="text"/>
Expected date of delivery	<input type="text"/> / <input type="text"/> / <input type="text"/>
No. of pregnancies/ previous live births	<input type="text"/> / <input type="text"/>
Last delivery conducted at:	Institution <input type="checkbox"/> Home <input type="checkbox"/>
Current delivery:	Institution <input type="checkbox"/> Home <input type="checkbox"/>
JSY Registration No. _____	
JSY payment Amount	<input type="text"/> Date <input type="text"/> / <input type="text"/> / <input type="text"/>
Birth Record	
Child's Name _____	
Date of Birth <input type="text"/> / <input type="text"/> / <input type="text"/>	Birth Weight <input type="text"/> kgs <input type="text"/> gms
Girl <input type="checkbox"/>	Boy <input type="checkbox"/> Birth Registration No: <input type="text"/>

Institutional Identification	
AWW _____	AWC/Block _____
ASHA _____	ANM _____
SHC / Clinic _____	
PHC / Town _____	Hospital / FRU _____
Contact Nos. ANM _____	Hospital _____
Transport Arrangement _____	

AWC Reg. No <input type="text"/>	Date <input type="text"/>	Sub-centre Reg. No <input type="text"/>	Date <input type="text"/>
Referral <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Ministry of Women & Child Development, Government of India  
Ministry of Health and Family Welfare, Government of India



# ANNEXURE I 'A': Immunisation Schedule

## National Immunisation Schedule for Pregnant Women, Infants and Children

Vaccine	When to give		Route and site
<b>For Pregnant Women</b>			
TT-1	Early in pregnancy at first contact	0.5 ml	Intramuscular in upper arm
TT-2	4 weeks after TT-1*	0.5 ml	
TT-Booster	If pregnancy occurs within three years of last TT vaccinations*	0.5 ml	
<b>For Infants</b>			
BCG	At birth (for institutional deliveries) or along with DPT-1	0.1 ml (0.05 ml for infant up to 1 month)	Intradermal in left upper arm
Hepatitis B 0 <sup>^</sup>	At birth for institutional delivery, preferably within 24 hours of delivery	0.5 ml	Intramuscular in outer mid-thigh (antero-lateral side of mid-thigh)
OPV - 0	At birth, if delivery is in institution	2 drops	Oral
OPV 1, 2 and 3	At 6 weeks, 10 weeks and 14 weeks	2 drops	Oral
DPT 1, 2 and 3	At 6 weeks, 10 weeks and 14 weeks	0.5 ml	Intramuscular in outer mid-thigh (antero-lateral side of mid-thigh)
Hepatitis B1, 2 and 3	At 6 weeks, 10 weeks and 14 weeks	0.5 ml	
Measles	9–12 months	0.5 ml	Subcutaneous in right upper arm
Vitamin A (1st dose)	At 9 months, with measles	1 ml (1 lakh IU)	Oral
<b>For Children</b>			
DPT booster	1st booster at 16–24 months	0.5 ml	Intramuscular in outer mid-thigh (antero-lateral side of mid-thigh)
	2nd booster at 5 years of age	0.5 ml	Intramuscular in upper arm
OPV booster	16–24 months	2 drops	Oral
JE <sup>^</sup>	16–24 months	0.5 ml	Intramuscular in outer mid-thigh (antero-lateral side of mid-thigh)
MR	16–24 months	0.5 ml	
Vitamin A (2nd to 9th dose)	2nd dose at 16 months, with DPT/OPV booster. 3rd to 9th doses are given at an interval of 6 months till 5 years of age.	2 ml (2 lakh IU)	Oral
TT	10 years and 16 years	0.5 ml	Intramuscular in upper arm.

\* TT-2 or booster dose is to be given before 36 weeks of pregnancy.

A fully immunised infant is one who has received BCG, three doses of DPT, three doses of OPV, three doses of Hepatitis (wherever implemented), and measles before one year of age.

<sup>^</sup> JE and Hepatitis B in select states/UTs/districts/cities

Note: The Universal Immunisation Programme is dynamic and hence, the immunisation schedule needs to be updated from time to time.

## ANNEXURE II: Janani Suraksha Yojana

### (A GoI Scheme)

1. Janani Suraksha Yojana (JSY) is an intervention for safe motherhood under the National Rural Health Mission (NRHM). It is being implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among poor pregnant women. The scheme, launched on 12 April 2005 by the Hon'ble Prime Minister, is under implementation in all states and Union Territories (UTs), with a special focus on low-performing states (LPS).
2. JSY is an entirely centrally sponsored scheme, which integrates cash assistance with delivery and post-delivery care.
3. The scheme has identified the Accredited Social Health Activist (ASHA) as an effective link between the government and poor pregnant women. In states and UTs, wherever Aanganwadi Workers (AWWs) and TBAs or ASHA-like activists have been engaged, they can be associated with this scheme providing the service.

The role of ANMs (or other link health workers, including ASHAs) associated with JSY would be:

- To identify pregnant women who would be benefited by the scheme and facilitate their registration for Ante-natal check-up (ANC).
- To assist the pregnant woman in obtaining necessary certifications, wherever necessary.
- To provide the woman with and/or help her receive at least four ANC check-ups, including registration and 1<sup>st</sup> ANC in which she is given Tetanus Toxoid (TT) injections and Iron Folic Acid (IFA) tablets.
- To identify a functional government health centre or an accredited private health institution for referral and delivery.
- To counsel the woman to opt for an institutional delivery.
- To arrange referral transport for taking the pregnant women to the health facility.
- To escort the woman to the predetermined health centre and stay with her till she is discharged.
- To arrange to immunise the newborn till the age of 14 weeks.
- To inform the Auxiliary Nurse Midwives (ANM)/Medical Officer (MO) about the birth or death of the child or mother.
- To arrange for a postnatal visit within seven days of the delivery to track the mother's and new born's health and make it easier for her to obtain care, wherever necessary.
- To counsel the mother to initiate breastfeeding within half an hour to one hour of delivery and continue to breastfeed till 6 months, and promote family planning.

### Important Features of JSY

1. The scheme focuses on poor pregnant woman with a special dispensation for states that have low institutional delivery rates, namely, the states of Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Orissa, and Jammu

and Kashmir. While these states have been named Low Performing States (LPS), the remaining states have been named High Performing States (HPS).

2. *Tracking each pregnancy:* Each beneficiary registered under this scheme should have a JSY card, along with an MCH card. An identified link worker, such as an ASHA/AWW, should *mandatorily prepare a micro-birth plan for each beneficiary* under the overall supervision of the ANM and the MO at the Primary Health Centre (PHC). This will effectively help in monitoring antenatal check-ups and post-delivery care.
3. The eligibility for cash assistance under the JSY is as shown below.

#### Eligibility for Cash Assistance

LPS	All pregnant women delivering in government health centres, such as Sub Centres (SCs)/Primary Health Centres (PHCs)/Community Health Centres (CHCs)/First Referral Units (FRUs)/general wards of district or state hospitals or accredited private institutions
HPS	Pregnant women below the poverty line (BPL), of the age of 19 years and above
LPS and HPS	All scheduled caste/scheduled tribe (SC/ST) women delivering in a government health centre, such as SC/PHC/CHC/FRU/general wards of district or state hospital or accredited private institutions.

**Note:** BPL certification is required in all HPS states. However, where BPL cards have not yet been issued or updated, states/UTs would formulate a simple criterion for the certification of poor and needy expectant mothers and empower the *gram pradhan* or ward member to issue such certificates.

The cash entitlement for different categories of mothers is as follows.

#### Cash Assistance for Institutional Delivery (in Rs)

Category	Rural area		Total	Urban area		Total
	Mother's package	ASHA's package		Mother's package	ASHA's package	
LPS	1400	600	2000	1000	200	1200
HPS	700	200*	900	600	200*	800

\* w.e.f. 1 April 2009

**Note 1:** In both LPS and HPS, women who choose to deliver in an accredited private health institution must produce a BPL or SC/ST certificate in order to access JSY benefits. In addition, they must carry a referral slip from the ASHA, ANM or MO, and the Mother and Child Protection Card – JSY card.

**Note 2:** The ANM/ASHA/MO should make it clear to the beneficiary that the government is not responsible for the cost of the delivery if she chooses to go to an accredited private institution for the delivery. She will only get her entitled cash.

**Note 3:** The scheme does not provide for the ASHA's package for women who choose to deliver in an accredited private institution.

4. *Disbursement of cash assistance:* As the cash assistance to the mother is meant mainly for meeting the cost of the delivery, it should be disbursed at the institution itself.
  - a) The mother and the ASHA (wherever applicable) should get their entitled money at the health centre immediately on registration for delivery.
  - b) Generally the ANM/ASHA should carry out the entire disbursement process. However, till the ASHA joins, an AWW or any identified link worker may also carry out the disbursement under the guidance of the ANM.
  - 4.1 In the case of pregnant women who choose to go to a public health institution for the delivery, the entire cash entitlement should be disbursed at the health institution *at one go*.
  - 4.2 In LPS and HPS, BPL pregnant women, who are 19 years of age and above and prefer to deliver at home, are entitled to a cash assistance of Rs 500 per delivery up to two live births. The disbursement of such assistance should be carried out at the time of delivery or around seven days before the delivery by an ANM/ASHA/any other link worker. The rationale is that the beneficiary would be able to use the cash assistance for her care during delivery or to meet the incidental expenses of delivery. It should be the responsibility of the ANM/ASHA/MO at the PHC to ensure timely disbursement of such assistance. Women choosing to deliver at home must have a BPL certificate to access JSY benefits.
5. *Compensation money:* If the mother *or* her husband, of their own will, undergoes sterilisation, immediately after the delivery, the compensation money available under the existing Family Welfare Scheme should also be disbursed to the mother at the hospital itself.
6. *Accrediting private health institutions:* In order to increase the choice of delivery care institutions, at least two willing private institutions per block should be accredited to provide delivery services. The state and district authorities should draw up a list of criteria/protocols for such accreditation.
7. *Equipping SCs for normal delivery:* Women living in tribal and hilly districts find it difficult to access a PHC/CHC for maternal care or delivery. A well-equipped SC is a better option in such areas. Deliveries conducted in SCs which are accredited by the state/district authorities will be considered as institutional deliveries, and women delivering in such centres would be eligible for cash assistance under JSY.

**Important:** All states and UTs must undertake a process of accreditation of all such SCs, located in Government buildings and have adequate facilities, including electric and water supply, and the medical requirements of basic obstetric services, such as drugs, equipment and the services of a trained midwife.

## 8. **Monitoring:**

- 8.1 *Monthly meeting:* To assess the effectiveness of implementation of the JSY, ANMs should hold monthly meetings of all ASHAs/related link health workers under them, possibly on a fixed day (such as the third Friday) of every month, at the SC or at any anganwadi centre falling under their jurisdiction. If the scheduled day happens to be a holiday, the meeting could be held on the following working day.
- 8.2 *Monthly work schedule:* At each monthly meeting, the ANM, besides reviewing the current month's work vis-à-vis the envisaged activities, should prepare a work schedule for the month ahead for each ASHA/village-level health worker on the following:

### ***Feedback on previous month's schedule***

- (a) The number of pregnant women who missed antenatal check-ups
- (b) The number of cases in which the ASHA/link worker did not accompany the pregnant women for delivery
- (c) The number of identified beneficiaries who had home deliveries
- (d) The number of postnatal visits missed by the ASHA
- (e) The cases referred to the FRU and review of their current health status
- (f) The number of children who missed immunisation

### ***Fixing next month's work schedule***

- (a) Note the names of the pregnant women identified for registration and taken to the health centre/anganwadi centre for ANC.
- (b) Note the names of the pregnant women to be taken to the health centre for delivery (wherever applicable).
- (c) Note the names of the pregnant women with possible complications to be taken to the health centre for check-up and/or delivery.
- (d) Note the names of women to be visited (within 7 days) after delivery.
- (e) Prepare a list of infants/newborns for routine immunisation.
- (f) Ensure the availability of imprest cash.
- (g) Check whether referral transport has been organised.

**Note 1:** While no target needs to be fixed, some monthly goal for institutional deliveries for the village may be kept in mind for the purpose of monitoring.

**Note 2:** A format of the monthly work schedule, to be filled by the ANM/ASHA, may be printed. The format should incorporate the physical and financial aspects of the schedule.

## ANNEXURE III: Referral Slip

Name of the Referring Facility:

Address:

Telephone:

Name of Mother: \_\_\_\_\_ Age: \_\_\_\_\_ Yrs:

Husband's Name: \_\_\_\_\_

Address: \_\_\_\_\_

Referred on \_\_\_/\_\_\_/\_\_\_ ( d/m/yr) at \_\_\_\_\_ (time) to \_\_\_\_\_

\_\_\_\_\_ (Name of the facility) for management.

Provisional Diagnosis:

Admitted in the referring facility on \_\_\_/\_\_\_/\_\_\_ ( d/m/yr) at \_\_\_\_\_ (time) with chief complaints of :

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Summary of Management (Procedures, Critical Interventions, Drugs given for Management):

Investigations:

- Blood Group:
- Hb:
- Urine R/E:

Condition at time of Referral:

Consciousness:    Temp:                      Pulse:                      BP:

Others (Specify): \_\_\_\_\_  
\_\_\_\_\_

Information on Referral provided to the Institution Referred to: Yes / No

If yes, then name of the person spoken to: \_\_\_\_\_

Mode of Transport for Referral : Govt/Outsourced/EMRI/Personal/Others/None

Signature of Referring Physician/MO  
(Name/Designation/Stamp)

## ANNEXURE IV: Activities to be carried out at each ANC visit

### Activities to be carried out at each ANC visit

ACTIVITIES		VISITS			
		1st visit Before 12 weeks	2nd visit 14–26 weeks	3rd visit 28–34 weeks	4th visit (36 weeks to term)
History-taking	Date of LMP				
	Order of pregnancy, birth interval				
	Symptoms during present pregnancy				
	History of previous pregnancies				
	History of systemic illnesses				
	Family history of systemic illnesses				
	History of drug intake or allergies/habit-forming substances				
Physical examination General	Pallor				
	Pulse				
	Respiratory rate				
	Blood pressure				
	Oedema				
	Weight				
	Jaundice				
	Breast examination				
Any other					
Abdominal examination	Fundal height (in weeks)				
	Foetal lie and presentation				
	Foetal heart rate				
	Foetal movements				
	Multiple pregnancy/breech presentation/transverse lie-Refer in these conditions				
Laboratory investigations	Haemoglobin estimation				
	Urine test for sugar				
	Urine test for proteins				



ACTIVITIES		VISITS			
		1st visit Before 12 weeks	2nd visit 14–26 weeks	3rd visit 28–34 weeks	4th visit (36 weeks to term)
	Blood group, including Rh factor				
	Rapid test for syphilis				
Interventions	IFA supplementation given				
	TT injection (2 injections)				
	Malaria (conduct rapid diagnostic test only in endemic areas)				
Counselling	Planning and preparing for birth (birth preparedness)				
	Recognising and preparing for danger signs (complication readiness)				
	Diet and rest				
	Infant-feeding				
	Sex during pregnancy				
	Domestic violence				
	Contraception				

Denotes activities that need not be repeated

**Note:** The first visit refers to a woman's first contact with the ANM/clinic. If the first visit is later than recommended then carry out all the activities recommended up to time of the first visit regardless of the gestational age.

*Remember that it is not advisable to give a pregnant woman any medication during the first trimester unless advised by a physician. Even then it must be ensured that the drugs given are proven to be safe during pregnancy and do not have teratogenic effects (causing disability/defects) on the foetus.*

# ANNEXURE V: Counselling Guide Post-partum Family Planning

## Counselling Guide: Post-partum Family Planning

Methods	Benefits	Limitations	Client Considerations
Lactational Amenorrhea Method (LAM)	<ul style="list-style-type: none"> <li>• Good for mother and newborn</li> <li>• Can be used right after delivery – no delay</li> <li>• No additional supplies/materials/expense</li> <li>• 98% effective if all three criteria met</li> </ul>	<ul style="list-style-type: none"> <li>• Does not protect against STIs, including HIV/AIDS</li> <li>• Short-term method – reliable for six months</li> </ul>	<ul style="list-style-type: none"> <li>• Effective if ALL three criteria are met:               <ol style="list-style-type: none"> <li>1. Exclusive breastfeeding, day &amp; night</li> <li>2. Monthly bleeding has not returned</li> <li>3. Baby is less than six months old</li> </ol> </li> </ul> <p>Transition to another contraceptive method if any of the three criteria are not met</p>
Post-partum Intra Uterine Contraceptive Device (IUCD)	<ul style="list-style-type: none"> <li>• Can be used right after delivery (first 48 hours) – no delay</li> <li>• &gt;99% effective</li> <li>• Immediate return of fertility after removal</li> <li>• Short-term or long-term protection</li> </ul>	<ul style="list-style-type: none"> <li>• First few cycles may be heavier, more painful</li> <li>• Does not protect against STIs, including HIV/AIDS</li> </ul>	<p>Not appropriate for women who have:</p> <ul style="list-style-type: none"> <li>• Cervical cancer or trophoblastic disease</li> <li>• Uterine distortion (fibroids, septum)</li> <li>• Very high risk of having Gonorrhoea/Chlamydia</li> <li>• AIDS and not clinically well/on ARV therapy</li> </ul> <p>Delay insertion until after six weeks post-partum, if not inserted during first 48 hours post-partum</p>
Combined Oral Contraceptive Pills (COCs)	<ul style="list-style-type: none"> <li>• Safe for nearly all women</li> <li>• About 99% effective, if used correctly</li> <li>• No delay in return of fertility after stopping</li> <li>• Protects against cancer of ovaries and lining of uterus</li> </ul>	<ul style="list-style-type: none"> <li>• Must remember to take a pill every day</li> <li>• May have irregular bleeding with first few cycles</li> </ul>	<p>Not appropriate for women who:</p> <ul style="list-style-type: none"> <li>• Has liver cirrhosis, infection or tumor</li> <li>• Has blood pressure 140/90 or higher</li> <li>• Is more than 35 years old and smokes</li> <li>• Has ever had stroke, blood clot, heart attack</li> </ul> <p>Delay start until 6 months for breastfeeding woman and 3 weeks for non-breastfeeding woman</p>
Emergency Contraception Pills (ECPs)	<ul style="list-style-type: none"> <li>• Safe for nearly all women</li> <li>• Prevents pregnancy from unprotected sexual intercourse 72 hours prior to the use of ECPs only</li> <li>• No delay in return of fertility after stopping as they are used as Emergency Contraception only and not as regular contraceptive pills</li> </ul>	<ul style="list-style-type: none"> <li>• Pill must be taken within 72 hours of unprotected sexual intercourse</li> <li>• Does not protect against STIs, including HIV/AIDS</li> </ul>	<ul style="list-style-type: none"> <li>• May be used anytime during the postnatal period within 72 hours following unprotected sexual intercourse</li> <li>• To stay protected, the women should start using another regular, appropriate contraceptive method immediately</li> <li>• Can provide supply before discharge</li> </ul>
Progestin-only Injection (DMPA)	<ul style="list-style-type: none"> <li>• Safe for nearly all women</li> <li>• &gt; 99% effective if all injections are taken on time</li> <li>• Does not require daily action</li> <li>• May cause monthly bleeding to stop in some women</li> </ul>	<ul style="list-style-type: none"> <li>• Does not protect against STIs, including HIV/AIDS</li> <li>• Requires injection every three months</li> <li>• Return of fertility is often delayed</li> </ul>	<ul style="list-style-type: none"> <li>• May be used immediately after delivery in the non-breastfeeding woman, and at 6 weeks for the breastfeeding woman</li> <li>• Injection may be up to two weeks early or late</li> </ul> <p>Can be started immediately after childbirth for non-breastfeeding women</p> <p>Delay start until six weeks for breastfeeding woman</p>

Methods	Benefits	Limitations	Client Considerations
Progestin-only Injection (DMPA)	<ul style="list-style-type: none"> <li>• Safe for nearly all women</li> <li>• &gt; 99% effective if all injections are taken on time</li> <li>• Does not require daily action</li> <li>• May cause monthly bleeding to stop in some women</li> </ul>	<ul style="list-style-type: none"> <li>• Does not protect against STIs, including HIV/AIDS</li> <li>• Requires injection every three months</li> <li>• Return of fertility is often delayed</li> </ul>	<ul style="list-style-type: none"> <li>• May be used immediately after delivery in the non-breastfeeding woman, and at 6 weeks for the breastfeeding woman</li> <li>• Injection may be up to 2 weeks early or late</li> </ul> <p>Can be started immediately after childbirth for non-breastfeeding women</p> <p>Delay start until 6 weeks for breastfeeding woman</p>
Condom	<ul style="list-style-type: none"> <li>• Can protect against pregnancy and some sexually transmitted infections, including HIV</li> <li>• Can use as soon as couple resumes intercourse</li> </ul>	<ul style="list-style-type: none"> <li>• Must have reliable access to resupply</li> <li>• About 85% effective</li> </ul>	<ul style="list-style-type: none"> <li>• Must be used with EVERY act of sexual intercourse</li> <li>• Must be used correctly every time</li> <li>• Can provide supply at the time of discharge</li> </ul>
Female Sterilisation	<ul style="list-style-type: none"> <li>• Permanent method of FP</li> <li>• &gt;99% effective</li> <li>• Simple procedure, serious complications rare`</li> </ul>	<ul style="list-style-type: none"> <li>• Does not protect against STIs, including HIV/AIDS</li> <li>• Requires surgical procedure</li> </ul>	<ul style="list-style-type: none"> <li>• For women who are certain that they want any more children.</li> <li>• Hospitals must be equipped to offer surgical procedures</li> </ul> <p>Can be done after 24 hours post-deliver up to seven days and after six weeks post-partum</p>
No-Scalpel Vasectomy (NSV) (For husbands)	<ul style="list-style-type: none"> <li>• Safe and simple surgical procedure</li> <li>• Permanent method of FP</li> <li>• 97-98 % effective</li> </ul>	<ul style="list-style-type: none"> <li>• Does not protect against STIs, including HIV/AIDS</li> <li>• Requires surgical procedure</li> </ul>	<ul style="list-style-type: none"> <li>• For couples who are certain that they do not want any more children</li> <li>• Hospitals must be equipped to offer surgical procedures</li> <li>• The couples should use other methods of contraception like condoms, OCPs and others for three months post-NSV procedure as the procedure takes three months to become effective</li> </ul> <p>Can be adopted anytime during pregnancy and after delivery.</p>

## ANNEXURE VI: Discharge Slip

### Name of the SC/PHC/CHC/FRU/DH :

Name of the Mother: Reg. No. :

Age :

Address:

Date and Time of Admission :

Date and Time of Delivery :

Date and Time of Discharge :

Mode of Delivery : Vaginal/Instrumental/LSCS :

Indication for Instrumental/LSCS :

Delivery Outcome: (Live/Multiple/Preterm/SB/Abortion/Any other)

Details of the baby :

Sex :      Weight :      BF initiation: (mention duration in min. after delivery):

Investigation done : (if any, both for the mother and baby):

Any h/o complications : (if any, both for the mother and baby):

Mother

Baby

(also mention immunisation given):

Condition at Time of discharge :

Advice given at time of discharge :

Date and place of next f/up :

Signature and Name of Health Care Provider :

Designation :

# ANNEXURE VII: Operational Guidelines of Maternal and Newborn Health

## Home Delivery with Skilled Birth Attendant

### A. Home Delivery Kit

The delivery kit should contain disposable items, as well as supplies and essential drugs required for conducting a home delivery.

**POCKET 1:** Disposable delivery kit (soap; new blade; clean thread; clean sheet; gloves; plastic apron; gauze piece)

#### **POCKET 2:** Drugs

Gentamicin injection  
Magnesium sulphate injection 50%  
Oxytocin injection  
Ampicillin capsules  
Metronidazole tablet  
Misoprostol tablets  
Paracetamol tablets  
ORS

#### **POCKET 3:** Supplies

Syringes with needle (2 ml, 5 ml, 10 ml)  
Needles 22 G  
Intravenous set

Ringer lactate solution, 500 ml  
Adhesive tape  
Blood pressure apparatus with stethoscope  
Foetoscope  
Measuring tape  
Partographs  
Dipsticks for testing sugar and proteins in urine  
Puncture-proof box  
Thermometer  
Spirit, cotton and gauze  
Torch  
Foley's catheter  
Mucus sucker  
Ambu bag and mask  
Mouth gag  
Trash bag

### B. Home Birth Checklist

Clean home  
Clean surfaces in room where woman will give birth  
Light for birth attendant (flashlight)  
Clean gowns for mother

Sanitary napkins  
Bath towels  
Clean sheets  
Plastic sheeting to protect mattress (to be placed under sheets during delivery – can cut up large plastic bags if necessary)  
Disinfectant soap  
Cord clamp/Thread which can be boiled.  
Disposable sterile new blade (to cut the cord)  
Disposable single-use gloves  
One trash can (preferably lined with plastic bags) for trash and/or waste products  
Clean cotton blankets to receive newborn  
Diapers  
Clean clothes for newborn  
If it is cold, a source of heat should be provided so that the newborn is not born into a cold environment. A 200 watt bulb is appropriate. A traditional heating option, which generates minimal smoke, in case there is no electricity, may be used.

# ANNEXURE VIII: Suggested List of Equipment, Supplies and Drugs

## SUB-CENTRE

Labour room: 4050 mm x 3000 mm

Clinic room: 3300 mm x 3300 mm

Examination room: 1950 mm x 3000 mm

## Skilled Birth Attendance at Sub-Centre: Equipment, Supplies and Drugs

Suggested list of required furniture, other fittings and sundry articles at the Sub-Centre as per Indian Public Health Standards (can be modified as per the local situation).

### A. Furniture and Sundry Articles

#### Furniture

Examination table

Labour table with mattress, pillow and Kelly pad

Writing table, armless chairs

Medicine chest

Wooden/Steel screen, curtains

Foot stool

Bedside table

Revolving stools

Almirah

Wooden side rack

Basin stand

#### Sundry articles

Plastic buckets, basins, mugs

Lamp/torch/candle and matchbox

Kerosene stove

Saucepan with lid

Mackintosh

Drum with tap for storing water (where piped water supply is unavailable)

Dustbin

#### Supplies

Cleaning material (detergent)

#### Linen

Bedsheets

Towels for mother

Towels for baby

Blankets for mother and baby

Clock

### B. Equipment and Supplies

#### For Obstetric Care

##### Minor equipment

Blood pressure apparatus with stethoscope

Weighing machine (adult)

Weighing machine (baby)

Inch tape

Thermometer (oral and rectal)

Partograph Charts

Instrument tray with cover (310 x 195 x 63 mm)

Kidney trays (1 big and 1 small)

Dressing drum

Cheatle forceps

Cord cutting scissor (Umbilicus – Blunt )

Artery forceps

Surgical scissors, cord-cutting scissors

Sponge holder

Foetoscope

Intravenous stand

Vaccine carrier

Ice pack box

#### Supplies

Hypochlorite solution

Disposable syringes and needles (10 cc, 5 cc and 2 cc)

Foley urethral catheter

Intravenous set

Sponge holding forceps

#### For Newborn Corner

Radiant warmer/200-watt bulb

Neonatal Ambu bag with face mask

Oxygen cylinder

Nasal catheter

Mucus extractor

Cord ties

#### For Laboratory Equipment

Haemoglobinometer (Sahle kit) with reagents and lancet

Dipsticks (for testing urine albumin and sugar)

Reagents such as sulphuric acid, acetic acid, Benedict solution

Specimen collection bottle (in case

Note: This list of annexures containing equipment, supplies and drugs is not comprehensive. For details, refer to the appropriate GoI guidelines and protocols.

uristix and diastix not available)  
Microscope glass slides  
(100 in a packet)  
Cover slips (25 in a packet)

### Supplies

Test-tubes, holder, test-tube stand  
match box, spirit lamp

## C. Drugs & Supplies

### Kit A

ORS IP  
IFA tablets—large  
Folic acid tablets IP  
IFA tablets—small  
Trimethoprim and  
sulphamethoxazole tablets IP  
(paediatric)  
Methylrosanilinium chloride BP  
(gentian violet crystals)  
Zinc sulphate dispersible tablets USP

IFA syrup (as per standards provided)  
Water-miscible vitamin concentrate  
IP (Vitamin A syrup)

### Kit B

Methylergometrine tablets IP  
Misoprostol tablets  
Oxytocin injection  
Paracetamol tablets  
Methylergometrine injection  
Albendazole tablets  
Dicyclomine tablets  
Chloramphenicol eye ointment  
Povidone iodine ointment  
Cotton bandage  
Absorbent cotton  
Intravenous fluids (Ringer lactate)

### Others Drugs

Gentamicin injection  
Magnesium sulphate injection 50%  
Oxytocin injection  
Ampicillin capsules

Metronidazole tablet  
Misoprostol tablets  
Paracetamol tablets  
ORS  
(Individual drugs to be refilled in kits  
as required)

## D. Infection Prevention and Waste Disposal

Sterile gloves  
Plastic apron, caps, masks, shoe  
cover, eye wear  
Surgical brush for scrubbing  
Boiler/Steriliser  
Autoclave (pressure cooker)

## E. Basic amenities for the labour room

1. Attached toilet
2. Tank for water storage
3. Electricity back-up

# ANNEXURE IX: Procedures and Drugs Permitted for Use by Skilled Birth Attendants

## Procedures and Drugs Permitted for Use by Skilled Birth Attendants

S. No.	Condition	Procedure / Drugs
1.	Active Management of third stage of labor	SBA should be proficient in AMTSL: <ul style="list-style-type: none"> <li>• Administration of Uterotonics (Injection Oxytocin/Tablet Misoprostol)</li> <li>• Controlled Cord Traction.</li> <li>• Uterine massage.</li> </ul>
2.	Diagnosis of prolonged labour	Plotting a partograph for every woman in labour
3.	Prevention of PPH	Active management of the third stage of labour <ul style="list-style-type: none"> <li>• Administering Oxytocin injection (10 IU, intramuscular) for deliveries at SC/PHC/FRU/health facility</li> </ul> OR Giving misoprostol tablet (3 tablets of 200 mcg each, orally; total of 600 mcg) for home deliveries <ul style="list-style-type: none"> <li>• Providing controlled cord traction</li> <li>• Conducting uterine massage</li> </ul>
4.	Management of PPH	<ul style="list-style-type: none"> <li>• Administering Oxytocin injection (10 IU, intramuscular). (if not given during AMTSL)</li> <li>• Administering 20 IU oxytocin in 500 ml of Ringer lactate, intravenous, at the rate of 60 drops per minute</li> <li>• Referring to FRU (if intravenous cannot be given, referring after administering Oxytocin injection (10 IU, intramuscular)</li> </ul>
5.	Management of eclampsia	Giving one dose of magnesium sulphate (10 ml) of 5 g, deep intramuscular, in each buttock <ul style="list-style-type: none"> <li>• Referring to an FRU</li> </ul>
6.	Vaginal or perineal tears	<ul style="list-style-type: none"> <li>• Identifying different degrees of tears</li> <li>• Managing first-degree tears by applying pad and pressure</li> <li>• Referring for second- and third-degree tears</li> </ul>
7.	Management of puerperal infections/PROM/Delayed (Secondary) PPH	Giving first dose of the following antibiotics and referring <ul style="list-style-type: none"> <li>• Gentamycin injection (80 mg, intramuscular)</li> <li>• Ampicilin capsule (1000 mg, orally)</li> <li>• Metranidazole tablet (400 mg, orally)</li> </ul>
8.	Incomplete abortion with bleeding P/V	Digital removal of retained products of conception







### Mother and Child Protection Card

Photograph of Mother & Child

#### Family Identification

Mother's Name \_\_\_\_\_ Age  /  /   
Father's Name \_\_\_\_\_  
Address \_\_\_\_\_  
Mother's Education: illiterate/primary/middle/high school/graduate

#### Pregnancy Record

Mother's ID No. \_\_\_\_\_  
Date of the last menstrual period  /  /   
Expected date of delivery  /  /   
No. of pregnancies/ previous live births  /   
Last delivery conducted at: Institution  Home   
Current delivery: Institution  Home   
JSY Registration No. \_\_\_\_\_  
JSY payment Amount  Date  /  /

#### Birth Record

Child's Name \_\_\_\_\_  
Date of Birth  /  /  Birth Weight  kgs  gms  
Girl  Boy  Birth Registration No:

#### Institutional Identification

AWW \_\_\_\_\_ AWC/Block \_\_\_\_\_  
ASHA \_\_\_\_\_ ANM \_\_\_\_\_  
SHC / Clinic \_\_\_\_\_  
PHC / Town \_\_\_\_\_ Hospital / FRU \_\_\_\_\_  
Contact Nos. ANM \_\_\_\_\_ Hospital \_\_\_\_\_  
Transport Arrangement \_\_\_\_\_

AWC Reg. No.  Date  /  /  Sub-centre Reg. No.  Date  /  /

Referral

## Regular checkup is essential during pregnancy

Months	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Registration	Register with the health centre in the first trimester.								
ANC	Have at least 3 antenatal checkups, after registration								
BP, Blood & Urine	Have blood pressure (BP) checked and blood and urine examined at each visit.								
Weight	Have weight checkup at each visit. Gain at least 10-12 kg. during pregnancy. Gain at least 1kg every mth. during the last 6 mths. of pregnancy.								
T.T. Injection	Take two T.T. injections. T.T.1 when pregnancy is confirmed and T.T.2 after 1 month. (Fill in the date)								
Iron Tablets	Take one tablet of iron and folic acid a day for at least 3 months. Take at least 100 tablets. (Fill in quantity and date issued)								

#### Care During Pregnancy

- ◆ Consume a variety of foods
- ◆ Consume more food – around 1/4th times extra than the normal diet
- ◆ Consume SNP from the AWC regularly
- ◆ Take at least two hours of rest during the day. In addition to 8 hours of rest at night.
- ◆ Use only adequately iodised salt

Ensure nutrition counselling at every ANC

## ANTENATAL CARE

### OBSTETRIC COMPLICATION IN PREVIOUS PREGNANCY (Please tick (✓) the relevant history)

- A. APH  B. Eclampsia  C. PIH
- D. Anaemia  E. Obstructed labor  F. PPH
- G. LSCS  H. Congenital anomaly in baby  I. Others

### PAST HISTORY (Please tick (✓) the box of the appropriate response/s)

- A. Tuberculosis  B. Hypertension  C. Heart Disease
- D. Diabetes  E. Asthma  F. Others

### EXAMINATION

General Condition	Heart	Lungs	Breasts
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### ANTENATAL VISITS

	1	2	3	4
Date				
Any complaints				
POG (Weeks)				
Weight (Kg)				
Pulse rate				
Blood pressure				
Pallor				
Oedema				
Jaundice				

### ABDOMINAL EXAMINATION

Fundal height				
Weeks/cm				
Lie/Presentation				
Fetal movements	Normal/Reduced/Absent	Normal/Reduced/Absent	Normal/Reduced/Absent	Normal/Reduced/Absent
Fetal heart rate per minute				
P/V if done				

### ESSENTIAL INVESTIGATIONS

Hemoglobin			
Urine albumin			
Urine sugar			
Signature of ANM			

Blood Group & Rh Typing.  Date  /  /

- #### OPTIONAL INVESTIGATIONS
1. Urine pregnancy test.  Date  /  /
  2. Hbs Ag.  Date  /  /
  3. Blood sugar.  Date  /  /

## If you or anyone in your family sees any of these danger signs, take the pregnant woman to the hospital immediately

- Bleeding during pregnancy, excessive bleeding during delivery or after delivery
- Severe Anaemia with or without breathlessness
- High fever during pregnancy or within one month of delivery
- Bursting of water bag without labour pains
- Labour pain for more than 12 hours

#### Ensure Institutional Delivery

- Contact ASHA/ANM/AWW
- Register under Janani Suraksha Yojna (JSY)
- Obtain Benefits under JSY
- Identify Hospital in Advance
- Arrange for Transport in Advance
- Ensure 48 hours of stay after delivery

#### Preparation in case of Home Delivery

- ✓ Clean hands
- ✓ Clean surface & surroundings
- ✓ Clean blade
- ✓ Clean umbilical cord
- ✓ Clean thread to tie the cord
- ✓ Clean set of clothes for newborn

#### Emergency

- Arrange Transport to Hospital

#### After Delivery

- Initiated Breastfeeding within 1 Hour of Birth Yes  No.
- Family Planning Counselling

Ensure early and exclusive breastfeeding 0-6 months

## POST NATAL CARE

Date of delivery      Place of delivery  Type of Delivery N.  Instr.  CS   
Term/Preterm \_\_\_\_\_ If at institution period of stay post delivery \_\_\_\_\_  
Complications, if any (Specify) \_\_\_\_\_  
Sex of baby  M  F \*Weight of baby  kg.  gms  
Cried immediately after birth  Y  N  
Initiated exclusive breast feeding within 1 hour of birth  Y  N  
\*(Three extra visits if birth weight < 2.5kg)

### POST PARTUM CARE

	1 <sup>st</sup> Day	3 <sup>rd</sup> Day	7 <sup>th</sup> Day	6 <sup>th</sup> Week
Any complaints				
Pallor				
Pulse rate				
Blood pressure				
Temperature				
Breasts Soft/engorged				
Nipples Cracked/normal				
Uterus Tenderness Present/absent				
Bleeding P/V Excessive/normal				
Lochia Healthy/foul smelling				
Episiotomy/Tear Healthy/infected				
Family planning Counselling				
Any other complications and referral				

### CARE OF BABY

	1 <sup>st</sup> Day	3 <sup>rd</sup> Day	7 <sup>th</sup> Day	6 <sup>th</sup> Week
Urine passed				
Stool passed				
Diarrhea				
Vomiting				
Convulsions				
Activity (good /lethargic)				
Sucking (good/ poor)				
Breathing (fast/difficult)				
Chest indrawing Present/absent				
Temperature				
Jaundice				
Condition of umbilical stump				
Skin pustules Present/absent				
Any other complications				

## NEWBORN CARE

- ◆ Keep the child warm
- ◆ Start breastfeeding within 1 hour after birth.
- ◆ For the first 6 months, feed the baby only mother's milk
- ◆ Do not bathe the child for the first 48 hours
- ◆ Keep the cord dry
- ◆ Keep the child away from people who are sick
- ◆ Weigh your child at birth
- ◆ Give special care if child weighs less than 2.5 kg. at birth
- DANGER SIGNS – SEE HEALTH WORKER**
- ◆ Weak sucking or refuses to breastfeed
- ◆ Baby unable to cry/difficult breathing
- ◆ Yellow palms and soles
- ◆ Fever or cold to touch
- ◆ Blood in stools
- ◆ Convulsions
- ◆ Lethargic or unconscious

### Details of Immunisation

#### Birth to 3 Years

Birth	Birth	Birth	
 B.C.G.	 OPV-0*	 Hepatitis B-0*	* For Institutional Delivery
 OPV-1	 OPV-2	 OPV-3	
 DPT-1	 DPT-2	 DPT-3	 Measles
 Hepatitis B-1	 Hepatitis B-2	 Hepatitis B-3	 Vitamin A

### 16 to 24 months

 DPT Booster	 Polio Booster	 Vitamin A	 Vitamin A
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### 24 to 36 months

 Vitamin A	 Vitamin A
---------------	---------------

**Remember**  
◆ Give Iron & Folic Acid syrup to children over 6 months as prescribed  
◆ Deworm children over 1 year biannually as prescribed

## Feeding, playing and communicating with children helps them grow and develop well

### What children can do

#### 3 to 6 months

- ◆ What children can do  
Around 6 months, most children can  
Hold head steady when held upright
- ◆ Turn to a voice
- ◆ Reach out for objects

- ◆ Have large colourful objects for your child to see and to reach for
- ◆ Talk to & respond to your child. Get a conversation going with sounds or gestures

#### What children can do

#### 0 to 3 months

- ◆ Around 3 months, most children can  
Smile in response
- ◆ Track a ribbon bow
- ◆ Begin to make sounds

- ◆ Smile at your child, look into child's eyes and talk to your child
- ◆ Provide ways for the child to see, hear, feel and move

#### Feeding

- ◆ Start breastfeeding immediately after birth – within 1 hour
- ◆ Exclusively breastfeed for 6 months. Do not give any other food or drinks and not even water
- ◆ Breastfeed as many times as the child wants
- ◆ Breastfeed day and night

Continue breastfeeding during illness

### 6 to 12 months

#### Feeding

- On completion of 6 months, start with small amounts of soft mashed cereal, dal, vegetables and fruits
- Increase the quantity, frequency and thickness of the food gradually
- Understand child's signals for hunger and respond accordingly
- Feed the child 4-5 times a day and continue breastfeeding

**If the child seems slow, increase feeding, talking and playing. If the child is still slow, take the child to a doctor**

### 1 to 2 years

#### Feeding

- Continue to offer a wide variety of foods including family foods, such as rice/chapati, dark green leafy vegetables, orange & yellow fruits, pulses and milk products
- Feed the child about 5 times a day
- Feed from a separate bowl and monitor how much the child eats
- Sit with the child and help her finish the serving
- Continue breastfeeding upto 2 years or beyond

Continue breastfeeding during illness

### 2 to 3 years

#### Feeding

- Continue to feed family foods 5 times a day
- Help the child feed herself / himself
- Supervise feeding
- Ensure hand washing with soap before feeding

**If the child seems slow, increase feeding, talking and playing. If the child is still slow, take the child to a doctor**

Always use adequately iodized salt for the family

### What children can do

Around 9 months most children can

- Sit up from lying position
- Pick up with thumb and finger
- Sit without support

### What you can do

- Give your child clean safe items to handle and things to make sounds with.
- Play games like peek-a-boo.
- Tell the child names of things & people.

Around 1½ years most children can

- Express wants
- Put 3 pebbles in a cup
- Walk well

### What you can do

- Give your child things to stack up & to put into containers and take out.
- Ask your child simple questions. Respond to your child's attempts to talk.

Always use adequately iodized salt for the family

### What you can do

- Help your child count and compare things; make simple toys for your child.
- Encourage your child to talk & respond to your child's questions. Teach your child stories, songs, and games.

Around 2½ years most children can

- Point to 4 body parts
- Feed self spilling little
- Name one colour correctly

### What children can do

- Copy & draw straight line
- Wash hands by herself
- Name 3 out of 4 objects

Child needs extra food after illness

## Feeding, playing and communicating with children helps them grow and develop well

Child needs extra food after illness

### What children can do

- Around 1 year most children can
- Stand well without support
- Wave
- Say papa/mama

### What you can do

- Give your child clean safe items to handle and things to make sounds with.
- Play games like peek-a-boo.
- Tell the child names of things & people.

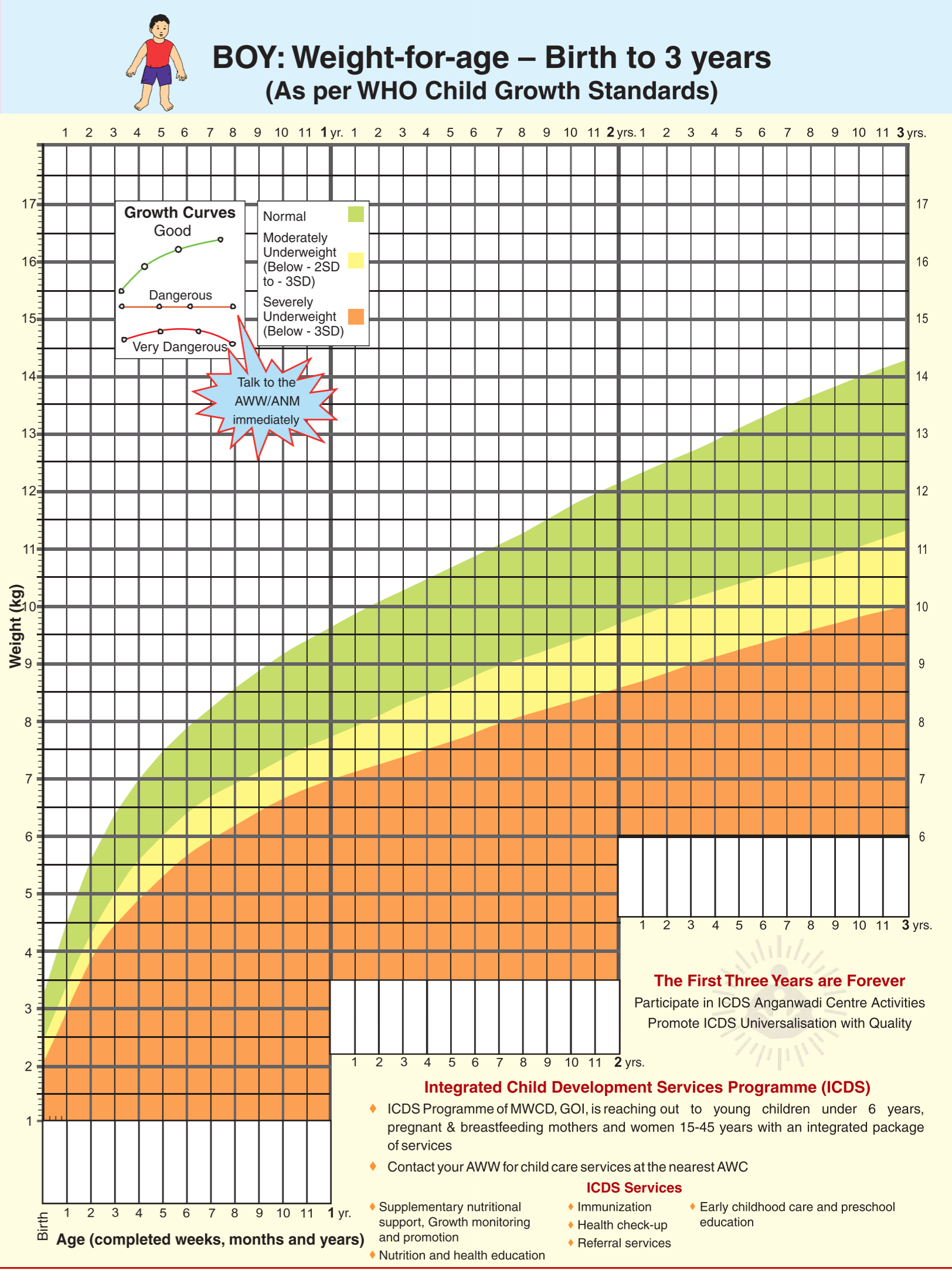
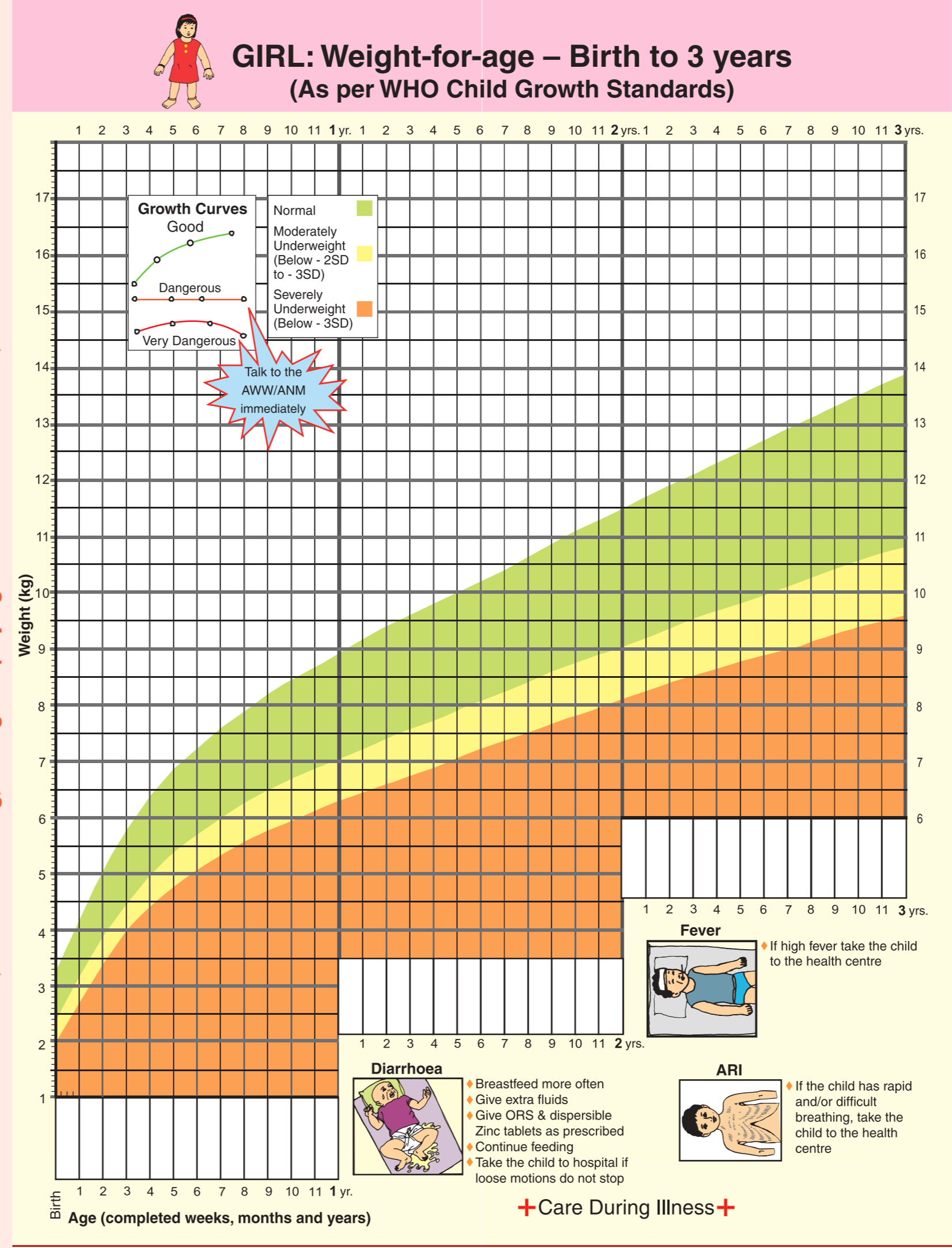
Around 2 years most children can

- Stand on one foot with help
- Say one other word
- Imitate household work

Child needs extra food after illness

**If the child seems slow, increase feeding, talking and playing. If the child is still slow, take the child to a doctor**

Ensure equal care for the girl child



Have your child weighed at the AWC every month

