Reproductive Health Clinical Protocol
for
Paramedics

Government of Nepal
Ministry of Health and Population
Ramshahpath, Kathmandu
Nepal

Phone: 4
262590
262802
262706
262935
262862
262987

Ref:.....

Date: .....

FOREWORD

The Constitution of Nepal 2015 guarantees health to be a fundamental human right and recognizes women's right to safe motherhood and reproductive health (RH). The Government of Nepal is fully committed to ensuring universal access to RH and rights in line with the SDG target 5.6.

Nepal has made significant progress in expanding and improving RH and advancing reproductive rights of women and girls. RH has a long-lasting and significant impact on the health and quality of life of women. However, it is well recognized that more emphasis needs to be given to reaching the poor, marginalized and disadvantaged groups who do not have access to quality RH services. The Safe Motherhood and Reproductive Health Act 2018 obliges the State to provide sexual and reproductive health services to all women, disregarding their conditions and without discrimination.

In order to ensure quality RH services at all level of health facilities, the RH clinical protocol for different cadres of health workers was first developed in 1998. Given the latest evidences and technical advances, the Family Welfare Division has updated the RH clinical protocols for medical officers, staff nurses/auxiliary nurse midwives and paramedics.

We hope that the revised protocols will help health service providers to provide quality RH care based on the latest evidences and technical advances.

I take note with appreciation that a lot of work has been put into the formulation of the protocols. I strongly urge all divisions and centres of Department of Health Services, Ministry of Social Development, and Divisions of Health Services of all provinces, Provincial Heath Directorates, and the stakeholders working in the RH sector to support and ensure the use of these clinical protocols.

I would like to congratulate the Family Welfare Division for taking the lead in updating the RH clinical protocols and thank all who have contributed in revising and updating them.

Khaga Raj Baral
Secretary
Ministry of Health and Population

Government of Nepal
Ministry of Health and Population
Department of Health Service
Teku, Kathmandu

Phone No: 01 4261712
Fax: 01 4262238

FY: 076/077
Ref:

Date:

FOREWORD

Following the endorsement of the concept of reproductive health (RH) at the International Conference on Population and Development, held in Cairo in 1994, the Government of Nepal developed a national RH strategy in 1998. As part of the national RH strategy to ensure quality of RH services, a set of RH clinical protocols was developed for different cadres of health service providers, i.e. medical doctors, staff nurses, health assistants, auxiliary health workers, and auxiliary nurse midwives, in 1998. These RH clinical protocols were developed as a guide for health workers to deliver quality RH services as per the national standards.

In 2007/08, the clinical protocol for medical officers was revised to incorporate the latest technical advancements. Likewise, the protocols for staff nurses and ANMs were merged into one document and updated

Given the recent technical advances and updates in evidence-based guidelines, the Family Welfare Division led the second round of revisions and updates of the RH clinical protocols. The RH clinical protocols for medical officers, staff nurses/auxiliary nurse midwives and paramedics were updated by incorporating recent policy and technical advances to achieve our goal of improving the overall quality and coverage of RH services in Nepal.

I would like to request all divisions and centres of Department of Health Services, Ministry of Social Development and Divisions of Health Services of all provinces and the stakeholders working in the RH sector to support the implementation and monitoring of the use of these clinical protocols.

I would like to congratulate the Family Welfare Division for taking the lead in updating these protocols, Department for International Development (DFID) for financial support, United Nations Population Fund (UNFPA) for their financial and technical support and Jhpiego for their technical support.

Dr. Roshan Pokharel
Director General
Department of Health Services

Government of Nepal
Ministry of Health and Population
Department of Health Service
Family Welfare Division
Teku, Kathmandu

Phone No: 01 4262273
Fax: 01 4256181

FY: 076/077
Ref

Date:

ACKNOWLEDGEMENT

Based on the National Reproductive Health Strategy, Family Welfare Division has been developing and updating reproductive health (RH) clinical protocols since 1998. In 1998, RH protocols were developed for seven different cadres of health service providers, i.e. medical doctors, staff nurses, health assistants, auxiliary health workers, auxiliary nurse midwives, village health workers, and maternal child health workers.

In 2007–2008, the protocol for medical officers was updated using WHO's evidence-based clinical guidelines, and the protocols for nurses and auxiliary nurse midwives were consolidated into one and updated.

Since 2007/08, there have been several advancements in global medical practices and evidence-based approaches. Global guidelines on RH have been updated based on recent evidences. Likewise, Nepal's human resources for health strategy have been updated, for example maternity and child health workers and village health workers are no longer considered health cadres. Furthermore, Nepal has committed to attaining the Sustainable Development Goal target of advancing the sexual and reproductive health and reproductive rights agenda over the next fifteen years (2016-2030).

Therefore, in order to incorporate recent policy and technical advances, Family Welfare Division decided to update the clinical protocols. Under its leadership, a technical working group (TWG) was formed in August 2017 to provide technical oversight for updating the protocols. Following the formation of the TWG, the RH clinical protocols for medical officers, staff nurses/ANMs and paramedics (HAs/AHWs) were reviewed against global and national best practices. Several workshops and meetings were held to update the protocols.

I am pleased to announce the update of the RH clinical protocols for medical officers, staff nurses/ANMs and paramedics. I would like to acknowledge all individuals and institutions who contributed to this important document. I would like to extend my gratitude to DFID for financial support, UNFPA for financial and technical support and Jhpiego for the technical lead.

I would also like to thank the representatives of various organizations such as CARE, Civil Hospital, Creator's IVF Nepal, FHI, FPAN, GIZ, Green Tara Nepal, H4L, Infertility Center, Ipas Nepal, MIDSON, Kathmandu Model Hospital, MSI, NCASC, NESOG, NHSSP, NSI, Nursing Association of Nepal, Nepal Nursing Council, NEPAS, PESON, PMWH, PSI, SISO Nepal, Teku Hospital (Sukraraj Tropical and Infectious Disease Hospital), TUTH, UNICEF, USAID, and WHO for their valuable inputs in updating these clinical protocols.

I am confident that these clinical protocols will help service providers to deliver quality RH services at all levels of health facilities.

Dr. Bhim Singh Tinkari
Director
Family Welfare Division
Department of Health Services

LIST OF TECHNICAL EXPERTS WHO CONTRIBUTED TO THE REVISION OF THE PROTOCOL

Dr. Archana Amatya, Institute of Medicine
Mr. Bali Raj Shahi, Lamatar HP, Lalitpur
Mr. Chet Raj Pandit, Family Welfare Division
Dr. Deeb Shrestha, Ipas Nepal
Mr. Deepak Raj Bhatta, Family Welfare Division
Ms. Dhana Basnet, Family Health Division
Mr. Guru Prasad Sharma, Dhapakhel HP, Lalitpur
Mr. Harjir Man Rai, Paropakar Maternity and Women's Hospital
Dr. Kalpana Subedi, Paropakar Maternity and Women's Hospital
Mr. Krishna Pd Nagila, National Centre for AIDS and STD Control
Ms. Kumari Bhattarai, Family Welfare Division
Mr. Khumananda Subedi, Skill Information Society Nepal
Mr. Madan R. Bhatta, Family Planning Association of Nepal
Mr. Madav Bhusal, Nick Simon Institute
Ms. Meena Mote, Family Welfare Division
Ms. Melisha Shrestha, Siddhipur HP
Ms. Neera Thakur, United Nations Population Fund
Dr. Neeta Shrestha, United Nations Population Fund
Ms. Nujan Sharma, Family Welfare Division
Mr. Om Khanal, Family Welfare Division
Mr. Padam Bdr. Khadka, Sisneri HP, Okhaldhunga
Dr. Pooja Pradhan, World Health Organization
Dr. Punya Paudel, Family Welfare Division
Dr. Rajendra Bhadra, H4L, Jhpiego
Dr. Rajendra Gurung, Nepal Health Sector Support Programme
Mr. Ram Chandra Silwal, Green Tara
Dr. Roshani Amatya, Jhpiego
Mr. Sanjay Shrestha, CARE Nepal
Ms. Sita Baniya, Balambu HP
Mr. Susheel Kant Sen, Tapeswori HP, Udaypur
Mr. Shanker Pandey, Teku Hospital (Sukraraaj Tropical and Infectious Disease Hospital)
Ms. Shovana Rai, Nick Simon Institute
Mr. Umesh Kumar Tamang, Ketuke HP, Okhaldhunga
Mr. Uttam Neupane, Consultant
Mr. Yadav Prasad Ghimire, Lubhu PHC, Lalitpur

ABBREVIATIONS

AHW	Auxiliary Health Worker
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
APH	Antepartum Haemorrhage
ARM	Artificial Rupture of Membrane
ARV	Antiretroviral
ATS	Antitetanus Serum
BCG	Bacile Calmette-Guerin
BP	Blood Pressure
BPM	Beats Per Minute
BT	Bleeding Time
BV	Bacterial Vaginosis
CA	Candida Albicans
CAC	Comprehensive Abortion Care
CEOC	Comprehensive emergency Obstetric Care
COCP	Combined Oral Contraceptive Pills
CPD	Cephalo Pelvic Disproportion
CS	Cesarean Section
CSF	Cerebrosphinal Fluid
CT	Chlamydia Trachomatis
D/D	Differential Diagnosis
DBP	Diastolic Blood Pressure
DIC	Disseminated Intravascular Coagulation
DMPA	Depot Medroxy Progesterone Acetate
DPT	Diphtheria Polio tetanus
DVT	Deep Vein Thrombosis
ECV	External Cephalic Version
EDD	Expected Date of Delivery
FHS	Foetal Heart Sound
FP	Family Planning
G	Gram
G6PD	Glucose 6-phosphate Dehydrogenase
GBV	Gender Based Violence
Gc	Gonorrhea
H/o	History of
Hb	Haemoglobin
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
HRT	Hormone Replacement Therapy
HW	Health Worker
I/M	Intra Muscula
I/V	Intra Venous
Inj	Injection
IPPV	Intermittent Positive Pressure ventilation
IU	International Unit
IUCD	Intrauterine Contraceptive Device
IUGR	Intra Uterine Growth Retardation
kg	Kilogram

LAM	Lactational Amenorrhoea Method
LFT	Liver function Test
LMP	Lymphogranuloma Venereum
MCHW	Maternal and Child Health Worker
mg	Milligram
$MgSO_4$	Magnesium Sulphate
ml	Milliliter
MO	Medical Officer
MVA	Manual Vacuum Aspiration
NNT	Neonatal Tetanus
NS	Normal Saline
NSV	No Scalpel Vasectomy
O_2	Oxygen
OCP	Oral Contraceptive Pill
ORS	Oral Rehydration Salts
OT	Opportunistic Infection
PA	Per Abdominal
PV	Per Vaginal
PAFP	Post Abortion Family Planning
PCV	Packed Cell Volume
PEP	Post Exposure Prophylaxis
PID	Pelvic Inflammatory Disease
PMTCT	Prevention of Mother to Child Transmission
POC	Products of Conception
PPFP	Postpartum Family Planning
PPH	Postpartum Haemorrhage
PR	Per Rectal
PROM	Premature Rupture of Membranes
R/E	Routine Examination
RBC	Red Blood Cells
RL	Ringers Lactate
RV	Retroverted
SBA	Skill Birth Attendant
SBP	Systolic Blood Pressure
SN	Staff Nurse
STI	Sexually Transmitted Infection
SVD	Spontaneous Vaginal Delivery
TB	Tuberculosis
TPR	Temperature, Pulse, Respiration
TT	Tetanus Toxoid
TV	Trichomonas Vaginitis
USG	Ultra Sonography
UTI	Urinary Tract Infection
VCT	Voluntary Counseling and Testing
VDRL	Venereal Disease Research Laboratory
VHW	Village Health Worker
VILI	Visual inspection with Lugol's Iodine
VSC	Voluntary Surgical Contraception
VVF	Vesico Vaginal Fistula

Table of Contents

BACKGROUND

At the International Conference on Population and Development, held in Cairo in 1994, governments, including that of Nepal, adopted a revolutionary Programme of Action and called for women's reproductive health and rights to take the centre-stage in national and global development efforts. Specifically, the Programme of Action called for all people to have access to comprehensive reproductive healthcare, including voluntary family planning, safe pregnancy and childbirth services, and the prevention and treatment of sexually transmitted infections (STIs). It was also recognized that reproductive health and women's empowerment are intertwined and both are necessary for the advancement of society.

The Constitution of Nepal 2072 has assured the right of access to basic healthcare services. In addition, it guarantees women's right to reproductive health. The Public Health Act 2075 talks about the right to access to quality reproductive health services. Likewise, the Right to Safe Motherhood and Reproductive Health Act 2075 guarantees the right to reproductive health services, counselling and information.

WHO defines reproductive health (RH) as a state of complete physical, mental and social wellbeing and not merely the absence of disease and infirmity in all matters relating to reproductive system and its functions and processes. RH, therefore, includes:

- The right to have a safe sexual life
- The right to have the capability to reproduce and have freedom to decide when and how often to do so
- The right to women to have choices for regulation of fertility which are not against the law
- The right to women and men to be informed of, and to have access to, safe, effective, affordable, and acceptable methods of family planning of their choice
- The right of access to appropriate healthcare services that will enable women to go safely through pregnancy and childbirth and to provide couples with the best chance of having a healthy infant.

In addition to these, it includes gender equity and equality, empowerment of women and the provision of universal access to appropriate health services over the lifecycle. Nepal developed its National Reproductive Health Strategy in 1998, which conceptualizes an integrated approach and merges the previously vertical programmes of family planning, safe motherhood and child health. Before 1998, the same reproductive health services existed as today, but service standards were fragmented and services were not consistently provided at designated health facility levels. Therefore, an essential reproductive health package was developed, which includes the information and services that should be offered at each level of the health system.

However, in order to improve both quality and coverage of this basic package of services, more investment would need to be made in outreach activities, referral mechanisms, clinical training, and provision of commodities.

The Elements of the Essential Reproductive Health Package (as outlined in the National Reproductive Health Strategy), Nepal include:

- Family planning
- Safe motherhood
- Newborn care
- STIs/HIV/AIDS
- Adolescent sexual and reproductive health
- Prevention and management of infertility
- Safe abortion services
- Gynaecological morbidities
- Gender-based violence

In the context of structural changes following federalism, Ministry of Health and Population has developed the National Health Policy 2076. The existing policy and plans support the national objectives of reducing infant, child and maternal morbidity and mortality, as well as contributing to reducing total fertility. The new health policy emphasizes quality health services through universal health coverage; special health services for marginalized communities; multi-sectoral involvement and partnership in health systems of federal structure; health governance; and assurance of financial investment. The strategy includes the provision of basic health services though health facilities free of cost; assurance of access to basic healthcare services; establishment of a two-way referral mechanism, etc.

In the past two decades, Nepal has made notable progress on improving the overall health outcomes of citizens. Between 1996 and 2016, the country impressively reduced under five mortality from 118 to 39 per thousand live births and infant mortality from 78 to 32 per thousand live births. Similarly, it was able to reduce Total Fertility Rate (TFR) from 4.6 to 2.3 during 1996-2016. Despite this progress, the country faced many health challenges, including inequity. Many citizens faced financial, social, cultural, geographical, and institutional barriers in accessing health services. Despite efforts to reduce gender inequality, the women of Nepal are still marginalized in society, which affects their health and wellbeing. For the last few decades, the government has emphasized improving access to healthcare services by expanding health facilities and strengthening community-based interventions.

Nepal Health Sector Strategy 2015-2020 (NHSS) is the primary instrument to guide the health sector till 2020. It adopts the vision and mission set forth by the National Health Policy and carries the ethos of constitutional provision to guarantee access to basic health services as a fundamental right of every citizen. It articulates the nation's commitment towards achieving universal health coverage (UHC) and provides the basis for garnering required resources and investments. NHSS places health at the centre of overall socio-economic development. The strategy stands on four strategic principles; one of these is quality health services. It envisions the establishment of an autonomous accreditation body during the NHSS period for quality assurance of health services in public and private sectors. Furthermore, it emphasizes strengthening research and promoting the use of evidence. This strategy stipulates improved quality of care at point-of-delivery as a second outcome among its nine outcomes. Importantly, NHSS has identified three tracer services; out of these, two (ANC and FP) are RH components.

Based on the National Reproductive Health Strategy, Family Welfare Division has been developing and updating RH clinical protocols since 1998. In 1998, RH clinical protocols--seven protocols in total at all levels of Nepal's health system—were developed for health worker cadre.

In 2007–2008, the protocols for medical officers, staff nurse/ANMs, and paramedics were updated using WHO evidence-based clinical guidelines. The protocols covered nine components: Family planning, Safe motherhood, Newborn care, STD/AIDS, Adolescent sexual and reproductive health, Prevention and management of infertility, Safe abortion service, common Gynaecological problems and Gender-based violence. Since 2007/08, several advancements in global best practices and evidence-based approaches such as WHO's 2015 updates to the Medical Eligibility Criteria; WHO's guidelines on using antiretroviral drugs to treat and prevent HIV infection; and the integration of key respectful maternity care principles and practices and updates in family planning. Therefore, it was urgent to update the clinical protocols.

In this regard, under the authority granted by the Constitution, the federal Ministry of Health and Population has revised and updated these clinical protocols under the leadership of the Family Welfare Division after the study of the global updates and through consultative process. A Technical Working Group (TWG) was formed to provide technical oversight for updating the protocols in August 2017. Following the formation of the TWG, the existing RH Clinical Protocols for Medical Officer, Staff Nurses/ANMs and Paramedics (HAs/AHWs) were reviewed against global and national best practices with technical and financial support from UNFPA and technical support from Jhpiego. Several workshops and meetings were held to update these clinical protocols with support from different technical experts.

These protocols are presented in flow charts, which guide healthcare providers to provide quality reproductive healthcare services. By following the given flow charts, healthcare providers will be able to deal with most of the cases.

Objectives of the Protocols

The overall objective of these protocols is to address the gaps in achieving the goal, i.e. "**improved quality of care at point-of-delivery**". The specific objectives are:

- To improve the quality of care for reproductive health of women, men, children, and adolescents through evidence-based protocols for care
- To standardize RH care at different levels of healthcare and enhance the level of performance to ensure quality
- To improve the efficiency and better utilization of services
- To develop tools for monitoring and evaluation of quality of care and regular auditing of services
- To build accountability of the health system

HOW TO USE THESE PROTOCOLS

Getting started

In general

- Read the protocol from top to bottom, both narrative and flowchart, and get acquainted with the contents as the protocol covers only certain topics.
- Review the protocol quickly, gather necessary supplies and equipment, and then follow along the protocol as per the case.
- At branch points, choose one alternative and follow along that path.

History, Examination and Investigations

History: Important points are listed on the text box of the flowchart of protocol. These points are then explained in detail on the facing (left) page, if needed. For example, in assessing a client for depo provera, the important questions about medical history are listed as a reminder to the provider. Then, these points are explained on the facing page to help the provider make a decision if the method can be given.

Examination: The organs and systems that should be examined are listed in the text box. The facing page reminds the provider about the things to look for in that organ system. For example, in the protocol for Normal Labour and Delivery, the protocol says what to examine during P/V examination. On the facing page, the notes remind the provider to check dilation, effacement, etc.

Investigations: When investigations are possible, it can also help to make a diagnosis. In the majority of cases, however, diagnosis can be accurately made without the need to do investigations.

Using Other Protocols

In some flowcharts, the provider is referred to another flowchart that best manages this situation. For example, in a case of post-partum haemorrhage, the provider should assess for shock and, if diagnosed, move immediately to the shock protocol for management guidance. This does not mean that the original flowchart should be ignored. Therefore, the provider should manage the shock and refer to the original flowchart for management of post-partum haemorrhage.

Referral

At the end of many flowcharts, the provider is encouraged to refer the case to a higher treatment centre for better care. The patient/client should only be referred to a hospital where service providers are available and able to tackle the problem. It will not be helpful and will delay the provision of appropriate care to simply refer "up the chain" if the next facility ‘up the chain’ is not capable of solving the problem. Therefore, providers should be aware of which facilities can provide the necessary services.

In referring the case, the provider should remember to:

- Prepare a summary of the case. This will inform the healthcare team at the receiving institution.
- Explain the need for referral and the process of referral to the patient and her family.
- If the condition calls for it, at least one dose of medicine (such as antibiotics for a sepsis case, or magnesium sulphate for a pre-eclamptic/eclamptic patient) should be given prior to referral.
- An IV line should be placed (if possible) and, if needed, sufficient IV fluid should be given to the patient.
- Evaluate the need for bladder catheterization and refer with it. For example, in the case of obstructed labour or prolonged labour, refer with continuous catheterization.
- If possible, call and inform the referral receiving institute about the case.

Monitoring the use of protocols

Monitoring of provision of care through adherence to protocols should be done as part of regular monitoring and tools developed to achieve the same. Programme evaluations should also use adherence to protocols as an indicator.

COUNSELLING

Counselling is a vital part of maternal and newborn health and family planning services. The term "counselling" is often understood in many different ways. Here, it is focused on counselling for maternal and newborn health and family planning as "an interactive process between the skilled attendant/health worker and a woman and her family during which information is exchanged and support is provided so that the woman and her family can make decisions, design a plan and take action to improve their health".

"With every opportunity, counselling is done using the **"ABHIBADAN"** principles of counselling:

Step	Action to be taken
"A"	*Abhibadan garne* (to greet the client)
"BHI"	*Bhinna nathani awashyakta patta lagauna sodhpuch garne* (assessing the client's need, asking questions without any discriminations)
"BA"	*Badha hatauna suchana upalabdha garaune* (provide information for solving problems and concerns)
"DA"	*Dattachitta bhai sahayog garne* (help wholeheartedly)
"NA"	*Namaskar gardai pheri auna anurodh garne* (bid goodbye and request to come again)

Source: HTSP Participants Handbook 2013

Often in the flowchart of protocol, the provider is instructed to give information to the client (e.g. instructions, warning signs, follow-up visit, etc). The provider should then assess that the client and/or family member understands these instructions, warning signs, etc. If appropriate and available, a printed card or brochure with the information can be given to the client.

Interpersonal Communication Skills

Communicating with the client is very important. While communicating with clients, service providers should use simple appropriate language, which clients can understand. Technical information needs to be at the level of education and language of each client. A good relationship with a client is based not only on what the client hears but also on what she or he observes and feels about the service provider.

INFECTION PREVENTION

The two primary objectives of infection prevention and control (IPC) at health facilities are:

- To prevent infections when providing different services
- To minimize the risk of transmitting serious infections such as hepatitis B and HIV not only to clients but also to service providers and staff, including cleaning and housekeeping personnel.

To prevent problems caused by infection, good surgical technique, including aseptic technique, must be followed to prevent infections. To reduce the risk of infection, contaminated waste must be properly disposed of and instruments and other items should be decontaminated, thoroughly cleaned, and sterilized by autoclaving (high-pressure steam) or heat. If sterilization is not possible, high-level disinfection (HLD) (by boiling or steaming) is the only acceptable alternative.

Standard Precautions

Standard precautions are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where healthcare is delivered. These practices are designed to both protect health service providers and prevent them from spreading infections among patients.

- Hand hygiene, handwashing
- Personal protective equipment (e.g. gloves, gowns, masks)
- Instrument processing
- Safe injection practices, environmental cleaning
  (Source: CDC)

Hand Hygiene

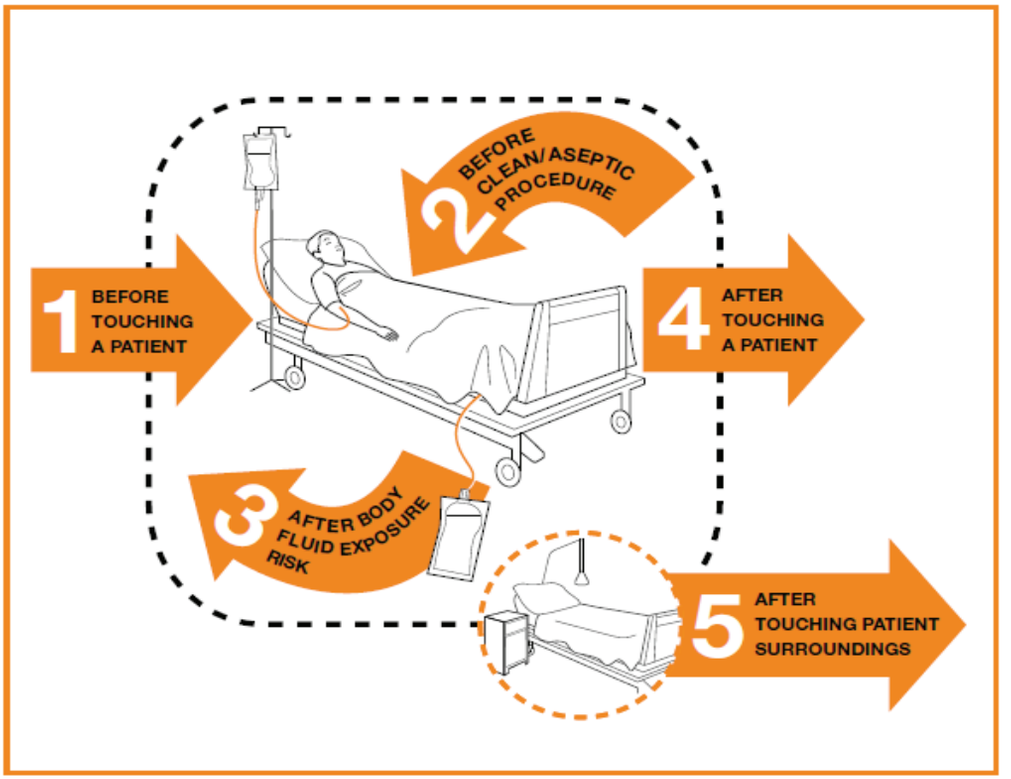
Practising hand hygiene is a simple yet effective way to prevent infections. Cleaning your hands can prevent the spread of germs, including those that are resistant to antibiotics and are becoming difficult, if not impossible, to treat. Hand hygiene is the most important measure to avoid the transmission of harmful germs and prevent healthcare-associated infections.

The goal of hand hygiene is to remove soil, dirt, and debris and reduce both transient and resident flora. Good hand hygiene, including use of alcohol-based hand rubs and handwashing with soap and water is critical to reduce the risk of spreading infections in ambulatory care settings.

Five moments for hand hygiene (WHO 2009)

WHO has implemented the principles of handwashing in the model of "My five moments for hand hygiene". Since its development in the context of the Swiss National Hand Hygiene Campaign and its integration in the WHO Multimodal Hand Hygiene Improvement Strategy, the concept of "My five moments for hand hygiene" has been widely adopted.

1. Before touching patient: Clean your hands before touching a patient when approaching him/her.
   Example: shaking hands, helping a patient to move around, and clinical examination.
2. Before clean/aseptic task: Clean your hands immediately before any aseptic task.
   Example: shaking oral/dental care, secretion aspiration, wound dressing, catheter insertion, preparation of food, medications.
3. After body fluid exposure risk: Clean your hands immediately after an exposure risk to body fluids (and after glove removal). Example: oral/dental care, secretion aspiration, drawing and manipulating blood, clearing up urine, faeces, handling waste.
4. After touching patient: Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side. Example: shaking hands, helping a patient to move around, and clinical examination.
5. After touching patient surroundings: Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving even if the patient has not been touched. Example: changing bed linen, perfusion speed adjustment.



Source: The patient zone, health-care area, and critical sites with inserted time-space representation of "My five moments for hand hygiene" (Figure1.21.5b).
Reprinted from Sax, 2007 with permission from Elsevier.

Handwashing

The purpose of handwashing is to mechanically remove soil, debris, and microorganisms from the skin. Handwashing with plain soap and clean water is as effective as washing with antimicrobial soaps (Pereira, Lee, and Wade 1997).[1] In addition, plain soap causes much less skin irritation (Pereira, Lee, and Wade 1990).

Handwashing should be done **before:**

- Examining (direct contact with) a patient
- Wearing examination gloves for routine procedures such as a pelvic examination

Handwashing should be done **after**:

Any situation in which hands may become contaminated, such as:

- Handling soiled instruments and other items
- Touching mucous membranes, blood, or other body fluids (secretions or excretions), and
- Examining a patient.

Hands should be washed with soap and clean water (or an antiseptic hand rub can be used) **after** removing gloves because the gloves may have tiny holes or tears, and bacteria can rapidly multiply on gloved hands due to the moist, warm environment within the glove (CDC 1989; Korniewicz *et al.* 1990).

To encourage handwashing, program managers should make every effort to provide soap and a continuous supply of clean water, either from the tap or from a bucket, and single-use towels.

1 If tap water is contaminated, however, handwashing with plain soap is only effective in removing dirt and debris.

Steps of Handwashing

Wash hands when visibly soiled! Otherwise, use a hand rub.
Duration of the entire procedure: 40–60 seconds

Source: "How to Handwash," © World Health Organization (2009). http://www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf. Accessed May 6, 2016.

Alcohol-Based Hand Rub

The antimicrobial activity of alcohol results from its ability to denature proteins (i.e. the ability to dissolve some microbe components) and kill microbes. Alcohol solutions containing 60–80% alcohol are most effective, with higher concentrations being less effective. This paradox results from the fact that proteins are not denatured easily in the absence of water; as a result, microorganisms are not killed as easily with higher alcohol-based solutions (>80% alcohol). (WHO 2009a)

The use of an alcohol-based hand rub **(**ABHR) is more effective in killing transient and resident flora than handwashing with antimicrobial agents or plain soap and water. It also has persistent (long-lasting) activity. ABHR is quick and convenient to use and can easily be made available at the point of care. It usually contains a small amount of an emollient (e.g. glycerol, propylene glycol, or sorbitol) that protects and softens skin. It should be used at any of the "5 Moments", described earlier in this chapter, unless hands are visibly soiled. (CDC 2002; Girou *et al.* 2002; WHO 2009a)

To be effective, approximately 3–5 mL (i.e. 1 teaspoon) of ABHR should be used. The ideal volume of ABHR to apply to the hands varies according to different formulations of the product and hand size (refer to manufacturer's instructions for use). ABHR should be used, following the steps shown in Figures 1-3, for approximately 20–30 seconds or until the solution has fully dried. Since ABHR does not remove soil or organic matter, if hands are visibly soiled or contaminated with blood or body fluids, hand wash with soap and water. To reduce the buildup of emollients on hands after repeated use of ABHR, washing hands with soap and water after every 5–10 applications of ABHR is recommended.

In C. difficile outbreak settings, handwashing with soap and water is recommended over ABHR as it is more effective than ABHR in removing endospores. If there are only a few cases of C. difficile, normal use of ABHR is recommended (Cohen *et al.* 2010; Siegel *et al.* 2007; WHO 2009a). The need for using soap and water over ABHR during outbreaks of norovirus is an unresolved issue. (Siegel *et al.* 2007; WHO 2009a)

WHO Recommendation on How to Perform Hand Hygiene with ABHR

Source: "How to handrub," © World Health Organization (2009).
http://www.who.int/gpsc/5may/How_To_HandRub_Poster.pdf. Accessed May 6, 2016.

Do not add ABHR to a partially empty dispenser. This practice of "topping off" dispensers may lead to bacterial contamination. The use of refill packets avoids this problem, but if they are not available, the dispensers should first be thoroughly cleaned and dried before refilling. (WHO 2009a)

Personal protective equipment
Personal protective equipment (PPE) items are the protective barriers and respirators used alone or in combination by a healthcare worker (HCW) to protect mucous membranes, airways, skin, and clothing from contact with harmful or infectious agents. PPE may also be used on an infectious patient to prevent the spread of infectious agents (e.g. surgical mask worn by a patient to control the spread of illness).

Types of PPE: For PPE to be effective, it must be available, provide adequate protection, be utilized correctly, and be used in the appropriate situations and settings. Each type of PPE and its intended use are described separately below. In many instances, various types of PPE are used in combination to adequately protect HCWs.

Gloves: There are three types of gloves for use in healthcare facilities:
Sterile gloves are used when performing invasive medical or surgical procedures when sterility is required.

Non-sterile gloves are used by HCWs to protect themselves from blood and body fluids when performing routine patient care.

Utility or heavy-duty household gloves are worn for processing instruments, cleaning equipment and other items, environmental cleaning, handling soiled textile items, and handling contaminated waste to conserve other gloves for patient care.

The most appropriate type of gloves to be worn in a particular circumstance should be carefully selected. Reprocessing and reusing gloves, except for heavy-duty utility gloves, should not be done. (WHO and World Alliance for Patient Safety 2006) Non-sterile gloves for routine patient care are made of a variety of materials (latex, vinyl, and nitrile). If a choice is available, deciding which type of non-sterile glove should be purchased or is most suited for a task should be determined by the following:

Note: Wearing gloves is not a substitute for hand hygiene. Gloves MUST be changed after contact with contaminated items and between patients.

- Degree of risk (low or high) of exposure to blood or potentially infected body fluids
- Length of time required for the procedure
- Possibility of allergies (e.g. to latex) to the different types of gloves

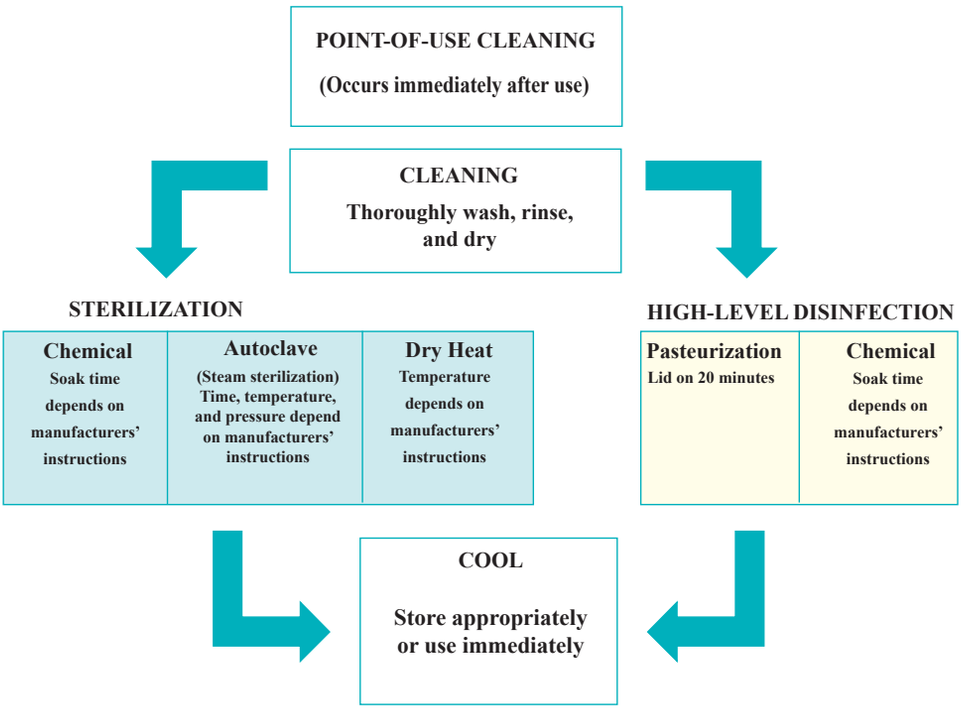
Safe Work Practices
Accidental needle sticks will occur when service providers are doing the procedures, cleaning staffs are processing soiled instruments and housekeeping staffs disposing of waste material.

Safety Tips When Using Hypodermic Needles and Syringes
- Use each needle and syringe only once
- Do not disassemble needle and syringe after use
- Do not recap, bend, or break needles prior to disposal
- Dispose of needle and syringe in a puncture-proof container

Never use a syringe for more than one injection. Studies have shown that changing **only** the needle, not the syringe, between clients can result in transmission of hepatitis B virus (HBV), and presumably HIV.

Do not leave a needle inserted in the rubber stopper of a multiple dose bottle. This practice is dangerous because it provides a direct route for bacteria to enter the drug bottle and contaminate the fluid between each use.

Reprocessing Instruments and Medical Devices



Adapted from : Tietijen et al. 2003

Decontamination is the first step in processing soiled surgical instruments and other items, which is done at point of use. For example, soaking contaminated items briefly in 0.5% chlorine solution rapidly kills HBV and HIV, thereby making instruments and other items safer to be handled during cleaning. After instruments and other items have been decontaminated, they need to be **cleaned** and then final processed by either sterilization or high-level disinfection (HLD).

HLD is indicated for processing instruments and medical devices that come in contact with non-intact skin and mucous membranes, but, ideally, not those that contact sterile areas of the body, including the vascular system. For some healthcare facilities in many limited-resource settings, high-level disinfection may be the only option for processing instruments and medical devices in. Healthcare facility teams should do a thorough review of available products, resources, and existing space and layout of the instrument reprocessing areas before selecting a method of high-level disinfection.

Sterilization is indicated for processing instruments and equipment that come in contact with sterile areas of the body. Sterilization results in a 6 log 10 reduction in microbes on the surface being sterilized. A 6 log 10 reduction or kill rate will remove 99.9999% of microbes.

Methods of sterilization include:
Physical methods: moist heat (e.g. steam sterilizer) and dry heat
Chemical methods: liquids (e.g. ortho-phthalaldehyde [0.55%], glutaraldehyde [2.5%]), and gases (e.g. ethylene oxide)

Physical chemical methods: hydrogen peroxide gas plasma (this method is usually not available at healthcare facilities in limited resource settings)

Sterilization is only effective if the cleaning process prior to sterilization is maintained. Other factors impacting the effectiveness of sterilization include the types of microorganisms on the device, the number and location of microorganisms, and the type and amount of organic material surrounding the microorganism that may protect it from the steam or chemical sterility (biofilm). Additionally, the effectiveness of sterilization depends upon

key parameters of the process, which, depending on the process used, include temperature, humidity, pH, water quality, contact time, pressure, and chemical concentration.
Steam sterilization and chemical methods are the most commonly employed methods for sterilization at healthcare facilities.

Remember: For either sterilization or HLD to be effective, decontamination and thorough cleaning of instruments and other items must be done first.

Health Care Waste Management

Medical waste may be non-contaminated or contaminated. Non-contaminated waste (e.g. paper from offices, boxes) poses no infectious risk and can be disposed of according to guidelines on health care waste management. Proper handling of contaminated waste (blood- or body fluid-contaminated items) is required to minimize the spread of infection to clinic personnel and to the local community. Proper handling means:

- Wearing utility gloves
- Decontamination of all the waste
- Transporting solid contaminated waste to the disposal site in covered containers
- Disposing of all sharp items in puncture-resistant containers
- Carefully pouring liquid waste down a utility drain or flushable toilet or latrine
- Burning or burying contaminated solid waste
- Washing hands, gloves, and containers after disposal of infectious waste

Section 1

FAMILY PLANNING

1-1 ASSESSMENT AND EVALUATION OF CLIENT'S NEED

Contraceptive Methods

Spacing methods

- Natural methods: Lactational Amenorrhoea Method (LAM), Fertility Awareness Method (e.g. Standard Days Method [SDM])
- Barrier: Condoms (male and female)
- Hormonal: Combined Oral Contraceptives (COCs), Depot Medroxyprogesterone Acetate (DMPA), implants
- Non-hormonal: Intrauterine Contraceptive Device (IUCD)

Limiting methods

- Male sterilization: No Scalpel Vasectomy (NSV)
- Female Sterilization: Minilaparotomy (tubectomy), Laparoscopy (tubal ligation)

Client assessment requirements

Table: Client assessment requirements for family planning (FP) methods

Procedure	LAM LAM LAM	Condom Male/ Female)	Hormonal Methods (COCs/ DMPA/Implants)	IUCD	Sterilization (Female/Male)
Screen for pregnancy	No	No	Yes	Yes	Yes
STIs screening (high risk)	No	No	No	Yes	Yes
Medical and reproductive history	Yes	No	Yes	Yes	Yes
Physical Examination					
Blood Pressure (BP)	No	No	Yes	No	Yes
Breast examination	No	No	No	No	No
Abdominal examination	No	No	No	Yes	Yes/No
Pelvic examination (bimanual and per speculum)	No	No	No	Yes	Yes/No
Male examination (groin and genitals)	N/A	No	N/A	N/A	No/Yes
Laboratory Test (Female only)					
Haemoglobin (Hb)	No	No	No	No	Yes[1]
Protein and Sugar in Urine	No	No	No	No	Yes

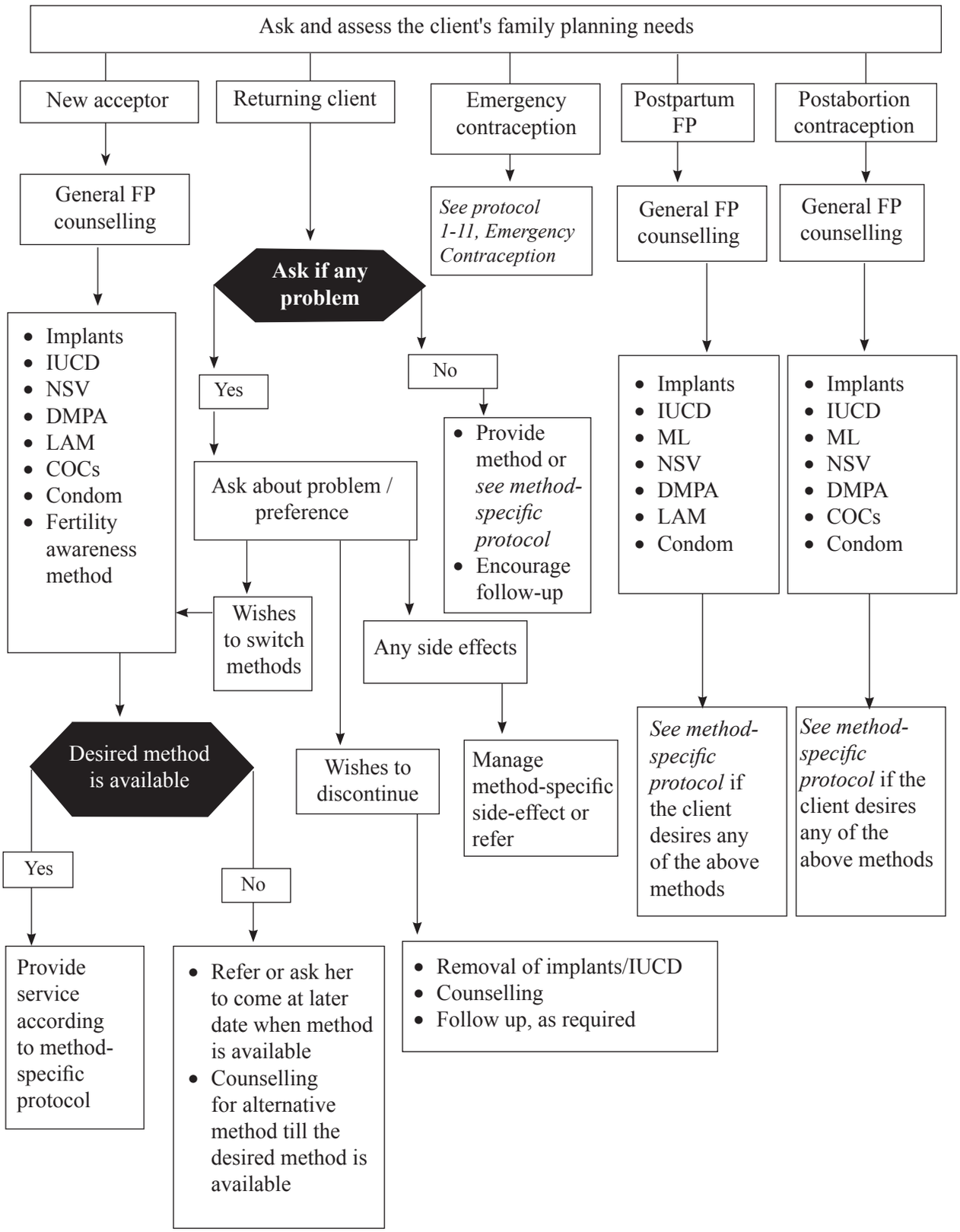
[1]In Nepal the risk of dying from a pregnancy-related complication is much greater than the risk of dying from complications of the minilaparotomy procedure. A large number of Nepalese women suffer from anaemia and to refuse them minilaparotomy services solely on the criteria of borderline anaemia could defeat the very purpose of providing them quality reproductive health services. A physician's decision to conduct minilaparotomy on a severely anaemic client with Hb less than 7gm/dl or Hematocrit (Hct) less than 20 should be based on her risk of pregnancy-related complications and her access to services versus the risk of operating on an anaemic client.

References

NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual*. Kathmandu: National Health Training Center.

WHO.2018. *Family Planning: A Global Handbook for Providers,* 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-1 ASSESSMENT AND EVALUATION OF CLIENT'S NEED



1-2 HEALTHY TIMING AND SPACING OF PREGNANCY

Healthy Timing and Spacing of Pregnancy (HTSP) is an intervention to help women and families make an informed decision about the **delay of first pregnancy till 20 years of age** and **the spacing** or **limiting of subsequent pregnancies** to achieve the healthiest outcomes for women, newborns, infants, and children. HTSP is provided within the context of free and informed contraceptive choice, taking into account fertility intentions and desired family size, as well as the social and cultural contexts. It also contributes to improving the nutritional status of mothers and children, which improves their life.

HTSP helps to

- Reduce risk of low birth weight, prematurity, and newborn and infant deaths
- Reduce health risks to mothers after a live birth or abortion and risks to adolescents
- Create awareness and increase demand for family planning services, which is critical to long-term use of family planning

Delay of pregnancy

- Delay the first pregnancy until the age of 20

Spacing of pregnancy

- Wait for at least 24 months after a live birth for next pregnancy
- Wait for at least 6 months after a miscarriage, induced abortion or stillbirth for next pregnancy
- Avoid birth-to-pregnancy intervals longer than 5 years

Note: *Wait for at least 2 years after caesarean section (stillbirth or live birth) to reduce the risk of adverse maternal, perinatal and infant outcomes.*

Limiting pregnancies refers to the use of modern contraceptive methods for those women and couples who do not desire more children.

Importance of HTSP

- Reduces the number and proportion of high-risk pregnancies, especially for women approaching or at advanced maternal age
- Reduces the risk of multiple adverse health outcomes
- Reduces unmet need for family planning

Return of fertility

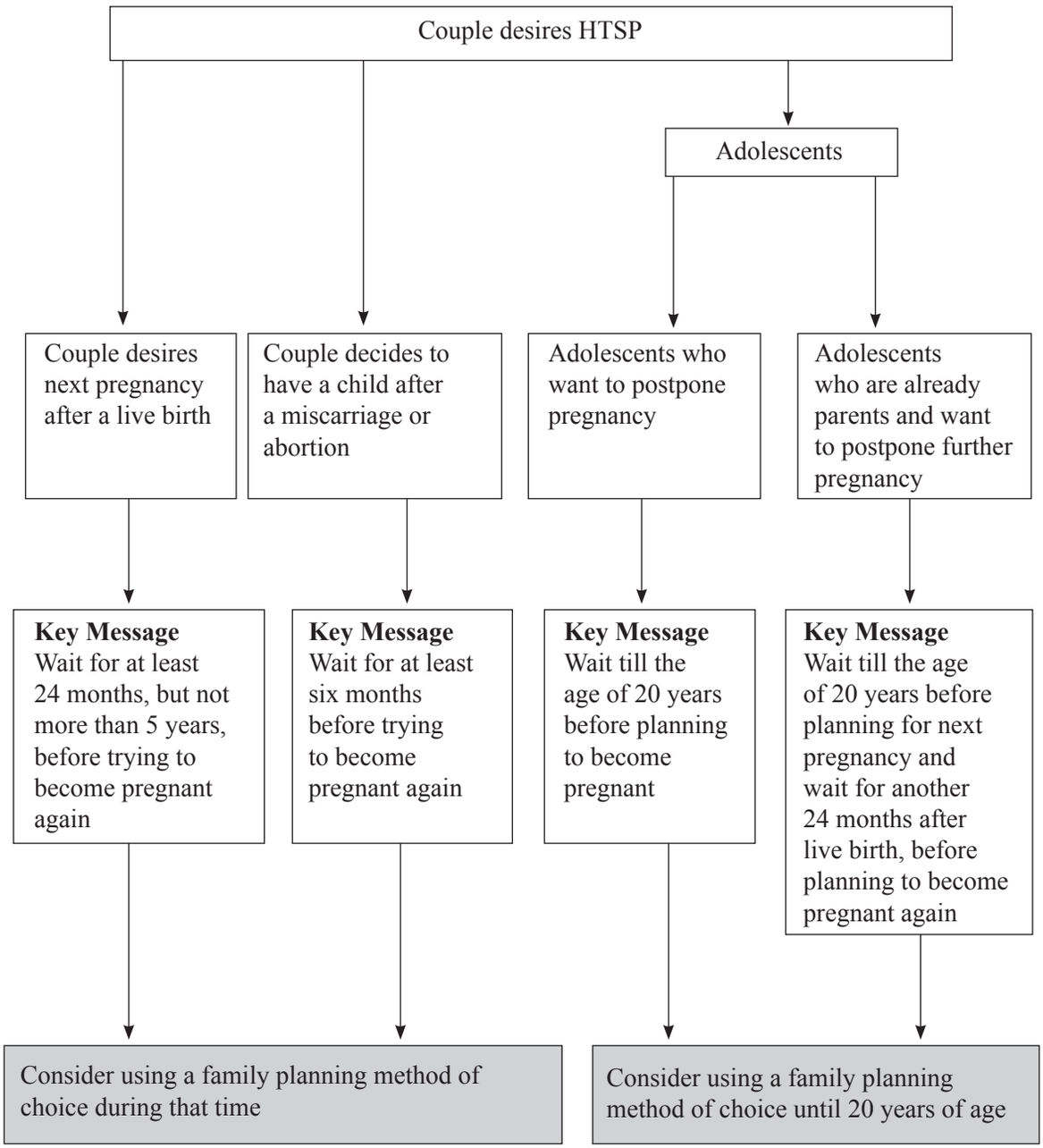
A postpartum woman undergoes physiological changes, which makes postpartum ovulation and menstruation different. Non-breastfeeding women can ovulate and become pregnant as soon as 4 to 6 weeks after delivery.

Fertility is less predictable in breastfeeding women. If they are not exclusively breastfeeding and have started supplemental feeding to their babies, they are at risk of pregnancy even if their menses have not yet returned. To avoid pregnancy, they should see a healthcare provider who can help them choose an FP method that is appropriate for them.

References

FHD. 2013. *Healthy Timing and Spacing of Pregnancy: Orientation Package.* Kathmandu: Family Health Division.
WHO. 2006. *Report of a WHO Technical Consultation on Birth Spacing.* World Health Organization.

1-2 HEALTHY TIMING AND SPACING OF PREGNANCY



1-3 IMPLANTS

Implants are small flexible rods that are placed just under the skin of the upper arm. Each rod contains 75mg of Levonorgestrel. It provides long-term pregnancy protection and is very effective for 3 to 5 years, depending on the type of implants.

Timing of insertion
A woman can have first implants inserted at any time if it is certain that she is not pregnant.

Precautions for the use of Implants
WHO MEC Category 3 - Unless more other appropriate methods are available
- Acute deep vein thrombosis
- Unexplained vaginal bleeding: cause determined and treated before implants can be provided

WHO MEC Category 4 - Method not to be used (Contraindicated)
- Breast cancer
- Liver tumour

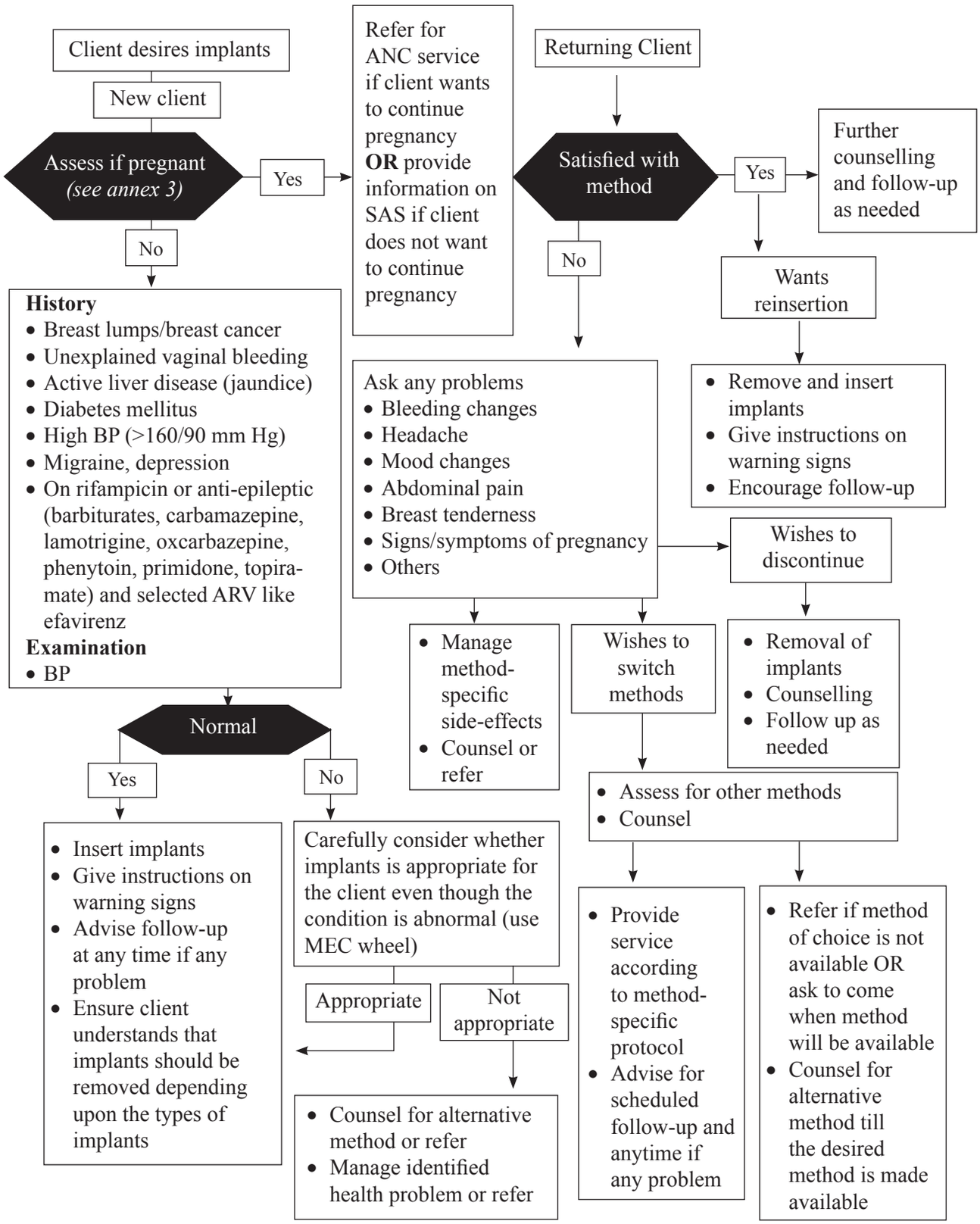
Clients should return to the clinic if any of the following complaints develop:
- Lower abdominal pain/pelvic pain
- Headache (severe)
- Severe leg pain (calves or thighs)
- Pus/bleeding at the insertion site
- Chest pain (severe), cough, shortness of breath
- Delayed menses after a long interval of regular menses to exclude pregnancy
- Heavy vaginal bleeding
- Expulsion of a capsule

Side-effects	Management
Spotting or bleeding	*See Protocol 1-9, Unscheduled/Spotting on Hormonal Contraceptives*
Mastalgia	May resolve after 3 months of use. Consider ibuprofen.
Amenorrhoea	Assess for pregnancy. If not pregnant, reassure and continue using implants.
Headache	• If mild headache, treat with paracetamol. • If severe headache or with blurred vision, refer for evaluation; consider removal of implants.

Effectiveness
Typical use: 99.9%
Perfect use: 99.9%
Note: Implants service should be provided by trained service providers.

References
NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual.* Kathmandu: National Health Training Center.
WHO. *2015. Medical eligibility criteria for contraceptive use,* Fifth edition 2015. Geneva: World Health Organization.
WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-3 IMPLANTS



- Anaemic patients can benefit from implants because of decreased bleeding.
- If appropriate, provide methods, give iron and folate and advise for follow-up
- Implants do not protect from HIV and STIs

1-4 DEPOT MEDROXY PROGESTERONE ACETATE

The injectable contraceptive contains 150mg of depot medroxyprogesterone acetate (DMPA), which is a progestin like the natural hormone progesterone in a woman's body and does not contain estrogen. It is given by intramuscular route and the hormone is then released slowly into the bloodstream.

Timing of injection

- At any time of the menstrual cycle if it is reasonably certain that she is not pregnant
- At 6 weeks post-delivery, she is exclusively breastfeeding and amenorrhoeic
- At any time if not breastfeeding and if it is certain that she is not pregnant
- Just after abortion

Unproven fertility: Nulliparous women who are potential DMPA users should be counselled that DMPA can cause a delay in the return of fertility. But this delay is not associated with infertility.

Precaution for the use of DMPA

WHO MEC Category 3 – Unless more appropriate methods are available

- Liver tumour
- Within 6 weeks post-delivery and breastfeeding
- Blood pressure – systolic blood pressure more than 160mm Hg or diastolic blood pressure more than 100mm Hg
- Acute deep vein thrombosis
- Current or history of heart disease and stroke
- Unexplained vaginal bleeding

WHO MEC Category 4 - Method not to be used (Contraindicated)

- Current breast cancer

Warning signs for DMPA

Clients should return to the clinic if any of the following signs develops:

- Lower abdominal pain/pelvic pain
- Headache (severe)
- Depression
- Menstrual irregularity

Side-effects and other health problems

Side-effects	Management
Spotting or bleeding	*See Protocol 1-9*, *Unscheduled Bleeding/Spotting on Hormonal Contraceptives*
Mastalgia	May resolve after 3 months of use. Consider ibuprofen.
Amenorrhoea	Assess for pregnancy. If not pregnant, reassure and continue using DMPA.

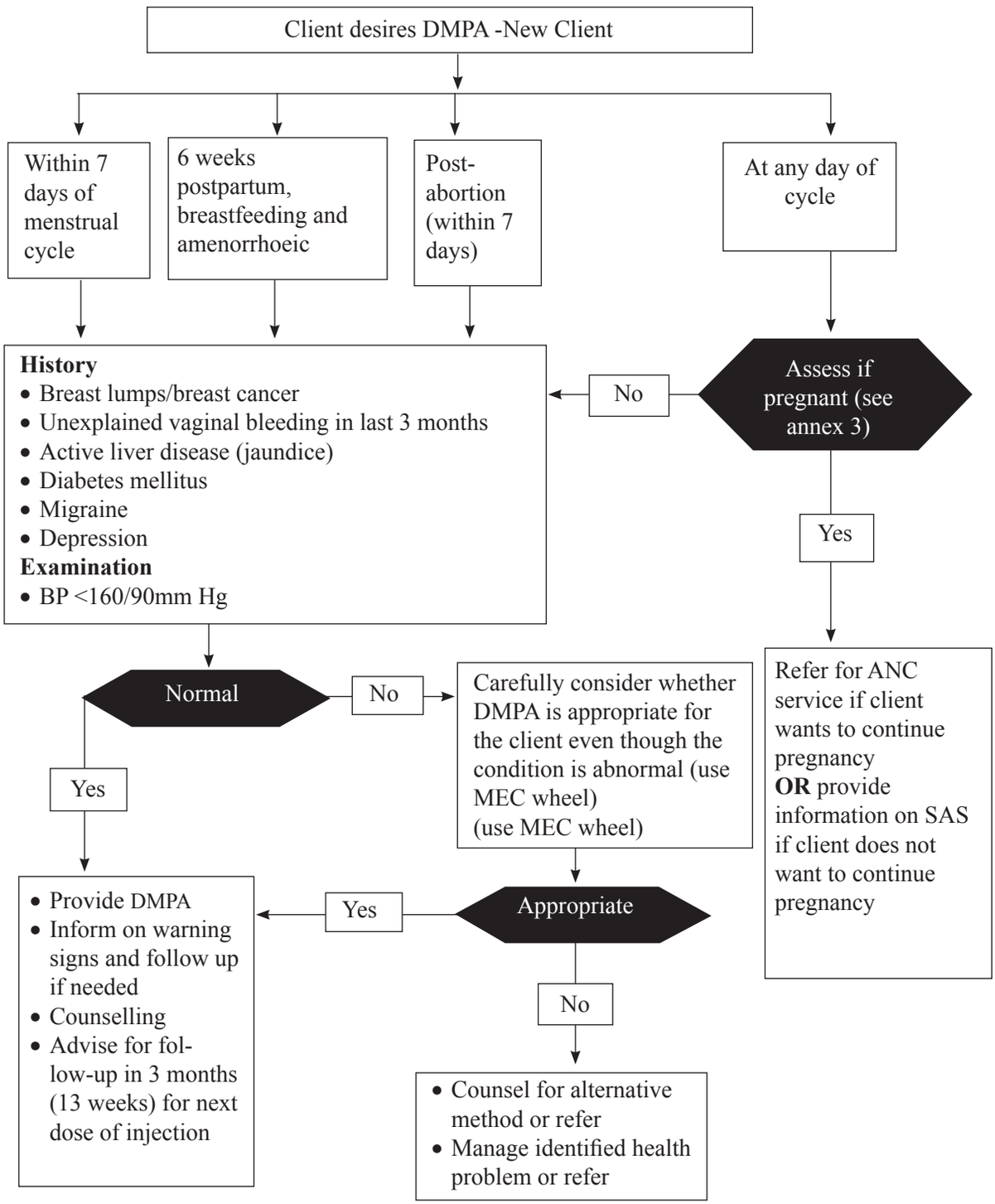
Effectiveness

Typical use 96%
Perfect use 99.8%

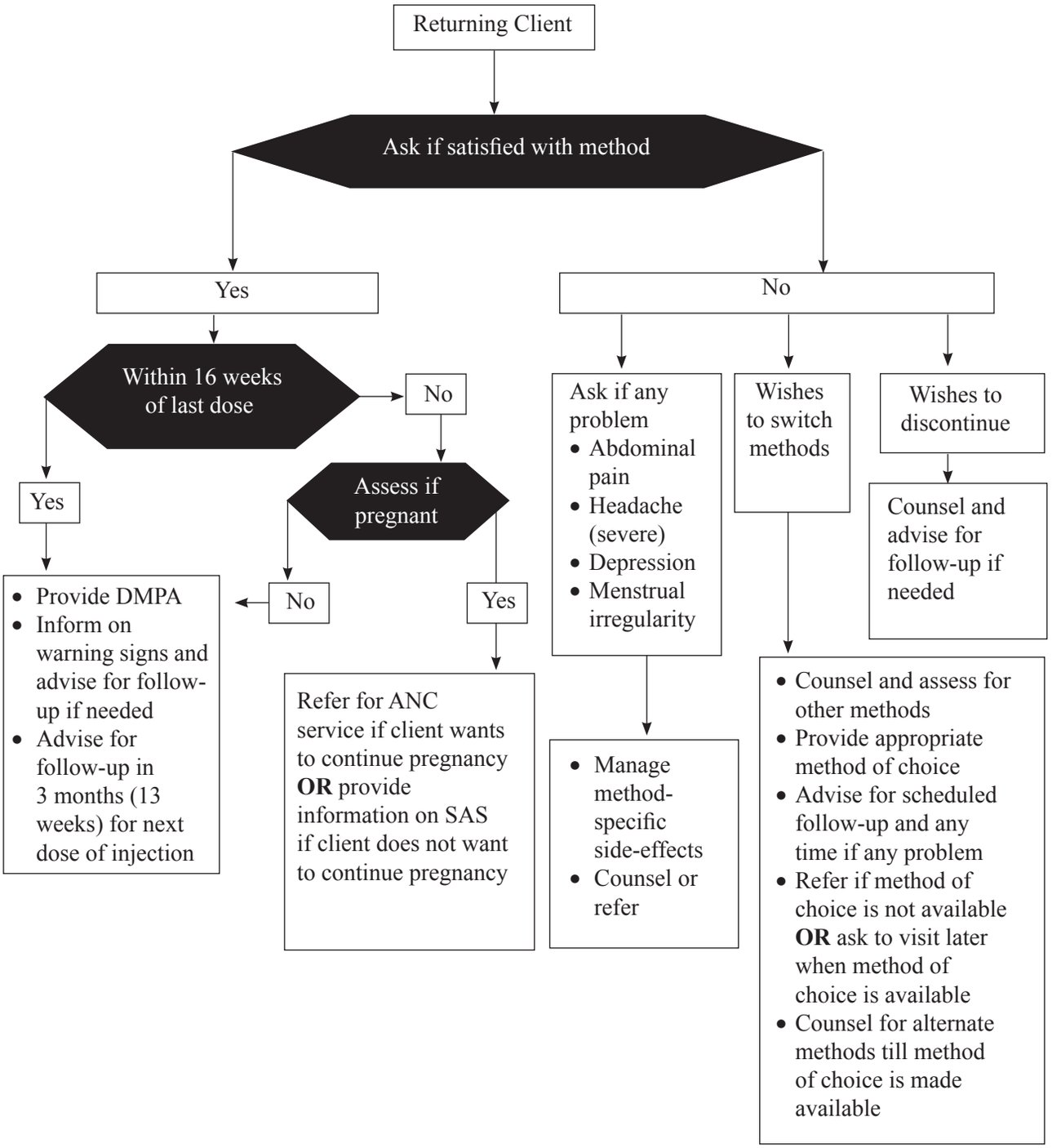
References

NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual.* Kathmandu: National Health Training Center.
WHO. *2015. Medical eligibility criteria for contraceptive use,* Fifth edition 2015. Geneva: World Health Organization.
WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-4 DEPOT MEDROXY PROGESTERONE ACETATE



- Counsel that DMPA does not protect from HIV and STIs.
- Anaemic patients can benefit from DMPA because of decreased bleeding.
- If appropriate, provide DMPA to anaemic client, give iron and folate and advise for follow-up.



If a client returns after 16 weeks of menstruation or within 7 days of menstruation, provide method.
If not, then provide her condoms and ask her to return for method after menstruation **OR** determine pregnancy using urine pregnancy test kit, if possible.

1-5 COMBINED ORAL CONTRACEPTIVE PILLS

Combined oral contraceptives (COCs) are pills that contain low doses of two hormones—progestin and estrogen, like the natural hormones progesterone and estrogen in a woman's body. Each low dose COC pill contains 0.03mg ethinyl estradiol (EE) plus 0.15mg levonorgestrel (LNG). COCs are also called "the pill", low-dose combined pills, oral contraceptive pills (OCPs), and oral contraceptives (OCs). It works primarily by preventing the release of eggs from the ovaries (ovulation).

Precaution for the use of COC pills

WHO MEC Category 3 - Unless more appropriate methods are available

- Smoker and more than 35 years of age
- 6 weeks to 6 months post-delivery and breast feeding
- High BP: systolic 140-159 mm Hg or diastolic 90-95 mm Hg
- Using different medicines like antibiotics, rifampicin or rifabutin and anticonvulsants

WHO MEC Category 4 - Method not to be used (Contraindicated)

- Migraine headache with aura
- Current breast cancer
- Postpartum less than 6 weeks and breastfeeding
- High BP: systolic more than 160 mm Hg or diastolic more than 100 mm Hg
- History of thromboembolism, acute thromboembolism and deep vein thrombosis
- History of vascular disease and stroke
- Major surgery with prolonged immobilization
- Liver tumours
- Acute/flare hepatitis

Instructions when a pill or pills are missed

Key message	• Take a missed hormonal pill as soon as possible • Keep taking hormonal pills as usual, one each day
Missed 1 or 2 active (hormonal) pills? Started new pack 1 or 2 days late?	• Take a hormonal pill as soon as possible (little or no risk of pregnancy)
Missed active (hormonal) pills 3 or more days in a row in the first or second week? Started new pack 3 or more days late?	• Take a hormonal pill as soon as possible when she remembers and then continue taking pills daily, 1 each day • Use a backup method for the next 7 days • Also, if she had sex in the past 5 days, she can consider emergency contraceptive pills (ECPs). *See protocol 1-8, Emergency Contraception*
Missed *active (hormonal)* 3 or more pills in the third week?	• Take a hormonal pill as soon as possible • Finish all hormonal pills in the pack. Throw away the 7 non-hormonal pills • Start a new pack the next day • Use a backup method for the next 7 days • Also, if she had sex in the past 5 days, she can consider ECPs. *See protocol 1-8, Emergency Contraception*

Warning signs for COCs

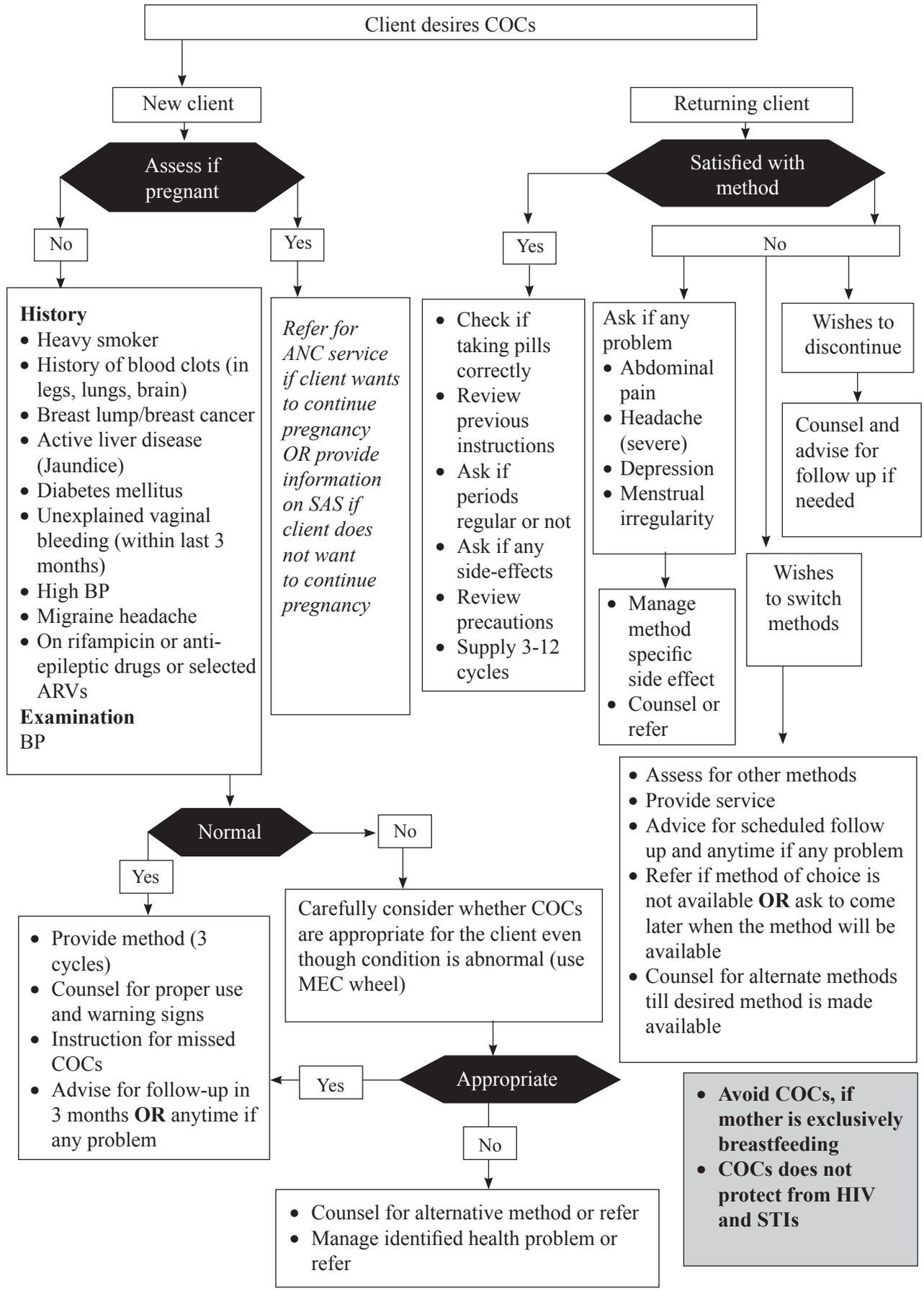
- Lower abdominal pain/pelvic pain
- Headache (severe)
- Eye problem (vision loss or blurring)
- Chest pain (severe), cough, shortness of breath
- Severe leg pain (calves or thighs)

Side-effects	Management
Spotting or Bleeding	See *protocol 1-9, Unscheduled Bleeding/Spotting on Hormonal Contraception*
Jaundice	Stop COCs until liver function is normal (e.g. 3 months)
Mastalgia	May resolve after 3 months of use. Consider ibuprofen
Amenorrhoea	Assess for pregnancy. If not pregnant, reassure and continue using COCs

Effectiveness
Typical use: 93%
Perfect use: 99.7%

References
NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual.* Kathmandu: National Health Training Center.
WHO. 2015. *Medical eligibility criteria for contraceptive use,* Fifth edition 2015. Geneva: World Health Organization.
WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-5 COMBINED ORAL CONTRACEPTIVES



1-6 CONDOM (MALE)

Condoms are the only method that can prevent pregnancy and protect against sexually transmitted infections (STIs) and HIV. Most of the condoms are made from latex, although some may be made from polyurethane or polyisoprene.

Five basic steps of using a condom

1. Use a new condom for each act of sex.
2. Before the penis comes in contact with vagina, place the condom on the tip of the erect penis with the rolled side out.
3. Unroll the condom all the way to the base of the erect penis.
4. Immediately after ejaculation, hold the rim of the condom in place and withdraw the penis while it is still erect.
5. Dispose of the used condom safely.

Problem	Management
Condom broken or breakage suspected	Use emergency contraception, counsel on other methods
Local irritation or itching in the penis	Choose another method

Effectiveness

- Typical use: 87%
- Perfect use: 98%

References

NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual.* Kathmandu: National Health Training Center.

WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-6 CONDOM (MALE)

Client desires condoms for spacing or for STIs/HIV prevention

↓

- Counsel on FP methods and STIs
- Counsel on correct and consistent use of condom
- Demonstrate correct use of condom using a condom model
- Explain safe disposal of used condoms
- Explain safe disposal of used condoms
- Discuss the use and availability of emergency contraception for breakage/failure
- Provide condoms

Any client who chooses to use condoms should be provided with enough supply of condoms. Clients may choose to use them for:

- Prevention of STIs and HIV
- Temporary FP methods until other method can be used
- Back up method

1-7 FERTILITY AWARENESS METHODS

Fertility awareness means that a woman learns how to predict when the fertile time of her menstrual cycle starts and ends. The fertile time is the time when she can become pregnant.

Calendar method
A woman can count calendar days to identify the start and end of fertile time. The number of fertile days depends on the length of previous menstrual cycles.

- Before relying on this method, the woman records the number of days in each menstrual cycle for at least 6 months.
- The first day of menstrual bleeding is always counted as day 1.
- The woman subtracts 18 days from the length of her shortest recorded cycle.
- This tells her the estimated first day of her fertile time period.
- Then she subtracts 11 days from the length of her longest recorded cycle.
- This tells her the last day of her fertile time period.

Example: A lady has recorded her menstrual cycle as 28-38 days; her fertile time period is calculated as 28-18= 10 and 38-11= 27, so her fertile period is 10 -27 days of her period.

Cervical mucous method
When a woman touches or feels cervical secretions at the vaginal opening, which are thin, slippery and elastic and like an egg white, she might be fertile.

Basal body temperature method
Women's resting body temperature goes up slightly around the time of ovulation (release of an egg), when she could become pregnant.

Sympto-thermal method
It combines observation of cervical mucous method and monitoring of the basal body temperature.

Modified calendar method or Standard Days Method
Standard days method (SDM) is applicable only for women who have 26-32 days of menstrual cycle. Days 8 through 19 of every cycle are considered fertile days for all users of the SDM. The couple can have unprotected sex on all the other days of the cycle-days 1 through 7 at the beginning of the cycle and from day 20 until her next monthly bleeding begins. The couple can use cycle beads (memory aids), a colour-coded string of beads that indicates fertile and non-fertile days of a cycle, or they can mark a calendar or use some other memory aid.

Periodic abstinence
To avoid unprotected sex during fertile period.

Withdrawal method
Practice of withdrawing the penis from the vagina and away from women's external genitals before ejaculation to prevent pregnancy
This method is appropriate for couples who

- Have no other method available at that time
- Are waiting to start another method
- Have sex infrequently
- Have objection to using other methods

Effectiveness
Effectiveness depends on the user: risk of pregnancy is greater when couples have sex on the fertile days without using another method. Abstaining during the fertile period is more effective than using another method during fertile period. Pregnancy rate with consistent and correct use varies for different types of fertility awareness methods.

- Typical use: 77-88%
- Perfect use: 95-98%

References
NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual.* Kathmandu: National Health Training Center.
WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-7 FERTILITY AWARENESS METHODS

Client desires fertility awareness method

- Explain the technique of each method:
  - Calendar
  - Cervical mucous
  - Basal body temperature
  - Sympto-thermal
  - Modified calendar method or SDM
- Have client record menstrual cycle for 6 months (except for SDM)
- Consider withdrawal **OR** abstinence during fertile period
- Follow up after 6 months or as per need

- Calculate safe and risk periods of the cycle according to the method chosen
- Encourage follow-up for clarification of instructions or any time if needed
- Counsel on all methods, including availability and use of emergency contraception if needed

1-8 EMERGENCY CONTRACEPTION

Emergency contraception (EC) is a means to prevent unwanted pregnancy. It can be used after unprotected sex as soon as possible within 5 days (120 hours). IUCD and COCs are used as emergency contraception. EC is safe for all women – even women who cannot use ongoing hormonal contraceptive methods.
Each low dose COC pill contains 0.03mg ethinyl estradiol (EE) plus 0.15mg levonorgestrel (LNG).

Situations when EC should be offered

- Unprotected sexual intercourse (unplanned, unexplained, accidental)
- Rape or coerced sex
- Incorrect use of any family planning method
  - Failure of the withdrawal method
  - Incorrectly used fertility awareness based method (FABM)
  - Breakage or leakage of condom
  - Missed COCs for 3 or more than 3 days; or has started a new pack 3 or more days late
  - Delay in taking DMPA injection for more than 4 weeks
  - Expulsion of IUCD

Management of nausea/vomiting (common side-effects)

- Provide anti-emetic (meclizine hydrochloride or promethazine hydrochloride) 1 tablet 1 hour before taking ECPs. Levonorgestrel regimen causes significantly less nausea and vomiting than the combined regimen.
- If client vomits within 2 hours of taking COC pills, then repeat the dose of ECPs.

Effectiveness

- EC is more effective when taken closer to the time of intercourse within a 120-hour window.
- IUCD as emergency contraception is nearly 100% effective.
- Levonorgestrel (e.g. E-Con) is effective up to 99%
- COCs that are supplied by the government can be used as ECPs and are effective up to 98%

Points to remember:

1. EC should be used within 120 hours of unprotected sexual intercourse (UPSI) or earlier. The sooner the EC is taken after unprotected sex, the more effective it is.
2. EC should not be used as an alternative to other regular FP methods, and clients coming for EC should also be counselled for other appropriate methods.
3. EC does not protect from STIs and HIV.
4. EC do not cause abortion.
5. Strong cytochrome P450 3A4 (CYP3A4) inducers, e.g. rifampicin, phenytoin, phenobarbital, and carbamazepine may reduce the effectiveness of ECPs.

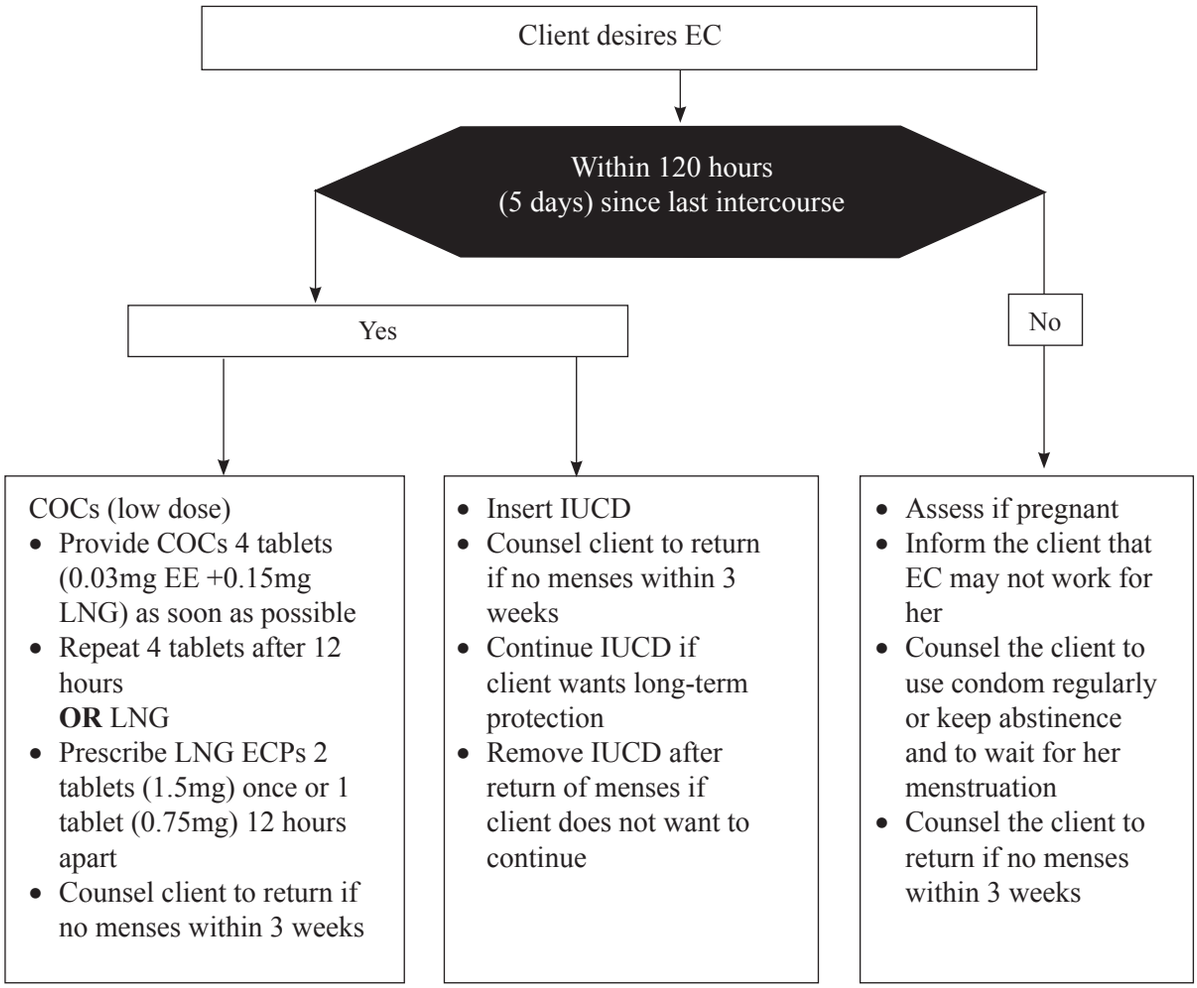
When to start or restart contraception after ECP use

- The client can start or restart any hormonal method immediately after she takes the EC, but she needs to abstain from sex or use a backup method for the first 7 days. There is no need for her to wait for her next monthly bleeding.
- The client can start or restart any hormonal on the 6th day after taking EC pills. No need to wait for next monthly bleeding.
- If a client decides to use IUCD after taking ECPs, she can have it inserted on the same day she takes ECPs. No need of a backup method. But if she does not have it inserted immediately and returns for the method, she can have it inserted at any time if it is determined that she is not pregnant.
- Female sterilization can be done within 7 days after the start of her next monthly bleeding.

References

NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual.* Kathmandu: National Health Training Center.
WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research

1-8 EMERGENCY CONTRACEPTION



After 3 weeks, assess her pregnancy status and manage accordingly

- If IUCD is inserted, whether to remove it or not depends on the client's wish
- Non-pregnant client, if wishes to, may continue or remove IUCD
- Pregnant, with IUCD in situ, client wants to continue pregnancy:
  - Counsel about risks and consequences with IUCD
  - Refer to a referral centre for removal
- Pregnant with IUCD in situ, client does not want to continue pregnancy:
  - Refer for removal of IUCD and provide information on SAS
- All clients who are in need of emergency contraception should be counselled for an effective FP method
- IUCD does not protect from STIs and HIV

Note: *EC does not protect from HIV and STIs*

1-9 UNSCHEDULED BLEEDING/SPOTTING ON HORMONAL CONTRACEPTIVES

The most common side-effects of hormonal contraception is unscheduled irregularly irregular bleeding per vagina. It can be spotting every day to prolonged mild bleeding like menstrual blood flow, to episodes of heavy bleeding to prolonged heavy bleeding. Spotting, irregular mild bleeding not associated with abdominal pain is common.

History

- Amount of bleeding, pattern of bleeding, with passage of clots associated with abdominal pain
- Spotting, irregular heavy bleeding and prolonged bleeding

Bleeding might not always be the symptoms of hormonal contraception. Sometimes, bleeding might be the cause of some other diseases, which should be ruled out.

Examination

- Per abdominal (PA) examination: Look for abdominal tenderness, mass.
- Per speculum (PS) examination: Look for cervicitis, growth in the cervix, products of conception (POC) hanging through cervical Os.
- Bimanual examination: Look for enlarged uterus, adnexal mass or uterine tenderness and suspected ectopic pregnancy and confirm by urine pregnancy test, if possible

Medication (Need to make sure whether bleeding is related to these medications or not)

- Patients using rifampicin or anti-epileptic drugs should use a backup method (such as condoms) while taking the medication. Alternatively, switch to a higher dose method (such as DMPA) or a non-hormonal method (such as IUCD).
- If the client is using implants, for short-term relief, she can take 800mg ibuprofen or 500mg mefenamic acid 3 times for 5 days. If this does not help, COCs pills for 21 days is prescribed.
- If the client is using COCs, for short-term relief, she can take 800mg ibuprofen or 500mg mefenamic acid 3 times for 5 days. If she has been taking pills for more than a few months and above does not help, consider changing the formulation of COCs.
- If the client is using DMPA, she may continue to use the method. For short-term relief, she can take 500mg mefenamic acid 2 times for 5 days or COCs for 21 days.

Switching method

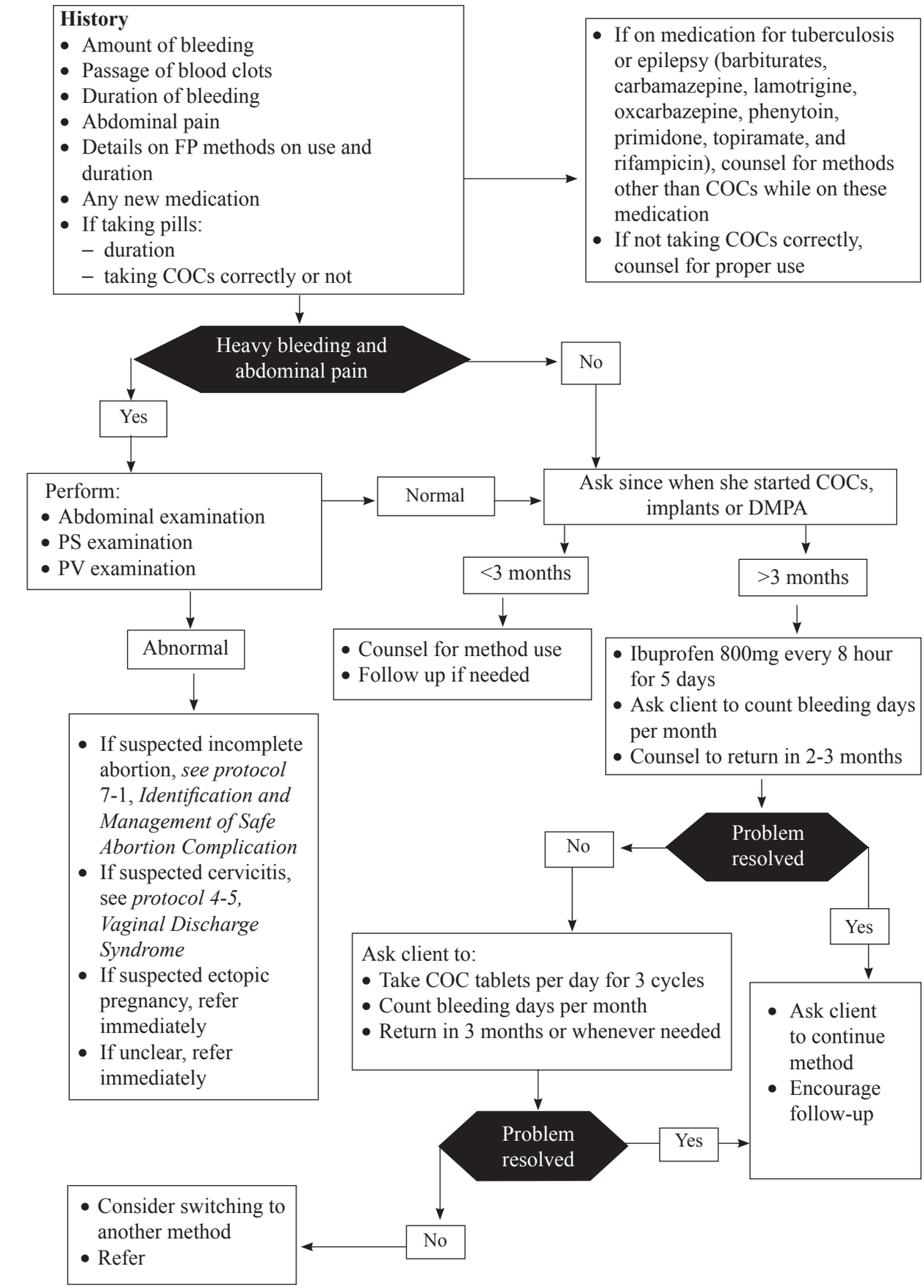
- *For clients on DMPA:* COCs or another non-hormonal method (e.g. IUCD)
- *For clients on Implant:* COCs or another non-hormonal method (e.g. IUCD)

References

NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual.* Kathmandu: National Health Training Center.

WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-9 UNSCHEDULED BLEEDING/SPOTTING ON HORMONAL CONTRACEPTIVE



1-10 POSTPARTUM FAMILY PLANNING

The opportunity of providing Postpartum family planning (PPFP) counselling and services starts from the time when a woman comes to health facility. It is broadly divided into Pre-pregnancy, antenatal check-up (ANC), during admission for delivery, latent phase of labour, immediately after delivery, within 48 hours of delivery (early postpartum period), after 48 hours to less than 6 weeks of delivery and more than 6 weeks (6 weeks to less than 6 months and 6 months to 1 year within delivery) of delivery. These are the point of contacts which health worker can take as an opportunity to provide PPFP.

Return of fertility

The timing of return of fertility for non-breastfeeding mother is usually around 6 weeks postpartum and for breastfeeding mothers, it is longer than that as suckling inhibits ovulation. The return of fertility, however, is not predictable (conception can occur before the woman has signs or symptoms of the first menses).

Period for uptake of PPFP methods

For all users

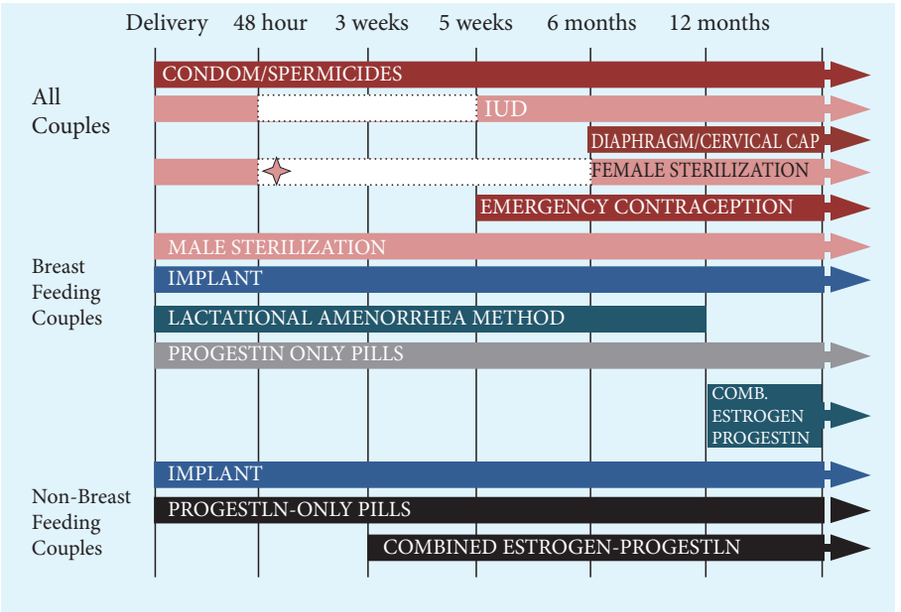
- Condoms: Right after delivery and resumption of sexual activity
- PPIUD: immediately within 48 hours of delivery and after 4 weeks postpartum till one year
- Female sterilization: Right after delivery till 7days and after 4 weeks of delivery
- ECPs: If unsafe sex after 4 weeks postpartum
- Progestin injectable: 6 weeks after delivery

For users who are breastfeeding

- Lactation amenorrhea method: For 6 months postpartum with exclusive breastfeeding
- Progestin only pills*: Soon after delivery
- Implants: Immediately after delivery

For users who are not breastfeeding

- Progestin only pills*: Soon after delivery
- Combined estrogen-progestin method: after 3 weeks of delivery
- Implants: Immediately after delivery



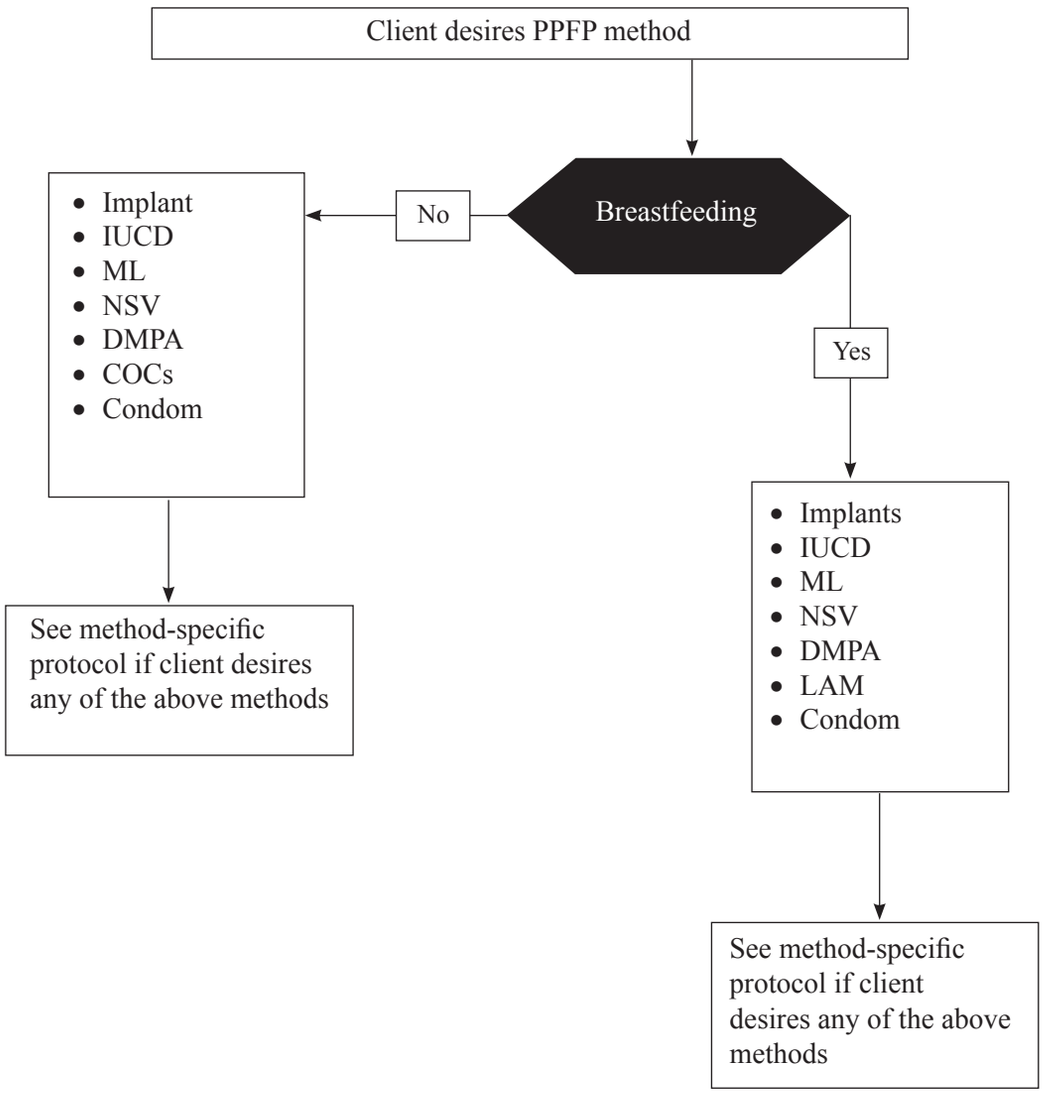
* Not available under routine procurement of GON at present.

References

WHO. 2013. *Programming Srategies for Postpartum Family Planning.* World Health Organization

WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-10 POSTPARTUM FAMILY PLANNING



1-10 a LACTATIONAL AMENORRHOEA METHOD (LAM)

Lactational amenorrhoea method (LAM) is a temporary family planning method based on the natural effects of breastfeeding on fertility. It works primarily by preventing the release of eggs from the ovaries (ovulation). Frequent breastfeeding temporarily prevents the release of the natural hormones that cause ovulation.

Criteria of LAM (These 3 criteria should be present at the same time)

- Mother is less than 6 months postpartum
- Mother is amenorrhoeic
- She is fully or nearly fully breastfeeding her baby
    - This means that she is breastfeeding her baby on demand (whenever the baby cries)
    - She is not supplementing the child's diet regularly with non-breast milk foods
    - Supplementation should be less than 5% of all feedings

"Fully breastfeeding" includes both exclusive breastfeeding (the infant receives no other liquid or food, not even water, in addition to breast milk) and almost exclusive breastfeeding (the infant receives vitamins, water, juice, or other nutrients once in a while in addition to breast milk).

"Nearly fully breastfeeding" means that the infant receives some liquid or food in addition to breast milk, but the majority of feedings (more than three-fourths of all feeds) are breast milk.

Alternative methods suitable for breastfeeding mothers

- IUCD
- Implants
- Male/female Sterilization
- DMPA
- Condom
- Fertility awareness methods (provided the comprehension level of client is suitable for this method)

Need to remind breastfeeding mothers about transition from LAM to another modern method either before 6 months or when she reaches 6 months.

Avoid COCs if mother is breastfeeding as the estrogen component of the COCs will reduce breast milk

Effectiveness

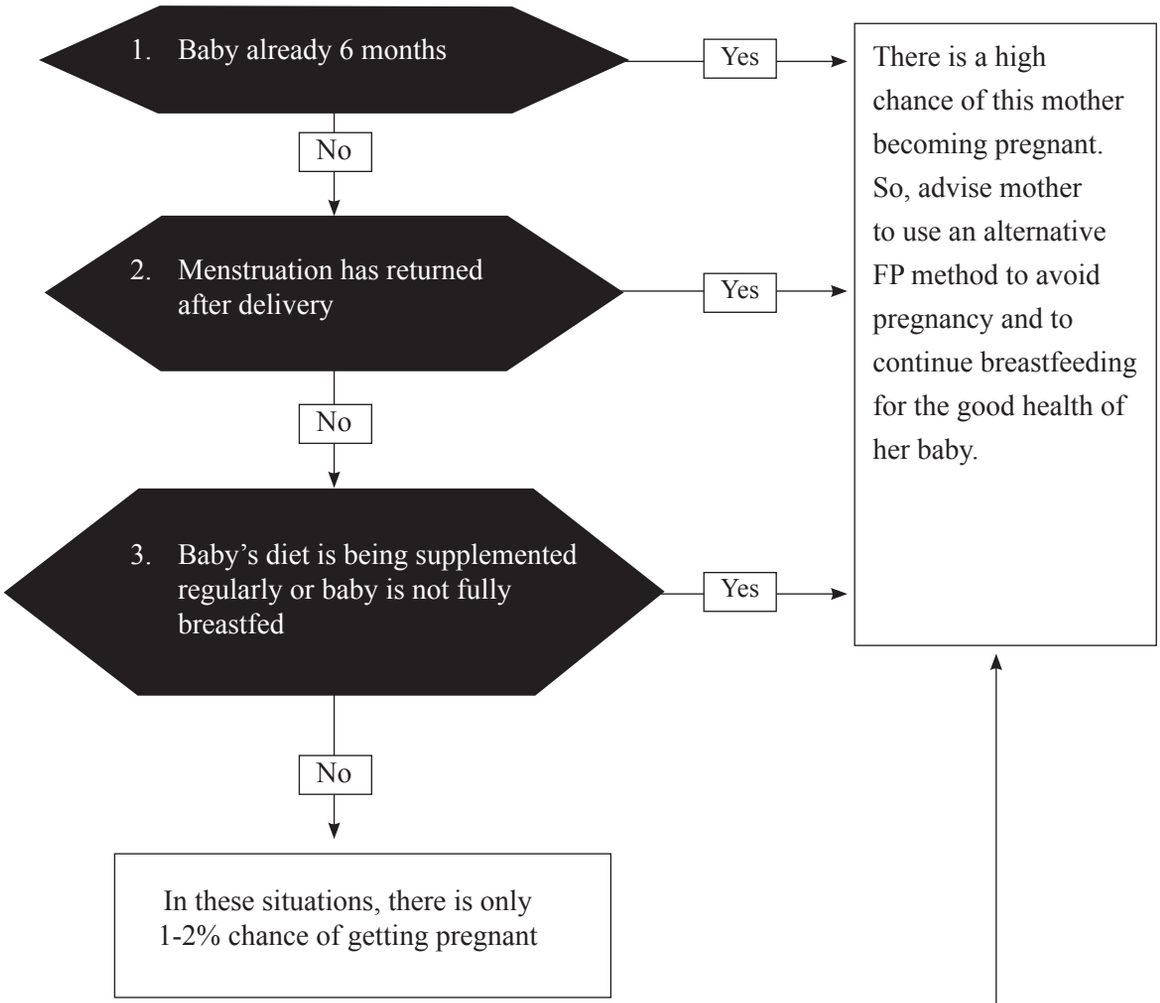
- Typical use: 98% if fully breastfeeding, menses not returned and is less than 6 months postpartum
- Perfect use: 99% in the first 6 months after childbirth

References

NHTC. 2016. *Comprehensive Family Planning and Counseling (COFP/C) Reference Manual*. Kathmandu: National Health Training Center.

WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

1-10 a LACTATIONAL AMENORRHOEA METHOD (LAM)



If any one of the statements responses is **YES**,

Remind mothers about transition from LAM to another modern method either before 6 months or when she reaches 6 months.

Avoid COCs, if mother is breastfeeding LAM does not protect from HIV and STIs

ANNEX 1: WHO MEDICAL ELIGIBILITY CRITERIA 2015 FOR CONTRACEPTIVE USE

Medical Eligibility Criteria for Contraceptive Use

The table on the following pages summarizes the World Health Organization Medical Eligibility Criteria for Contraceptive Use. These criteria are the basis for the Medical Eligibility Criteria checklists in most chapters of this handbook on family planning methods. These checklists are based on the 2-level system for providers with limited clinical judgment (see table below). The checklist questions address conditions in MEC categories 3 or 4 that the woman knows of. The boxes "Using Clinical Judgment in Special Cases" list conditions that are in MEC category 3: The method can be provided if other, more appropriate methods are not available or acceptable to the client, and a qualified provider can carefully assess the specific woman's condition and situation.

Categories for Temporary Methods

Category	With Clinical Judgment	With Limited Clinical Judgment
1	Use method in any circumstances	Yes (Use the method)
2	Generally use method	
3	Use of method not usually recommended unless other more appropriate methods are not available or not accepted	No (Do not use the method)
4	Method not to be used	

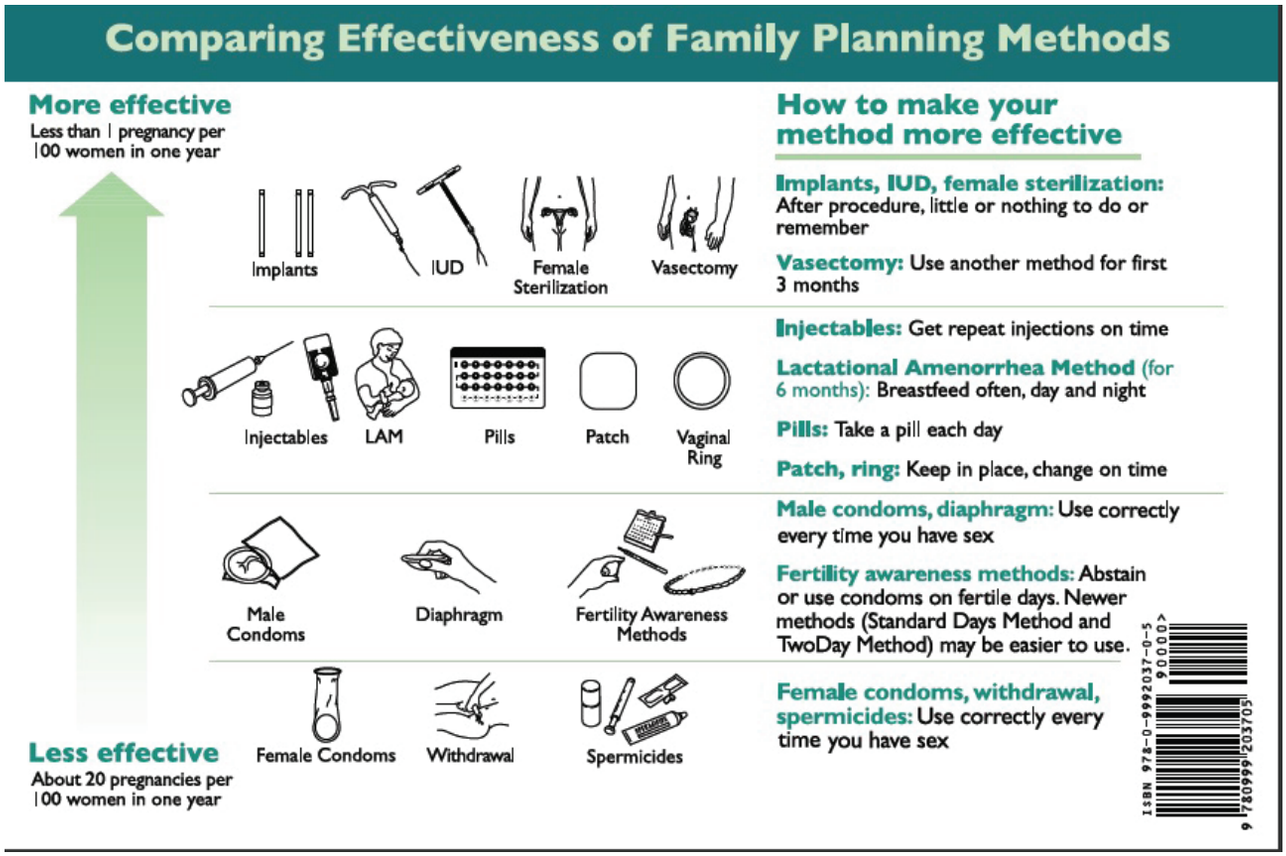
Note: *In the table beginning on the next page, category 3 and 4 conditions are shaded to indicate that the method should not be provided where clinical judgment is limited. Categories that are new or changed since the 2011 edition of this handbook are shown in dark type.*
For vasectomy, male and female condoms, spermicides, diaphragms, cervical caps, and the lactational amenorrhea method, see pp. 397-399. For fertility awareness methods, see p. 399.

Categories for Female Sterilization and Vasectomy

Accept (A)	There is no medical reason to deny the method to a person with this condition or in this circumstance.
Caution (C)	The method is normally provided in a routine setting, but with extra preparation and precautions.
Delay (D)	Use of the method should be delayed until the condition is evaluated and/or corrected. Alternative, temporary methods of contraception should be provided.
Special (S)	The procedure should be undertaken in a setting with an experienced surgeon and staff, equipment needed to provide general anaesthesia, and other backup medical support. The capacity to decide on the most appropriate procedure and anaesthesia support also is needed. Alternative, temporary methods of contraception should be provided if referral is required or there is otherwise any delay.

Source: WHO. 2015. *Medical Eligibility Criteria,* fifth edition

ANNEX 2: EFFECTIVENESS OF FP METHOD



Source: WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition

ANNEX 3: PREGNANCY CHECKLIST

Ask the client questions 1-6. As soon as the client answers "yes" to *any question*, stop and follow the instructions below.

NO		YES
	1 Did your last monthly bleeding start within the past 7 days?*	
	2 Have you abstained from sexual intercourse since your last monthly bleeding, delivery, abortion, or miscarriage?	
	3 Have you been using a reliable contraceptive method consistently and correctly since your last monthly bleeding, delivery, abortion, or miscarriage?	
	4 Have you had a baby in the last 4 weeks?	
	5 Did you have a baby less than 6 months ago, are you fully or nearly-fully breastfeeding, and have you had no mothly bleeding since then?	
	6 Have you had a miscarriage or abortion in the last 7 days?*	

* If the client is planning to use a copper-bearing IUD, the 7-day window is expanded to 12 days.

If the client answered NO to *all of the questions*, pregnancy cannot be ruled out using the checklist.

Rule out pregnancy by other means.

If the client answered YES to *at least one of the questions*, you can be reasonably sure she is not pregnant.

Source: WHO. 2018. *Family Planning: A Global Handbook for Providers*, 2018 Edition

Section 2

SAFE MOTHERHOOD

2-1 ANAEMIA IN PREGNANCY

Screening for anaemia is done at the first antenatal visit for all pregnant women. Iron deficiency anaemia is most common in pregnancy and is recognized by level of haemoglobin during the blood test.

Severity of anaemia

Severe anaemia	- Hb less than 7gm/dl
Mild to moderate anaemia	- Hb 7-11gm/dl
No clinical anaemia	- Hb more than 11gm/dl

History

- Tiredness, dyspnoea and breathlessness during routine household/routine work
- Obstetric history: parity, spacing between child birth, complication during child birth (postpartum haemorrhage, antepartum haemorrhage)
- Medical history: history of bleeding per rectum or from other sites, history of malaria or worm infestation
- Personal history: food habit, alcohol consumption or other abuse
- History related to haemoglobinopathies (e.g. sickle cell anaemia)

Examination

Head-to-toe examination, including pallor (conjunctiva, palms, nails, tongue), temperature, pulse, respiration, blood pressure (BP), cardio-vascular system (CVS), per abdominal (PA) examination (in early gestational age, rule out splenomegaly)

Investigation

Blood: haemoglobin, blood grouping, total count (TC), differential count (DC), platelets

- If available, peripheral smear
- Urine and stool routine and microscopic examination

Treatment

Advise for iron rich diet (beans, spinach, banana, stinging nettle *(sisnu)*

Instructions for taking iron tablets

- Take tablets after food or at night to avoid nausea
- Not to take iron tablet with milk
- If constipated, drink plenty of water and fibre rich diet
- Not to worry about black stools. As this is normal during iron tablet intake.

Drugs

- **Albendazole:** Single dose (400mg) after first trimester (after 12 weeks)
- **Iron:** Iron tablets (120mg elemental iron +400 mcg folic acid daily from 4 months of pregnancy and continue until 12 weeks postpartum)
- **In malaria-endemic areas, if anaemia is present with fever, consider anti-malarial drugs:** The antimalarial drugs considered safe in the first trimester of pregnancy are quinine, chloroquine, clindamycin, mefloquine, and proguanil. Medications contraindicated in pregnancy include primaquine, tetracycline, doxycycline, and halofantrine.

Acute, uncomplicated *Plasmodium falciparum* malaria

Quinine salt (dihydrochloride or sulfate) 10mg/kg body weight every 8 hours a day, taken orally, plus clindamycin 300mg every 6 hours for seven days

Pasmodium vivax, ovale, malariae, knowlesi

Chloroquine 10mg/kg body weight, taken orally, once a day for 2 days, followed by 5 mg/kg body weight, taken orally, on day 3.

Women in the second and third trimesters of pregnancy are more likely to have severe malaria than other adults. Parenteral antimalarial drugs should be given to pregnant women with severe malaria in full doses immediately.

Signs of heart failure due to severe anaemia

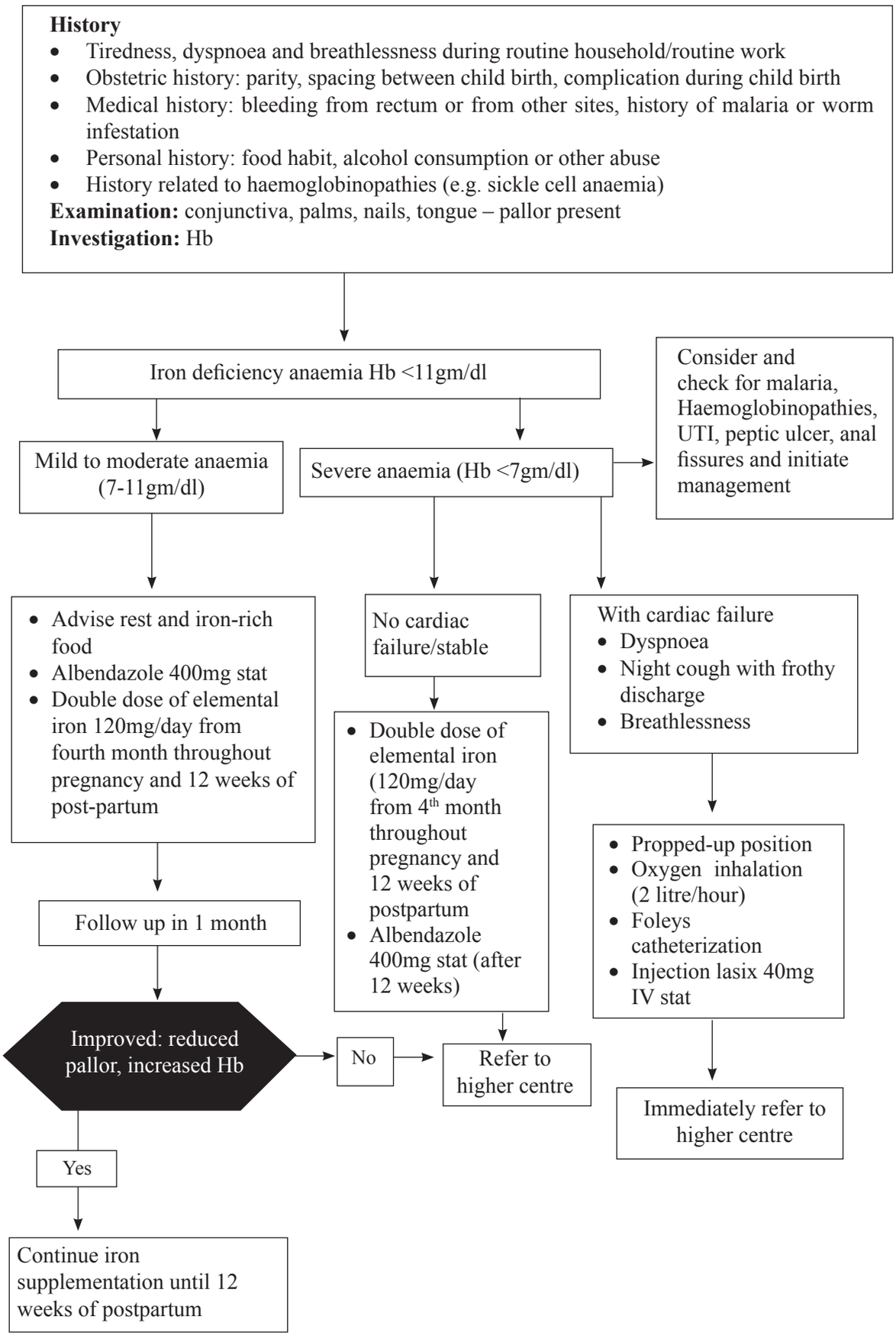
- Dyspnoea/breathlessness
- Pallor
- Raised jugular vein
- Generalized oedema
- Tachycardia
- Blood pressure may or may not change
- Crepitation at the lung bases
- See for associated heart diseases (murmur/ cardiomegaly)

References

International Nutrition Anaemia Consultative Group (INACG). *Guideline for the Use of Iron Supplement to Prevent and Treat Iron Deficiency Anomia.*

WHO. 2017. *Integrated Management of Pregnancy and Childbirth: Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors, 2nd ed. Geneva:* World Health Organization

2-1 ANAEMIA IN PREGNANCY



2-2 JAUNDICE IN PREGNANCY

Definition

Jaundice is clinically defined as yellow discoloration of eyes and urine. It occurs when serum bilirubin level is more than 2mg/dl (normal 0.2-0.8mg/dl. Acute viral hepatitis is the most common cause of jaundice in pregnancy. Jaundice may be a sign and symptom of severe underlying disease or viral hepatitis and should not be underestimated.

Causes of jaundice in pregnancy

Jaundice unique to pregnancy	Non-obstetric Jaundice	Pre-existing liver disease
Intrahepatic cholestasis	Viral hepatitis A, B, C, E	Chronic hepatitis
Severe pre-eclampsia, eclampsia	Obstructive jaundice	Cirrhosis, tumours
Haemolysis, Elevated liver enzymes and low platelet count syndrome (HELLP syndrome)	Haemolytic jaundice, e.g. malaria	
Acute fatty liver	Drug-induced: isoniazid, phenothiazine	
Hyperemesis gravidarum		

Management

- **Intrahepatic cholestasis**: If available, 10-15mg/kg body weight ursodeoxycholic acid 300mg every 8 hours daily till 2 weeks postpartum)
- **Severe pre-eclampsia, eclampsia**: Delivery of baby as early as possible (in severe pre-eclampsia within 24 hours, in eclampsia within 12 hours).
- **HELLP syndrome**: Prompt delivery of baby. If platelet count is less than 50,000 per microlitre, platelet transfusion should be considered before delivery (caesarean section).
- **Acute fatty liver**: Refer to multi-disciplinary tertiary level hospital
- **Hyperemesis gravidarum**: Hospitalization and supportive treatment

Hepatitis B virus (HBV): HBV infection in a pregnant woman poses a serious risk to her infant at birth. Without postexposure immunoprophylaxis, approximately 40% of infants born to HBV infected mothers will develop chronic HBV infection. Perinatal HBV transmission can be prevented by identifying HBV-infected (i.e., hepatitis B surface antigen [HBsAg]-positive) pregnant women and providing hepatitis B immune globulin and hepatitis B vaccine to their infants within 12 hours of birth so screening of pregnant women for HBsAg during each pregnancy is necessary.

Hepatitis E virus (HEV): HEV is a leading cause of significant maternal mortality and morbidity globally. The exact mode of infection of hepatitis E virus remains controversial. The infection may be related to the level of population immunity, sanitary condition, living condition and other factors. It may be waterborne, zoonotic (undercooked meat), or other food-borne, parenteral, human-to-human, vertical transmission.

Management

- Pregnant woman with hepatitis needs hospitalization
- Evaluate for hepatic encephalopathy - altered mental status, agitation, behaviour and personality changes or changes in sleep-wake cycle (circadian rhythm)
- Other: Hepatitis need timely referral to specialized hospital after diagnosis.

Acute HEV is self-limiting in immunocompetent patient. However, inpatient with poor immunity, or with underlying liver disease, or pregnant woman it may lead to fulminant hepatitis.

Prevention of HEV transmission in pregnant women in countries like ours should rely on maintaining good hygiene, using safe drinking water, and avoiding street foods and undercooked food.

General management in pregnant women with hepatitis A/E

- Maintain hydration: 250gm sugar in 1 litre of drinking water in 24 hours to prevent hypoglycaemia
- Injection vitamin K by intramuscular (IM) route stat
- Antibiotics
- Syrup lactulose 30ml x 2 or 3 times a day for hepatic encephalopathy
- Advise to increase oral intake of water and sugar

Note: *If facility is not available, timely referral of woman with jaundice in pregnancy is highly recommended.*

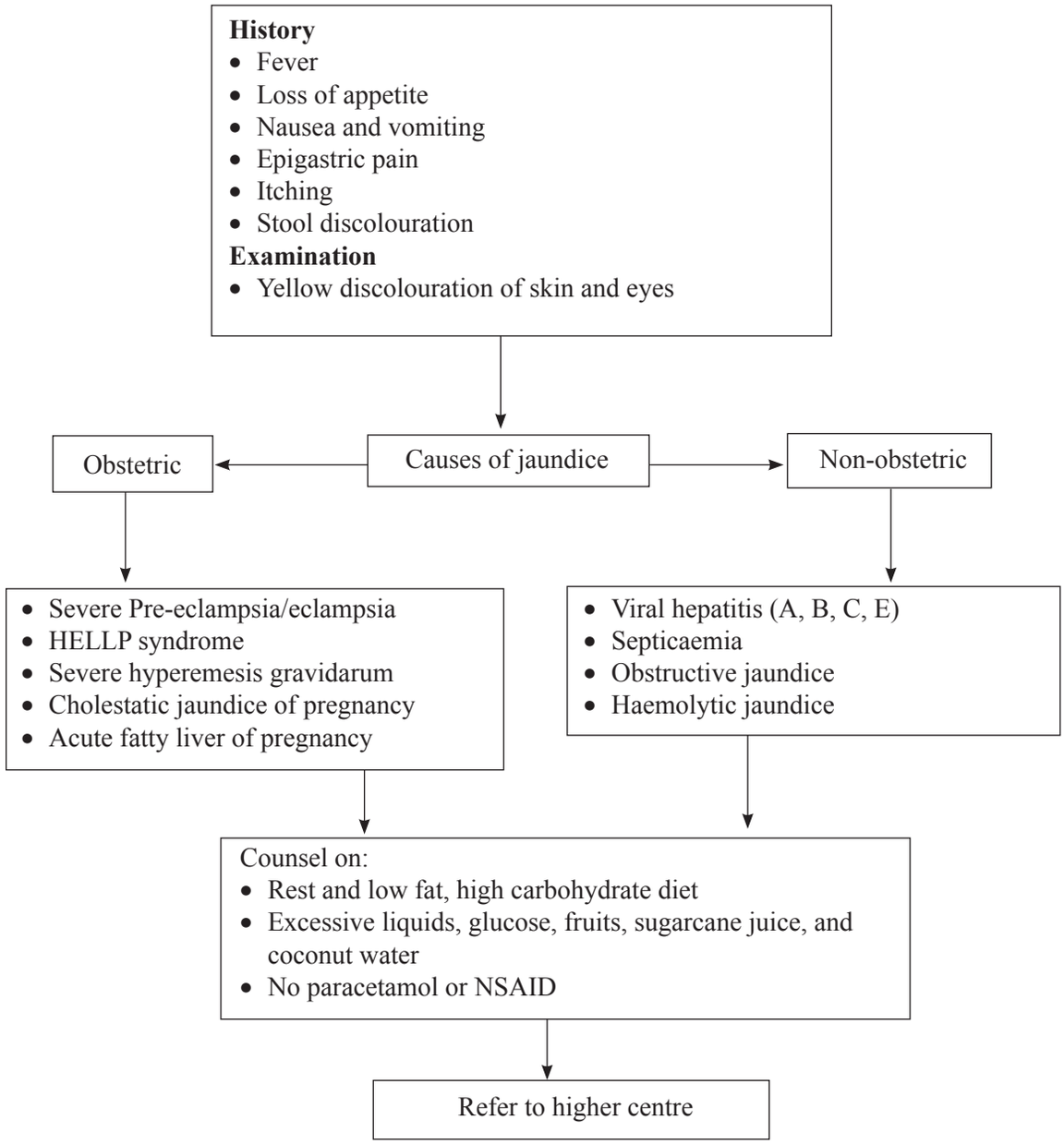
References

Mirazo, S., Ramos, N., Mainardi, V., Gerona, S., & Arbiza, J. (2014). Transmission, diagnosis, and management of hepatitis E: an update. Hepatic medicine: evidence and research, 6, 45–59. doi:10.2147/HMER.S63417

Viral Hepatitis, Centers for Disease Control and Prevention

WHO. 2015. *Guidelines for the prevention, care, and treatment of persons with chronic hepatitis B infection.* Geneva*: World Health Organization.*

2-2 JAUNDICE IN PREGNANCY



2-3 NAUSEA AND VOMITING IN PREGNANCY

Nausea and vomiting in pregnancy are common up to 16 weeks of amenorrhoea. The symptoms are usually benign and overcome by the 14th week of pregnancy.

Hyperemesis gravidarum is defined as intractable vomiting during pregnancy that often leads to fluid and electrolyte imbalance, weight loss of 5% or greater; and nutritional deficiency requiring hospital admission. The aetiology of Hyperemesis gravidarum is poorly understood and it is thought to be caused by endocrine, infectious, psychosocial, and hereditary factors. Nausea and vomiting in pregnancy and hyperemesis gravidarum can have a profound psychosocial effect on women and their families; some women become suicidal or can consider termination.

History

- Period of gestation (POG)
- Previous history of hyperemesis
- Quantify severity
- History to exclude other causes: abdominal pain, urinary symptoms, infection, drug history

Examination

- Weight
- Temperature, pulse, blood pressure, respiratory rate
- Abdominal tenderness
- Signs of severe dehydration
  - Eyes: sunken
  - Tongue: dry, thickly coated or red and raw
  - Skin: inelastic and lustreless
  - Pulse: rapid 100 or more per minute
  - Blood pressure: low
  - Urine output: low
  - Progressive emaciation

Investigations

- Urine for ketone and routine examination
- Thyroid function test (TFT) and liver function test (LFT) (if facility available)
- Ultrasonogram (USG) of abdomen to rule out molar pregnancy/multiple pregnancy

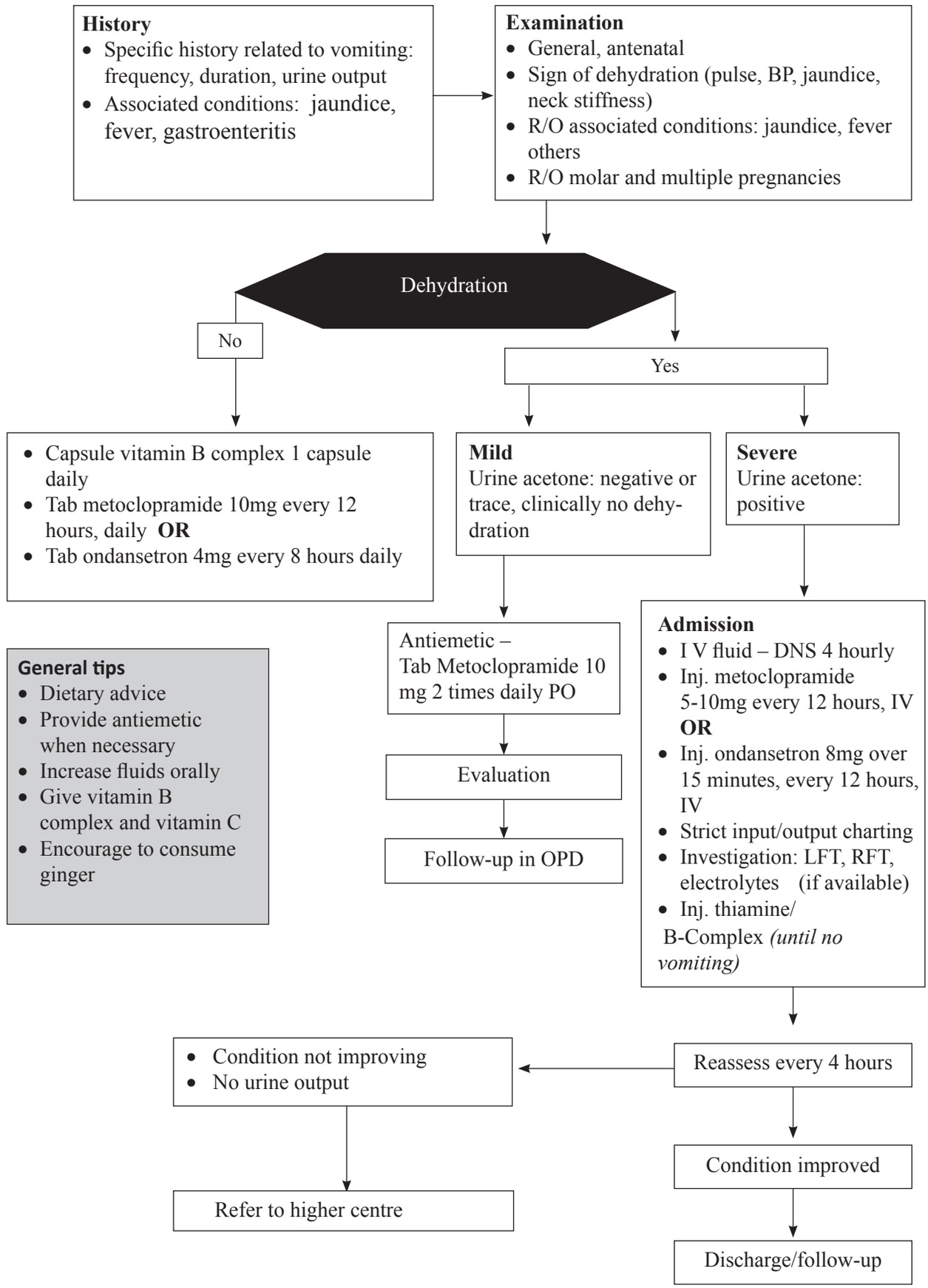
Treatment

1. Inpatient management should be considered if there is one of the following:
   - Continuous nausea and vomiting and unable to tolerate oral antiemetics
   - Continuous nausea and vomiting associated with ketonuria and/or weight loss despite oral antiemetics
   - Confirmed or suspected comorbidity (such as urinary tract infection and inability to tolerate oral antibiotics)
2. Weigh patient on admission and then twice weekly
3. Intravenous fluids – normal saline
4. Anti-emetics
   - Safe in the first trimester
   - Use regularly rather than as per need whilst vomiting
   - Combinations of drugs should be used when not responding to a single antiemetic
   - If severe or persistent hyperemesis gravidarum, the parenteral or rectal route may be necessary

References

RCOG. June 2016. *The Management of Nausea and Vomiting of Pregnancy and Hyperemesis Gravidarum, Green top Guideline RCOG No 69.* The Royal College of Obstetricians and Gynaecologists.
BMJ 2018. Management of Severe Pregnancy Sickness and Hyperemesis Gravidarum, Clinical Updates.

2-3 NAUSEA AND VOMITING IN PREGNANCY



2-4 SHOCK

Definition

Shock is characterized by failure of the circulatory system to maintain adequate perfusion of the vital organs. Shock is a life-threatening condition that requires immediate and intensive treatment.

Signs of shock

- Fast, weak pulse (more than 110/minute)
- Systolic blood pressure (BP) less than 90mm Hg
- Pallor, sweating, cold, and clammy skin
- Anxiousness, confusion, unconsciousness
- Rapid breathing (more than 30/minute)
- Scanty urine output (less than 30 ml/hour)

Suspect or anticipate shock if there is:

- Bleeding in early pregnancy (e.g. abortion, ectopic or molar pregnancy)
- Bleeding in late pregnancy or labour (e.g. placenta praevia, abruptio placentae, ruptured uterus)
- Bleeding after childbirth (e.g. ruptured uterus, uterine atony, tears of the genital tract, retained placenta or placental fragments)
- Infection (e.g. unsafe or septic abortion, amnionitis, endometritis, acute pyelonephritis)
- Trauma (e.g. injury to uterus or bowel during abortion, ruptured uterus, tears of genital tract)

General Management

- Seek help
- Keep airway open
- If the woman is unconscious, turn her on lateral position
- Monitor vital signs (BP, pulse, respiration, temperature, and state of consciousness)
- Elevate the feet
- Keep the patient warm with blanket
- Open IV line and collect blood for haemoglobin (Hb), blood group and Rh
- Start IV infusion in both arms with large bore cannula or needle (16 gauge or larger)
- Continuous catheterization

After the woman is stabilized, look for causes of shock.

Specific Management

- Rapidly infuse IV fluids (normal saline or ringer's lactate) initially at the rate of 1 litre in 15-20 minutes, give at least 2 litres in the first hour and maintain accordingly.
- Monitor vital signs (BP, pulse, respiration, temperature) every 15 minutes till patient is stable (pulse: 90 bpm, systolic BP: 100mm of Hg, urine output: 30ml/hour) and when patient is stable, monitor vital signs every half an hour, then every 2 hours and later every 4 hours till the patient becomes normal.
- Maintain urine output.
- Oxygen administration at 6-8 l/minute by mask or nasal cannula.
- If needed start resuscitation.
- Do bedside clotting test (*see annex 1).*
- Watch for volume overload (pulmonary oedema).

Refer with detailed written referral slip

- Arrange for vehicle.
- Keep the patient warm while transferring.
- Turn the head on one side.
- Keep IV line open and continue infusion.
- Continue oxygen administration.
- Keep airway open and clear.
- Accompany the patient by medical staff if possible

Reference

WHO. 2017. *Integrated Management of Pregnancy and Childbirth: Managing Complications In Pregnancy And Childbirth: A Guide for midwives and doctors, 2nd ed.* Geneva: World Health Organization

NHTC. 2016. *Maternal and Newborn Care, Learning Resource Package for Skilled Birth Attendants, Reference Manual.* Kathmandu: National Health training Centre.

2-4 SHOCK

Assessment: Identify woman at risk of impending shock
Signs of shock:
- Fast, weak pulse (>110/ minute)
- Systolic BP <90mm Hg
- Pallor, sweating, cold and clammy skin
- Anxiousness, confusion, unconsciousness
- Rapid breathing (>30/ minute)
- Scanty urine output (<30ml/ hour)

Shout for help
Identify cause of shock
- PPH, APH, intra-abdominal haemorrhage in ruptured ectopic pregnancy

Management
- Put in left lateral position
- Maintain ABC
- If the woman is unconscious, turn her on lateral position
- Monitor vital signs (BP, pulse, respiration, temperature and state of conscious)
- Elevate the foot
- Keep the patient warm with blanket
- Open IV line and collect blood for Hb, blood group and Rh
- Start IV infusion in both arms with large bore cannula or needle (16 gauge or larger)
- Give oxygen 6-8 litres
- Continuous catheterization

Treat underlying cause, if possible

Suspect or anticipate shock, if there is:
- Bleeding in early pregnancy (e.g. abortion, ectopic or molar pregnancy)
- Bleeding in late pregnancy or labour (e.g. placenta praevia, abruptio placentae, ruptured uterus)
- Bleeding after childbirth (e.g. ruptured uterus, uterine atony, tears of the genital tract, retained placenta or placental fragments)
- Infection (e.g. unsafe or septic abortion, amnionitis, endometritis, acute pyelonephritis)
- Trauma (e.g. injury to uterus or bowel during abortion, ruptured uterus, tears of genital tract)

Woman not responding

CPR, if needed

Refer with detailed written referral slip:
- Arrange for vehicle
- Keep the patient warm while transferring
- Turn the head on one side
- Keep IV line open and continue infusion
- Continue oxygen administration
- Keep airway open and clear
- Accompany the patient by medical staff if possible

2-5 PRE-ECLAMPSIA

Pre-eclampsia: New onset of hypertension and proteinuria after 20 weeks of gestation in two readings 4 hours apart.

Mild pre-eclampsia: Systolic BP greater than or equal to 140 and/or diastolic BP greater than or equal to 90 after 20 weeks of gestation with proteinuria less than or equal to 2+.

Severe pre-eclampsia: Systolic BP greater than or equal to 160 and/or diastolic BP greater than or equal to 110 after 20 weeks of gestation with proteinuria more than 2+.

History

- Duration of pregnancy: establish if the pregnancy is greater than or less than 37 weeks
- Signs and symptoms like: headache, difficulty in breathing, blurred vision/seeing spots and epigastric pain, nausea, vomiting, oliguria, oedema of hands and face

Examination

- BP: diastolic more than 90mm Hg
- Chest: assess lungs for crepitation (pulmonary oedema)
- PA examination: examine for fundal height, liver tenderness, foetal heart sound
- Deep tendon reflexes: brisk reflexes are a sign of hyperreflexia

Management of severe pre-eclampsia

- If diastolic BP is higher than 110, give nifedipine 5mg orally (sublingual can cause acute fall in blood pressure).
- Take BP 30 minutes after nifedipine dose.
- If diastolic BP is still higher than 110, repeat dose.
- Repeat as necessary to keep diastolic BP 90-100mm Hg.
- Give magnesium sulphate ($MgSO_4$).

Magnesium sulphate is the drug of choice for preventing and treating convulsion in severe eclampsia and eclampsia.

Magnesium sulphate (MGSO4) regimen for severe pre-eclampsia and eclampsia

Loading dose

- Give 4gm of 20% magnesium sulphate solution IV over 5 minutes.
- Follow promptly with 10gm of 50% magnesium sulphate solution: give 5gm in each buttock as a deep IM injection with 1ml of 2% lignocaine in the same syringe.
- Ensure aseptic technique when giving Magnesium sulphate deep IM injection. Inform the woman that she will feel warm when magnesium sulphate is given.
- If convulsions recur after 15 minutes, give 2gm of 50% magnesium sulphate solution IV over 5 minutes.

Maintenance dose

- Give 5gm of 50% magnesium sulphate solution with 1ml of 2% lignocaine in the same syringe by deep IM injection every 4 hours in alternate buttocks. **Continue treatment for 24 hours after delivery or the last convulsion, whichever occurs last.**

Note: 1 ampoule contains 2ml = 1gm = 50% weight by volume

Ongoing monitoring

Patients receiving magnesium sulphate ($MgSO_4$) should be monitored hourly as follows:

- Level of consciousness: usually sleepy but arousal
- Keep diastolic BP in the range of 90-100mm Hg
- Respiratory rate: usually 16 respiration/minute or greater
- Lungs: watch for pulmonary oedema
- Deep tendon reflexes: usually minimal
- Urine output: watch for oliguria (less than 30 ml/hour or 120ml/ per 4 hours)
- Foetal heart sounds: magnesium sulphate results in normal decrease in variability

Signs of toxicity
Withhold or delay magnesium sulphate if:

- Respiratory rate is less than 16 breaths per minute
- Patellar reflexes are absent
- Urinary output is less than 30ml per hour in the past 4 hours

Keep antidote (calcium gluconate) ready
In case of respiratory arrest

- Assist ventilation (mask and bag, anaesthesia apparatus, intubation tube).
- Give calcium gluconate 1gm (10ml of 10% solution) IV slowly until calcium gluconate begins to antagonize the effects magnesium sulphate and respiration begins.

Reference

WHO. 2017. *Integrated Management of Pregnancy and Childbirth: Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors, 2nd ed.* Geneva: World Health Organization.

2-5 PRE-ECLAMPSIA

History: headache, difficulty in breathing, blurred vision/seeing spots and epigastric pain, nausea, vomiting, oliguria, oedema of hands and face, duration of pregnancy
Examination: BP: diastolic more than 90mm Hg

Assess severity of pre-eclampsia

Mild

Admit the woman
- Estimate gestational age
- Counsel/inform woman and family
- Provide normal diet.
- Monitor blood pressure four hourly,
- Monitor urine output daily.
- Assessment of foetal wellbeing: daily foetal kick count
- USG for estimated foetal weight, Amniotic fluid index (AFI)

Investigations: Platelet, RFT, LFT, urine for albumin (coagulation profile, if available)

- <37 weeks: If BP decreases to normal levels or her condition remains stable, give inj. dexamethasone 6mg IM 4 doses 12 hours apart for foetal lung maturity
  - If develops severe pre-eclampsia, plan for delivery or refer to CEONC site
  - Discharge: counselling for monitoring of BP and foetal wellbeing twice weekly and watch for sign and symptoms of severe preeclampsia and follow up in 1 week
    - If stable, monitor BP and foetal wellbeing until 37 weeks and plan for delivery
- >37 weeks: Plan for delivery or refer to CEONC site

Severe

Admit the woman
- Estimate gestational age
- Counsel women and family,
  - Monitor BP every 4 hours
  - Urine albumin twice daily
  - Monitor urine output
- Keep vein open
- Advise for investigation for pre-eclampsia

- <34 weeks:
  - Prevent seizures-administer $MgSO_4$ as per regime
  - Anti-hypertensive
  - Inj. dexamethasone for lung maturity
  - Monitor BP, respiratory rate, urine output, and FHR hourly
- >34 weeks:
  - Prevent seizures-administer $MgSO_4$ as per regime
  - Anti-hypertensive
  - Monitor BP, respiratory rate, urine output, and FHR hourly

Refer to-CEONC site

If BP is persistently raised in spite of antihypertensive, refer after giving loading dose of $MgSO_4$

Paramedics should work together with nurses/ANMs and doctors for management of Pre-eclampsia

- If systolic BP is 160mm Hg or higher and/or diastolic blood pressure is 110mmHg or higher, start antihypertensive.
- If signs of severe preeclampsia appear, even if her blood pressure is normal, admit the woman, and manage as severe preeclampsia and refer to CEONC site or, if in CEONC site, inform senior for further management

2-6 ECLAMPSIA

Eclampsia: Systolic blood pressure (BP) is 140mm Hg or higher or diastolic BP is 90mm Hg or higher, associated with convulsion after 20 weeks of gestation. It is a convulsive state in a pregnant woman not attributable to other cerebral conditions such as epilepsy.

History

- Duration of pregnancy: establish if the pregnancy is greater than or less than 37 weeks
- Number of fits, time when fit started (inquire with attendant)
- Oedema of hands/face

Examination

- BP: systolic more than 140 mm Hg, diastolic more than 90 mm Hg after 20 weeks of gestation
- Chest: assess lungs for crepitation (pulmonary oedema)
- Per abdomen (PA) examination: liver tenderness, foetal heart sound
- Deep tendon reflexes: brisk reflexes are a sign of hyperreflexia

Goals of immediate care	Goals of post-fit care
• Control convulsion • Control hypertension • Delivery of the baby • Prevent injury	• Prevent recurrence of fits • Treat high blood pressure

Management of high BP

- If diastolic BP is higher than 110mm Hg, give tab nifedipine 5-10mg orally, and take blood pressure 30 minutes after nifedipine dose.
- If diastolic BP is still higher than 100mm Hg, repeat nifedipin dose.
- Repeat as necessary to keep diastolic BP in the range of 90-100 mm Hg (the maximum total dose is 30mg in the acute treatment phase of 90 minutes).

A key factor in anticonvulsive therapy is timely and adequate administration of anticonvulsive drugs. Convulsions in hospitalized women are most frequently is the result of under-treatment.

Magnesium sulphate is the drug of choice for preventing and treating convulsions in severe pre -clampsia and eclampsia. *For magnesium sulphate regime, see protocol 2-5, pre-eclampsia.*

Optimal timing for delivery

Delivery should be considered as soon as the woman's condition has stabilized. The decision about the optimal timing of childbirth should be made on an individual basis, taking into account, among other factors, gestational age, maternal and foetal status and wellbeing, cervical favourability, and urgency.

Severe pre-eclampsia and eclampsia are managed similarly, except that birth must occur within 12 hours of onset of convulsions in eclampsia.

Referral for tertiary-level care

Consider referral if:

- HELLP-syndrome (haemolysis, elevated liver enzymes and low platelets), coagulopathy
- Persistent coma lasting more than 24 hours after convulsion
- Severe pre-eclampsia and maternal and foetal wellbeing cannot be adequately monitored
- Uncontrolled hypertension despite treatment with antihypertensive
- Oliguria that persists for 48 hours after giving birth

Reference

WHO. 2017. *Integrated Management of Pregnancy and Childbirth: Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors, 2nd ed. Geneva: World Health Organization*.

2-6 ECLAMPSIA

History
- Duration of pregnancy
- Number of fits, time when fit started (inquire with attendant)
- Oedema of hands/face

Examination
- BP
- Chest: assess lungs for crepitation
- PA examination: liver tenderness, foetal heart sound
- Deep tendon reflexes

→ Eclampsia

Eclampsia → Immediate care

Immediate care →
- Call for help
- Place patient in left lateral position
- Remove objects from around the patients
- Give oxygen 4 litre/ minute by mask
- Clean airways and place oral airway
- Start IV line
- Continuous catheterization
- Monitor vitals

Immediate care → Control fits

Control fits → Loading dose of $MgSO_4$ - 4gm IV over 5-7 minutes and 5gm IM in each buttock

Control fits → Control hypertension

Control hypertension → Treat with antihypertensive if: systolic BP ≥160mm Hg diastolic BP ≥100mm Hg with Nifedipine- 5-10mg orally stat and repeat after 30 minutes if response is inadequate

Loading dose of $MgSO_4$ - 4gm IV over 5-7 minutes and 5gm IM in each buttock → Delivery within 12 hours vaginally or by CS

Control hypertension → Delivery within 12 hours vaginally or by CS

Delivery within 12 hours vaginally or by CS → Refer to CEONC site

Refer to CEONC site → **At CEONC site**
Continue with maintenance dose of $MgS0_4$ (if loading dose given)
- 5gm $MgSO_4$ IM every 4 hours for 24 hours in alternate buttock after delivery or after the last fit, whichever occurs last

At CEONC site → Expedite delivery

Expedite delivery → Refer to higher centre if woman develops HELLP syndrome, coma for more than 24 hours after convulsion, maternal and foetal monitoring is not possible, uncontrolled hypertension or convulsion even with medication and persisting oliguria

STOP $MgSO_4$, if
- Urine output <30 ml/hour
- Respiratory rate <16/min
- Absent patellar reflex

Keep antidote ready, in case of respiratory arrest:
- Assist ventilation (mask and bag, anaesthesia apparatus, intubation)
- Give calcium gluconate 1gm (10ml of 10% solution) IV slowly over 3 minutes, until respiration begins to counteract the effect of $MgSO_4$

Paramedics should work together with nurses/ANMs and doctors for management of Pre-eclampsia

Investigation: CBC, RFT/LFT, coagulation profile, blood group

2-7a COMMON POSTPARTUM COMPLICATIONS

Postpartum emotional distress is fairly common after pregnancy, like:

- Mild postpartum blues (affecting about 80% of women)
- Postpartum depression
- Psychosis

"Postpartum blues" refers to mild depressive symptoms (i.e. sadness, tearfulness, irritability and anxiety), insomnia and decreased concentration. It develops within two to three days of giving birth and typically peak over the next few days and resolve within two weeks. Women with postpartum blues are at increased risk of developing postpartum minor depression or major depression.

Postpartum depression occurs in early postpartum weeks or months and may persist for a year or more. Facilitating the presence of a companion of choice during pregnancy, labour, childbirth and the postpartum period may help prevent postpartum depression.

Risk factors for postpartum depression include:

- Previous postpartum depression
- Active or previous mental illness
- Being a member of a vulnerable population
- Traumatic childbirth, new born/infant admitted in an intensive care
- History of being a neglected child

Postpartum depression requires psychological counselling and ongoing support by service providers and family members.

Severe postpartum depression may be associated with Psychosis.

Mood and Anxiety Disorders		
Disorder	**Symptoms**	**Management**
Postpartum Blues	Irritability, anxiety, fluctuating mood and increased emotional reaction	Counselling Mild sedatives- Tablet phenergan 30mg-60mg at bedtime
Postpartum depression	Excessive guilt, anxiety, depressed mood, insomnia, hypersomnia, suicide tendency and fatigue	Refer for Psychiatric consultation
Postpartum psychosis	Agitation, hallucinations, disorganized behaviour, cognitive impairment	Refer for Psychiatric consultation

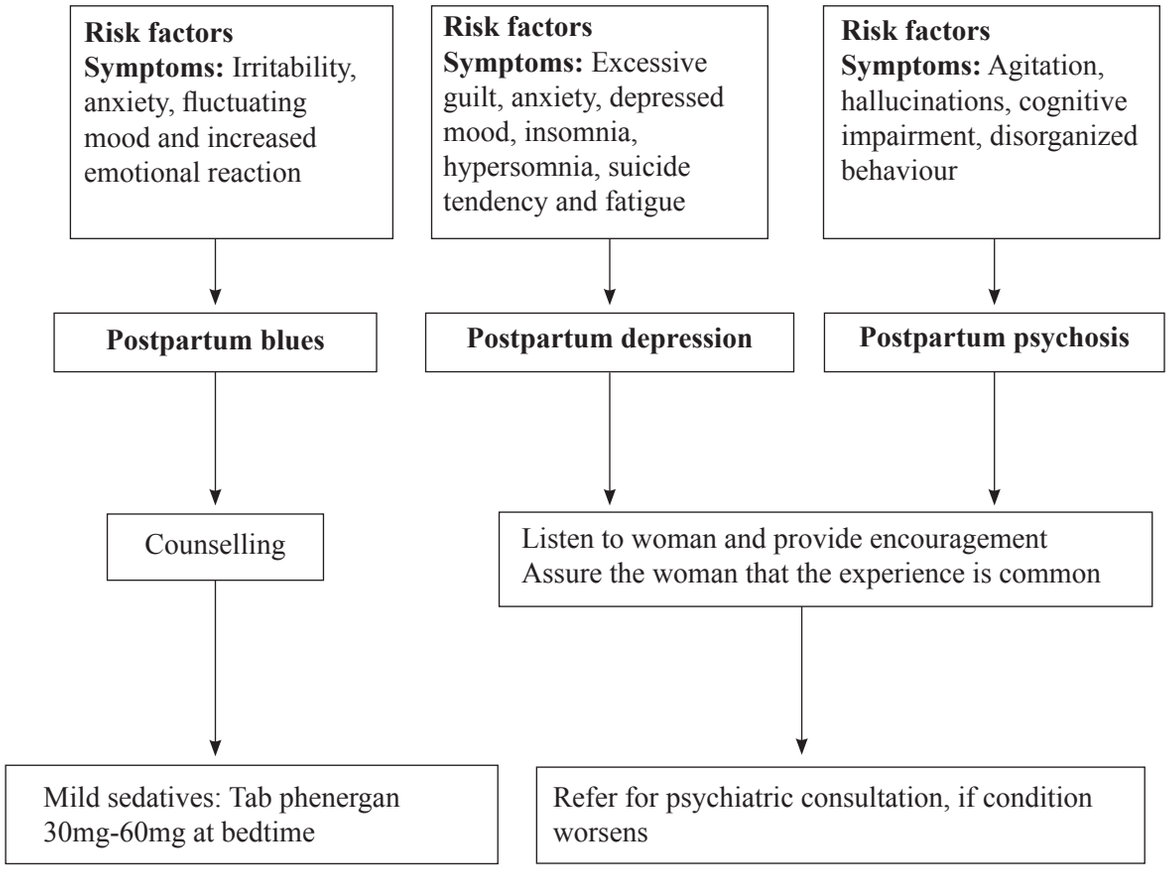
References

WHO. 2017. *Integrated Management of Pregnancy and Childbirth: Managing Complications in Pregnancy and Childbirth: A Guide for midwives and doctors, 2nd ed.* Geneva: World Health Organization

HSE Clinical Programme in Obstetrics and Gynaecology. 2017. *Medication Guidelines For Obstetrics and Gynaecology, First Edition, Volume 2, Antimicrobial safety In Pregnancy and Lactation*

2-7a COMMON POSTPARTUM COMPLICATIONS

Postpartum Mood/Anxiety Disorder



2-7b COMMON POSTPARTUM COMPLICATIONS

Other common postpartum complications are puerperal pyrexia, puerperal sepsis, mastitis, breast abscess, urinary tract infection/ pyelonephritis and deep vein thrombosis.
These complications of puerperium most frequently occur in second and third weeks but may often be seen within 6 weeks of puerperium.

Puerperal pyrexia: A rise of temperature reaching 38°C or more measured on two separate occasions at 24 hours apart after the first 24 hours within the first 10 days following delivery. Anaemia, malnutrition, antepartum haemorrhage and other complications in pregnancy, careless repeated vaginal examinations in labour, intra-uterine manipulations, trauma to the genital tract and prolonged labour are some of the predisposing factors leading to postpartum pyrexia. Puerperal pyrexia may be due to infection of the genital tract, acute mastitis, infection of the urinary tract, thrombophlebitis and other general systemic infections, which are unrelated to parturition, like typhoid pneumonia, malaria, etc.

Puerperal sepsis: An infection of the genital tract, which occurs as a complication of delivery, is termed as puerperal sepsis.

Clinical features
- General: fever, loss of appetite, body ache, vomiting, in severe case of infection, loss of consciousness, pre shock and shock
- Specific: uterine/pelvic/abdomen tenderness, foul-smelling lochia and blood-mixed lochia for longer period

Investigation
In all cases, a culture from the upper part of the vagina must be taken and in severe cases, blood culture should be done. A catheter specimen of the urine should be examined for pus cells and for culture and sensitivity. In areas where typhoid, malaria and other fevers are prevalent investigations should be carried out to rule out these, e.g. examination of blood smear for malarial parasites, blood culture for *B. typhosus*.

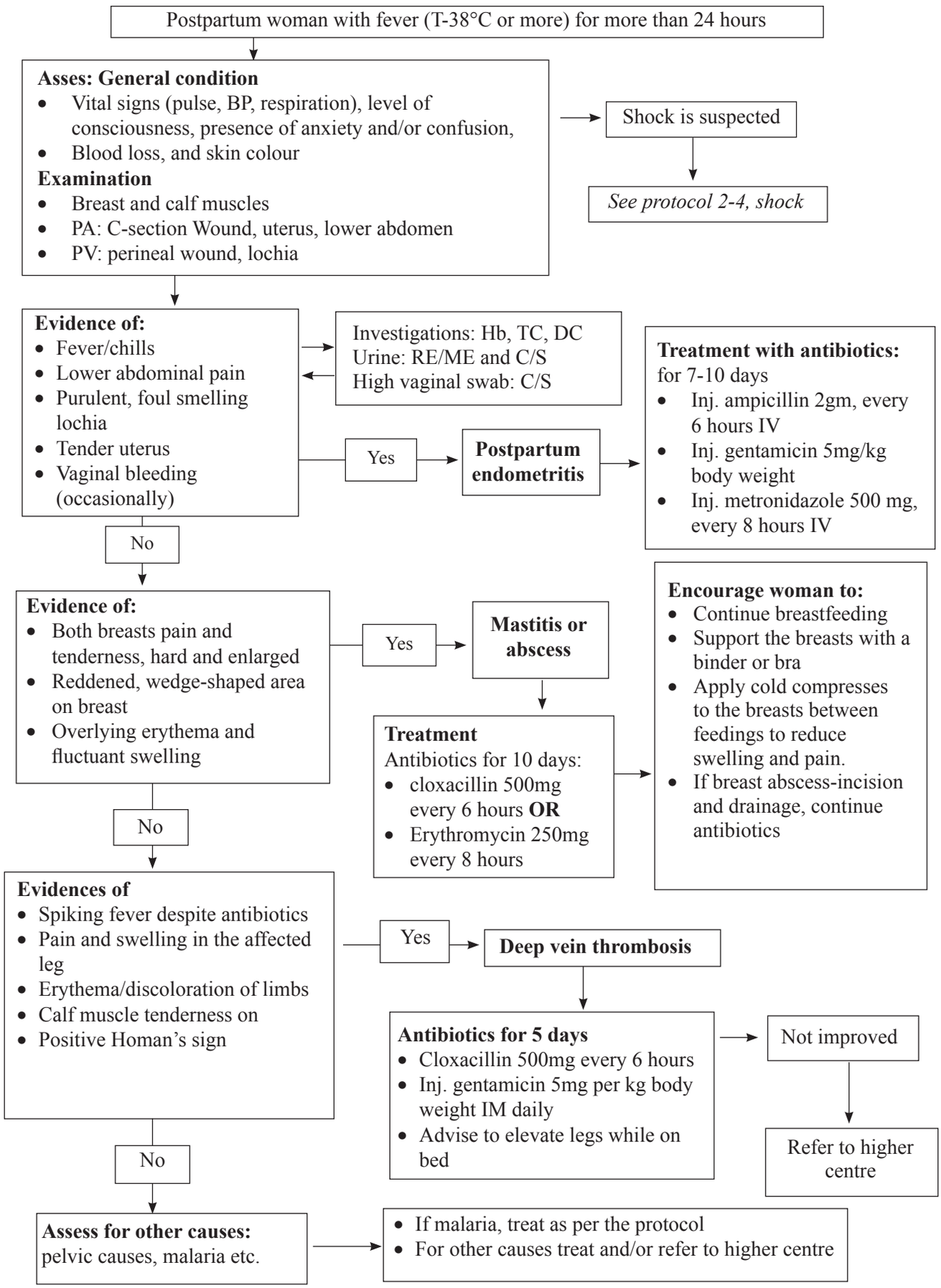
Management
General
- Room with adequate light and ventilation
- Diet must be nutritious with plenty of fluid
- Maintain personal hygiene
- Adequate rest and sleep
- Advice to empty the bladder frequently
- Appropriate treatment to prevent spread of infection outside the pelvis

Specific
Antibiotics according to the results of culture and sensitivity test. The most commonly used antibiotics are:
- Inj. ampicillin 2gm IV stat every 6 hours
- Inj. gentamicin3-5mg/kg/body weight
- Inj. cefotaxim 1gm every 8 hours
- Inj. metronidazole 500mg every 8 hours IV

Surgical
Incision and drainage of abscess

Reference:
NHTC. 2016. *Maternal and Newborn Care, Learning Resource Package for Skilled Birth Attendant, Reference Manual.* Kathmandu: National Health Training Center.
WHO. 2017. *Integrated Management of Pregnancy and Childbirth: Managing Complications in Pregnancy and Childbirth: A Guide for midwives and doctors, 2nd ed.* Geneva: World Health Organization.

2-7b COMMON POSTPARTUM COMPLICATIONS



2-8 URINARY TRACT INFECTION

Definition

Urinary Tract Infections (UTI) are common in pregnancy and includes Cystitis (1-3%), Asymptomatic Bacteriuria (2-10%) and Pyelonephritis. It is also called bladder infection and is a bacterial inflammation in the urinary tract. It results from hormonal ureteral dilation, hormonal ureteral hypoperistalsis, and pressure of the expanding uterus against the ureters.

Asymptomatic Bacteriuria is defined as the presence of at least 100,000 organisms per millilitre of urine in an asymptomatic patient. Dysuria, increased frequency and urgency of urination, retropubic/suprapubic pain, abdominal pain and fever infrequently present in **Cystitis** (infection of urinary bladder).

Pyelonephritis

Diagnosis of acute pyelonephritis should be considered if woman presents with:

- Fever more than or equal to 38ºC with chills and rigor
- Anorexia, nausea and vomiting
- Frequency, urgency, burning micturition and dysuria
- Flank pain, retropubic/suprapubic pain, loin pain and tenderness.

Patient may have serious consequences like preterm labour, maternal sepsis, acute respiratory distress syndrome (ARDS), and even maternal death. So prompt and aggressive treatment is needed

Management

- Urine sample for RE/ME, raised pus cells, RBC, epithelial cells, bacteria -100,000/ml
- Urine for culture and sensitivity (C/S)
- Referral of patient, if facility is not available

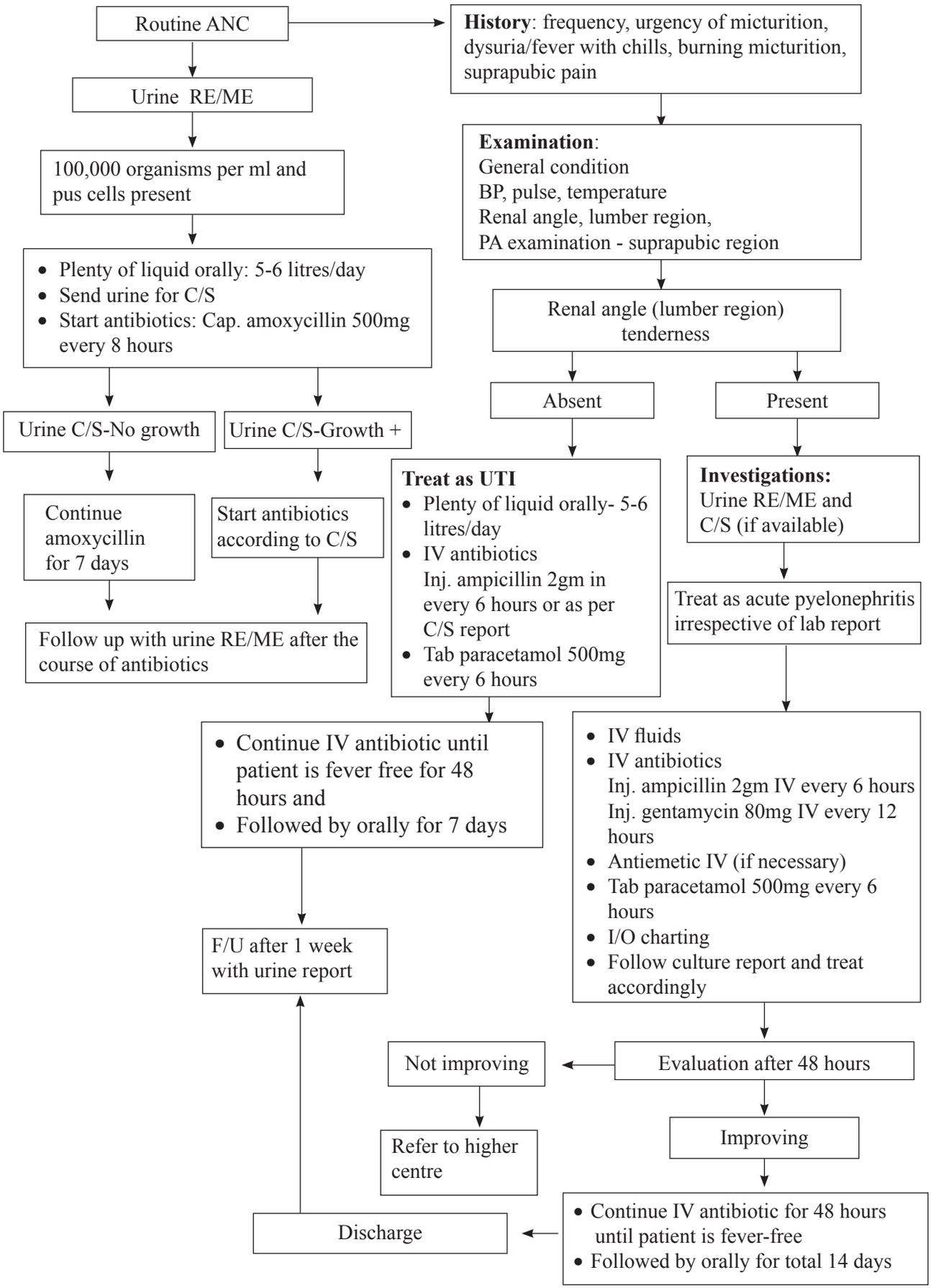
Empiric treatment (amoxicillin is recommended) should be done while waiting for the results.
Change antibiotics, if needed, as per culture report.

Criteria of cure:
After the course of antibiotics, if repeated urine culture shows sterile, the disease is considered to be cured.

Reference

WHO. 2017. *Integrated Management of Pregnancy and Childbirth: Managing Complications in Pregnancy and Childbirth: A Guide for midwives and doctors, 2nd ed.* Geneva: World Health Organization.

2-8 URINARY TRACT INFECTION



ANNEX 1: BEDSIDE CLOTTING TEST

How to perform bedside clotting test:

- Take 2 ml of venous blood into a small, dry, clean, plain glass test tube (approximately 10mm x 75mm).
- Hold the tube in a closed fist to keep it warm (±37°).
- After four minutes, tip the tube slowly to see if a clot is being formed or not. Then tip it again every minute until the blood clots and the tube can be turned upside down.
- Failure to form a clot after seven minutes or formation of a soft clot that breaks down easily suggests coagulopathy.
- If a clotting test shows failure of a clot to form after seven minutes or a soft clot that breaks down easily, suspect coagulopathy.

ANNEX 2: WHO RECOMMENDATIONS ON THE USE OF UTEROTONICS FOR THE PREVENTION OF POSTPARTUM HAEMORRHAGE (PPH)

Context	Recommendation	Category of recommendation
Efficacy and safety of uterotonics for PPH prevention	1. The use of an effective uterotonic for the prevention of PPH during the third stage of labour is recommended for all births. To effectively prevent PPH, only *one* of the following uterotonics should be used: • oxytocin (Recommendation 1.1) • carbetocin (Recommendation 1.2) • misoprostol (Recommendation 1.3) • ergometrine/methylergometrine (Recommendation 1.4) • oxytocin and ergometrine fixed-dose combination (Recommendation 1.5).	Recommended
	1.1 The use of oxytocin (10 IU, IM/IV) is recommended for the prevention of PPH for all births.	Recommended
	1.2 The use of carbetocin (100 µg, IM/IV) is recommended for the prevention of PPH for all births in contexts where its cost is comparable to other effective uterotonics.	Recommended
	1.3 The use of misoprostol (either 400 µg or 600 µg, PO) is recommended for the prevention of PPH for all births.	Recommended
	1.4 The use of ergometrine/methylergometrine (200 µg, IM/IV) is recommended for the prevention of PPH in contexts where hypertensive disorders can be safely excluded prior to its use.	Context-specific recommendation
	1.5 The use of a fixed-dose combination of oxytocin and ergometrine (5 IU/500 µg, IM) is recommended for the prevention of PPH in contexts where hypertensive disorders can be safely excluded prior to its use.	Context-specific recommendation
	1.6 Injectable prostaglandins (carboprost or sulprostone) are not recommended for the prevention of PPH.	Not recommended
Choice of uterotonics for PPH prevention	2. In settings where multiple uterotonic options are available, oxytocin (10 IU, IM/IV) is the recommended uterotonic agent for the prevention of PPH for all births.	Recommended
	3. In settings where oxytocin is unavailable (or its quality cannot be guaranteed), the use of other injectable uterotonics (carbetocin, or if appropriate ergometrine/methylergometrine, or oxytocin and ergometrine fixed-dose combination) or oral misoprostol is recommended for the prevention of PPH.	Recommended
	4. In settings where skilled health personnel are not present to administer injectable uterotonics, the administration of misoprostol (400 µg or 600 µg, PO) by community health workers and lay health workers is recommended for the prevention of PPH.	Recommended

IM: intramuscular; IU: international units; IV: intravenous; PO: orally

Reference

WHO recommendations uterotonics for the prevention of postpartum haemorrhage, 2018

ANNEX 3: RESPECTFUL MATERNITY CARE

While progress has been made in the reduction of maternal mortality during the past several decades, and much attention has been given to skilled attendance at birth, less attention has been given to the abuse and disrespect during maternity care that has been documented and observed globally.

Safe motherhood is more than the prevention of death and disability; it is to encompass respect for women's basic human rights, including respect for women's autonomy, dignity, feelings, choices, and preferences, including companionship during maternity care. Disrespect and abuse during maternity care are a violation of women's basic human rights. In seeking and receiving maternity care before, during and after childbirth, every woman has right to:

- Be free from harm and ill treatment, no one can physically abuse her
- Information, informed consent and refusal, and respect for her choices and preferences, including companionship during maternity care, no one can force her or do things to her without her knowledge and consent
- Privacy and confidentiality, no one can expose her or her personal information
- Be treated with dignity and respect, no one can humiliate or verbally abuse her
- Equality, freedom from discrimination and equitable care, no one can discriminate because of something they do not like about her
- Healthcare and to the highest attainable level of health, no one can prevent her from getting the maternity care she needs.
- Liberty, autonomy, self-determination and freedom from coercion, no one can detain her or her baby without legal authority.

References

Maternal and Newborn Care, Learning Resource Package for Skilled Birth Attendants, Reference Manual, Ministry of Health, National Health Training Center, 2016
A Guide for Advocating Respectful Maternity Care, USAID, 2013

Section 3

NEWBORN CARE

3-1 SAFE TRANSPORTATION OF SICK NEWBORN

Recognition of a problem and appropriate stabilization are necessary throughout the transfer process. In developing countries, the problem of transporting small and sick newborns is compounded by several practical constraints. Besides several practical constraints, we should always be prepared well before transport:
Stabilize the newborn before transport.

1. **Assess and stabilize**
   i). **Temperature:** Assess temperature by touch or by using a thermometer.
   - Hypothermia
     - Warm either by placing under a warmer or by providing kangaroo mother care (KMC).

   ii). **Airway:** Assess the airway for patency.
   - Position of the neck
     - Correct the position by putting shoulder roll.
   - Secretions in mouth/nose
     - Suction
   - Chest movements

   iii). B**reathing:** Assess the newborn for breathing efforts.
   - Tactile stimulation
   - Ventilation using a bag and mask with oxygen
   - Respiratory distress may require oxygen supplementation.

   iv). **Circulation:** assess the status of circulation
   - Pulse volume and Capillary Refilling Time (CRT)
     - CRT more than 3 seconds and/or peripheral pulses are poor with normal temperature
       - » Fluid bolus of 10ml per kg normal saline or ringer lactate should be provided over 20-30 minutes.
       - » Reassess for need of further boluses.

   v). **Fluids:** if the newborn is sick, cannot be fed, and needs to be transferred, then intravenous (IV) fluids should be started *(see annex 1, Feeding Guideline)*.
   - Maintain fluid, based on birth weight and age (in days) of life.
   - Start IV fluids after the calculation of presence or absence of abnormal fluid loss.

   vi). **Medications:** assess the need for antibiotics, anticonvulsants, vitamin K

   vii). **Feeding:** assess Assess the newborn for feeding using:
   - If the newborn can be fed, he/she should be fed enteral.
   - Cup or gavages
   - Directly at the breast

2. **Write a note:** write a precise note for the providers at the referral facility.
   – Details of the newborn's condition
   – Need for referral
   – Treatment given to the newborn
3. **Encourage the mother to accompany.**
4. **Arrange a health worker to accompany, if possible.**
5. **Communication**
   - Explain the condition, the prognosis and the reasons for referral of the newborn to the family
   - Explain where to go and indicate whom to contact
   - Inform the referral facility beforehand

References

WHO. 2003. Integrated Management of Pregnancy and Childbirth, Managing Newborn Problems: A guide for doctors, nurses, and midwives. Geneva: World Health Organization.
CHD. 2016. *National Neonatal Clinical Protocol. Kathmandu: Child Health Division.*
CHD. 2073. *Comprehensive Newborn Care Training Package for Level II Hospital Care.* Kathmandu: Child Health Division.

3-1 SAFE TRANSPORTATION OF SICK NEWBORN

In case a newborn needs to be referred, appropriate pre-referral measures need to be taken

- Assess and stabilize
  - Temperature
  - Airway
  - Breathing
  - Circulation
  - Fluids
  - Medication
  - Feeding
- Write a note, including:
  - Details of the newborn's condition
  - Need for referral
  - Treatment given to the newborn
- Encourage the mother and/or a family member to accompany
- Arrange a health-worker to accompany, if possible
- Communicate
  - Explain the condition, prognosis and reason for referral
  - Explain where to go
  - Inform the referral facility beforehand

Care during transport

The accompanying person should be explained to ensure the following:

1. **No noxious stimuli**
2. **Emergent**
   Stabilize and arrange for early referral
3. **No sepsis**
   Infection control practices during transport with minimal handling
4. **Stabilize prior to transport**
5. **Maintenance of warm chain while transport of neonate**
   a. KMC
   b. Properly covered in cotton or cloth
   c. Improvised containers
   d. Transport incubator
6. **Prevention of hypoglycaemia**
   a. Provide feeds
      i. If the newborn is in a position to suck on the breast, s/he should be breastfed.
      ii. If s/he can take spoon/cup feeding, expressed breast milk can be fed carefully.
      iii. If the distance is long, a nasogastric catheter may be inserted and gavage feeding can be done.
   b. If newborn is very sick, transfer with IV fluid.
7. **Maintenance of airway and breathing**
   a. Keep the neck of the newborn in slight extension
   b. Do not cover the newborn's mouth and nose
   c. Gently wipe the secretions from the mouth and the nose with a cotton or cloth covered finger
   d. Check breathing
      i. Monitor newborn's breathing.
      ii. If the newborn stops breathing, provide tactile stimulation to the soles to restore it
      iii. Start bag and mask ventilation.
8. **Educate the parents about danger sign while transfer**

Equipment preparation

- Resuscitation box
- Transfer cot
- Portable pulse oximeter (if available)
- Portable oxygen
- Patients transfer note and investigation reports
- Ensure the transfer team has a mobile phone, the contact number of the receiving facility and the contact number of a senior doctor on call at the referral facility
- Money for emergency

General Danger Signs

- Apnoea
- Convulsion
- Vomits everything
- Lethargic or unconscious
- Unable to suck or feed

3-2 PERINATAL ASPHYXIA, INCLUDING RESUSCITATION

Definition

Perinatal asphyxia is the term used to describe the condition when the newborn does not begin or sustain adequate breathing at birth and requires resuscitation. Ninety per cent of newborns require no assistance to begin breathing at birth. Of the 10% that do require some help, only 1% need extensive resuscitative measures to survive. Any newborn is at risk of suffering from birth asphyxia and therefore one should be prepared to resuscitate each newborn at birth.

Resuscitation could be successful or unsuccessful.

If resuscitation is successful:

- After successful resuscitation, if the newborn breathes, his/her heart rate is above 100 per minute, SpO2 is less than 90% (colour is pink) and he/she has good tone, then he/she may be handed over to mother. This newborn needs frequent assessments of colour, tone, and vital signs for the first six hours.**it/Nursery for**
- After the resuscitation aided by ventilation with bag and mask or intubation, transfer the newborn to a nursery or higher centre for monitoring and continuing evaluation and support, as they are likely to develop complications like lethargy, breathing difficulty, poor feeding, and convulsions.

When to stop resuscitation?

- Newborn not breathing or gasping after 20 minutes without heartbeat
- No breathing and heart rate from the beginning and no improvement even after 10 minutes of effective ventilation, stop resuscitation and do counselling
- Heart rate less than 60/minutes and no spontaneous breathing after 20 minutes of ventilation and chest compression, counselling for poor prognosis
- If resuscitation is unsuccessful:
  - Talk with family and mother about the newborn's death and answer their questions. Ask the mother and family if they want to see and hold the newborn
  - Explain the mother and family about own/mother's care:
    - Rest, support and good diet
    - Management of engorged breasts

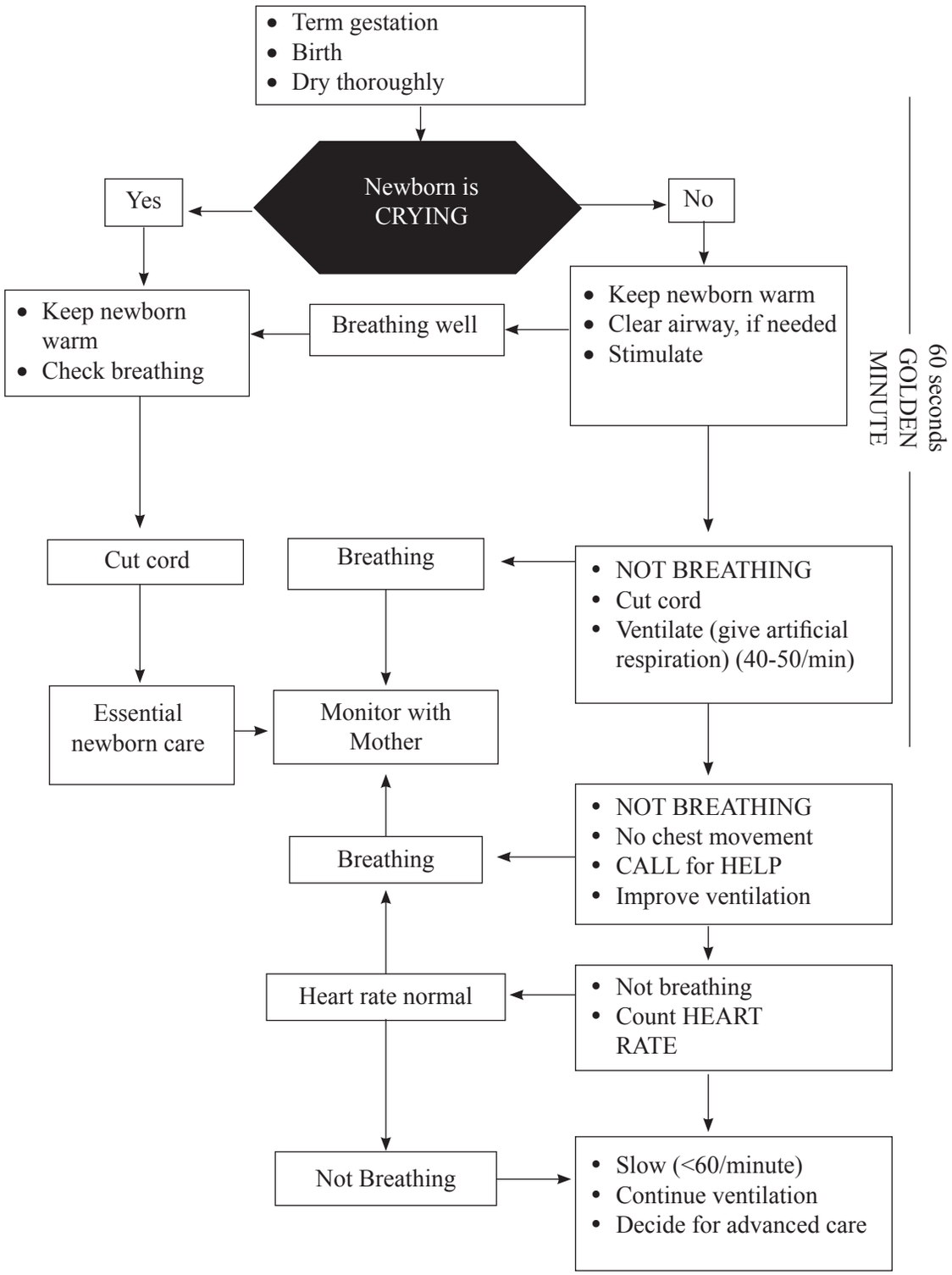
After resuscitation, record the following:

- Date and time of birth
- Sex of the newborn
- Newborn's condition at birth (colour, breathing, heart rate)
- Resuscitation
  - Time resuscitation started
  - Steps used (stimulation, ventilation)
  - Time newborn breathed normally
  - Apgar scores
- Care after resuscitation
- Time of death of newborn, if the resuscitation was unsuccessful

Reference

AAP. 2016. *Helping Baby Breathe, 2nd Edition.* American Academy of Paediatrics.

3-2 PERINATAL ASPHYXIA INCLUDING RESUSCITATION



3-3 PRETERM/LOW BIRTH WEIGHT NEWBORN, INCLUDING KANGAROO MOTHER CARE

Definition

A newborn, whose weight is less than 2500gm at birth, irrespective of the period of their gestation, is known as a low birth weight (LBW) newborn. LBW newborns have 2-3 times increased risk of mortality.

Clinical types of LBW newborn

1. **Preterm or premature:** baby born at gestational age less than 37 completed weeks
2. **Small for gestational age (SGA):** less than 10th percentile for gestational age or intrauterine growth restriction (IUGR) or small for date (SFD)
   - Gestational age may be term or preterm
   - Newborn is undernourished and undersized

Classification of LBW newborn

1. **Low birth weight newborns:** birth weight less than 2500gm irrespective of the gestational age
2. **Very low birth weight newborn:** birth weight less than 1500gm irrespective of the gestational age
3. **Extremely low birth weight newborn:** birth weight less than 1000gm irrespective of the gestational age

Problems of LBW newborns

There are some problems that are common to both types of newborns:

- Hypothermia
- Infections
- Hypoglycaemia
- Birth asphyxia

All **LBW newborns** should receive vitamin K 1mg intramuscular (I/M) at birth.

When dealing with **LBW newborns**, infection prevention measures must be strictly maintained such as:

- Hand washing
- Early and exclusive breastfeeding
- Care of the umbilical stump
- Avoiding unnecessary interventions such as IV lines and needle pricks

Weight gain and feeding in LBW newborns

Assess the newborn's growth to ensure that she/he is gaining weight adequately.

- It is normal for small newborns to lose weight during the first 7-10 days of life. Birth weight is usually regained by 14 days of life unless the newborn has been sick.

Kangaroo mother care

Kangaroo mother care (KMC) is a universally available and biologically sound method of care for newborns, in particular those who are preterm or of low birth weight. It is defined as early, prolonged skin-to-skin contact between a mother and her LBW newborn. This can take place both in hospital and at home and is usually continued until the newborn reaches at least 2000gm in weight.

Eligibility

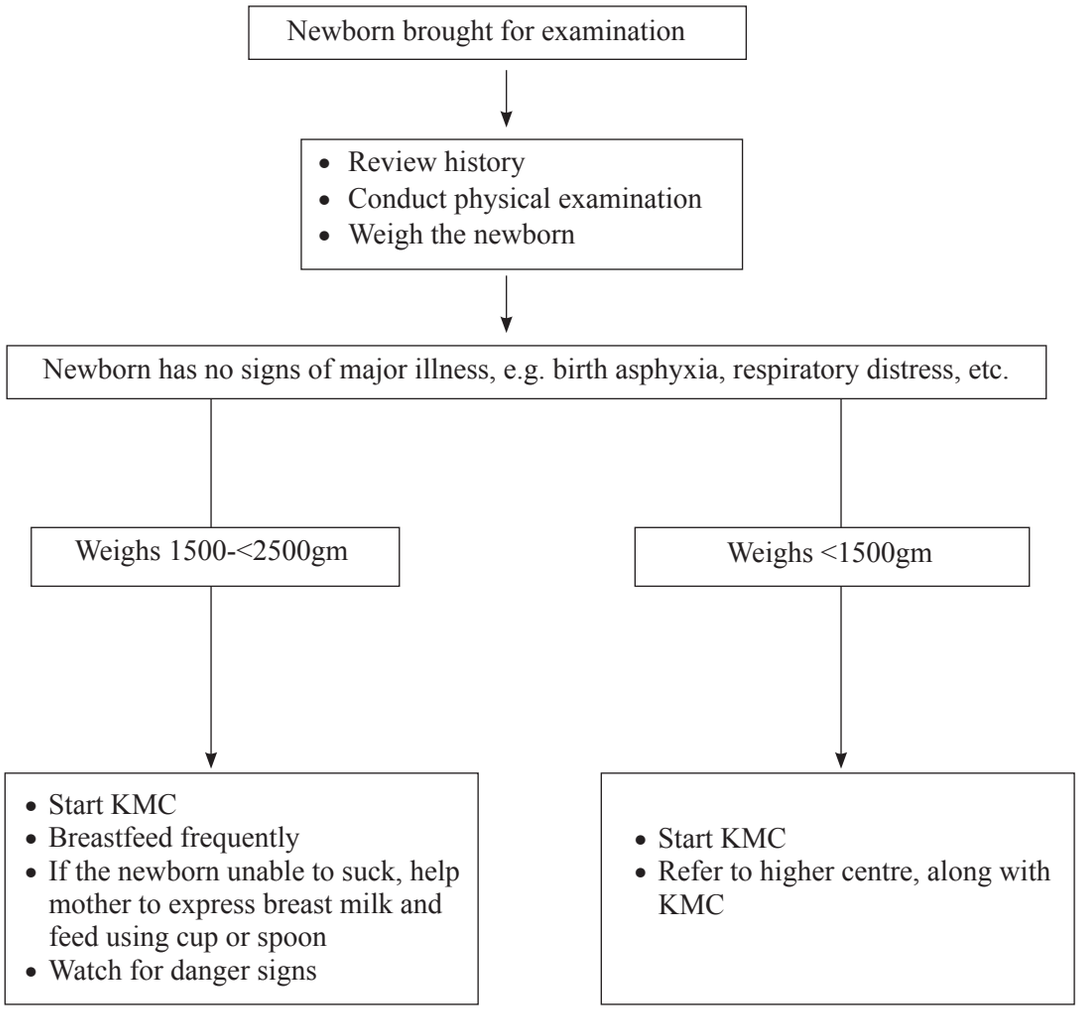
- The willingness of the mother to do KMC.
- The newborn should be in a stable condition: no major illness present such as septicaemia, pneumonia, meningitis, respiratory distress or convulsions.
- Newborns who have been started on antibiotics for suspected infection can start KMC as soon as they are stable.
- Newborns under phototherapy may be evaluated to receive intermittent KMC.

References

CHD. 2074. *Facility Based Integrated Management of Neonatal and Childhood Illness (FBIMNCI) Training Package.* Kathmandu: Child Health Division.

NHTC. 2015. *Care of Low Birth Weight Babies through Kangaroo Mother Care, Training Package.* Kathmandu: National Health Training Centre.

3-3 PRETERM/LOW BIRTH WEIGHT NEWBORN, INCLUDING KANGAROO MOTHER CARE



General danger signs
- Apnoea
- Convulsion
- Vomits everything
- Lethargic or unconscious
- Unable to suck or feed

3-4 IDENTIFICATION AND MANAGEMENT OF HYPOTHERMIA

Definition

Normal axillary temperature for newborns is 36.5 to 37.5 ºC (97.8 to 99 ºF). If the axillary temperature of the newborn is below 36.5 ºC (97.8 ºF), it is known as hypothermia.

Grading of hypothermia

- Cold stress: 36 to less than 36.5ºC (96.8°F to less than 97.7°F)
- Moderate hypothermia: 32 to less than 36.ºC (89.6°F to less than 96.8°F)
- Severe hyperthermia: less than 32ºC (less than 89.6°F)

Mechanism of heat loss in newborn

After birth, skin and core temperatures fall by 0.3°C and 0.1°C per minute.

Heat loss in a newborn occurs through four primary routes:

1. Radiation (to surrounding environment not in direct contact with the newborn)
2. Convection (to air flowing in the surroundings)
3. Conduction (to substances in direct contact with the newborn)
4. Evaporation (of amniotic fluid and moisture from the newborn's skin to atmosphere).

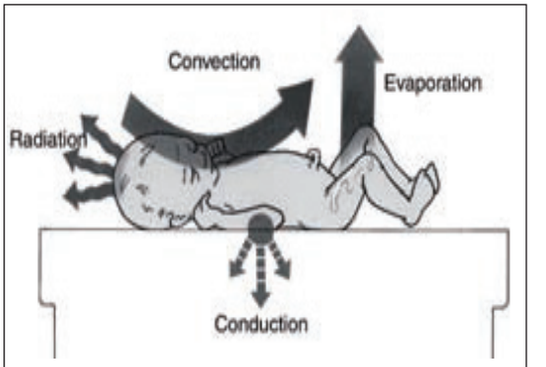


Figure: Mechanism of heat loss

Methods of recording temperature

Touch method

Abdominal temperature is representative of the core temperature. Abdomen skin temperature is assessed by touch with dorsum of hand. The interpretation is as follows:

- Newborn's feet and hands are warm: thermal comfort
- Peripheries are cold, the trunk is warm: cold stress
- Peripheries and the trunk both are cold: hypothermia

Thermometer

WHO recommends the use of low reading thermometer, which can record up to 30°C. American Academy of Paediatrics (AAP) recommends against using mercury thermometers because the glass can break, and mercury is poisonous. The best is to use a digital thermometer.

The concept of 'warm chain' for prevention of hypothermia. It is a set of 10 interlinked procedures carried out at birth and later stages:

1. Thermal care in delivery room: temperature of 25-28ºC
2. Warm resuscitation
3. Immediate drying
4. Skin-to-skin contact
5. Breastfeeding
6. Postpone weighing till the newborn is covered well and give bath to newborn only after 24 hours of life
7. Newborns should be covered with one or two layers of clothes and cap, socks and hand gloves
8. Newborn and mother should be together for 24 hours in the same bed and breastfed on demand
9. Warm transportation
10. Training and awareness raising

References

CHD. 2016. *National Neonatal Clinical Protocol. Kathmandu: Child Health Division.*

CHD. 2074. *Facility Based Integrated Management of Neonatal and Childhood Illness (FBIMNCI) Training Package.* Kathmandu: Child Health Division.

WHO. 2003. *Integrated Management of Pregnancy and Childbirth, Managing Newborn Problems: A guide for doctors, nurses, and midwives.* Geneva: World Health Organization.

3-4 IDENTIFICATION AND MANAGEMENT OF HYPOTHERMIA

History
- Gestational age, weight at birth
- Place of delivery, condition of delivery room
- Wiping, drying and not bathing for the first 24 hours
- Birth asphyxia
- Appropriate clothing, skin-to-skin contact with mother
- Breastfeeding well or not

Examination
- Feel newborn's skin (abdomen/back and soles of feet) with hand
- If thermometer available, take axillary temperature
- Check newborn for lethargy, feeding, cry, respiratory rate and effort, heart rate, acrocyanosis, apnoea, sclerema
- Look for signs of prematurity, small for gestational age
- Look for signs of infection
- Rewarm the newborn

Normal temperature

- Cover adequately
- Keep newborn next to mother
- Continue breastfeeding
- Monitor temperature

Hypothermia

Hypothermia (35.5-36.5 0ºC)
- Position the newborn skin-to-skin with mother (KMC)
- Educate mother to care at home
- Cover mother and newborn together adequately using pre-warmed clothes
- Ensure room is warm (25-28ºC)
- Continue breastfeeding (every 2 hours)
- Educate mother when to contact health institution immediately

Severe hypothermia (<35.5°C)
- Treat as PSBI (see protocol 3-5)
- Ensure room is warm (25-28ºC)
- Start KMC
- Cover mother and newborn together adequately using pre-warmed clothes
- Continue breastfeeding (every 2 hours)
- Follow up on 3rd day
- If condition has not improved during follow-up visit, refer immediately to higher centre

3-5 POSSIBLE SERIOUS BACTERIAL INFECTION AND LOCAL BACTERIAL INFECTION

Definition

Possible severe bacterial infection (PSBI) is a clinical condition characterized by systemic signs and symptoms of infection, which incorporates septicemia, pneumonia, meningitis, arthritis, osteomyelitis, and urinary tract infection in the first four weeks of life. It is manifested with at least one sign of severe infection mentioned in the table below.

A clinical syndrome used in the community-based integrated management of neonatal and childhood illness (CB-IMNCI) package referring to a sick young infant who requires urgent referral to hospital.

Local bacterial infection

Local bacterial infection (LBI) seen in certain parts of the newborn's body that might spread quickly throughout the body and causes severe bacterial infection. Early and correct management is essential to prevent severity and possible death.

Clinical features: presence of any one signs/symptoms mentioned below

Possible severe bacterial infection	**Local bacterial infection**
Convulsion	Red umbilicus
Fast breathing (60 or more than 60/minute)	Umbilicus with pus
Severe chest in-drawing	Pustules (more than 10)
Nasal flaring	Pus from eye
Grunting	Oral thrush
Unable to suck/swallow milk*	
Bulging fontanel	
Umbilicus redness spread up to skin of stomach	
Fever (temperature more than 37.5°C) or hypothermia (temperature less than 35.5°C)	
Pustules (more than 10) or one large boils	
Lethargic, unconscious or movement poor than normal	

*Other conditions that causes newborn unable to suck/swallow milk such as wound in mouth, very low birth weight (LBW), cleft palate and lip, and problem in mother's breast are **not** considered as PSBI.

Antibiotic therapy for possible severe bacterial infection (PSBI)/local bacterial infection:

Dose of injection Ampicillin:

Weight of Newborn	**Injection ampicillin (50mg/kg body weight-250mg vial)** **Dilute with 1.3 ml distilled water: 250mg/1.5mg** every 12 hours, intravenous for less than or equal to 7 days newborn and in every 8 hours for more than 7 days newborn for 7-10 days
1.0 to less than 1.5kg	0.4ml
1.5 to less than 2.0kg	0.5ml
2.0 to less than 2.5kg	0.7ml
2.5 to less than 3kg	0.8ml
3.00 to less than 3.5kg	1ml
3.5 to less than 4kg	1.1ml
4 to less than 4.5kg	1.3ml

Dose of injection gentamicin: 5mg/kg body weight once a day IV or IM

Weight of newborn	**Dose: 80mg/2ml vial**	**Dose in insulin syringe**
Up to 2.5kg	10mg/day for 7 days	10 lines
More than 2.5kg	15mg/day for 7 days	15 lines

Dose of Amoxicillin

Age/Weight	**Amoxicillin 2 times a day for 5 days**		
	Syrup (125mg/5ml)	**Drop (100ml/1ml)**	**Tablet (250mg)**
Less than 1 month (less than 4kg)	**5 ml**	**1.5 ml**	
1-2 months (4-6kg)	**7.5ml**	**2ml**	**¾ tablet**

References

CHD. 2073. *Community Based-Integrated Management of Newborn and Childhood Illness Treatment Chart Booklet.* Kathmandu: Child Health Division.

CHD. 2073. *Comprehensive Newborn Care Training Package, For Level II Hospital Care.* Kathmandu: Child Health Division.

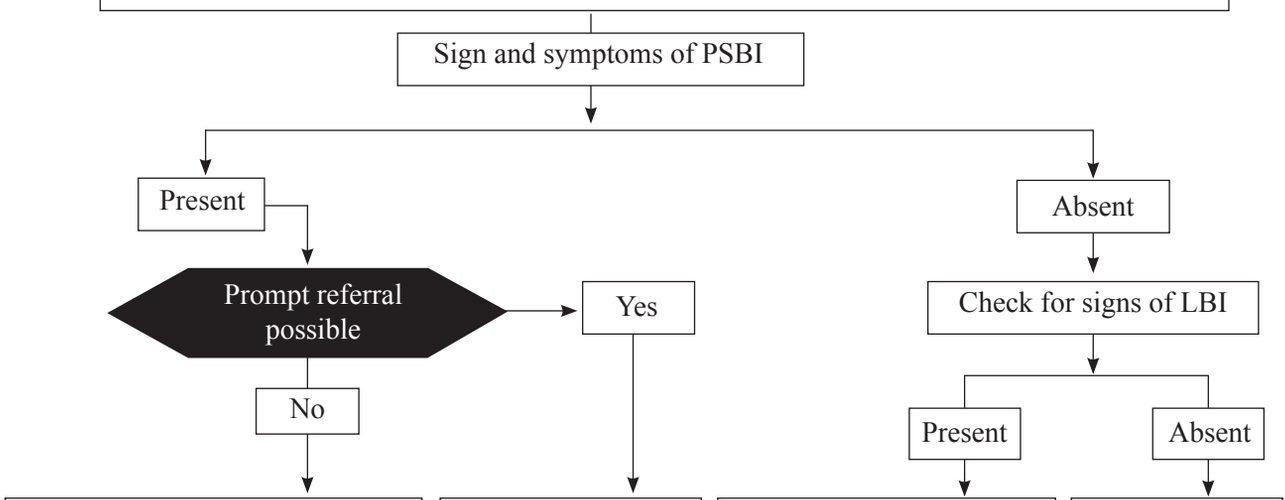
3-5 POSSIBLE SERIOUS BACTERIAL INFECTION AND LOCAL BACTERIAL INFECTION

History
- Is there convulsion?

Examination
- Count respiratory rate (if found more than 60 per min repeat
- again)
- Look for severe chest in-drawing
- Look for nasal flaring
- Listen and look for grunting

} Newborn should be calm and quiet to examine these signs

- Look whether newborn sucks/swallow milk
- Feel and look for bulging fontanel
- Look umbilicus and check redness, redness spread up to skin and pus collection or drainage
- Take temperature and feel for fever/hypothermia)
- Look pustules on skin
- Look whether newborn is lethargic or unconscious and movement of newborn
- Look eye if pus drained



Inform parents about the severity, tell about the urgent need of treatment, and take consent from parents to start treatment
- Give Inj. gentamicin and ampicillin IV
- If IV injection is not possible, give Inj. gentamicin IM and oral amoxicillin for 7 days
- Educate mother to continue breastfeeding to prevent hypoglycaemia
- Educate mother to keep newborn warm (KMC)
- If condition not improved during follow-up (on 3rd day) refer immediately to higher centre

Inform parents about the severity and tell about the urgent need of treatment
- Give 1st dose of Inj. gentamicin and ampicillin
- Refer immediately to higher centre
- If, referred health centre is far, inform parents when to take next dose of medicine on the way

- Give 1st dose of amoxicillin at health centre and advice to give in every 12 hours for 5 days
- If pustules on skin and pus in umbilicus, give gentian violet (0.5%)
- If pus from eye, give ciprofloxacin eye drop 1 drop in every 6 hours a day for 7 days
- Educate mother to treat local bacterial infection at home
- Educate mother when to return HF immediately
- Ask for follow up on 3rd day

- Educate mother to breastfeed, keep newborn warm and on immunization
- Tell signs and symptoms of infection and ask to contact HF if these signs and symptoms are seen

3-6 NEWBORN WITH JAUNDICE

Definition

Jaundice is yellowish discoloration of skin, mucous membranes and sclera, which is a clinical manifestation of hyperbilirubinemia with serum bilirubin level of more than 5mg/dl. Jaundice occurs in 60% term and 80% preterm newborns. The greatest risk associated with hyperbilirubinemia in a newborn is the development of kernicterus. Based on certain characteristics, jaundice may be said to be physiologic or pathologic

Physiologic Jaundice	Pathologic Jaundice
Appears after 24 hours (first appears on 2nd or 3rd day)	Appears within 24 hours of age
Serum bilirubin level less than 15mg/dl	Serum bilirubin more than 5mg/dl
Clinically not detected after 14 days	Jaundice persisting after 14 days
Maximum intensity by 4th–5th day in term and 7th day in preterm	Increase of bilirubin more than 5mg/dl/day
Disappears without any treatment	Direct (conjugated) bilirubin more than 2mg/ dl
Newborn is well and active	Newborn may look sick

References

CHD. 2016. *National Neonatal Clinical Protocol.* Kathmandu: Child Health Division.

CHD. 2074. *Facility Based Integrated Management of Neonatal and Childhood Illness (FBIMNCI) Training Package.* Kathmandu: Child Health Division.

CHD. 2073. *Comprehensive Newborn Care Training Package, For Level II Hospital Care.* Kathmandu: Child Health Division.

WHO. 2003. *Integrated Management of Pregnancy and Childbirth, Managing Newborn Problems: A guide for doctors, nurses, and midwives.* Geneva: World Health Organization

3-6 NEWBORN WITH JAUNDICE

History
- Assess for risk factors (prematurity, ABO/Rh incompatibility, etc.)
- Poor feeding, lethargy, birth asphyxia

Examination
- Assess severity of jaundice
- Look for cephalohematoma, signs of dehydration and sepsis

Physiological Jaundice

Counsel and educate mother and family:
- No treatment or referral is needed
- Explain that the newborn is normal and the yellow colour will slowly go away
- Keep the newborn warm
- Continue frequent and exclusive breastfeeding
- Assure family and mother that no food restrictions to be followed by mother
- Ask mother to drink lots of fluid
- Keep the newborn in morning sunlight for about an hour
- Educate on danger signs and ask family and mother to keep a close watch for appearance of any danger signs and seek medical help if needed
- Ask mother to come for a follow-up as appropriate

Pathological Jaundice

Talk gently with family and explain findings, diagnosis and plan of care

Refer to higher centre

General danger signs
- Apnoea
- Convulsion
- Vomits everything
- Lethargic or unconscious
- Unable to suck or feed

3-7 NEWBORN WITH FEEDING DIFFICULTY

Feeding difficulty is a common problem during the first few days of life. It is usually associated with incorrect breastfeeding technique, preterm or intrauterine growth restriction (IUGR) or illness in the newborn.

Conditions associated with feeding difficulties

1. Suspected bacterial infection
History
- Change in feeding pattern (normal feeding baby is not feeding well)
- Maternal history of prelabour rupture of membrane (more than 18 hours)
- Fever from onset of labour to three days after birth
- Feeding difficulty usually starts from the second or third day of life or even later

Clinical Signs
- Newborn has any sign of PSBI or LBI *(protocol 3-5)*

2. Twin or small baby
Signs/symptoms
- Newborn has physical features of a preterm baby.
- Feeding difficulty starts from the onset of delivery.
- Newborn does not wake up for feeds, feeds slowly and tires quickly.
- Newborn usually not ready to breastfeed although breastfeeding technique is correct.

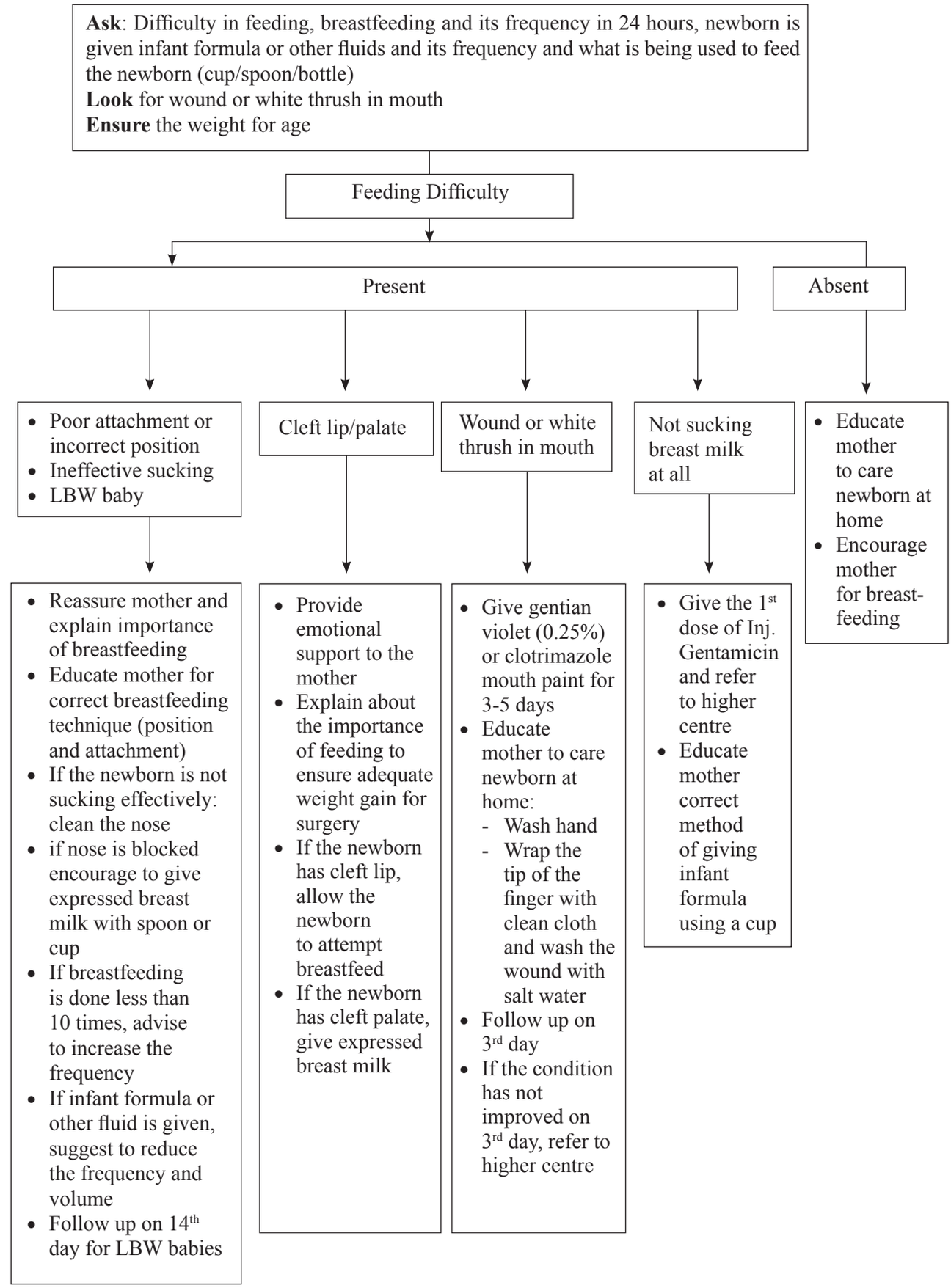
3. Poor attachment/incorrect positioning
Signs/symptoms
- The mother is not able to breastfeed successfully.
- Mother has sore nipples/flat or inverted nipples.
- Newborn is not well-positioned/attached during breastfeeding.
- Starts on the first day of birth or later.
- Newborn looks well otherwise.

4. Cleft lip or palate
Signs/symptoms
- Newborn has cleft lip or cleft palate or both causing difficulty in sucking.

5. Gastrointestinal malformation or obstruction:
Signs/symptoms
- Starts from the onset of delivery.
- Newborn has coughed, choked and regurgitated feeds since first feeding, e.g. Tracheo-esophageal Fistula.
- Vomits contains milk which may be bile stained, e.g. intestinal atresia.
- Newborn may have abdominal distension, e.g. intestinal obstruction, necrotizing enterocolitis.
- Nasogastric tube does not pass or tip of the tube returns.
- Frothy secretions from mouth even when the newborn is not being fed.
- There may be a history of failure to pass meconium within 24 hours of birth, e.g. Hirschsprung's disease.

References
CHD. 2016. *National Neonatal Clinical Protocol.* Kathmandu: Child Health Division.
CHD. 2074. *Facility Based Integrated Management of Neonatal and Childhood Illness (FBIMNCI) Training Package.* Kathmandu: Child Health Division.
CHD. 2073. *Comprehensive Newborn Care Training Package, For Level II Hospital Care.* Kathmandu: Child Health Division.
WHO. 2003. *Integrated Management of Pregnancy and Childbirth, Managing Newborn Problems: A guide for doctors, nurses, and midwives.* Geneva: World Health Organization.

3-7 NEWBORN WITH FEEDING DIFFICULTY



3-8 NEWBORN WITH DIARROHEA

Newborns have frequent stools, sometimes after every feeding. Normal newborn pass soft and loose stools. Diarrhoea in newborn is when the newborn baby passes very runny, watery stools, sometimes at increased frequency or more volume than normal. If diarrhoea is present for >14 days, it is called prolonged diarrhoea. Diarrhoeal stool might be with or without blood.

Danger signs: Dehydration, vomiting, fever or blood in stool
It is most important to see the sign and symptoms of dehydration to treat newborn.

Signs/symptoms of dehydration

Severe dehydration (Presence of any 2 signs)	Mild dehydration (Presence of any 2 signs)	No dehydration
Newborn is lethargic or unconscious	Newborn is restless or irritable	No signs of severe or some dehydration
Movement of newborn is less than normal	Sunken eyes	
Loss of elasticity of skin (If you pull skin of stomach, it regains its original shape very slowly: >2 seconds)	Loss of elasticity of skin (If you pull skin of stomach, it regains its original shape slowly)	
Sunken eyes		

Antibiotic therapy before referral for severe dehydration and blood in stool
Dose of injection ampicillin

Weight of newborn	Ampicillin (50mg/kg body weight-250mg vial) Dilute with 1.3ml distilled water: 250mg/1.5mg
1.0-<1.5kg	0.4ml
1.5-<2.0kg	0.5ml
2.0-<2.5kg	0.7ml
2.5-<3kg	0.8ml
3.00- <3.5kg	1ml
3.5-<4kg	1.1ml
4-<4.5kg	1.3ml

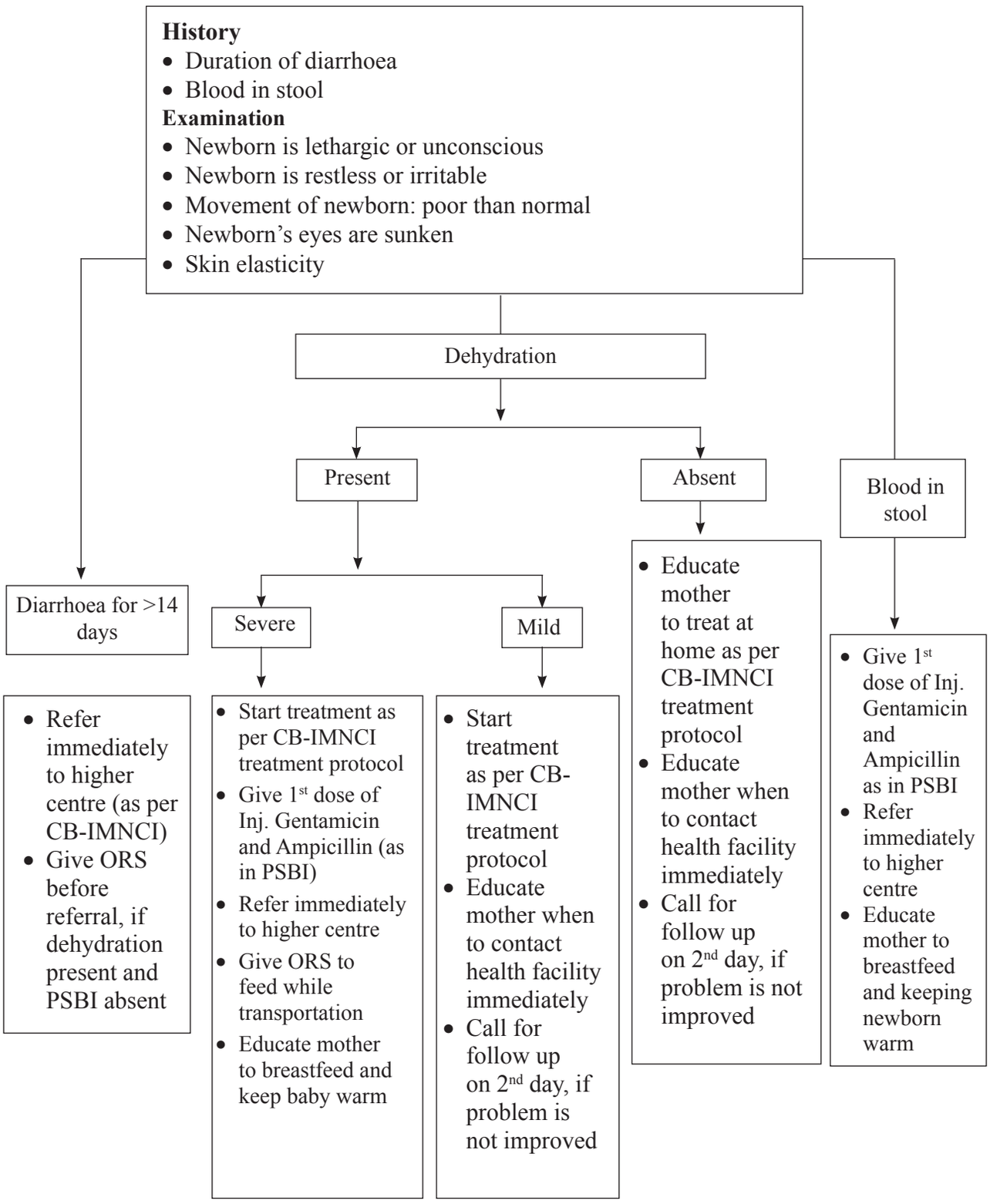
Dose of Inj. Gentamicin: 5mg/kg body weight/day

Weight of newborn	Dose: 80mg/2ml vial	Dose in insulin syringe
Up to 2.5kg	10mg/day for 7 days	10 lines
>2.5kg	15mg/day for 7 days	15 lines

References

CHD. 2016. *National Neonatal Clinical Protocol.* Kathmandu: Child Health Division.
CHD. 2074. *Facility Based Integrated Management of Neonatal and Childhood Illness (FBIMNCI) Training Package.* Kathmandu: Child Health Division.
CHD. 2073. *Comprehensive Newborn Care Training Package, For Level II Hospital Care.* Kathmandu: Child Health Division.

3-8 NEWBORN WITH DIARROHEA



ANNEX 1: FEEDING GUIDELINE TO PROVIDE FLUIDS AND FEEDING FOR LOW BIRTH WEIGHT BABIES

Categories of Neonates			
Birth Weight	Less than 1200gm	1200 to 1800gm	More than 1800gm
Gestation	Less than 30 weeks	30-34 weeks	More than 34 weeks
Initial Day	Intravenous fluid	Tube-feeding	Breastfeeding If unsatisfactory give cup/spoon feeding
1-3 days	Tube-feeding	Cup/spoon-feeding	Breastfeeding
1-3 weeks	Cup/Spoon-feeding	Breastfeeding	Breastfeeding
4-6 weeks	Breastfeeding	Breastfeeding	Breastfeeding

Note: For babies on tube on cup/spoon-feeding
- Use expressed breast milk
- Put baby to breast before each feed as it promotes lactation and helps baby to learn to suck
- The above are only guidelines, as the feeding of every baby should be individualized

Fluid requirements of neonate (ml/kg body weight)
Choice of intravenous fluids

- Determine required volume of fluid as per birth weight and age *(see table below)*
- Use 10% dextrose for initial 48 hours of life
- After 48 hours, if baby is passing urine, 10% dextrose+ 1/5 normal saline
- If the remixed solution is not available:
  - Take normal saline 20ml per kg body weight
  - Add remaining fluid volume as 10% dextrose
  - Add 1ml KCL per 100ml of prepared fluid

Administration of intravenous fluids
- Use micro-drip infusion set (where 1ml =60 micro drops).
- In this device, ml of fluids per hour is equal to number of micro-drops per minute e.g. 6ml/hr = 6 micro drops/minute.
- Calculate rate of administration, monitor to ensure that micro-dropper delivers required rate.

Fluid requirements of newborns

Day of life	Amount of fluids required (ml/kg/day)	
	Birth weight >1500gm	**Birth weight <1500gm**
1	60	80
2	75	95
3	90	110
4	105	125
5	120	140
6	135	150
Day 7 onwards	150	150

Notes
- *An extra 30% of body weight should be added for neonates receiving phototherapy.*
- *These are only general guidelines; the fluid therapy of every baby should be individualized.*

Never discontinue the IV fluid abruptly

ANNEX 2: BREASTFEEDING

Breastfeeding
The best milk for newborn baby is breastmilk. All babies should be exclusively breastfed until six months of age. It contains all the nutrients required for normal growth and development of a baby from birth till six months of age. After delivery when the baby is wrapped with dry and warm cloth, baby should be given to mother for breastfeeding, rooming in and immediate breast-feeding which helps both the mother and baby for bonding, keeping baby warm, stimulates uterine contractions and helps in passive immunity through the colostrum.

Advantages of breastfeeding
Breast milk has perfect nutrients. It is easily digested and efficiently used and protects against infections. Breastfeeding helps bonding and development, helps delay in next pregnancy and costs is less than artificial feeding

Technique of breastfeeding:
Most of the mothers can breastfeed successfully but some mothers require some support to initiate breastfeeding especially primipara mothers, mothers who had problem while breastfeeding during previous pregnancy, mothers with retracted nipple or unmotivated mothers.

Mother should take any position that is comfortable to her and her baby. For mothers to produce enough milk, the baby must suckle enough in the correct manner. Correct positioning ensures effective suckling and prevents breast engorgement and sore nipples.

Proper positioning involves:
- Baby's body is well supported
- The hand, neck and the body of the baby are in the same plane
- Entire body of the baby faces the mother
- Baby's abdomen touches the mother's abdomen

Proper attachment involves:
- Baby's mouth is wide open
- Lower lip is turned outwards
- Baby's chin touches mother's breast
- Majority of areola is inside the baby's mouth

General principles of exclusive breastfeeding:
- Encourage early and exclusive breastfeeding whenever possible
- Explain to mother and her family the benefits of early and exclusive breastfeeding
- Encourage mother to breastfeed on demand, both day and night and for as long as the baby wants
- Advice mother to offer the second breast once the baby releases the first breast on his/her own
- Advice mother not to force the baby to feed, interrupt a feed before the baby is done, use pacifier and give the baby any other food or drink other than breast milk for the first six months of life.
- Include the family member or support person while discussing about breastfeeding
- Ensure that the mother eats nutritious food and she keeps herself clean
- If mother is too sick or baby is too sick to breastfeed, advise mother on expression of breast milk
- Give the baby a breast milk substitute, only if expression is not possible or is contraindicated because of maternal illness and drugs

Expressing breast milk: To express breast milk adequately and comfortably, it takes 20-30 minutes.
Teach mother to
- Wash hands with soap and water before expression
- Apply warm compression before expression and cold compression afterwards to reduce swelling
- Sit comfortably and hold the clean container under the nipple

- Place thumb above and first finger below and behind the nipple approximately 4 cm from the base of the nipple
- Support the breast with other three fingers
- Press the breast inwards gently towards the chest wall
- Press the breast between the forefingers and thumb. Press and release several times
- Avoid rubbing or sliding fingers along the skin
- Rotate the position of the thumb/finger around the breast with each compression
- Express breast milk until milk drips and then express the other breast
- Alternate between the breasts 5-6 times

ANNEX 3: EMOTIONAL SUPPORT TO THE MOTHER AND FAMILY OF A BABY WHO IS DYING OR HAS DIED

- Allow the mother and family to be with the baby whenever possible
- Explain what is being done and why
- Involve the parents in decision making when considering whether further treatment is appropriate
- If an informed decision has been made to stop resuscitation or the baby's death is unavoidable, focus on providing emotional support to the family
- Encourage mother and family to see and hold the baby after death and for as long as they desire, if they wish
- Arrange for privacy for the affected family
- Transfer and Referral of Newborns

If the baby needs to be transferred to a Tertiary hospital or Specialized Centre, ensure a safe and timely referral. It is important to prepare the baby for transfer, communicate with the receiving facility and provide care during transfer.

Preparation

- Explain to the family the reason for transfer of the baby
- Discuss referral reason and ask family if it is possible for them to go for referral
- Be gentle and patient in answering all questions
- Transfer mother with baby, if possible, so that she can continue to breastfeed or provide expressed breast milk
- Ask a relative to accompany the baby and mother, if possible
- Remind them to plan about transportation and funds
- Have a health care provider accompany the baby, if possible
- Prepare the baby for transfer:
  - Ensure the baby's condition is stable before transfer
  - Give necessary emergency treatment before transfer (e.g. treat Hypoglycaemia, warm baby if Hypothermic)
  - If serious infection, give first dose of antibiotics before referral
  - Ensure that IV line, if present, is secured and the micro-dropper if filled with fluid
  - Gather necessary equipment e.g. oxygen cylinders, Ambu bag, supplies, drugs and fluid etc.

Communication

Contact the receiving facility in advance so that they can be prepared

- Confirm that the facility is able to admit the baby
- Fill out a referral form with exam findings, referral reason, treatments given, date and time, attending doctor's name and send it with the baby
- Send mother's antenatal and labour/delivery records, and baby's records, if available

Care during transfer

- Keep the baby in skin-to-skin contact with mother or dressed and covered to keep warm
  For babies receiving IV fluid - monitor rate and check volume of fluid infused and inspect the IV site every hour
- For babies receiving oxygen, check the flow and tubing every 15 minutes
- Assess the baby's respiratory rate every 15 minutes. If the baby is not breathing, is gasping or has a respiratory rate < 20 breaths per minute, resuscitate the baby using a bag and mask.
- Stop the vehicle, if necessary, to manage problems

If referral is delayed, impossible or family refuses

- Continue to support family
- Continue any treatments available

Section 4

PREVENTION AND MANAGEMENT OF STIs AND HIV

4-1a URETHRAL DISCHARGE SYNDROME

Urethral discharge syndrome (UDS) is one of the most common presentations of sexually transmitted infection (STIs) in men, often associated with dysuria (burning while passing urine) and discharge from the urethra. Persistent or recurrent urethral discharge results from poor compliance with prescribed medication, drug resistance or reinfection.

Common causative organisms

- *Neisseria gonorrhea*
- *Chlamydia trachomatis*
- Occasionally, it may also be caused by *Trichomonas vaginalis*/*Mycoplasma genitalium*/*Ureaplasma urealyticum* and may be of unknown causes (nonspecific urethritis)

Signs and symptoms

- Discomfort or burning while passing urine, increased frequency of urine
- Discharge from urethra, thin to thick, clear to pus
- Obvious discharge (with or without milking urethra) from the urethral opening or from preputial fold
- Erythema of the urethral meatus

Additional information

- Similar symptoms in the sexual partner
- Past history of similar symptoms
- Treatment history

Examination

General examination

- Oral cavity (look for pus-like discharges in pharyngeal clefts)
- Lymph nodes, especially inguinal

Local examination

- Expose genital and perineal areas
- Look for anorectal discharge and ulcer or growth or blister in anogenital region
- Look at the penis with foreskin forward and pulled back
- Demonstrate and ask the patient to "milk" the penis and show discharge
- Palpate groin for swelling

Treatment

Gonococcal infection: Tablet cefixime 400mg orally single dose **OR** injection ceftriaxone 250mg intramuscular (IM) single dose **PLUS**

Chlamydial infection: Tablet azithromycin 1gm orally single dose **OR** tablet doxycycline 100mg orally every 12 hours for 7 days

Trichomonas vaginalis: Tablet metronidazole 400mg orally every 12 hours for 7 days **OR** Tablet Tinidazole 500mg orally every 12 hours for 5 days **PLUS**

Mycoplasma infection: Tablet azithromycin 500mg orally once daily for 6 days

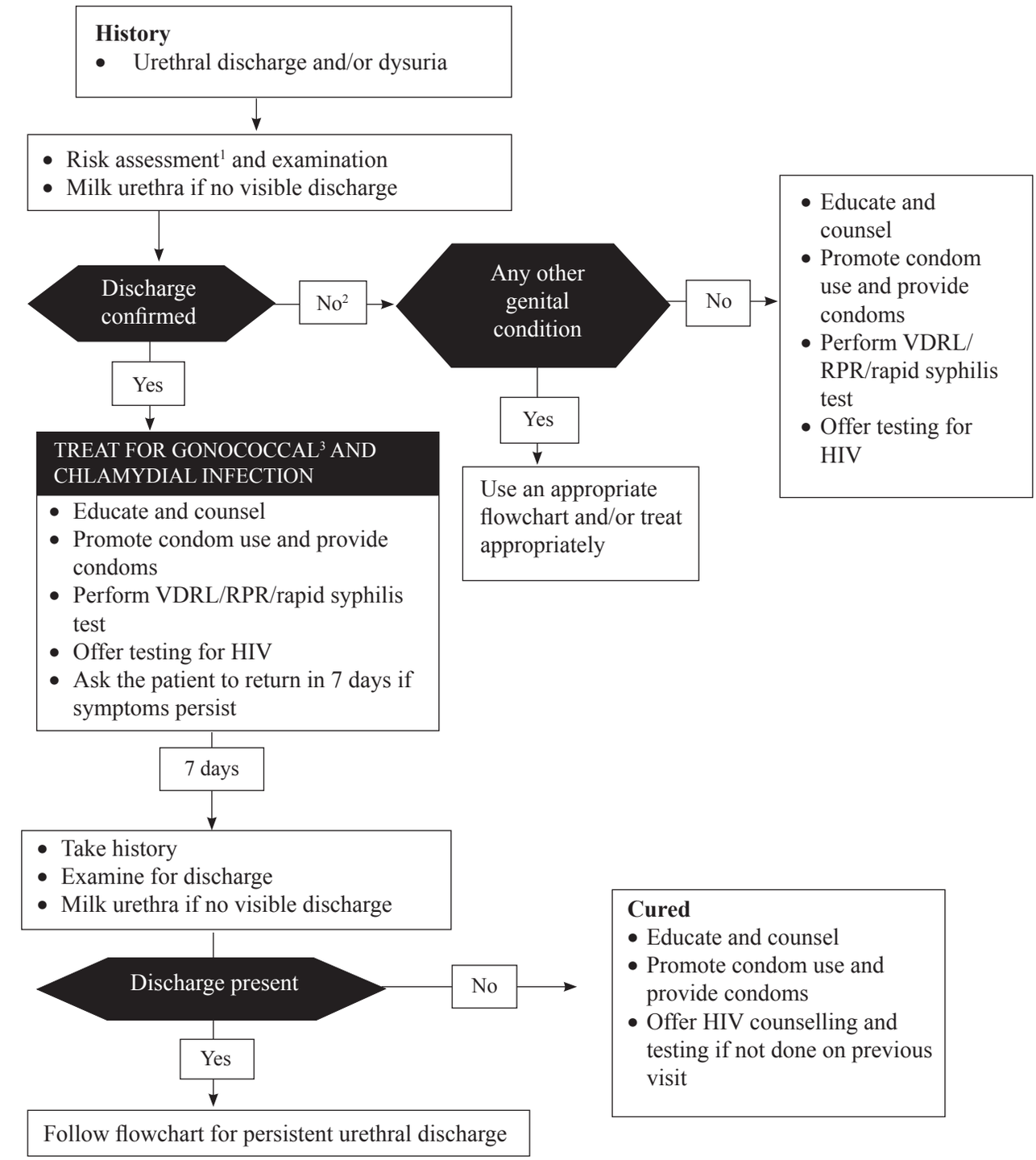
Education and counselling:

- Emphasize 4Cs (compliance, counselling/client education, contact tracking/partner treatment, condoms)
  - Counsel to complete the treatment as prescribed
  - Counsel or educate for reducing the number of partners
  - Counsel or educate for partner/s' treatment
- Promote condom use, demonstrate, and provide condoms
- Advise to avoid sexual intercourse without using condom till symptoms resolve
- Advise and refer for serological test for syphilis and HIV testing
- Follow up after one week
- Assess risk for: condomless sex, condom breakage or slippage

Reference

NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections.* Kathmandu*:* National Centre for AIDS and STD Control.

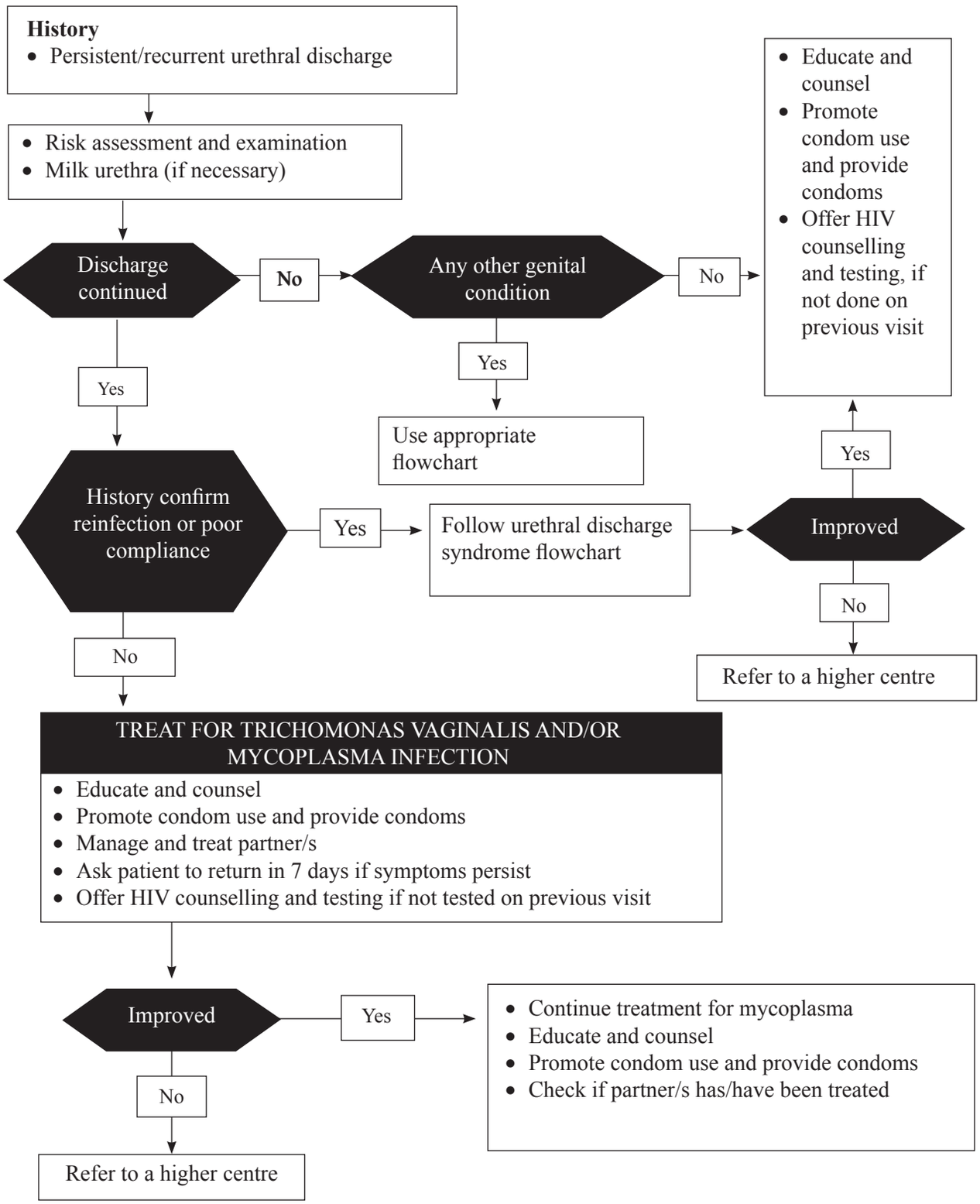
4-1a URETHRAL DISCHARGE SYNDROME



Notes:

1. Assess risk for: condom-less sex, condom breakage or slippage
2. If there is no current evidence of discharge, if feasible, encourage the patient to return the following day after holding urine for 4 hours and reassess for discharge
3. If microscopy is available, do Gram stain on urethral smear. If Gram-negative intracellular diplococcic or pus cells (PMNL) <5 PMNL/HPF are seen, treat for gonococcal and chlamydial infections. If no Gram-negative intracellular diplococcic but only pus cells, treat for urethral discharge syndrome.
   PMNL: polymorphonuclear leucocytes,
   HPF: high power field

4-1b PERSISTENT/RECURRENT URETHRAL DISCHARGE SYNDROME



Note: Advise the patient to abstain from sexual intercourse for 7 days after single dose therapy or until completion of 7-day regimen until the symptoms have resolved and until the partner/s is/are treated.

4-2 SCROTAL SWELLING SYNDROME

Inflammation of testis (orchitis) and epididymis (epididymitis) or both (epididymo-orchitis) causes swelling and pain in testis and/or epididymis.

Causative organisms
- *Neisseria gonorrhoea*
- *Chlamydia trachomatis*

Signs and symptoms
- History suggestive of urethral discharge
- Testicular swelling and pain
- Dysuria, increased frequency of urine
- Swelling and tenderness of testis and epididymis
- Urethral and/or anorectal discharge

Additional information needed
- Similar infections in a sexual partner
- Past history of similar symptoms
- Treatment history

General examination
- Oral cavity (look for pus-like discharges in pharyngeal clefts)
- Enlarged lymph nodes, especially inguinal

Local examination
- Expose genital and perineal areas
- Look for anorectal and urethral discharge; ask the patient to "milk" the penis and show discharge
- Examine scrotum for swelling and tenderness, rule out surgical causes
- Palpate groin for swelling

Treatment
Gonococcal infection: Tablet cefixime 400mg orally single dose **OR** injection ceftriaxone 250mg IM-single dose **PLUS**

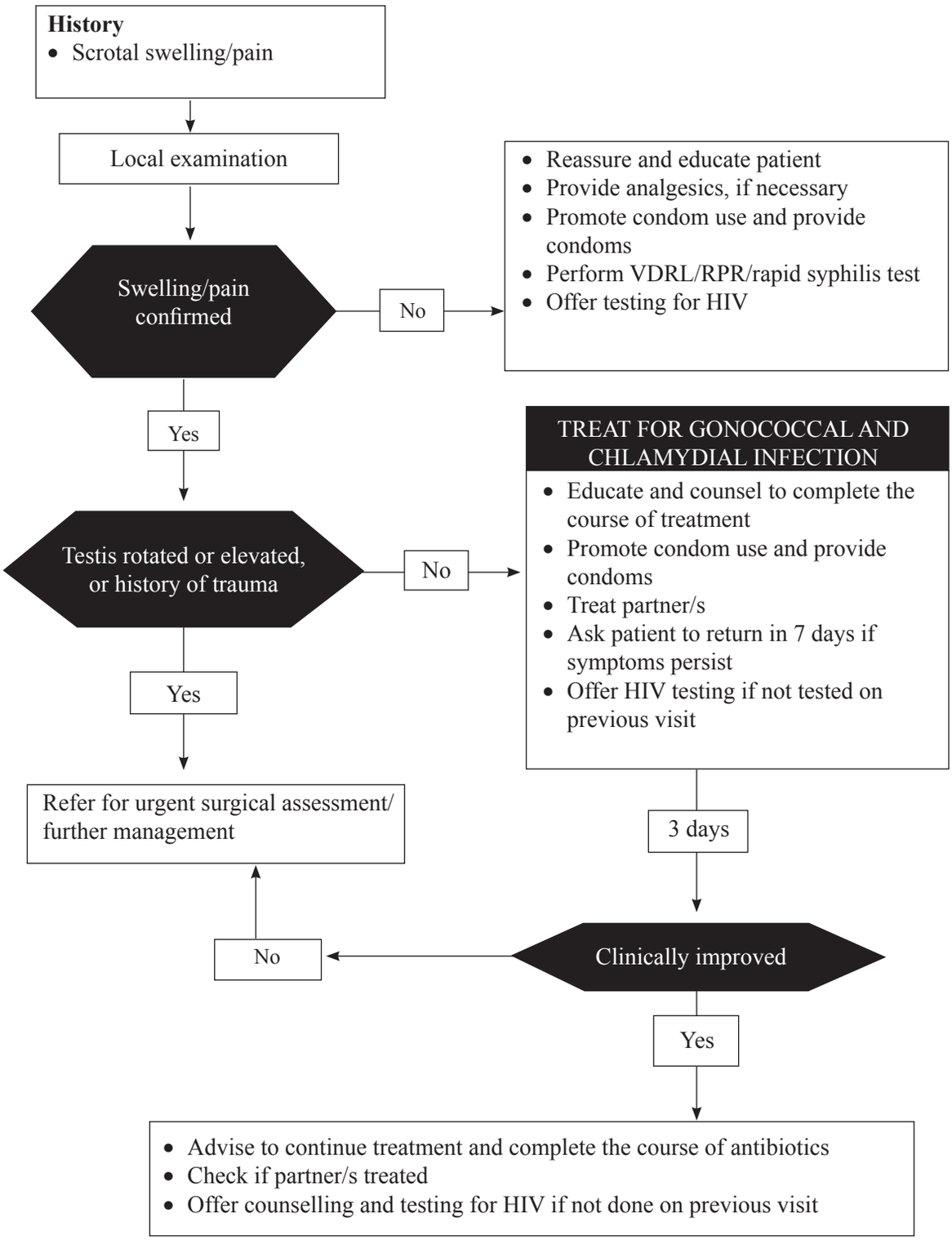
Chlamydial infection: Tablet azithromycin 1gm orally single dose **OR** tablet doxycycline 100mg orally every 12 hours for 10 days

Supportive therapy: Bed rest, antipyretics and analgesics and scrotal support until local inflammation and fever subside

Education and counselling
- Emphasize 4Cs (compliance, counselling/client education, contact tracking/partner treatment, condoms)
  - Counsel to complete the treatment as prescribed
  - Counsel or educate for reducing the number of partners
  - Counsel or educate for partner/s' treatment
  - Promote condom use, demonstrate, and provide condoms
- Advise to avoid sexual intercourse without using condom till symptoms resolve
- Advise and refer for serological test for syphilis and HIV testing
- Follow up after 1 week
- Assess risk for: condom-less sex, condom breakage or slippage

Reference
NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections*. Kathmandu: National Centre for AIDS and STD Control.

4-2 SCROTAL SWELLING SYNDROME



Note: Surgical causes like trauma, torsion and other infections (e.g. tuberculosis) should always be ruled out. Scrotal swelling can also be due to hydrocele/hernia/varicocele/tumour.

4-3 GENITAL ULCER DISEASE SYNDROME

Genital ulcer disease syndrome (GUDS) is a common STI presenting with genital ulcers with or without inguinal lymphadenitis and can be caused by several organisms.

Causative organisms
- *Treponema pallidum* (Syphilis)
- *Haemophilus ducreyi* (Granuloma inguinale)
- Herpes simplex virus (HSV)
- *Klebsiella granulomatis*

Signs and symptoms
- Soreness or pain in genital area
- Ulcers—single or multiple—in the genitalia
- Unilateral or bilateral inguinal lymphadenopathy
- Ulcer at external genitalia, which may be single or multiple, superficial or deep, clean or dirty; at inner surface of the foreskin in male and under the labia (in female), perineum, perianal region, in anus or in oral cavity
- Unilateral or bilateral enlargement of local lymph nodes related to ulcers
- Non-itchy maculopapular rashes on palms and soles and sometimes all over the body

Where to look for ulcers
Male: external genitalia, including the inner surface of the foreskin and the part it normally covers
Female: examine the skin of the external genitalia and the mucus surfaces by separating the labia
Both sexes or transgender: ulcers may be present at, perineum, perianal region, anus or oral cavity

Additional information needed
- Similar infections in a sexual partner
- Past history of similar symptoms
- Treatment history
- Menstrual and obstetric history in female

Treatment
- Treat for syphilis or chancroid or lymphogranuloma or herpes
- Aspirate fluctuant gland, if required
- Offer syphilis serology and HIV testing
- Advise to keep ulcer clean and dry

Drug treatment as per the relevant condition
Syphilis: Injection benzathine penicillin 2.4 million IU IM (Single dose if history is of less than two years), 2.4 million IU every week for 3 weeks (if history is of more than 2 years). Divide 2.4 million IU into two equal doses (1.2 million each and inject in both buttocks).

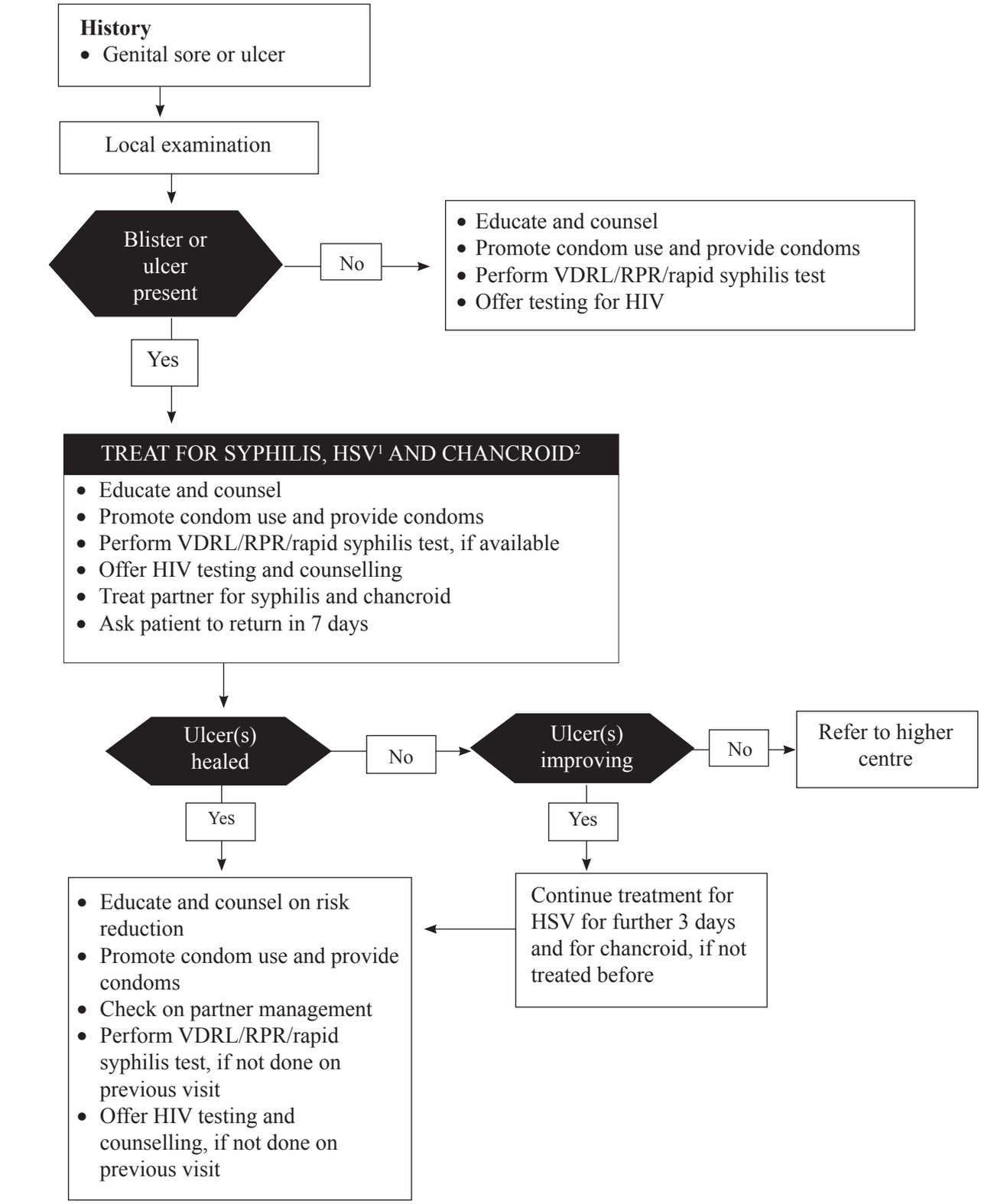
Herpes: Tablet acyclovir, 400mg orally every 8 hours for 7 days

Chancroid: Tablet azithromycin 1gm orally single dose **OR** tablet ciprofloxacin 500mg orally every 12 hours for 3 days **OR** injection ceftriaxone 250mg IM single dose **OR** tablet erythromycin 500mg orally every 6 hours for 7 days

Education and counselling
- Advise to keep ulcer clean and dry
- Emphasis on 4Cs (compliance, counselling/client education, contact tracking/partner treatment, condoms)
  - Counsel to complete the treatment as prescribed
  - Counsel or educate for reducing number of partners
  - Counsel or educate for partners treatment
  - Promote condom use, demonstrate, and provide condoms
- Advice to avoid sexual intercourse without using condom till symptoms resolve
- Advice and refer for serological test for syphilis and HIV testing
- Follow up after one week
- Assess risk for: condom less sex, condom breakage or slippage

Reference:
NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections.* Kathmandu*:* National Centre for AIDS and STD Control.

4-3 GENITAL ULCER DISEASE SYNDROME



Note:

1. If history of blister present, consider treatment for HSV and if >6 recurrences per year offer suppressive therapy
2. Treat for chancroid where it is prevalent
3. See for serological test of syphilis

4-4 INGUINAL BUBO SYNDROME

Inguinal bubo syndrome is characterized by painful swelling in the groin and caused by different groups of organisms causing sexually transmitted infection (STI).

Common Causative Organisms

- *Chlamydia trachomatis* (Serovar L1-L3)
- *Haemophilus ducreyi* (Chancroid)

Signs and symptoms

- Pain/swelling in the inguinal region with or without ulcers in the genitalia.
- Unilateral/bilateral, tender/non-tender, single/multiple, solid/fluctuant lymph node swellings in the inguinal region.
- Discharging sinus may be present.
- Ulcer in the genitalia may be present.

Note: Infections of the lower limb and other non-STI can also cause swelling of the lymph nodes and these causes should be ruled out.

Additional information needed

- Similar infections in a sexual partner
- Past history of similar symptoms
- Treatment history
- Menstrual and obstetric history in female

Treatment

Chancroid: Tablet Azithromycin 1gm orally single dose **OR** injection Ceftriaxone 250 mg intramuscular (IM) single dose **OR** tablet Ciprofloxacin 500 mg orally in every 12 hours for 3 days

Lymphogranuloma Venereum (LGV): Tablet Doxycycline 100 mg orally, in every 12 hours for 14 days **OR** tablet Erythromycin 500 mg orally in every 6 hours for 14 days

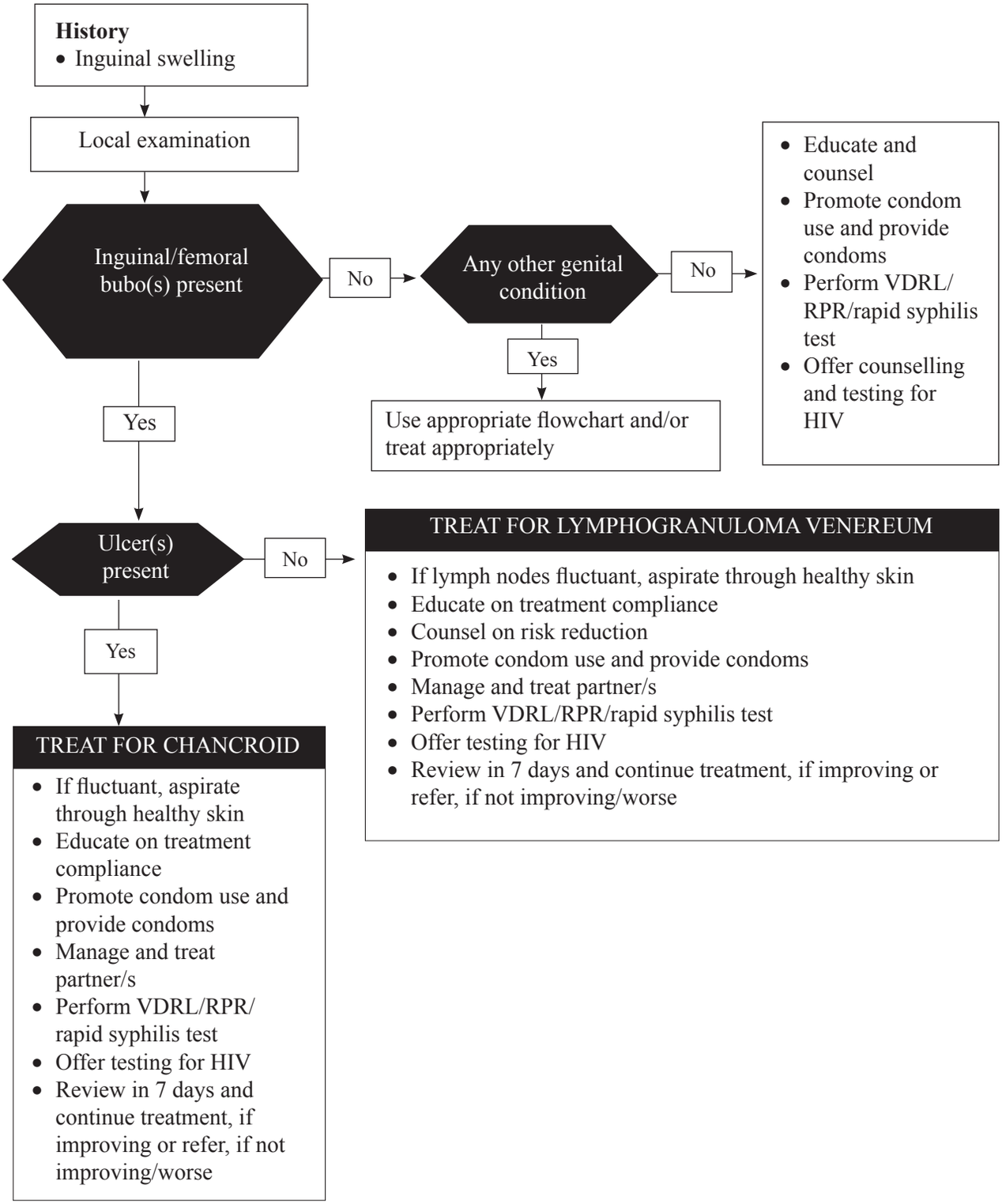
Education and counselling

- Emphasis on 4Cs (compliance, counselling/cliet education, contact tracking/partner treatment, condoms)
  - Counsel to complete the treatment as prescribed
  - Counsel or educate for reducing number of partners
  - Counsel or educate for partners treatment
  - Promote condom use, demonstrate, and provide condoms
- Advice to avoid sexual intercourse without using condom until symptoms resolve. Advice and refer for serological test for syphilis and HIV testing
- Follow up after one week
- Assess risk for: condom less sex , condom breakage or slippage

Reference:

NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections*. Kathmandu: National Centre for AIDS and STD Control.

4-4 INGUINAL SWELLING (BUBO) SYNDROME



Note:

- Some cases might require longer treatment than 14 days as recommended above.
- Fluctuant lymph node should be aspirated through healthy skin. Incision and drainage or excision of lymph nodes may delay healing so should not be attempted.
- Where there is doubt and/or treatment failure referral for a diagnostic biopsy is advised.

4-5 VAGINAL DISCHARGE SYNDROME

Vaginal discharge is one of the most common complaints a woman presents with at any health facility. A healthy woman may have a variable amount of clear and white discharge (physiological) from her vagina. The discharge usually increases before and after menstruation period and becomes more watery when a woman is in the middle of her menstrual cycle. It also increases during pregnancy, lactation, after sexual activity, while taking oral contraceptive pills and when an intrauterine device is in place. The abnormal or unusual vaginal discharge is due to infection of the vagina or cervix.

Causative Organisms

Vaginal Infections:

- *Candida albicans*
- *Trichomonas vaginalis* (TV)
- *Gardenella vaginalis*

Cervical Infections:

- *Neisseria gonorrhoea* (NG)
- *Chlamydia trachomatis* (CT)
- Occasionally Trichomonas and Genital herpes type 2

Signs and symptoms

- Smelly vaginal discharge, vaginal itching, burning micturition
- Pain during intercourse
- Thick or clear to pus-like, scanty or profuse, odourless or malodorous discharge from vaginal opening or cervical orifice
- Cervical erosion, easily induced cervical bleeding

Additional information needed

- Similar infections in a sexual partner
- Past history of similar symptoms
- Treatment history
- Menstrual and obstetric history

Risk assessment for cervical infection

Consider women at high risk getting cervical infection if:

- Sexual partner is symptomatic with STI
- Women had more than one sexual partner in last month
- Women has partner who has multiple partners

In such conditions, treat for cervicitis, even if there are no clinical or laboratory evidences.

Treatment of vaginal discharge syndromes

Cervicitis (due to Neisseria gonorrhoea and Chlamydia trachomatis**):**Tablet cefixime 400mg orally single dose **OR** injection ceftriaxone 250mg intramuscular, single dose, **PLUS** tablet azithromycin 1gm single dose **OR tablet d**oxycycline 100mg orally in every 12 hours for 7 days **OR** tablet erythromycin 500mg orally in every 6 hours for 7 days

Vaginitis (due to Bacterial vaginosis, Trichomonas vaginitis**):** Tablet **t**inidazole 2gm orally single dose **OR** 500mg orally in every 12 hours daily for 5 days **OR** tablet metronidazole 400mg orally in every 12 hours daily for 7 days **PLUS**

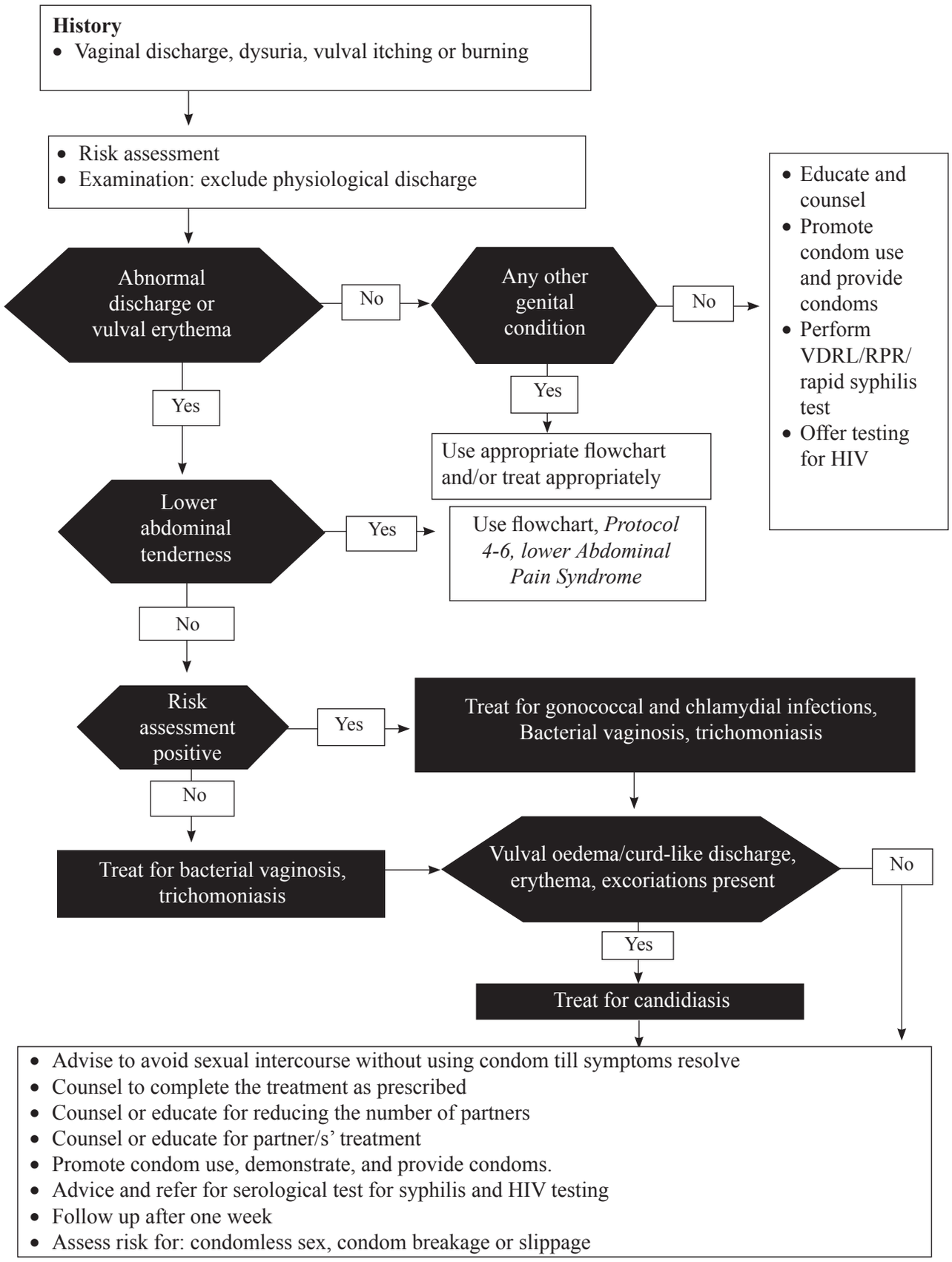
Candidiasis: Tablet fluconazole 150mg orally single dose **OR** clotrimazole 200mg vaginal pessary to be inserted at bed time for 3 days

Note: *Doxycycline is contraindicated in pregnancy*

Reference:

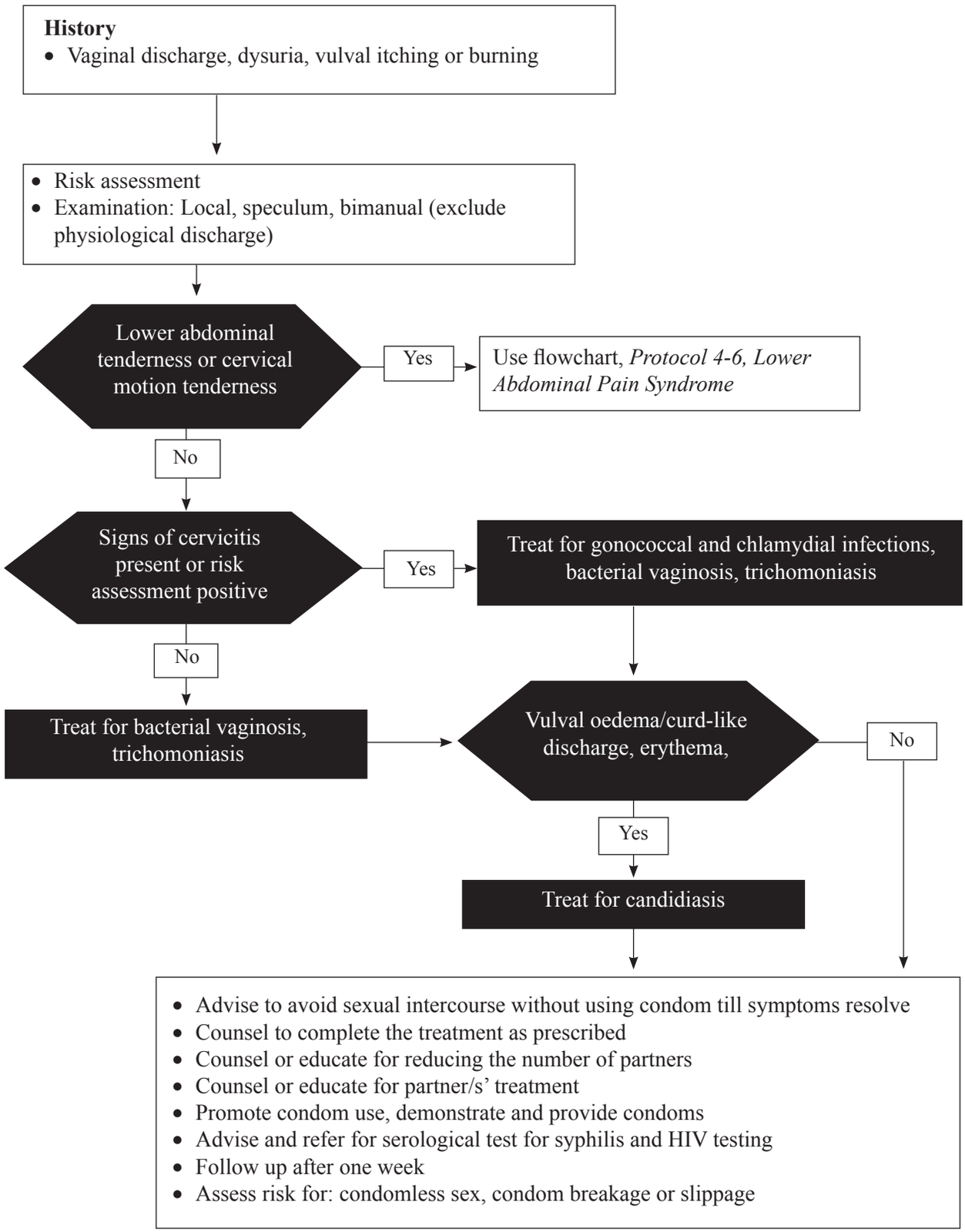
NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections.* Kathmandu*:* National Centre for AIDS and STD Control.

4-5a VAGINAL DISCHARGE SYNDROME (WITHOUT SPECULUM EXAMINATION)



Note: Risk factors such as multiple partners and partner with symptoms are frequently associated with Cervicitis

4-5b VAGINAL DISCHARGE SYNDROME (WITH BIMANUAL/SPECULUM EXAMINATION)



Note:

1. Risk factors such as multiple partners and partner with symptoms are frequently associated with cervicitis
2. Signs of cervicitis include cervical mucopus/erosion, easily induced cervical bleeding

4-5c VAGINAL DISCHARGE SYNDROME IN WOMEN WITH BIMANUAL/SPECULUM/MICROSCOPIC EXAMINATION

The abnormal vaginal discharge is due to infection of the vagina or cervix. Vaginal discharge can be due to vaginal infection (Trichomoniasis, Candidiasis or Bacterial vaginosis), or can also be due to cervical infection. Cervical infection is most often caused by Gonorrhoea and/or Chlamydia. It is important to distinguish Vaginitis from Cervicitis, since Cervicitis can lead to serious complications such as Infertility, Pelvic Inflammatory Disease and Ectopic pregnancy. Additionally, the sexual partners of Cervicitis patients must also be treated to avoid re-infection.

If lab facilities are available, wet mount and Gram stain have to be done. A finding of Leucorrhoea with more than 10 WBC per high power field on microscopic examination of vaginal fluid has been associated with gonococcal/chlamydial infection of the cervix in the absence of trichomoniasis. If not, she should be assessed by her risk factors for her probability of having sexually acquired cervicitis.

Sample collection for laboratory investigations

1. Cervical swab: for cervical infection-Gram stain for gonorrhoea
2. Vaginal swab: from posterior fornix for Candida (KOH-mount), Trichomonas vaginalis (wet mount with normal saline) and Whiff test for Bacterial vaginosis or Gardnerella infection

Results of laboratory investigation

Cervical swab:

Gram-negative diplococci and /or polymorpho-nuclear cell more than 5 per high power field is suggestive of inflammation.

Vaginal swab

- Candida filament for candida infection
- Motile trichomonas for Trichomonas vaginalis (TV)
- Clue cells for Bacterial vaginosis (BV)

Treatment

Cervicitis (due to *Neisseria gonorrhoea* and *Chlamydia trachomatis***):** Tablet cefixime 400mg orally, single dose **OR** injection ceftriaxone 250mg IM single dose **PLUS** tablet doxycycline 100mg orally in every 12 hours for 7 days **OR** tablet azithromycin, 1gm orally as a single dose **OR** tab erythromycin 500mg orally in every 6 hours for 7 days

Vaginitis (due to *Bacterial vaginosis*, *Trichomonas vaginitis*)**:** Tablet metronidazole 400mg orally in every 12 hours for 7 days **OR** tablet tinidazole 500mg orally in every 12 hours for 5 days

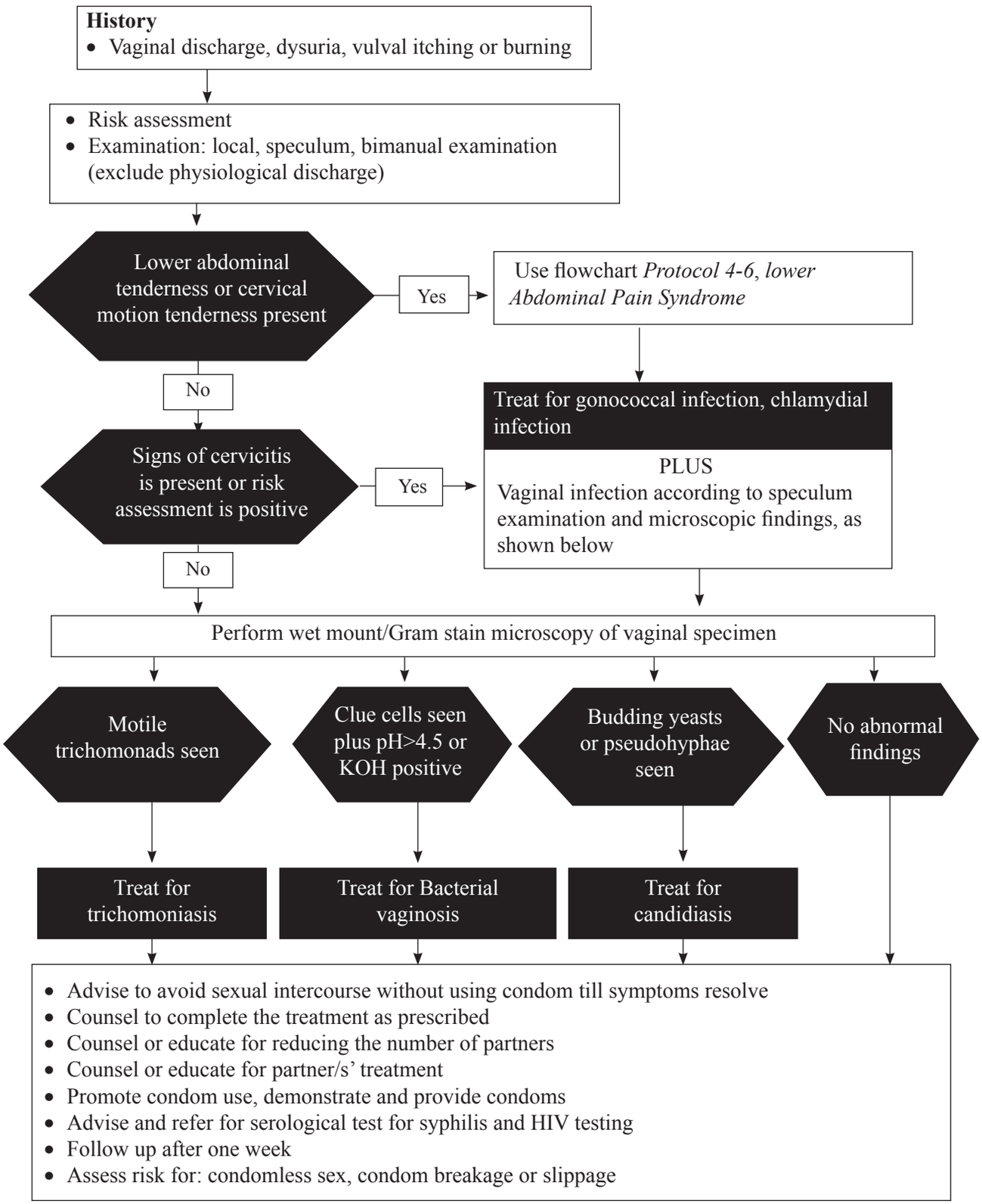
Candidiasis: Tablet fluconazole 150mg orally as a single dose **OR** miconazole or clotrimazole 200mg vaginal pessaries to be inserted at bedtime for 3 days **OR** clotrimazole 500 mg vaginal pessaries to be inserted at bedtime as a single dose **OR** nystatin vaginal pessaries 100000 IU to be inserted at bedtime for 14 days

Note: Doxycycline is contraindicated in pregnancy.

Reference

NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections.* Kathmandu*:* National Centre for AIDS and STD Control.

4-5c VAGINAL DISCHARGE SYNDROME IN WOMEN WITH BIMANUAL/ SPECULUM/MICROSCOPIC EXAMINATION



Notes

1. Risk factors such as multiple partners and partner with symptoms are frequently associated with cervicitis.
2. Signs of cervicitis include cervical mucopus/erosion, easily induced cervical bleeding

4-6 LOWER ABDOMINAL PAIN SYNDROME IN WOMEN

The lower abdominal pain syndrome is also called PID. It is an infection of the female upper genital tract (uterus, fallopian tubes, ovaries or pelvic cavities). It is a common complication of STI in women, which occurs as an ascending infection through the cervix.

Causative organisms
- *Neisseria gonorrhoeae*
- *Chlamydia trachomatis*
- Anaerobic bacteria: *Gardenella vaginalis*, *Haemophilus influenzae*, enteric Gram negative rods, *Mycoplasma hominis*, *Ureaplasma urealyticum,* etc.

Symptoms
- Lower abdominal pain: continuous/intermittent/mild to severe
- Pain on intercourse/pain during urination
- Vaginal discharge
- Sometimes nausea and vomiting
- Fever: low/high grade
- Dysmenorrhea

Signs
- Lower abdominal tenderness, guarding, rebound tenderness
- Vaginal discharge/bleeding
- High temperature (more than 38.5ºC)

Additional information needed
- Similar infections in a sexual partner
- Past history of similar symptoms
- Treatment history
- Menstrual and obstetric history

Abdominal examination
- Abdominal distension
- Tenderness, swelling

Local examination
- External genitalia
- Groins for swelling

Speculum examination
- Cervical erosion/ulcer
- Abnormal (mucopurulent) discharge from the cervix

Bimanual pelvic examination
- Cervical excitation (pain on moving the cervix) may be present

Treatment
Gonococcal infection: Injection ceftriaxone 250mg IM single dose **PLUS**
Chlamydia infection: Tablet doxycycline 100mg orally in every 12 hours for 14 days **OR** tablet erythromycin 500mg orally in every 6 hours for 14 days **PLUS**
Anaerobic infection: Tablet **m**etronidazole 400mg orally in every 12 hours for 14 days

Conditions for referral
- The diagnosis is uncertain, client in severe condition, nausea, vomiting, high fever of more than 38ºC
- Appendicitis, ectopic pregnancy, peritonitis or pelvic abscess is suspected
- The patient is pregnant
- The patient cannot tolerate or cannot be followed up on ambulatory basis
- The patient fails to respond to the treatment provided on outpatient basis.

Follow up within 3- days or sooner if condition does not improve.

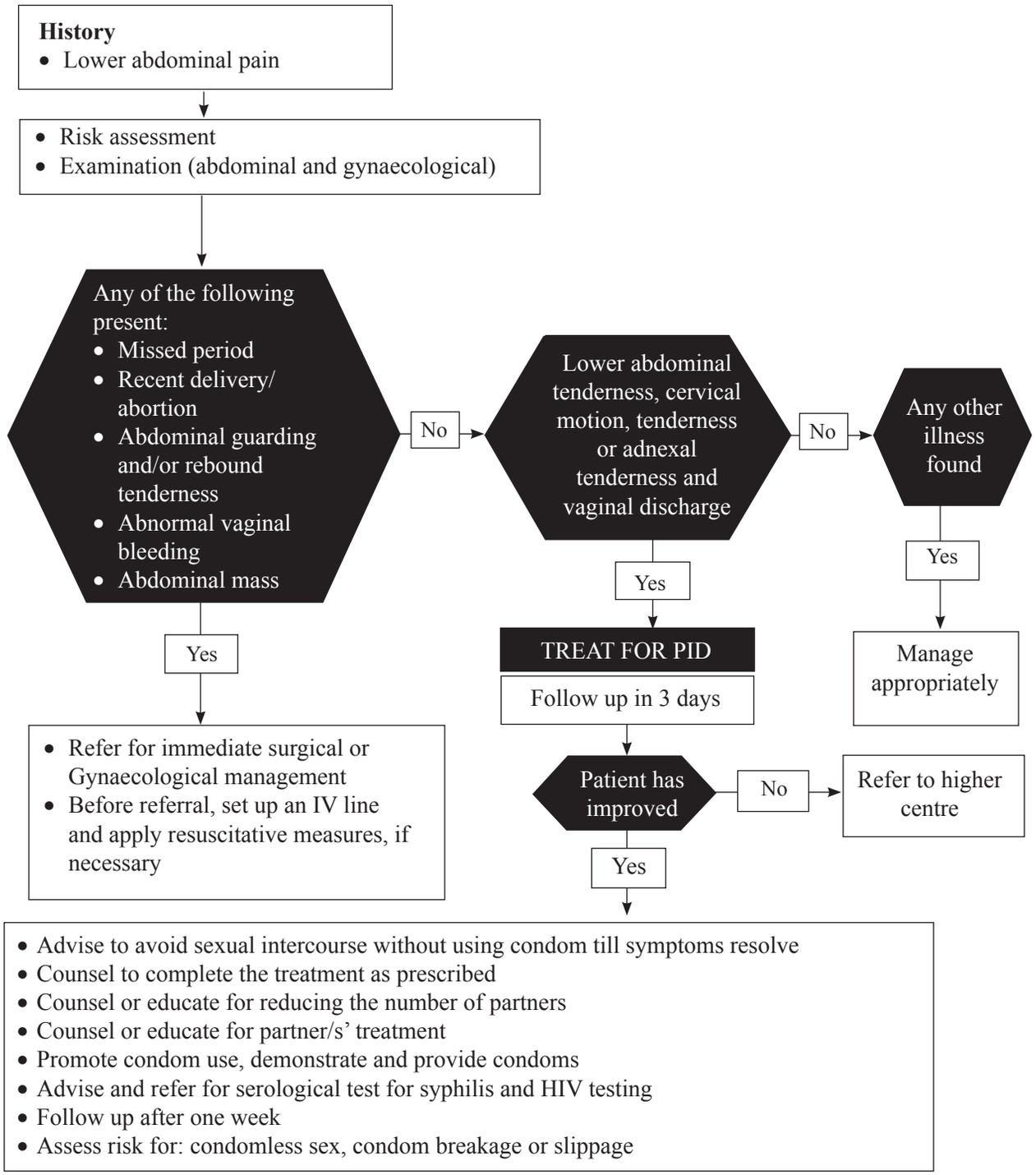
Treatment for hospitalized patients with severe PID: Injection ceftriaxone or other 3rd generation cephalosporin intravenous (IV) daily* **PLUS** tablet doxycycline100mg orally in every 12 hours for 14 days **PLUS** tablet metronidazole 400mg orally in every 8 hours for 14 days
*(Duration and doses are determined based on severity after clinical judgment).

Note: This is one of the most difficult syndromes to assess. It is, however, very important to make an early diagnosis of PID to reduce the chances of infertility and other sequelae.

Reference

NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections.* Kathmandu*:* National Centre for AIDS and STD Control.

4-6 LOWER ABDOMINAL PAIN SYNDROME IN WOMEN



Notes:

1. Risk factors such as multiple partners and partner with symptoms are frequently associated with Cervicitis
2. Patient with acute PID should be referred for hospitalization, when
   - they have severe illness, nausea and vomiting, and/or high degree fever >38°C
   - the patient is pregnant
   - the patient is unable to follow or tolerate outpatient regimen
   - the patient has failed to respond to the outpatient therapy, or
   - there are clinical signs of tubo-ovarian abscess or elvic peritonitis

4-7 NEONATAL CONJUNCTIVITIS SYNDROME

Neonatal Conjunctivitis Syndrome, also called Ophthalmia Neonatorum, is a bilateral or unilateral erythema/ swelling of eyelids with purulent discharge due to transmission from infected mother (cervicitis) to child during delivery within 21 days of birth. Cervicitis caused by *N. Gonorrhoea*, if not treated early, may lead to blindness. Cervicitis due to *Chlamydia trachomatis* can also cause pneumonia in newborn, which may be fatal and may cause impaired vision.

Causative organisms

- *Neisseria Gonorrhoea*
- *Chlamydia trachomatis*
- Rarely – other bacterial or viral infections (non-STI)

Signs

Signs may start from the first day up to 21 days.

- Swelling of the lids
- Conjunctival congestion
- Discharge from the eye
- Difficulty in opening the lids
- Crusting and ulceration around the lid margin

Diagnosis

Diagnosis is based on the history and risk assessment of STIs in the mother or her partners, and the clinical findings.

Treatment

Gonococcal conjunctivitis: Injection ceftriaxone, 50mg per kg IM as a single dose, to a maximum of 125mg total dose or injection spectinomycin, 25mg per kg by IM as a single dose, to a maximum of 75mg total dose **PLUS**

Chlamydial conjunctivitis: Erythromycin syrup, 50 mg per kg per day orally in four divided doses for 14 days.

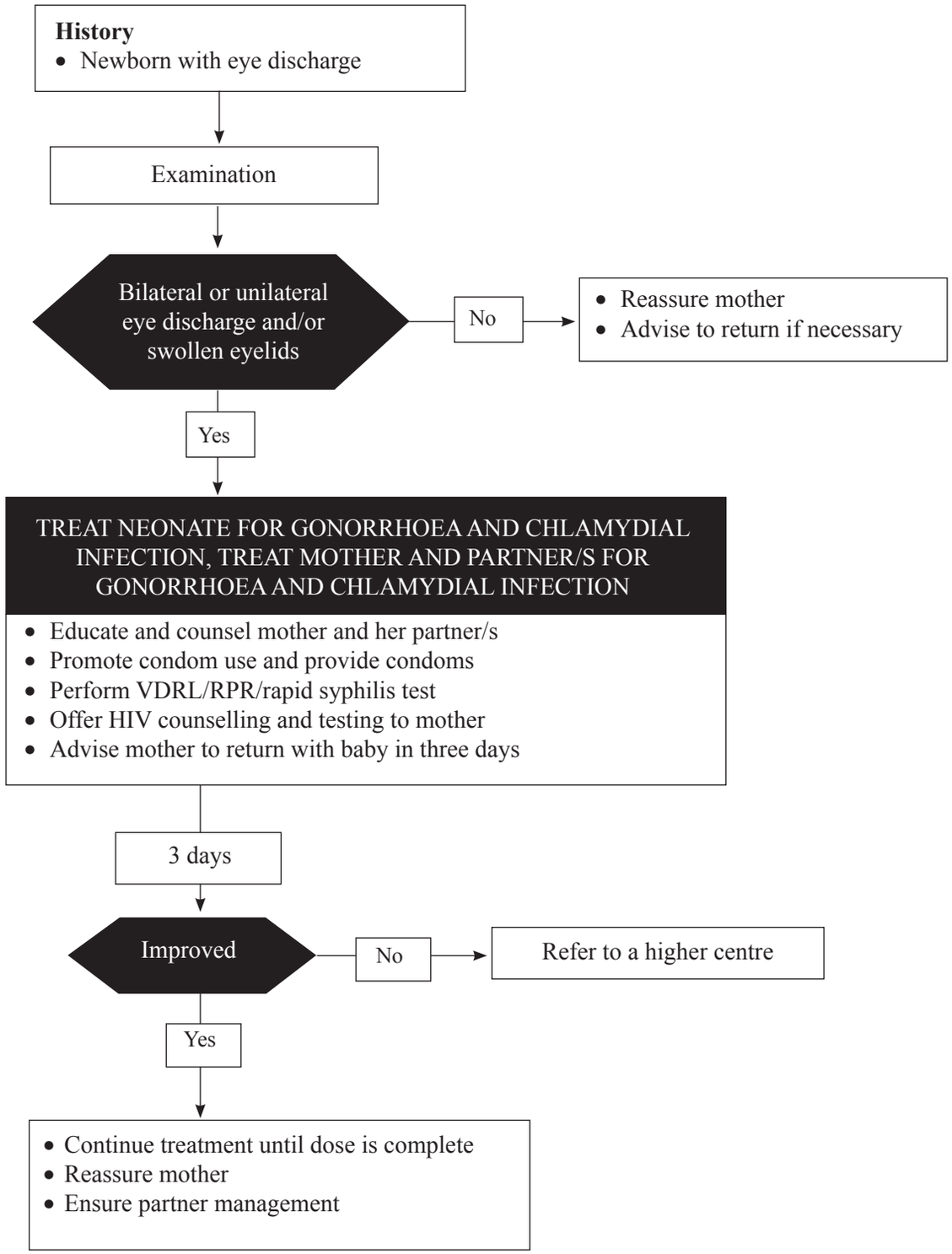
Note:

- When there is visible discharge, advise the mother to clean the baby's eyes starting from the inner to the outer aspect of the eyes with boiled and cooled water or sterile saline (if available) using a clean, soft cotton wick.
- The mothers of infants who have gonococcal or chlamydial conjunctivitis should be treated for these infections appropriately, and their sex partners should also be evaluated and treated.

Reference

NCASC. 2014. *National Guidelines on Case Management of Sexually Transmitted Infections.* Kathmandu*:* National Centre for AIDS and STD Control.

4-7 NEONATAL CONJUNCTIVITIS SYNDROME



4-8 HIV/AIDS

Human immune deficiency virus (HIV) causes HIV infection in human beings. In absence of antiretroviral treatment, it may develop acquired immune deficiency syndrome (AIDS). It takes years (7-10 average) to develop AIDS defining illness. Infected person remains asymptomatic for years during which they can transmit HIV to their partners and children. HIV causes destruction of the CD4+ cells, which are responsible for cell mediated immunity. Once the number of these cells goes below certain level, the infected person gets many opportunistic infections and cancers.

HIV is transmitted by:

- Sexual contact
- Sharing needles
- From mother to child (vertical transmission)
- Through blood, blood products and transplanted organs

Social activities do not transmit HIV infection, for example:

- Casual contacts – hand shake, hugging, superficial kiss
- Insect bites
- Sharing same house, eating together and sharing common toilet with HIV positive person
- Studying with an HIV positive child in school
- Taking care of a patient with HIV
- Taking part in the cremation of a person with HIV
- Use of public baths, ponds, and swimming pools with an HIV positive person

Identification

HIV cannot be diagnosed without having HIV test. Key population identified by the National HIV Strategy are female sex workers, clients of female sex workers, people who inject drugs, men who have sex with men, transgender people, temporary migrants and spouses of migrants are at risk of getting HIV. These people should always be offered HIV testing. Anyone having multiple sexual and injecting partners is at risk of getting HIV. There are no specific clinical features of HIV.

Anyone at risk of HIV should have an HIV test.

***References**:*

NCASC. 2017. *National HIV Testing and Treatment Guidelines.* Kathmandu: National Centre for AIDS and STD Control.
MoHP. 2014. *Healthcare waste management guideline, Department of Health Services.* Kathmandu. Ministry of Health and Population.
Jhpiego. 2018. *Infection Prevention and Control, Reference Manual for Health Care Facilities with Limited Resources.* Baltimore: Jhpiego Corporation

4-8 HIV PREVENTION MEASURES FOR SERVICE PROVIDERS

Two-level approach to prevent transmission
- Standard precautions
- Transmission-based precautions

Hand hygiene
Protective barriers
- Eye covers, face shields and masks
- Masks
- Gowns and aprons
- Caps
- Clothing
- Footwear and shoes
- Antiseptics

Processing instruments, gloves and other items
The basic infection prevention process, which should be used to prevent disease transmission from contaminated instruments, gloves and other items, are:
- Decontamination
- Cleaning and rinsing
- Sterilization or high-level disinfection

Waste disposal
- Dispose of needles and other sharps using hands-free techniques
- Decontamination, sterilization and safe disposal

- All service providers must follow universal precaution while attending patients with HIV
- Unnecessary injections and procedures must be eliminated

4-9 HIV TESTING AND COUNSELLING

HIV testing for individual diagnosis should be performed according to the National Guidelines for HIV Testing and Counselling (HTC)

The rationale behind HTC

- It may reinforce preventive behaviour in sero-negative people
- If people know they are sero-positive, they can take preventive measures and link with care and support services

Requirements of HTC

- All testing must be accompanied by pre- and post-test counselling
- Informed consent before testing is necessary
- Test results must be kept confidential
- Testing procedures and use of test kits must follow protocols as outlined in the National HIV Testing and Treatment Guideline
- Counsellor and laboratory staff must be trained according to NCASC and NPHL standards

Laboratory tests commonly used in Nepal

HIV testing algorithm of Nepal includes three tests (assay). Determine test is the first test. If the result of first test comes negative, the case is negative. If the result of first test comes positive, Uni-gold and Stat-pack need to be performed in parallel. If both of these tests are positive, the case is positive. If one of them comes negative, the test is inconclusive and the cases should be followed after two weeks.

HIV Testing

HIV testing algorithm describes the combination and sequence of specific assays used in each HIV testing strategy. The first test used in algorithm should be highly sensitive. The second and third should have higher specificity.

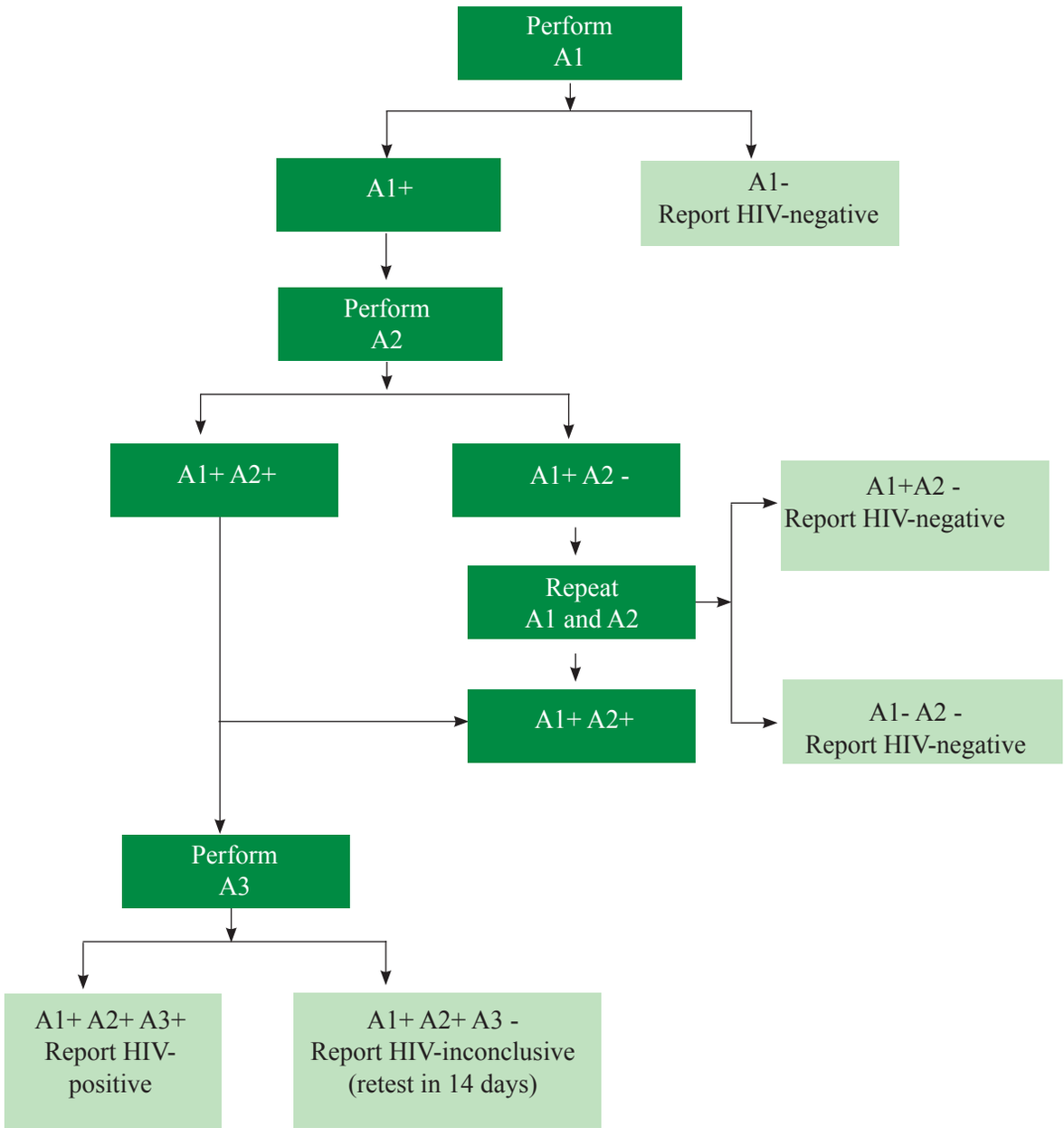
Assay 1 (A1)	Assay 2 (A2)	Assay 3 (A3)
Determine HIV- ½	Uni-Gold HIV ½	Stat Pak HIV- ½
SD Bioline HIV ½		
ABON HIV ½		
ELISA 1		
ELISA 2		

References

NCASC. 2017. *National HIV Testing and Treatment Guidelines.* Kathmandu: National Centre for AIDS and STD Control.

4-9 HIV TESTING

National HIV Testing Algorithm (3 Test Algorithm)



Note:

1. After retesting in 14 days, if the result is again inconclusive, collect a sample and send it to NPHL for DNA PCR testing. The result of DNA PCR testing confirms HIV status.
2. All HIV infected people should start antiretroviral therapy irrespective of CD4 cells counts (CD4 counts is not the criterion for starting ART). So, all of them should be referred to ART centre for further evaluation, counselling and to start ART.

4-10 ANTIRETROVIRAL THERAPY

Principles of Antiretroviral therapy (ART)

The principle of antiretroviral therapy is to reduce the replication of virus, prevention and treatment of opportunistic infections so that patient survival will be prolonged, with better quality of life.

Goals of Antiretroviral Therapy

- Maximal and durable suppression of viral load
- Restoration and/or preservation of immunologic function
- Reduction of HIV-related morbidity and mortality
- Improvement of quality of life of HIV-infected person
- Post-exposure prophylaxis (PEP)
- Prevention from getting infection by using as a pre-exposure prophylaxis
- Elimination of vertical transmission of HIV (from mother to child)

Criteria for initiating ART

All HIV-infected people should start ARV therapy irrespective of CD4 cells counts (CD4 counts is not a criterion for starting ART). So, all of them should be referred to an ART centre for further evaluation, counselling and to start ART.

Reference

NCASC. 2017. *National HIV Testing and Treatment Guidelines.* Kathmandu: National Centre for AIDS and STD Control.

4-10 ANTIRETROVIRAL THERAPY

Evaluation of patient before starting ART

- Assess the clinical stage of HIV infection
- Identify past HIV-related illness
- Identify current HIV-related illness that requires treatment
- Identify co-existing medical conditions and treatment that may influence that choice of therapy

Before starting therapy, evaluate:

- Complete history, including past illnesses, with emphasis on opportunistic infections and other conditions
- Psychological and psychiatric history (depression and other psychological problems are common and should be identified and treated as necessary)
- Assessment of family and social support
- Practices regarding safer sex and injecting drugs use
- Complete physical examination

Physical Examination

- Body weight of patient
- Skin: look for herpes zoster, Kaposi's sarcoma and HIV dermatitis
- Lymphadenopathy
- Oropharyngeal mucosa: look for candidiasis, Kaposi's sarcoma, and Hairy Leucoplakia
- Examination of optic fundus: Look for Retinitis and Papilledema
- Examination of abdomen, heart, lungs, neurological, musculoskeletal and genitourinary systems

Laboratory Tests

- TLC, DLC, Hb, platelets
- X-ray chest (sputum for AFB, tuberculin test if needed)
- ALT/SGPT
- Other biochemistries like blood sugar, lipid profile as required
- RPR/VDRL/TPHA, hepatitis B and (hepatitis C if needed)
- Cervical pap smear and urine pregnancy test as indicated in female
- CD4 cell count and/or Total Lymphocyte Count

Note: An ART physician initiates ART. Therefore, evaluation and initiation of the ART should be done in consultation with an ART physician without any delay.

4-11 PRE AND POST-EXPOSURE PROPHYLAXIS

Pre-Exposure Prophylaxis

Pre-exposure prophylaxis (PrEP) is one of the methods of prevention of HIV infection by using oral antiretroviral medicine before risky behaviour. PrEP is recommended to people at substantial risk of acquiring HIV rather than limiting the recommendation to specific populations. Substantial risk of HIV infection is provisionally defined as HIV incidence around 3 per 100 person-years or higher in the absence of PrEP.

PrEP will be implemented with TDF+FTC (3TC)-based regimen and has to be taken once daily.

Before providing PrEP, discuss the following information

- PrEP is a comprehensive preventive approach with condoms and lubricant, harm reduction, including access to sterile or new injection materials.
- Ensure access to accurate knowledge and information about PrEP.
- PrEP is offered as a choice, free of coercion, and with access to other preventive strategies that may be preferred by individuals at substantial risk.
- HIV testing, HbsAg and serum creatinine levels are done at baseline.
- PrEP can be discontinued if a person taking PrEP is no longer at risk and when this situation is likely to be sustained.
- PrEP users should be provided information that ARV drugs will begin to work only after 7 doses.

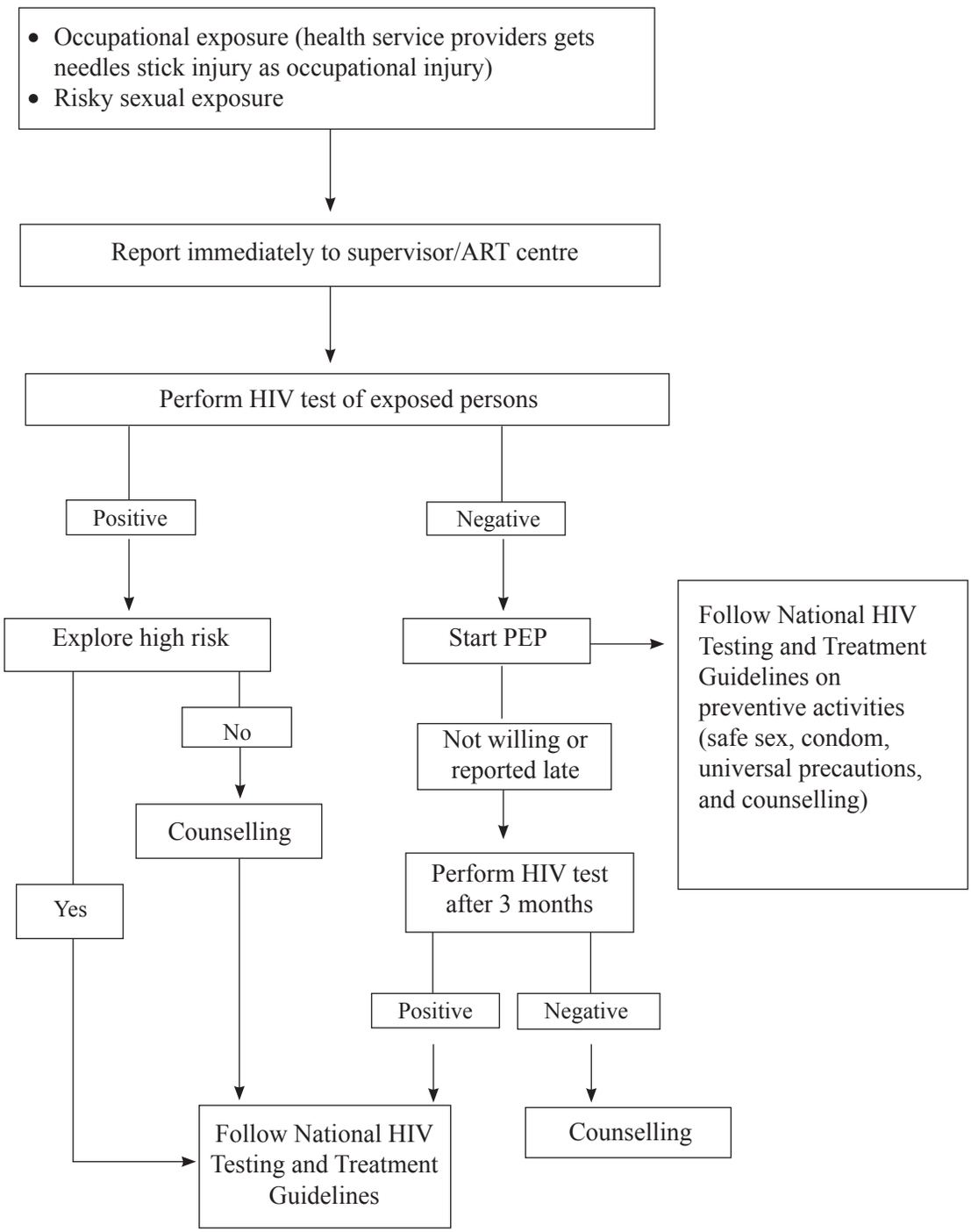
Post-Exposure Prophylaxis

Post-exposure prophylaxis (PEP) of HIV infection refers to the use of ARV to protect a person who had exposure to HIV either occupational or other risky exposure like unprotected sexual intercourse with a female sex worker. The rational is that ARV treatment started immediately after exposure to HIV may prevent HIV infection. It should be started immediately after exposure; however, it can be given up to 72 hours of exposure.

Reference

NCASC. 2017. *National HIV Testing and Treatment Guidelines.* Kathmandu: National Centre for AIDS and STD Control.

4-11 POST-EXPOSURE PROPHYLAXIS



4-12 PREVENTION OF MOTHER-TO-CHILD HIV TRANSMISSION ELIMINATION OF VERTICAL TRANSMISSION

Vertical transmission of HIV is the most frequent source of HIV infection in children in Nepal, as in other countries. It is estimated that 15-45% of mothers with HIV infection will transmit HIV during pregnancy and delivery and additional 10-20% will transmit through breastfeeding. Mother to child transmission is by far the largest source of HIV infection in children in Nepal. This vertical transmission of HIV can be reduced to 2% or less by intensive intervention such as potent and ARV drugs, caesarean section at 38 weeks of pregnancy and complete avoidance of breastfeeding in addition to offering HIV testing as a part of routine antenatal care. Prevention of mother-to-child transmission (PMTCT) or elimination of vertical transmission (eVT) is a commonly used term for programmes and interventions designed to reduce the risk of mother to child transmission of HIV.

Management

- All pregnant women present for ANC should receive the following information
  - HIV counselling and testing is a routine in ANC
  - Informed consent should be taken
  - Confidentiality maintained
  - Voluntary HIV testing, post testing counselling and follow up
  - Information on safer sex practices
  - Prevention diagnosis and treatment of STIs
  - Prevention of HIV transmission to infants and young children including interventions for PMTCT
- Women infected with HIV
  - In addition to the routine antenatal care, she needs information on PMTCT.

PMTCT

- HIV counselling and testing for pregnant women
- All HIV infected pregnant women should initiate ARV therapy and continued lifelong
- Safe obstetrical care
- Infant feeding counselling and support
- Family planning counselling and services
- Care and support for HIV positive woman and her family members

- HIV negative women
  - Provision on key information on HIV
  - Explanation of the importance of remaining negative during pregnancy
  - Breastfeeding as a risk of transmission to the baby of newly infected mother being high
  - Counselling on partner's status, if unknown

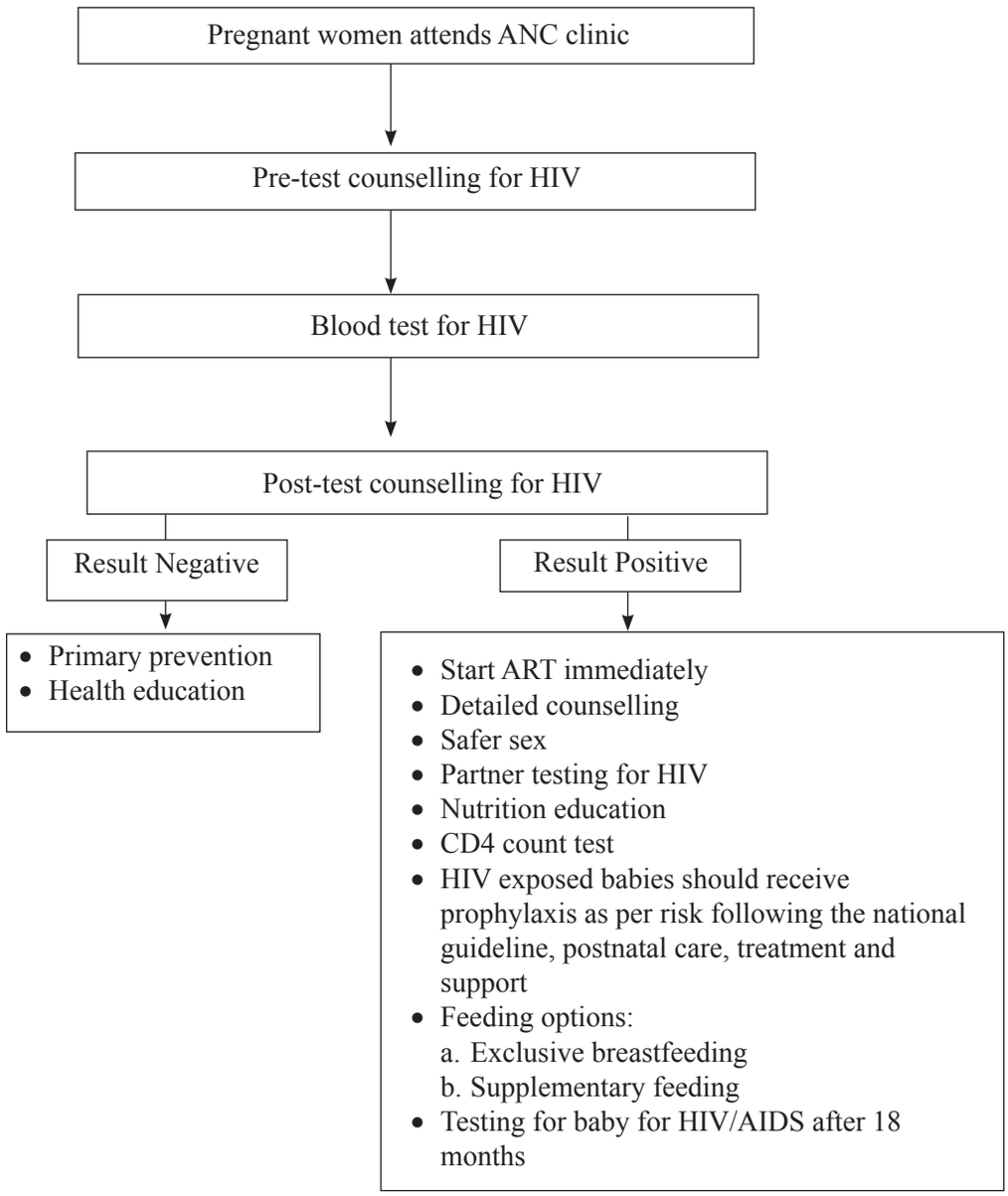
Antiretroviral Prophylaxis Regimens to prevent MTCT

Drug	Intra-Natal	Postnatal
NVP (Nevirapine)	All HIV infected pregnant women should receive first-line antiretroviral therapy (TDF+3TC+EFV) and continued for lifelong	Infant: Single dose NVP 2mg/kg oral immediately after birth NVP should be continued for 6 weeks for low risk babies (mother on ART with virological suppression by delivery)
ZDV (Zidovudine) and NVP for infant when mother has no ARV prophylaxis	None	Daily dose NVP 2mg/kg and ZDV 4mg/kg AZT (ZDV) plus NVP (dual prophylaxis) should be continued for 12 weeks for high-risk babies (mother not virologically suppressed by delivery time).

Reference

NCASC. 2017. *National HIV Testing and Treatment Guidelines.* Kathmandu: National Centre for AIDS and STD Control.

4-12 PREVENTION OF MOTHER-TO- CHILD HIV TRANSMISSION ELIMINATION OF VERTICAL TRANSMISSION



Recommendations on breastfeeding

- Breastfeeding should be promoted
- Exclusively breastfeeding for the first 6 months
- Risk of transmitting HIV to infants through breastfeeding is low when the mother is receiving ART and the infant is on ARV prophylaxis
- Pregnant women with HIV who are on ART are recommended to continue breastfeeding
- Breastfeeding should be avoided during Mastitis, cracked nipples and if infant has sores or oral thrush (candidiasis), there is risk of HIV transmission

Section 5

ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH

5-1 PROBLEMS OF FORESKIN

The foreskin is the fold of skin that covers the glans penis (head of the penis). At birth, the foreskin and the glans penis are lightly joined. In most boys, by about 5 years of age, the foreskin can be at least partly retracted (pulled back) and by puberty it is retractable in about 9 out of 10 boys.

Phimosis It refers to a foreskin that cannot be pulled back because its opening is too small to expand over the head of the penis. This is normal during infancy and childhood.

Paraphimosis: A condition when the foreskin of an uncircumcised male cannot be pulled back over the head of the penis (glans).

Balanitis: It is inflammation of head (glans) of the penis. Balanitis usually leads to posthitis (inflammation of foreskin) except in circumcised patients.

Balanoposthitis: It is inflammation of both foreskin and head (glans) of the penis.

References

Bailey & Love's Short Practice of Surgery, 26th Edition
Howkins & Bourne. *Shaw's Textbook of Gynaecology.* 17th Edition

-

5-1 PROBLEMS OF FORESKIN

Adolescent (boy) comes to clinic

Make him comfortable
Ensure confidentiality and privacy

History

- History of problem in foreskin, pain and difficulty in pulling foreskin back
- Soreness in penis, painful micturition

Examination

- Foreskin is difficult to retract
- Signs of inflammation or infection
- Signs of STI syndrome

• Foreskin cannot be retracted (glans cannot be fully uncovered) • No sign of inflammation/ infection	• Foreskin retracted away from glans but cannot be pulled back to normal position • Glans is exposed • Glans and foreskin, both, beyond tight area is swollen	• Sign of inflammation present on glans and foreskin • Discharge (whitish yellowish) present under foreskin and around glans • Discharge not coming out from urethra
Phimosis	Paraphimosis	Balanitis/balanoposthitis
Refer to physician/ surgeon for further management/ surgery	• Give pain relief • Give sedative if needed • Apply topical analgesic	• Advise to retract foreskin daily and wash with mild soap and warm water • Avoid using strong soap/ detergent • Advise tablet flucloxacillin orally in every 6 hours for 7 days **OR** tablet cephalexin orally in every 6 hourly for 7 days • If fungal infection is suspected, apply clotrimazole cream 2 times daily for 7 days
	If not relieved then refer to physician/surgeon	If not relieved, refer to dermatologist

Note:
Use only plain clotrimazole, without steroids

5-2 PROBLEMS WITH ONSET OF PUBERTY IN ADOLESCENT GIRLS

Puberty

The period in life when a child experiences physical, hormonal, mental, sexual and social changes and becomes capable of reproduction. As a child becomes an adolescent, the body starts preparing for adulthood. This stage, which lasts for two to five years, is called puberty. During puberty, there is an increase in height and weight. There is also marked growth and development of sexual organs. In girls, puberty typically starts between ages 8 and 13 and may continue until age 19 or older (WHO).

Precocious puberty

When a child begins to develop secondary sexual characteristics much earlier than usual, it is called, precocious puberty. Precocious puberty, in girls, is breast development, onset of menstruation, and pubic or underarm hair growth at the age of 7 or 8 years. In addition to improved nutrition, genetic, metabolic and environmental factors contribute to the early onset of puberty.

Delayed puberty

In general, we say that puberty is later than normal (or delayed) in a girl when certain changes have not started to occur by a certain age. For example, if a girl has not developed breast bud, or her breasts have not started to increase in size before the age of 14 years, or if there is no appearance of hair around the genital area by the age of 14 years, or her menstruation has not started by the age of 16 years it could be defined as delayed puberty.

Causes

- Normal variation, often runs in the family
- Poor nutrition
- Chronic illnesses

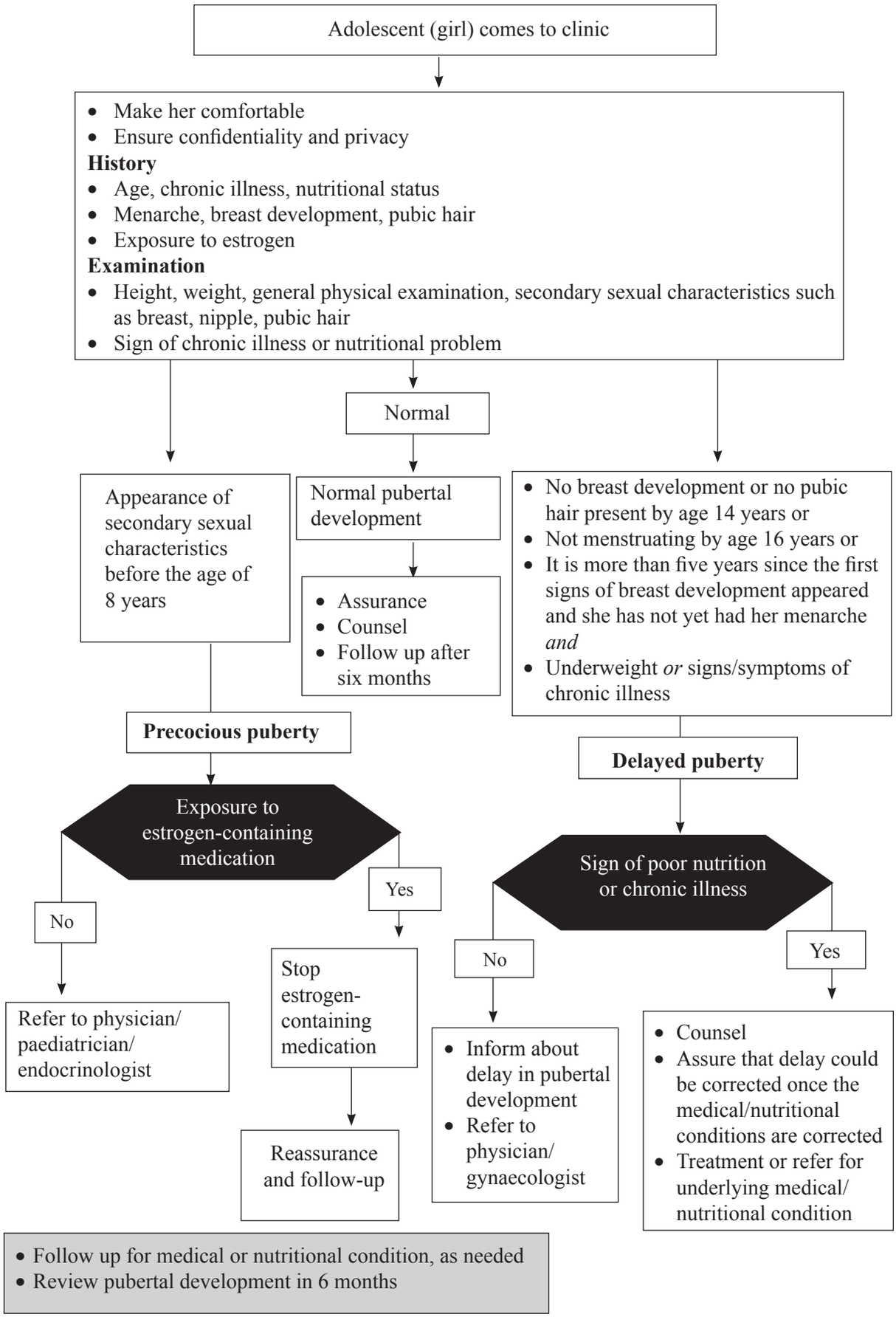
Consequences of this condition

- Shorter than other girls of the same age
- Psychological and social effects
- Girls may feel anxious and isolated

References

Adolescent job aid: a handy desk reference tool for primary level health workers. World Health Organization, 2010
Howkins & Bourne. *Shaw's Textbook of Gynaecology.* 17th Edition
Ashraf Soliman, Vincenzo De Sanctis, et al., Nutrition and pubertal development, Indian Journal of Endocrinology and Metabolism, 2014 Nov; 18 (Suppl 1): S39–S47

5-2 PROBLEMS WITH ONSET OF PUBERTY IN ADOLESCENT GIRLS



5-3 PROBLEMS WITH ONSET OF PUBERTY IN ADOLESCENT BOYS

Puberty
The period in life when a child experiences physical, hormonal, mental, sexual and social changes and becomes capable of reproduction. As a child becomes an adolescent, the body starts preparing for adulthood. This stage, which lasts for two to five years, is called puberty. During puberty, there is an increase in height and weight and in the musculature. There is also marked growth and development of the sexual organs. In boys, puberty typically starts between ages 10 and 15 and may continue until age 19 or older (WHO).

Precocious puberty
When a child begins to develop secondary sexual characteristics much earlier than usual, it is called precocious puberty. Precocious puberty, in boys, is defined as testicular or penile enlargement and genital or body and facial hair growth occurring before the age of nine.

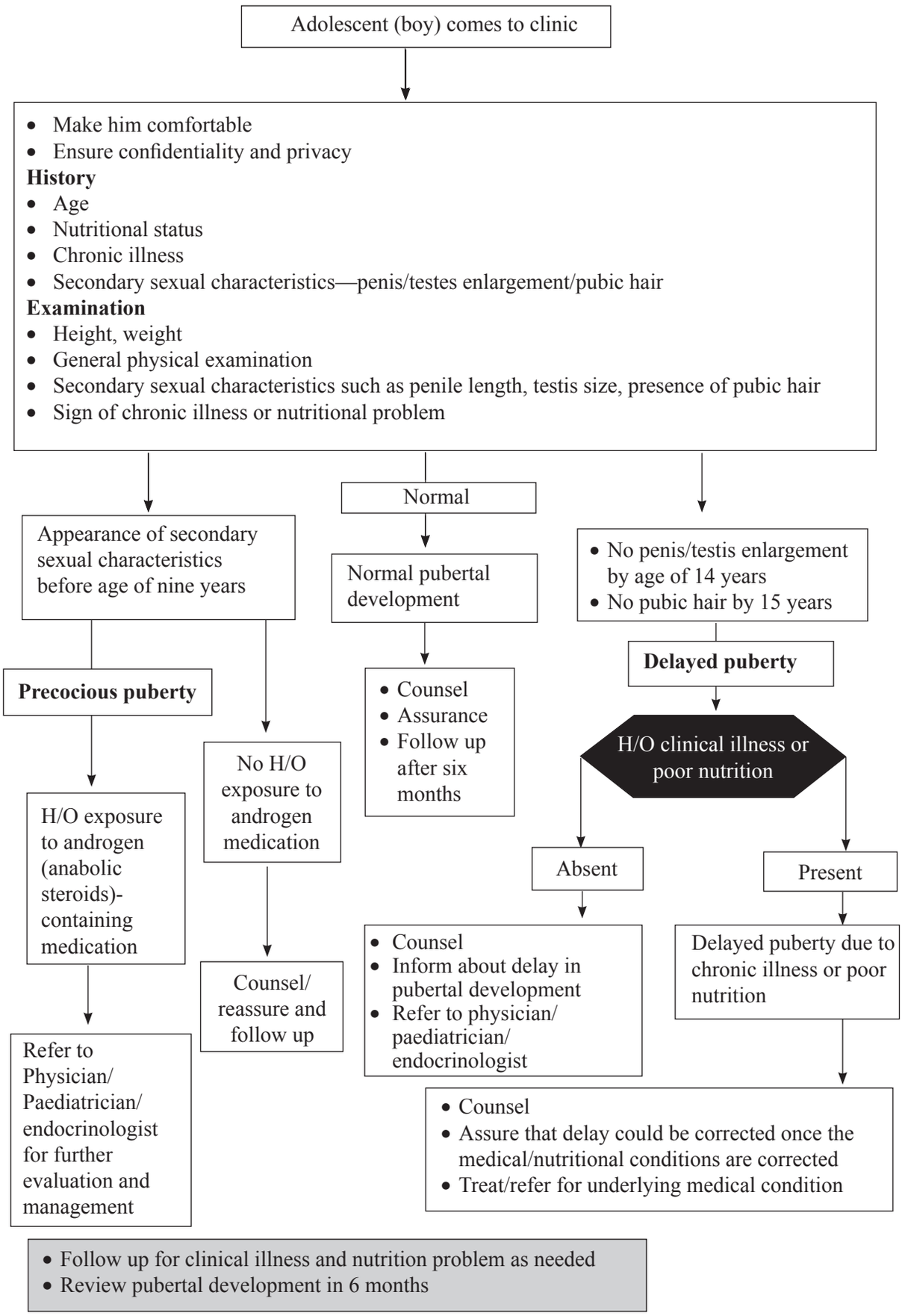
Delayed puberty
In general, physical growth much later than average is called delayed puberty. In boys, for example, if the penis has not started to increase in size by the age of 14 years, the testes have not started to enlarge by the age of 14 years, or hair around the genital area has not started to appear by the age of 15 years.

Causes of this condition
- Normal variation in the age
- Poor nutrition
- Chronic illnesses

Consequences of this condition
- Shorter than other boys of the same age
- Psychological and social effects
- Boys may feel anxious and isolated

References
Adolescent job aid: a handy desk reference tool for primary level health workers. World Health Organization, 2010
Howkins & Bourne. *Shaw's Textbook of Gynaecology.* 17th Edition

5-3 PROBLEMS WITH ONSET OF PUBERTY IN ADOLESCENT BOYS



5-4 COMMON PSYCHOLOGICAL PROBLEMS DURING ADOLESCENCE

During adolescence phase of development, there is a transition in adolescents from childhood to adulthood. Issues of independence, identity, sexuality, and relationships define this developmental stage. Mental health problems, such as mood disorders, anxiety disorders, and thought disorders (such as schizophrenia), as well as psychosocial disorders, may develop or first become apparent during adolescence. In particular, depression, anxiety, and eating disorders are common during adolescence. Suicide is a major cause of death for this age group. Other causes of death include accidents, unintentional injuries, and homicide.

Depression is common among adolescents.

Suicide: Thoughts about suicide (called suicidal ideation) are more common. Suicidal ideation requires an immediate mental health evaluation; parents should not be expected to determine how "serious" the problem is on their own.

Anxiety often manifests during adolescence, as do **mood disorders** and disruptive behavioural disorders such as oppositional defiant disorder and conduct disorder (range of antisocial types of behaviour).

Mood: Mood is a temporary state of mind and feeling. An abrupt and unaccountable change of mood is called mood swing.

Self-esteem: Confidence in one's own worth or abilities.

Body image: The subjective picture or mental image of one's own body.

Sexual feeling: An emotional state or reaction pertaining to sex and sexuality.

Sexual attraction: An attraction based on sexual instinct or sexual desire.

Several psychosocial problems may be associated with substance abuse: Overindulgence in or dependence on an addictive substance, especially alcohol or drugs.

Several psychosocial problems cause:

- Unintentional injuries resulting from motor vehicle crashes
- Injuries resulting from interpersonal violence, leading to adolescent death and disability

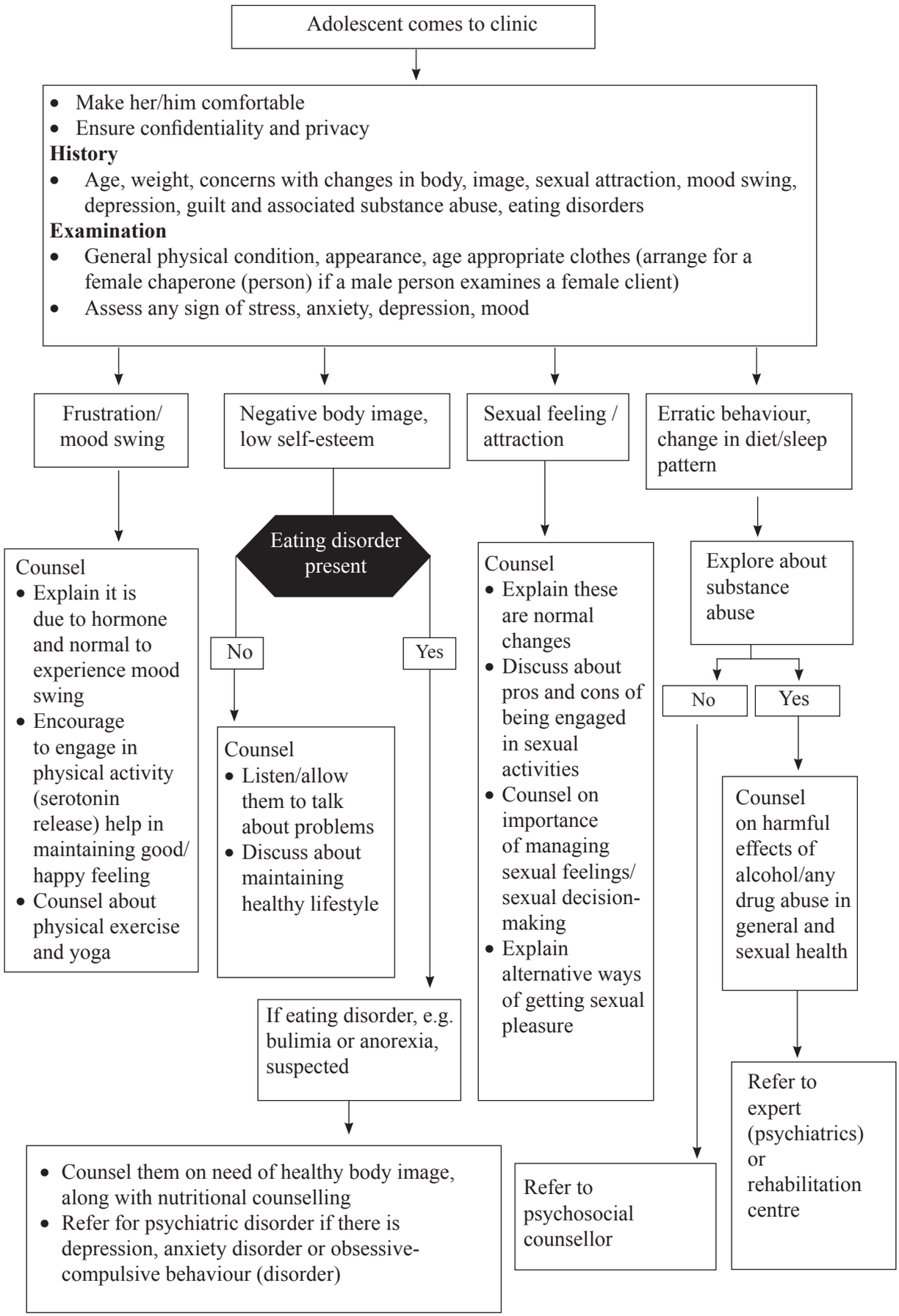
Eating disorders, such as anorexia nervosa (person presents extreme excuse to avoid eating, are generally thin but they talk about their fat) and bulimia nervosa (person has episodes of overeating, followed by vomiting and is generally normal weight), these disorders most commonly develop during adolescence and are more common among girls. Many unhealthy behaviours that start during adolescence, such as consuming a poor diet, substance use, and violence, can lead to immediate health problems, long-term disorders, or poor health later in life.

References

Physical and Psychosocial Effects of the Changes in Adolescence Period, Aysel Özdemir*, RN, PhD, et al., International Journal of Caring Sciences May–August 2016, Volume 9, Issue 2, Page 717*

Howkins & Bourne. *Shaw's Textbook of Gynaecology.* 17th Edition

5-4 COMMON PSYCHOLOGICAL PROBLEM DURING ADOLESCENCE



5-5 COMMON PROBLEMS/CONCERNS RELATED TO PHYSICAL CHANGES DURING ADOLESCENCE

There is rapid change in physical growth during adolescence, which causes lot of concerns among adolescents due to lack of appropriate information. Many problems are associated with body image.
Common physical changes during puberty according Tanner stage are as follows:

SN	Average Age	Development of External Genitalia (Boys)	Development of Breast (Girls)	Pubic Hair (Boys and Girls)	Growth (Boys)	Growth (Girls)
1	Girls: 8 years and less Boys: 9 years and less	Pre-pubertal	Pre-pubertal	Pre-pubertal	5-6 cm/ year	5-6 cm/ year
2	Girls: 9-11 years Boys: 10-11 years	Enlargement of scrotum and testes	Breast bud stage with elevation of breast and papilla, enlargement of areola	Sparse growth of long, slightly pigmented hair, straight or curled, at base of penis or along labia	5-6 cm/ year	7-8 cm/ year
3	Girls: after 12 Boys: around age 13 years	Enlargement of penis, further growth of testes	Further enlargement of breast and areola	Darker, coarser and more curled hair spreading sparsely over junction of pubes	7-8 cm/ year	8 cm/year
4	Girls: around 13 years Boys: around 14 years	Increase in size of penis with growth in breadth, testes and scrotum grow further	Areola and papilla from a secondary mound above level of breasts	Hair adult type but covering smaller area than in adult; no spread to medial surface of thighs	10 cm/ year	7 cm/year
5	Girls: just after age 14 (full height 1-2 years after menarche) Boys: around age 15 (by age 18 years full growth)	Adult genitalia	Mature stage: projection of papilla only, related to recession of areola	Adult in type and quantity, with horizontal distribution	No further increase in height after 17 years	No further increase in height after 16 years

Reference

Howkins & Bourne. *Shaw's Textbook of Gynaecology.* 17th Edition

5-5 COMMON PROBLEMS/CONCERNS RELATED TO PHYSICAL CHANGES DURING ADOLESCENCE

Adolescent comes to clinic

- Make her/him comfortable
- Ensure confidentiality and privacy

History

- Development of primary and secondary sexual characteristics
- Note that adolescents may present with symptom which may not be directly related to their concern, e.g. they may present with lack of sleep/concentration or difficulty to memorize even though they have concern about penile size (boys) or about breast size (girls).

Examination

- General physical condition (arrange for female guardian if a male person examines female client)
- Development of sexual characteristics

Within range of normal development

- Counsel adolescent about physical changes that occur during adolescence depending upon sex of the adolescent and that everybody goes through it
- Counsel that these changes are normal for healthy adolescent development
- Counsel him/her to adapt to these changes even if they appear a bit early or late
- Counsel them to stay healthy with exercise and nutritional diet

Delayed development

Refer flowchart: 5-2 or 5-3

Early (precocious) development

Refer flowchart: 5-2 or 5-3

5-6 GYNAECOMASTIA

Gynaecomastia

It refers to enlarged breast tissue in boys (men).

True G**ynaecomastia** is an enlargement of the male breast gland because of a hormonal imbalance, but the appearance of enlarged breasts may be ascribed to p**seudo-gynaecomastia** (or false Gynaecomastia)**/ lipomastia,** a symptom of excess fat which deposits on the chest. It can be common and temporary in boys going through puberty.

Symptoms

- Enlargement of the male breasts
- Symmetrical but can be unilateral
- Enlargement may be greater on one side even if both sides are involved
- Tenderness and sensitivity may be present

Causes

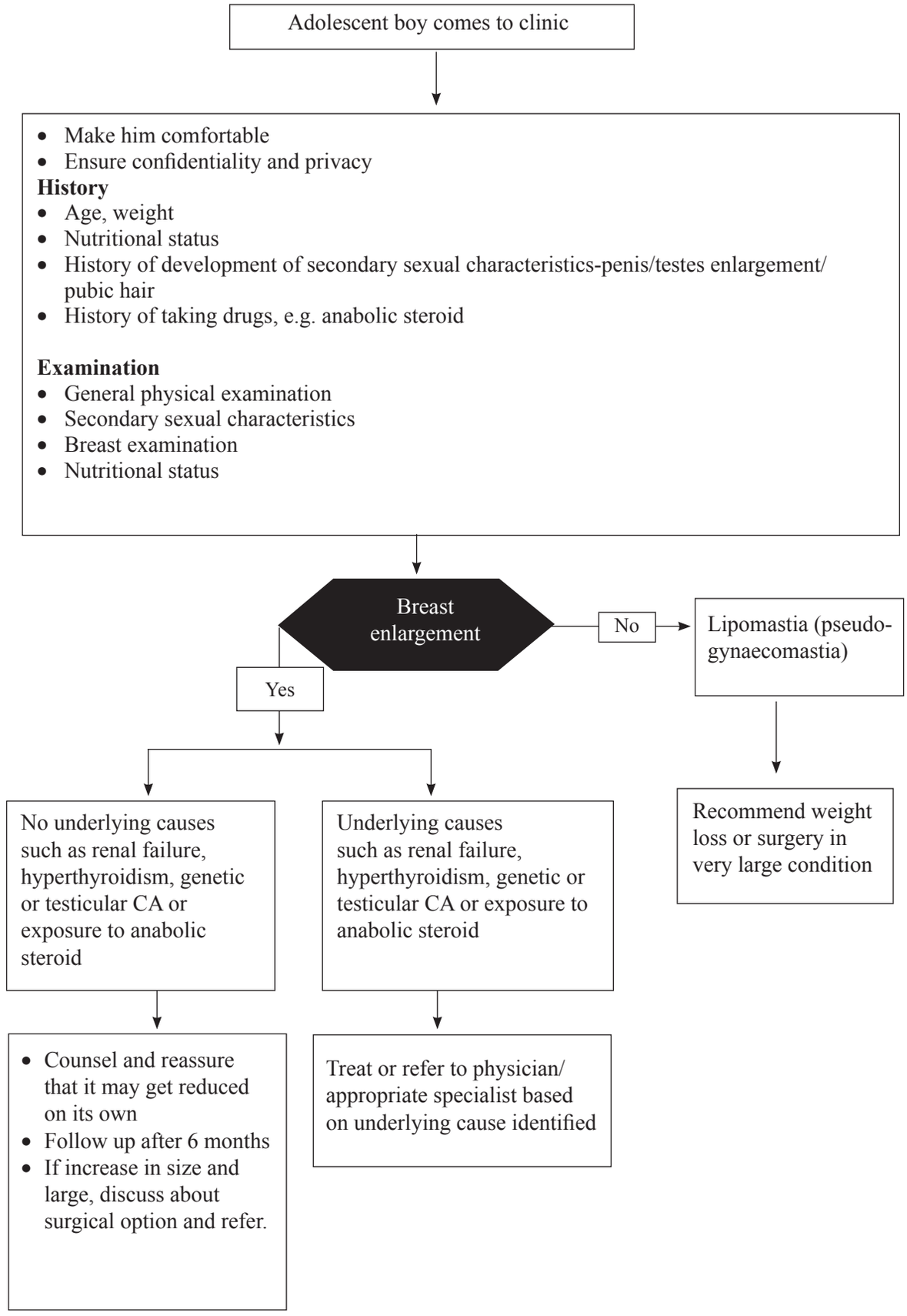
- Malnutrition and re-feeding (recovery from malnutrition)
- Cirrhosis of the liver leading to hormonal imbalance
- Disorders of the male sex organs (testes), may be genetic or due to testicular cancer
- Chronic renal failure and hyperthyroidism
- Medicines like spironolactone, calcium channel blockers, ACE inhibitors and some antibiotics

References

Howkins & Bourne. *Shaw's Textbook of Gynaecology.* 17th Edition

Algorithm for clinical evaluation and surgical treatment of gynaecomastia, Cordova A, Moschella F, J Plast Reconstr Aesthet Surg. 2008;61(1):41-9. Epub 2007 Nov 5

5-6 GYNAECOMASTIA



Section 6

PREVENTION AND MANAGEMENT OF INFERTILITY

6-1 PREVENTION AND MANAGEMENT OF INFERTILITY

Definition

- **Primary infertility** is failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. It is an infertility in a couple who never had a child.
- **Secondary infertility** is failure to conceive following a previous pregnancy, or when a woman is unable to bear a child, due to either the inability to become pregnant or the inability to carry a pregnancy to a live birth.
- **Fecundity** is the probability of achieving a livebirth within a single cycle. It is the rate of conception in a given period, which is about 20% in one month.

Incidence

Eighty percent of the couples achieve conception, if they so desire, within a year of regular and frequent intercourse (4–5 times a week), 10% achieve conception by the end of the second year. As such, 10% remain infertile by the end of the second year.

Causes

Female	Male	Combined
Ovarian: 21%	Oligospermia/Azoospermia: 26%	Unexplained: 24%
Tubal and peritoneal: 14%		Coital problems: 6%
Cervical: 3%		
Endometriosis: 6%		
Congenital uterine anomaly, blind vagina		

Initial evaluation

- Evaluation of both partners together
- Ensure privacy during evaluation, gaining the confidence of both partners
- Avoid assigning blame to any partners
- Careful inquiry on sexual history, frequency of intercourse, knowledge about fertile period

Prevention of infertility

- Prevention of STIs
- Early recognition and management of tuberculosis
- Early recognition and treatment of undescended testicles
- Avoid smoking, heavy drinking and drugs

Basic interventions should be tried for 6 months and couple should be referred for further investigations.

Initial counselling to couple concerned about delays in conception

- Definition of infertility
- Process of conception, chances of conception, fertile period
- Frequency and timing of sexual intercourse
- Avoid alcohol, smoking
- Avoid heat application on testes, tight underwear
- Obesity, low body weight
- Occupation
- Over-the-counter and recreational drug use
- Folic acid supplementation

Semen analysis

Should be collected after 2 days of abstinence and evaluated within 1 hour of ejaculation

Normal parameters

- Volume: 1.5ml
- Sperm concentration: 15 million/ml
- Total Sperm count: >40 million sperm per ejaculate
- Motility: 60%
- Pus cells (WBC): 2 to 3 per HPF
- Morphology: >40% normal forms

(Source: WHO, 2010)

Reference

Howkins & Bourne. *Shaw's Textbook of Gynaecology.* 17th Edition

World Health Organization reference values for human semen characteristics, Hum Reprod Update. 2010 May-Jun;16(3):231-45. doi: 10.1093/humupd/dmp048. Epub 2009 Nov 24.

6-1 PREVENTION AND MANAGEMENT OF INFERTILITY

Initial evaluation of both partners

History *(for female)*
- Age, occupation
- Contraceptive history
- Psychosocial history
- Menstrual history
- Previous pregnancies, including abortion
- Known children outside this (present) union
- Duration of marriage/staying together
- Sexual frequency
- Dyspareunia
- Substance abuse - smoking and alcohol drinking
- Milk secretion from breast, breast pain
- Any stress and anxiety

↓

Medical history should include
- STI or H/O discharge
- H/O previous curettage
- Pelvic Inflammatory Disease (PID)
- H/O allergy, drug taking like long-term steroids
- Tuberculosis, diabetes
- Abdominal or pelvic surgery
- Major medical problems (thyroid, pituitary)
- Familial genetic disease or infertility
- Psychological problems

↓

Physical examination for female
- Body weight
- Head-to-toe examination
- Development of secondary sexual characters and hair distributions
- Hirsutism
- Breast examination
- Abdominal examination
- Pelvic examination

↓

- Further counselling
- Referral for further investigation and management

History *(for male)*
- Age, occupation
- Medical and urologic history
- Duration of marriage/staying together
- Sexual frequency and timing
- Known children outside this (present) union
- Impotence or difficulty with intercourse
- Substance abuse: smoking and alcohol drinking
- Any stress and anxiety

↓

Medical history should include
- STI or H/O urethral discharge
- H/O allergy, taking drug like long-term steroids
- Diabetes, mumps, orchitis after puberty,
- Surgery on testes or hernia repair
- Major medical problems (thyroid, pituitary, recurrent chest infection)
- Familial genetic disease or infertility
- Psychological problems

↓

Physical examination for male
- Body weight
- Head-to-toe examination
- Development of secondary sexual characters and hair distribution
- Chromosomal problems and endocrinal problems
- Genital examination
  - Presence of both testes
  - Size of testes/tenderness
  - Hydrocele, varicocele
- Penis examination for phimosis, pus collection, hygiene condition

- Further counselling
- Referral for further investigation and management

Consider early referral when:
- Woman is more than 35 years
- A woman has a history of recurrent miscarriages
- There is medical history of endocrine disorder, genetic disorder, abnormal pelvic findings
- Man has erectile dysfunction
- A man is azoospermia

Section 7

SAFE ABORTION SERVICES

Safe abortion services is provided in listed health facilities by listed service providers only

7-1 IDENTIFICATION AND MANAGEMENT OF SAFE ABORTION COMPLICATION

Complications are rare during or after uterine evacuation, but they do occur. Major complications can sometimes be avoided by intervening at the right time with proper management. Incomplete abortion following spontaneous or induced abortion can be managed similarly.

Incomplete abortion

After uterine evacuation, some tissues may remain in the uterus. Large amounts of retained tissues can result in heavy bleeding and infection if untreated.

Signs and symptoms	Management
Vaginal bleeding	Expectant management
Abdominal pain with or without open cervical os.	Vacuum aspiration (for uterine size up to12 weeks' gestation)
	Management with tablet misoprostol single dose (uterine size <=12 weeks gestation) 400 µg –Sublingual or 600 µg- Oral
	Consider referral in difficult cases

Inclusion criteria	Exclusion criteria
• Cervical os is open • History of vaginal bleeding during this pregnancy • Uterine size <=12 weeks gestation • Woman medically stable **Precaution** • If IUCD in place: Remove before beginning the regimen	• Shock • Severe anaemia • Suspected ectopic pregnancy • Signs of pelvic infection and/or sepsis • Known allergy to misoprostol or other prostaglandin • Haemorrhagic disorder or current anticoagulant therapy

Haemorrhage

Haemorrhage may occur because of incomplete abortion, trauma or injury to the cervix, vagina or uterus, including perforation of the uterus. Infection or uterine atony might be associated.

Signs and symptoms	Management
• Heavy, prolonged bleeding PV • Pallor and weakness • Agitation or disorientation • Drop in blood pressure • Feeling dizzy or fainting • Rapid pulse and • Decreased urine output	• Prompt action to stop bleeding • Replace fluid or blood volume • Monitor blood pressure and heart rate, as shock may develop at any time • Oxygen administration • I/V antibiotics, if needed • Transfusion may be needed • Every service-delivery facility must be able to stabilize and treat or refer

Appropriate treatment for haemorrhage depends on its cause and severity, which includes:

- Re-evacuation of the uterus using MVA or misoprostol
- Administration of uterotonic drugs; Oxytocin 20 units in 1L IV at a rate of 60 drops per minute, maximum of 3L of fluid
- Uterine balloon tamponade
- Blood transfusion

Infection

The rate of infection after a safe first-trimester abortion is low, occurring in less than one in 100 women. Routine use of prophylactic antibiotics with MVA can decrease the rate even further.

Signs and symptoms	Immediate management
• Lower abdominal or pelvic pain • Vaginal bleeding • Fever and chills • Uterine or lower abdominal tenderness on exam • Cervical motion tenderness • Foul-smelling discharge	• Stabilize the woman; if required, provide IV fluid • If retained POCs are suspected to be a cause for infection, re-evacuate the uterus with MVA procedure • Start IV antibiotics

Delayed management

- Hemoglobin, total white blood cell count, differential count, platelet count, and high vaginal swab should be done.
- Treat with broad spectrum antibiotics as per national protocol.
- Evacuation of uterus with MVA after initial antibiotics are given.

If perforation or septic shock is suspected, refer woman under antibiotics to the higher health centre.

Cervical, Uterine or Abdominal Organ Injury, if suspected, refer

Signs and symptoms (during the procedure)	Signs and symptoms (post-procedure)
• Excessive vaginal bleeding • Sudden, excessive pain • Instruments pass further than expected • Aspirator vacuum decreases • Fat or bowel in aspirate • Shock	• Persistent abdominal pain • Rapid heart rate • Falling blood pressure • Pelvic tenderness • Fever and/or elevated white blood cell count • Shock

Management for persistent bleeding from the cervix

- Minor injury of the cervix: apply pressure only
- Repair of the cervix if tear is present

Management for uterine injury

- If perforation is suspected, stabilize and refer the woman to higher centre.

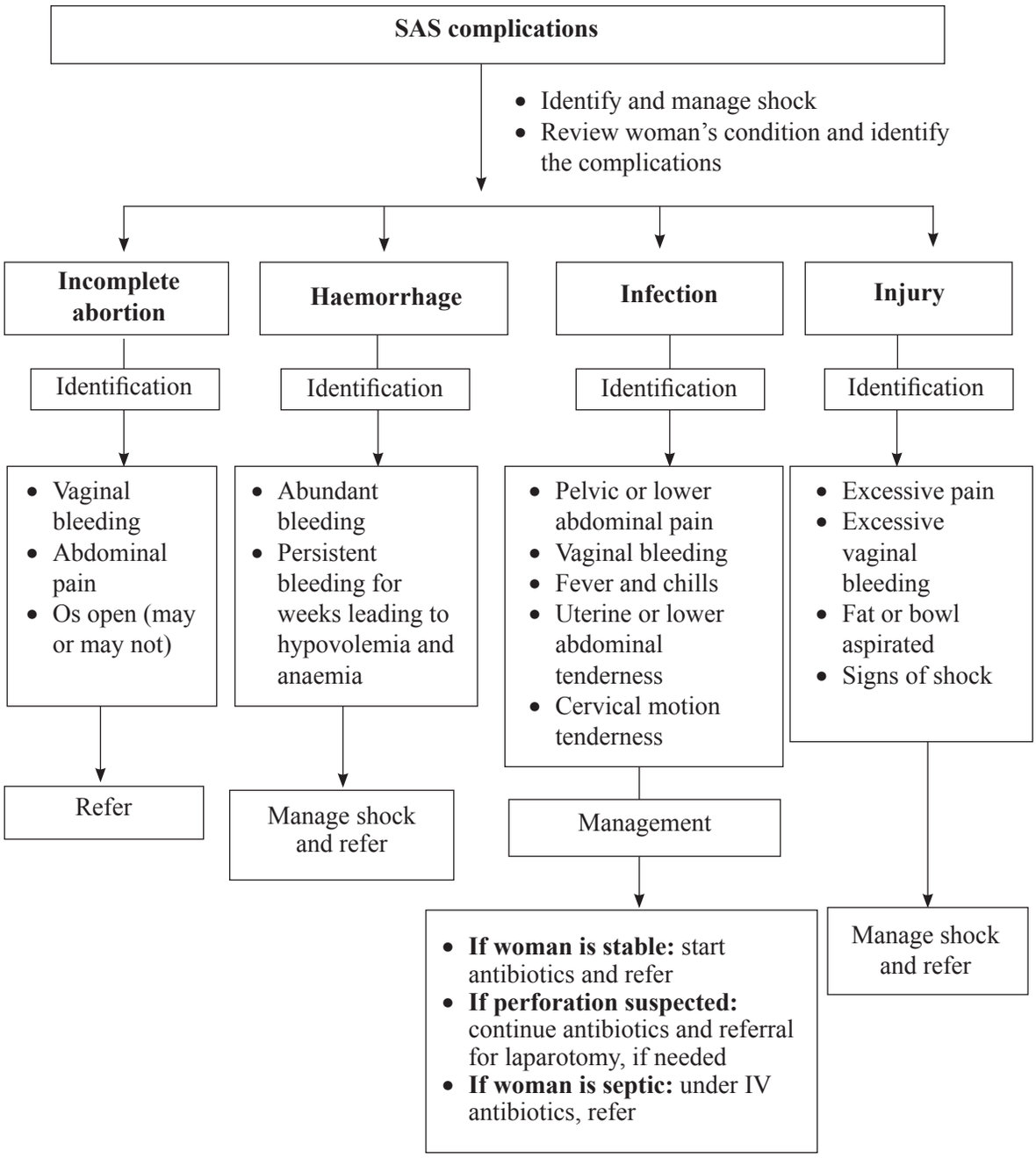
Reference

NHTC, FHD. 2015. *Comprehensive Abortion Care (Cac), Integrated Trainers' Manual, Third Edition, (2015)*. Kathmandu*:* National Health Training Center, Family Health Division.

WHO. 2014. *Clinical practice handbook for Safe abortion.* Geneva: World Health Organization

RCOG. March 2016. *Best practice in comprehensive post-abortion care, best practice paper no. 3.* London*:* The Royal College of Obstetricians and Gynaecologists

7-1 IDENTIFICATION AND MANAGEMENT OF SAFE ABORTION COMPLICATION



Note: Refer woman to the higher health centre for further management and surgical treatment whenever needed.

7-2 REFERRAL AND EMERGENCY RESPONSE SYSTEM FOR SAFE ABORTION SERVICE

Women may present for post-abortion care after spontaneous, safe, unsafe or self-induced abortion. Health-care provider must be able to recognize and be able to treat or to make the appropriate referral for SAS and for complications that might occur during an abortion and recovery period, in post-abortion care. Facilitating referral to services to meet women's needs is an important aspect of quality abortion care; however, social history (e.g. marital status) should not be used to create additional barriers to care. Strong and clear referral linkages to higher-level facility and backup care to emergency services must always be available.

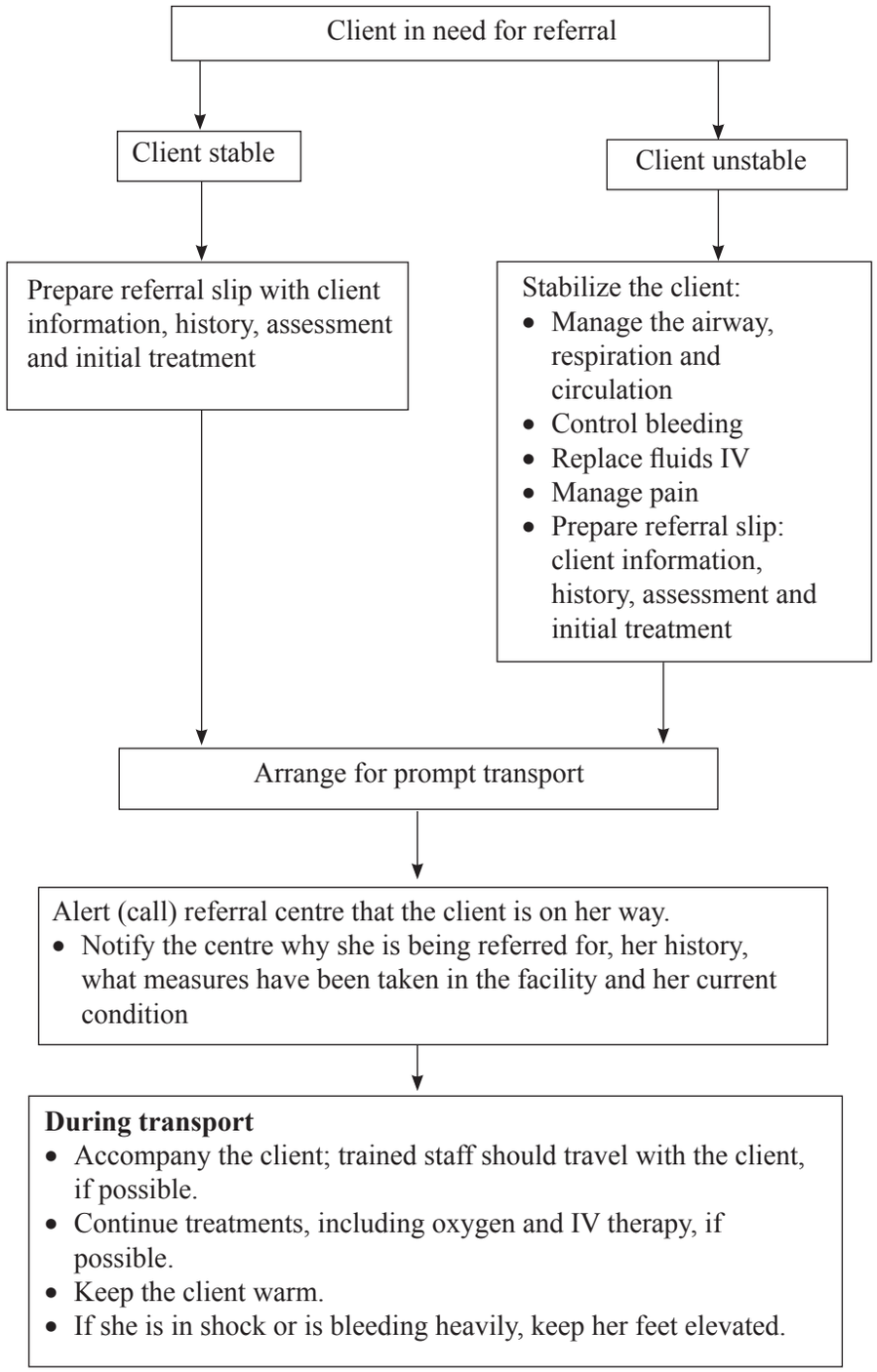
When a woman seeks post-abortion care, the following should be considered:

- Rapid initial assessment and stabilization of the woman.
- Complete clinical assessment, informed consent for continuing treatment. Well-trained service provider should be available for the treatment of complications, including shock. A referral system and transport are necessary in case of referral to a higher-level health centre.
- Supplies: Emergency cart or container with all the medicines and supplies needs to be ready
- Emergency response: Having plans for emergency response in advance saves time, prevents confusion and facilitates appropriate care in extremely urgent scenarios. It may include:
  - On-call health service provider
  - Referral MOU with the referral hospitals
  - Information sharing: If a woman is transferred to a referral hospital, call the referral hospital to notify them that the woman is being transported, why she is being referred for care, her history, what measures have been taken in the facility and her current condition
  - Receive follow-up: Develop a mechanism to receive records or verbal reports of a woman who received emergency care at the referral hospital so that the initial facility can stay informed of such cases and their outcome.
  - Links to communities**:** to prevent delays in getting women with emergencies to health services such as through community-based emergency transportation systems. Health facility staff can work with community health workers or local health volunteers to refer women in emergency situations to health care services.

Reference

WHO. 2014. *Clinical practice handbook for Safe abortion.* Geneva: World Health Organization.

7-2 REFERRAL AND EMERGENCY RESPONSE SYSTEM FOR SAFE ABORTION SERVICE



Note: Develop a mechanism to receive records or verbal reports of a woman who received emergency care at the referral hospital.

Annex 1

सम्वत् २०७५ सालको ऐन नं. ९
सुरक्षित मातृत्व तथा प्रजनन स्वास्थ्यको अधिकार सम्बन्धिमा व्यवस्था गर्न बनेको विधेयक

परिच्छेद ४
सुरक्षित गभनपतन

१५ सुरक्षित गर्भपतन गर्न पाउने: देहायको अवस्थामा गर्भवती महिलालाई सुरक्षित गर्भपतन गर्न पाउने अधिकार हुनेछ:

(क) गर्भवती महिलाको मञ्जुरीले बाह्र हप्तासम्मको गर्भ,

(ख) गर्भपतन नगराएमा गर्भवती महिलाको ज्यानमा खतरा पुग्न सक्छ वा निजको शारीरिक वा मानसिक स्वास्थ्य खराब हुन सक्छ वा विकलाङ्ग बच्चा जन्मन्छ भनी इजाजत प्राप्त चिकित्साको राय भई त्यस्ती महिलाको मञ्जुरी बमोजिम अट्ठाईस हप्तासम्मको गर्भ,

(ग) जवर्जस्ती करणी वा हाडनाता करणीबाट रहन गएको गर्भ गर्भवती महिलाको मञ्जुरीले अट्ठाईस हप्तासम्मको गर्भ,

(घ) रोग प्रतिरोधक क्षमता उन्मुक्ति गर्ने जीवाणु (एच.आई.भी.) वा त्यस्तै प्रकृतिको अन्य निको नहुने रोग लागेको महिलाको मञ्जुरीमा अट्ठाईस हप्तासम्मको गर्भ,

(ङ) भ्रूणमा कमीकमजोरी भएको कारणले गर्भनै नष्ट हुन सक्ने वा जन्मेर पनि बाँच्न नसक्ने गरी गर्भको भ्रूणमा खराबी रहेको, वंशाणुगत (जेनेटिक) खराबी वा अन्य कुनै कारणले भ्रूणमा अशक्तता हुने अवस्था रहेको भन्ने उपचारमा संलग्न स्वास्थ्यकर्मीको राय बमोजिम गर्भवती महिलाको मञ्जुरीमा अट्ठाईस हप्तासम्मको गर्भ ।

१६. बलपूर्वक गर्भपतन गराउन नहुने:

(१) दफा १५ मा उल्लेखित अवस्थामा बाहेक कसैले पनि गर्भपतन गर्न वा गर्भपतन गराउने नियतले वा गर्भपतन गराउनु हुँदैन ।

(२) कसैले गर्भवती महिलालाई करकाप गरी, धम्की दिई, ललाई फकाई गरी वा प्रलोभनमा पारी गर्भपतन गराउन हुदैन

(३) देहायको कुनै कार्य गरेमा बलपुर्वक गर्भपतन गराएको मानिन्छ ।

(क) उपदफा (२) बमोजिम गर्भपतन गराएमा,

(ख) कुनै रीसइवीले गर्भवती महिलालाई केही गर्दा गर्भ तुहिएमा

(ग) खण्ड (क) र (ख) बमोजिम कुनै कार्य गर्न सहयोग पुऱ्याएमा ।

(४) गर्भपतन गर्ने काम गर्दा तत्काल गर्भपतन नभई बच्चा जिउँदो जन्मी त्यस्तो कामको परिणाम स्वरूप जन्मिएको बच्चा तत्काल मरेमा यस दफाको प्रयोजनको लागि गर्भपतन गराएको मानिनेछ ।

१७. लिङ्ग पहिचान गरी गर्भपतन गर्न नहुने:

(१) कसैले गर्भमा रहेको भ्रूणको लिङ्ग पहिचान हुने कुनै कार्य गर्न वा गराउन हुदैन ।

(२) गर्भवती महिलालाई गर्भको लिङ्ग पहिचान गर्न डर वा त्रास देखाई वा करकाप गरी वा धम्की दिई वा ललाई फकाई वा प्रलोभनमा पारी वा अनुचित प्रभाव, झुक्यानमा पारी, जोर जुलुम गरी दबाब दिन वा बाध्य पार्न हुदैन ।

(३) उपदफा (१) र (२) बमोजिम लिङ्ग पहिचान गरी गर्भपतन गर्न गराउन हुदैन ।

१८. सुरक्षित गर्भपतन सेवा:

(१) तोकिएको मापदण्ड र योग्यता पूरा गरेका इजाजत प्राप्त स्वास्थ्यकर्मीले गर्भवती महिलालाई दफा १५ बमोजिमको सुरक्षित गर्भपतन सेवा उपलब्ध गराउनु पर्नेछ ।

(२) उपदफा (१) बमोजिम उपलब्ध गराउने सेवाको उपयुक्त प्रविधि र प्रक्रिया तोकिए बमोजिम हुनेछ ।

(३) सुरक्षित गर्भपतनको सेवा प्राप्त गर्न चाहने गर्भवती महिलाले इजाजत प्राप्त स्वास्थ्य संस्था वा इजाजत प्राप्त

स्वास्थ्यकर्मीलाई तोकिए बमोजिमको ढाँचामा मञ्जुरीमा दिनु पर्नेछ ।

(४) उपदफा (३) मा जुनसुकै कुरा लेखिएको भए तापनि होस ठेगान नभएको, तत्काल मञ्जुरी दिन नसक्ने अवस्था भएको वा अठार वर्ष उमेर पूरा नगरेको गर्भवती महिलाको हकमा निजको संरक्षक वा माथवरले मञ्जुरीनामा दिन सक्नेछ ।

(५) उपदफा (४) मा जुनसुकै कुरा लेखिएको भए तापनि अठार वर्षभन्दा कम उमेरकी गर्भवती महिलाको हकमा निजको सर्वोत्तम हितलाई ध्यानमा राखी सुरक्षित गर्भपतन सेवा प्रदान गर्नु पर्नेछ ।

१९. गोपनीयता कायम राख्नु पर्ने:

(१) इजाजत प्राप्त स्वास्थ्य संस्था वा इजाजत प्राप्त स्वास्थ्यकर्मीले गर्भवती महिलाको प्रजनन् स्वास्थ्यसँग सम्बन्धित सूचना, कागजात तथा निजलाई प्रदान गरिएको परामर्श र सेवासम्बन्धी सबै अभिलेख गोप्य राख्नु पर्नेछ ।

(२) उपदफा (१) मा जुनसुकै कुरा लेखिएको भए तापनि देहायको अवस्थामा त्यस्ता सूचना, कागजात तथा परामर्शसम्बन्धी अभिलेख उपलब्ध गराउन सकिनेछ:

(क) कुनै मुद्दा मामिलाको अनुसन्धान तथा सुनुवाईको सिलसिलामा अनुसन्धान अधिकारी वा अदालतबाट जानकारी माग भएमा,

(ख) सुरक्षित गर्भपतन सेवा सम्बन्धी अध्ययन अनुसन्धान वा अनुगमानको उद्देश्यले सम्बद्ध महिलाको परिचय नखुल्ने गरी उद्धरण गर्न,

(ग) सम्बन्धित महिला स्वयंले यस सम्बन्धी अभिलेख माग गरेमा ।

Section 8

COMMON GYNECOLOGICAL PROBLEMS

8-1 ABNORMAL UTERINE BLEEDING

Definition

Abnormal uterine bleeding (AUB) may be defined as any variation from the normal menstrual cycle and includes changes in regularity and frequency of menses, in duration of flow, or in amount of blood loss.

Causes

Adolescents and reproductive age group

- Hormonal imbalance
- Benign pathology such as polyp, adenomyosis, fibroid uterus, pelvic infections, etc.
- Bleeding related to abortion
- Bleeding related to contraceptives such as implants/depot medroxyprogesterone acetate (DMPA)/intrauterine contraceptive device (IUCD)
- Malignant conditions like cancer cervix, endometrial cancerMedical disorders such as thyroid dysfunction, bleeding disorder

Perimenopause and post-menopause group

- Hormonal imbalance, benign pathology such as fibroid uterus, pelvic infection, adenomyosis, etc
- Malignant conditions of genital tract such as cervical and endometrial cancer

PALM-COEIN FIGO classification of AUB

- **P**olyp
- **A**denomyosis
- **L**eiomyoma
- **M**alignancy and hyperplasia
- **C**oagulopathy
- **O**vulatory dysfunction
- **E**ndometrial Cancer
- **I**atrogenic, and
- **N**ot classified bleeding related to abortion

History

- Menstrual history, associated symptoms such as post coital bleeding, intermenstrual bleeding, and pelvic pain
- Dyspareunia and vaginal discharge
- Symptoms suggestive of thyroid disorders, e.g. weight gain, mood changes
- Contraceptive history particularly, use of IUCD/DMPA/implant
- Coagulopathies

General examination

- Weight, pulse, blood pressure and anaemia
- Presence of thyroid swelling
- Oedema of feet
- Hirsutism

Abdominal examination

- Any abdominal distention
- Any palpable abdominal mass

Local examination: per speculum (PS), per vaginal (PV)

- Speculum examination to rule out cervical pathology
- Bi-manual pelvic examination to assess the size of uterus and any adnexal mass

Investigations (if facilities available)

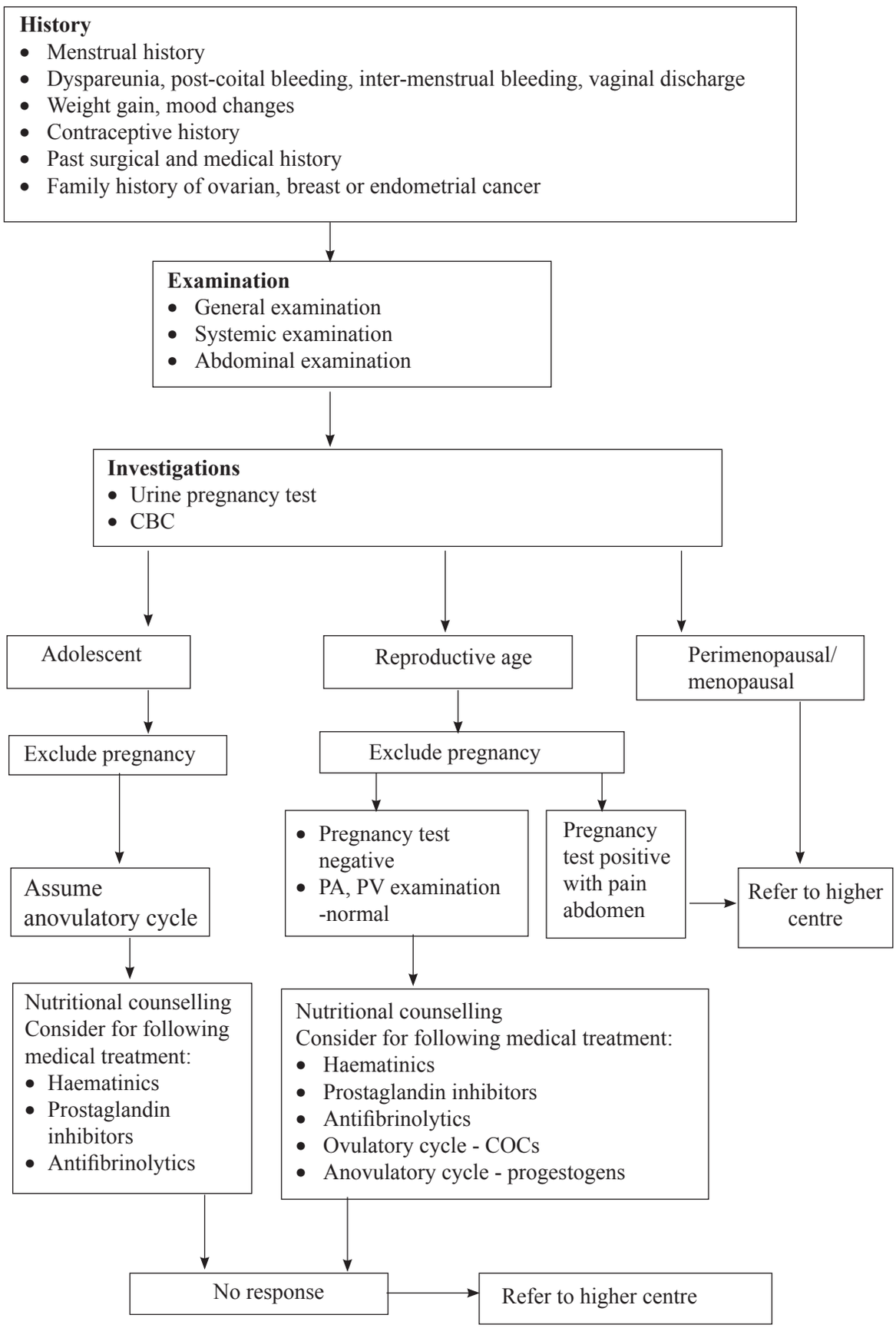
- Complete Blood Count (CBC)
- Coagulation Profile: bleeding time (BT), clotting time (CT), prothrombin time (PT)
- Thyroid function test (TFT), ultrasonography (USG) (if facilities are available)

Note: Treat anaemia with haematinics; provide nutritional counselling

References

FIGO Working Group on Menstrual Disorders. 2011. *FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding in nongravid women of reproductive age.* International Federation of Gynaecology and Obstetrics.
ACOG. 2013. *Management of acute abnormal uterine bleeding in non-pregnant reproductive aged women.* American College of Obstetricians and Gynaecologists
Howkins& Bourne. *SHAW'S Textbook of Gynaecology.* 17th Edition

8-1 ABNORMAL UTERINE BLEEDING



8-2 AMENORRHOEA

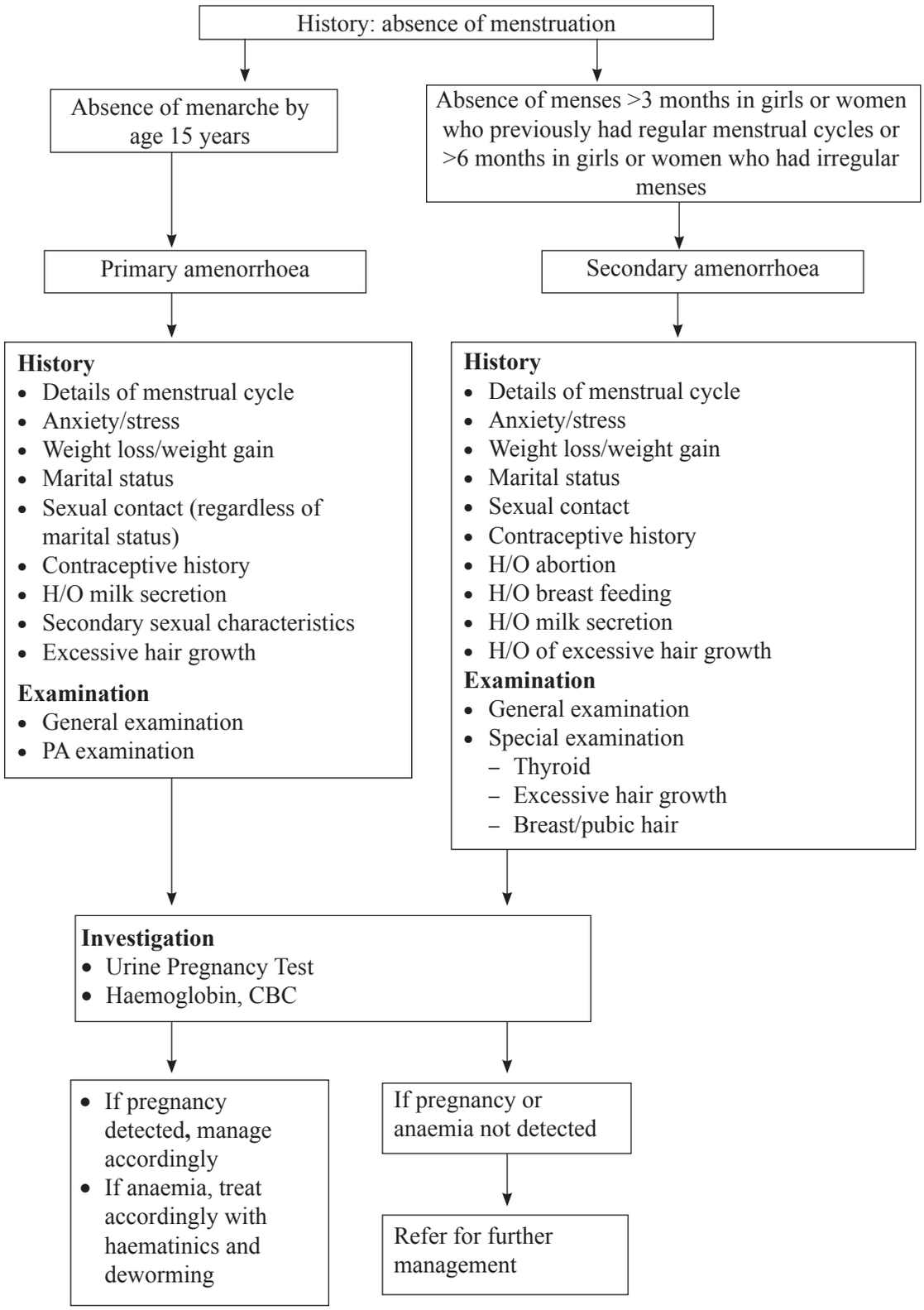
Definition
Amenorrhoea is absence of menstruation. It is often classified as either primary (absence of menarche by age 15 years) or secondary (absence of menses for more than three months in girls or women who previously had regular menstrual cycles or six months in girls or women who had irregular menses). Missing a single menstrual period may not be important to assess, but amenorrhoea lasting three months requires investigation.

Causes of primary amenorrhoea
- Constitutionally delayed puberty
- Congenital abnormalities such as
  - imperforate hymen
  - uterine agenesis
- Poor nutritional status, weight loss
- Ovarian pathology

Causes of secondary amenorrhoea
- Pregnancy
- Anovulation
- Polycystic ovarian syndrome (PCOS)
- Lactation amenorrhoea
- Depot medroxyprogesterone acetate (DMPA) or implants
- Extremely poor nutritional status (anorexia nervosa)
- Severe anaemia
- Stress, anxiety, emotional upset
- Hypothyroidism
- Tuberculosis
- Pituitary tumours
- Sheehan's syndrome (history of postpartum haemorrhage)
- Asherman's syndrome (uterine synechiae due to vigorous curettage)

Reference
Howkins& Bourne. *SHAW'S Textbook of Gynaecology.* 17th Edition

8-2 AMENORRHOEA



8-3 DYSMENORRHOEA

Definition
Dysmenorrhoea is defined as a painful menstruation. It can be primary or secondary.

Primary dysmenorrhoea is menstrual pain without organic disease and is usually due to ovulatory cycles, and **secondary dysmenorrhoea** is menstrual pain associated with an identifiable disease. Common causes of secondary dysmenorrhoea include endometriosis, fibroids (myomas), adenomyosis, endometrial polyps, pelvic inflammatory disease, and the use of an intrauterine contraceptive device.

Differential diagnosis of primary and secondary dysmenorrhoea

Primary dysmenorrhoea	Secondary dysmenorrhoea
Onset shortly after menarche	Onset can occur any time after menarche (typically after 25 years of age)
Lower pelvic or abdominal pain is usually associated with onset of menstrual flow and lasts 8-72 hours	Women may complain of change in time of pain onset during menstrual cycle or in intensity of pain
Back and thigh pain, headache, diarrhoea, nausea, and vomiting may be present	Other gynaecological symptoms (such as dyspareunia, menorrhagia) may be present
No abnormal findings on examination	Pelvic abnormality on physical examination

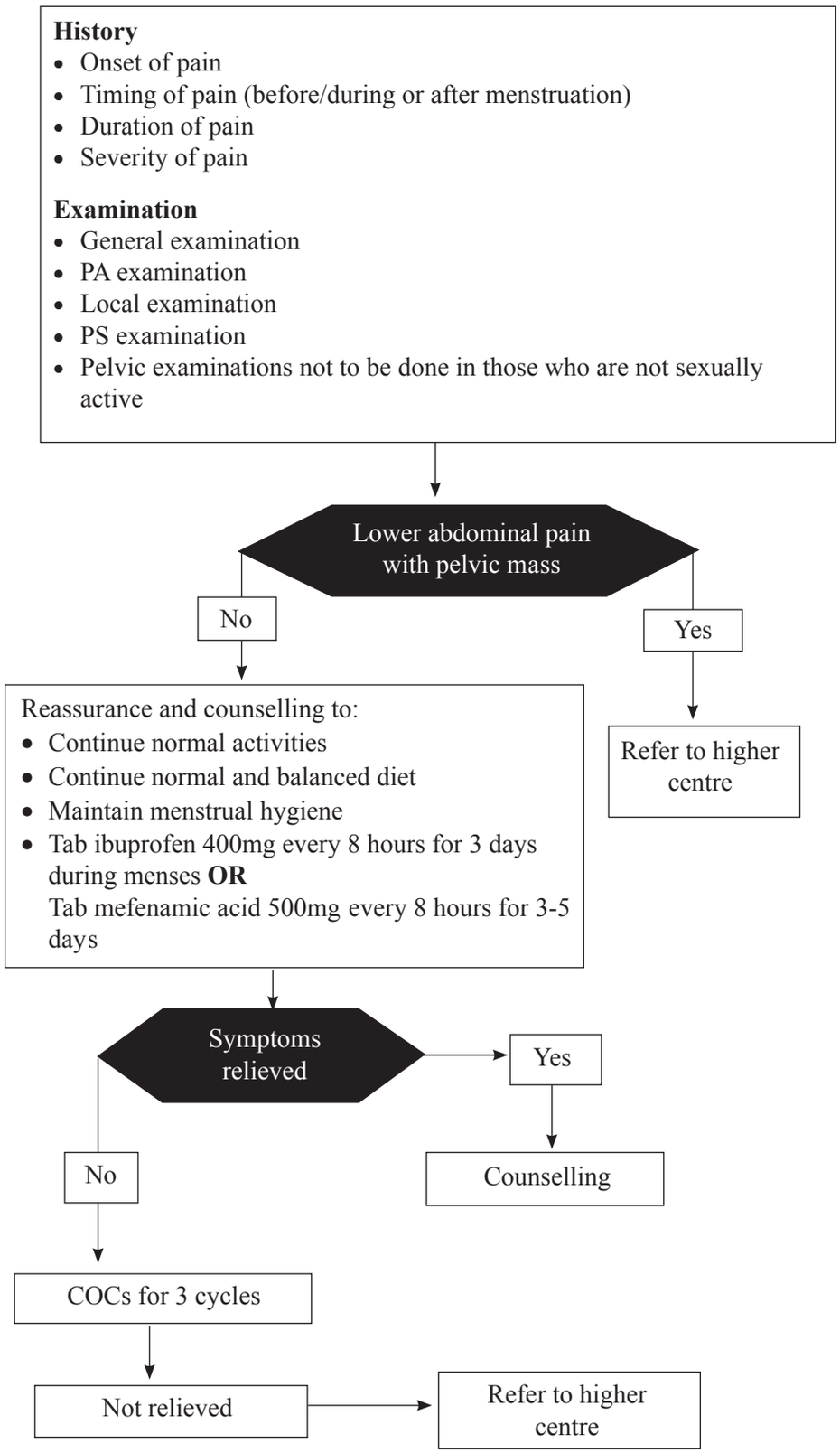
Diagnosis
- History
- Physical examination, if indicated
- Consider pelvic ultrasound if secondary dysmenorrhoea is suspected. Patients who are at risk of STIs should have appropriate swabs taken.

Causes
- Primary dysmenorrhoea is usually due to ovulatory cycles
- Secondary dysmenorrhoea may be due to:
  - Endometriosis
  - Tubo-ovarian mass
  - Ovarian cyst
  - Congenital anomaly of uterus
  - Cervical stenosis

Management
Treatment for dysmenorrhoea aims to relieve pain or symptoms either by affecting the physiological mechanisms behind menstrual pain (such as prostaglandin production) or by relieving symptoms. Treatments such as paracetamol, aspirin, and NSAIDs work by reducing the activity of cyclo-oxgenase pathways, thus inhibiting prostaglandin production. Treatments such as oral contraceptives work by inhibiting ovulation.

Reference
Howkins& Bourne. *SHAW'S Textbook of Gynaecology.* 17th Edition

8-3 DYSMENORRHOEA



8-4 MENOPAUSE-RELATED PROBLEMS

Definition
Menopause: is defined as cessation of menstruation for at least 12 consecutive months, without another reason for amenorrhoea (such as pregnancy and delivery, hormone therapy, other medical or surgical conditions). The average age of menopause is 48-50 years.

Symptoms
- Irregular, infrequent periods (peri-menopausal women)
- Hot flushes, night sweats
- Anxiety/irritability/mood swings
- Vaginal discomfort, dyspareunia, decreased sexual desire
- Dysuria/recurrent urinary tract infection (UTI)

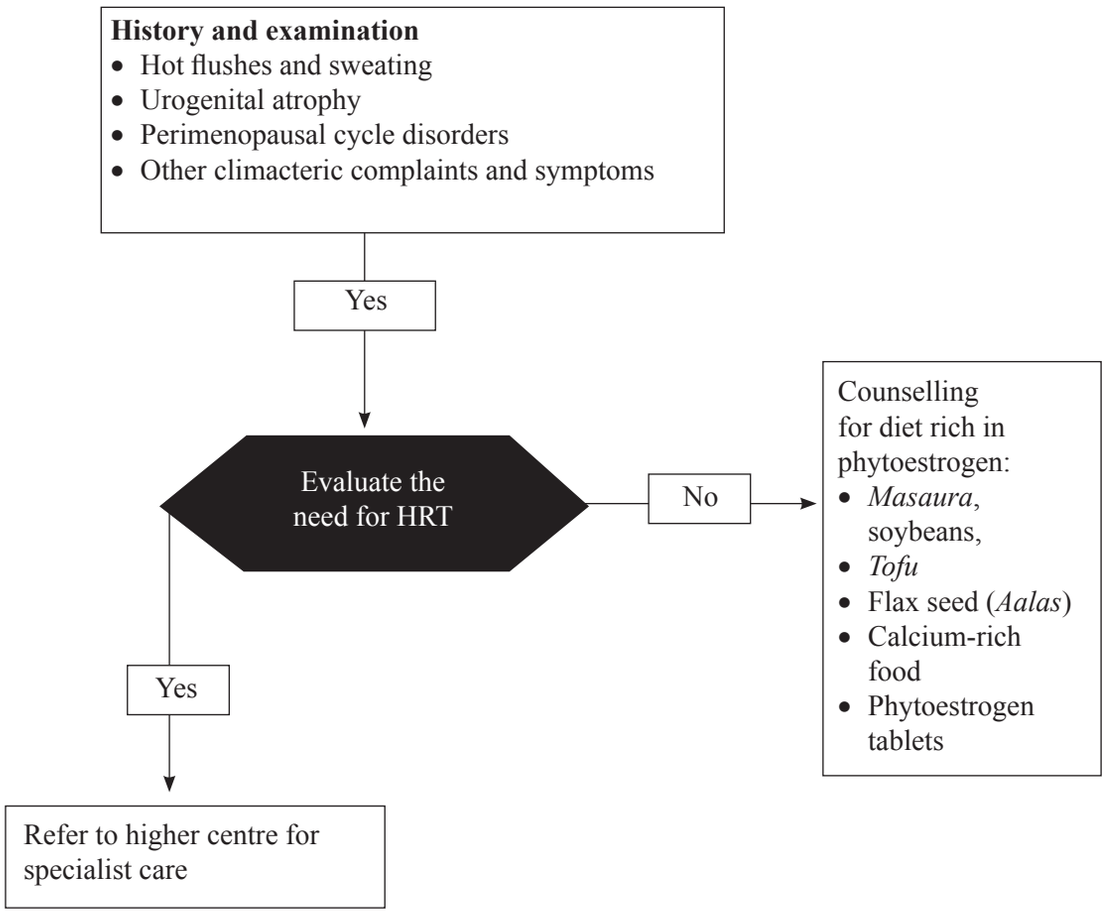
Concerns
Osteoporosis (fractures), cardiovascular risks, dementia, diabetes mellitus (DM), obesity

Initial assessment
History
- Presenting complaint
- Specific menopausal symptoms
- Detailed gynaecological history and menstrual pattern
- Previous medical and family history, including thrombo-embolic disease, liver disease, hypertension/heart disease diabetes, breast or ovarian cancer
- General inquiry about lifestyle such as nutrition, exercise, smoking, and alcohol

Examination
- Height, weight, nutritional status, blood pressure
- Thyroid and breast
- Abdominal examination
- Pelvic examination to look for atrophic changes in vagina, genital prolapse, examination for stress incontinence, assessment for pelvic mass, and screening for cervical cancer.

Reference
Howkins& Bourne. *SHAW'S Textbook of Gynaecology.* 17th Edition

8-4 MENOPAUSE-RELATED PROBLEMS



8-5 BREAST-RELATED PROBLEMS

Breast lumps are a common complaint among women. Approximately 90% of these lesions will be benign, with fibro adenomas and cysts being the most common. However, breast cancer must be ruled out, as one in ten women who present with a new lump will have cancer.
Painful breast is also common among women and may or may not present with lumps. It can also be associated with menstrual cycle.

History
- Characteristics of mass: location and duration of lump
- Changes in size: variation with menstrual cycle
- Pain, swelling, erythema, nipple discharge or inversion, dimpling or pitting of breast skin
- Recent breast trauma, breastfeeding
- Menstrual history
- Age at menarche, menopause, first childbearing
- Medical, surgical history
- Radiation exposure
- Family history of breast or ovarian cancer
- Personal history of breast biopsy or surgery
- Smoking
- History of hormone replacement therapy (HRT), drugs known to cause gynaecomastia by increasing prolactin (cimetidine, ranitidine, nifedipine, antiretroviral drugs)

Physical examination
A complete clinical breast examination (CBE) includes an assessment of both breasts and the chest, axillae, and regional lymph nodes. In pre-menopausal women, the CBE is best done the week following menses, when breast tissue is least engorged.

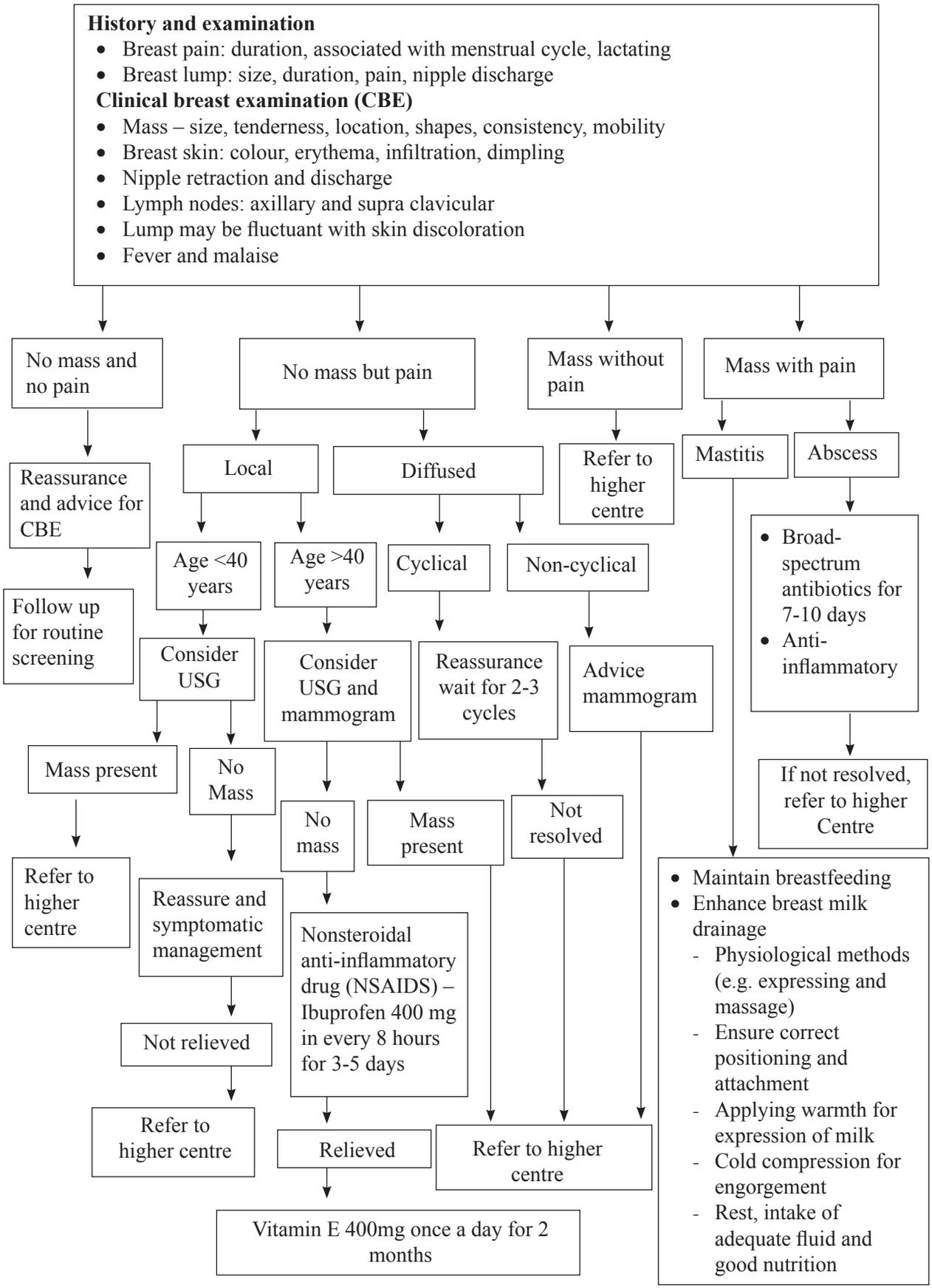
Systematic approach
- Visual inspection with patient in sitting and supine position
- Patient in supine position with one arm raised – palpate tissue in superficial, intermediate and deep tissue planes
- Examination of axilla, supraclavicular area, neck, and chest wall
- Inspection of nipples for discharge

Search for a suspicious lesion
- General "lumpiness" is normal.
- If no dominant mass on examination, consider ultrasound or mammogram based on patient's age and refer to a specialist.
- If suspicious lesion is found, refer for further management (fine needle aspiration cytology (FNAC), ultrasonography and/or mammography).

Investigations of breast lump
- USG of breast preferable in women less than 40 years
- Mammogram of breast preferable in women more than 40 years
- Fine needle aspiration cytology and/or biopsy, diagnostic aspiration: abscess, cyst

References
Klein, S. *Evaluation of Palpable Breast Masses.* American Family Physician. 2005; 71(9)1731-1738
Global Library of Womens Medicine/Sapiens. 2012. Van Beekhuizen, Heleen and Unkels, Regine (eds). *Textbook of gynecology for less-resourced locations.* London.
DC Dutta's. *Textbook of Gynaecology.* 7th Edition, 2016
Howkins& Bourne. *SHAW'S Textbook of Gynaecology.* 17th Edition

8-5 BREAST-RELATED PROBLEMS



Note: CBE can be done anytime but is best done the week following menses, when breast tissue is least engorged

8-6 URINARY INCONTINENCE AND OBSTETRIC FISTULA

Definition
Urinary incontinence is an involuntary leakage of urine which is objectively demonstrable and a social and hygiene problem.

Common causes for urinary incontinence include:
1. Urethral cause:
   - Urethral sphincter incompetence (genuine stress incontinence, GSI)
   - Overactive bladder (detrusor instability)
   - Retention with overflow
   - Miscellaneous, e.g. drugs and urinary tract infections
   - Functional – psychosomatic
2. Extra-urethral cause:
   - Congenital, e.g. ectopic ureter, bladder extrophy
   - Fistula (ureteric, vesicle, urethral)

The main causes of urinary incontinence are GSI, an overactive bladder and obstetric fistula.

History
- Frequency, nocturia, urgency, urge incontinence, stress incontinence, voiding patterns, drinking habits, drugs, medical problems, quality of life.
- Labour history: duration
- Onset of incontinence after delivery

Physical examination: General, abdominal, pelvic: atrophic vaginitis, uterine descent, vaginal wall prolapse. If visible leaking seen from vagina, counselling for: urine examination

Conservative management
- Counselling for behavioural changes
  - Adequate water (1.5L/day)
  - Manage constipation
  - Pelvic floor exercises
- Bladder retraining: instructing patient to void at predetermined intervals. Pelvic floor exercises - Kegel's exercise

Obstetric fistula

Obstetric fistula (OF) occurs when open defects between the female genital organs and adjacent urinary and colorectal tracts create urinary or fecal incontinence. These defects, literally holes, allow urine or stool to leak into the vagina. In developing nations, where pregnant women often give birth with minimal or no obstetric care, fistula most often occur as a result of several days of prolonged or obstructed labour.

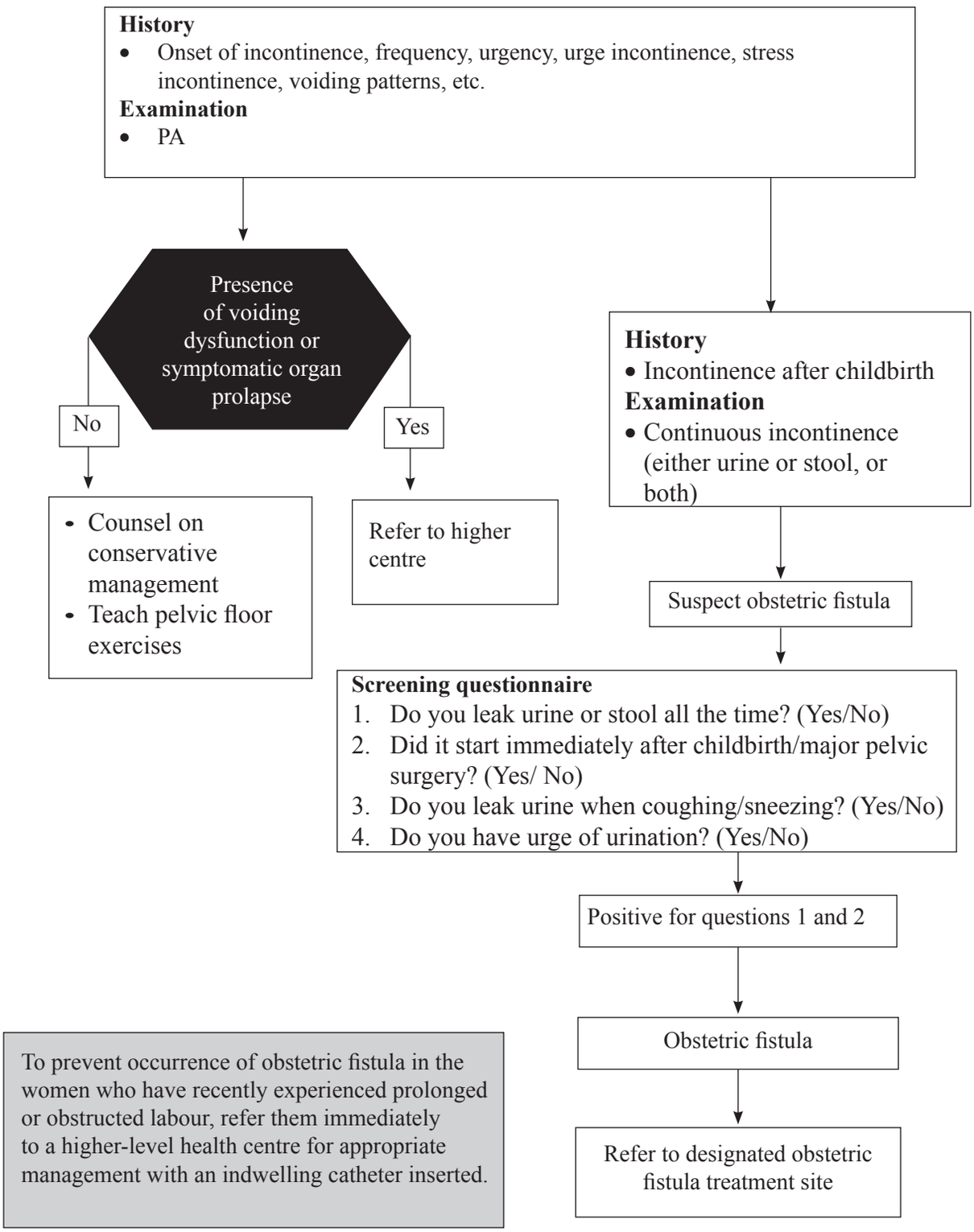
Screening of women with obstetric fistula has to be done through the below-listed four questions:

1. Do you leak urine or stool all the time? (Yes/No)
2. Did it start immediately after childbirth/major pelvic surgery? (Yes No)
3. Do you leak urine when coughing/sneezing? (Yes/No)
4. Do you have urge of urination? (Yes/No)

Women who are positive for question 1 and 2 are likely to have fistula.

Reference
NHTC. March 2015.*Management of Obstetrics Fistula for Health Care Providers Reference Manual.* Kathmandu: National Health Training Center

8-6 URINARY INCONTINENCE AND OBSTETRIC FISTULA



Section 9

GENDER BASED VIOLENCE

9-1 IDENTIFICATION OF GENDER-BASED VIOLENCE SURVIVORS

Definition

"Violence that is directed against a woman because she is a woman or violence that affects women disproportionately. It includes acts that inflict physical, mental, or sexual harm or suffering, threats of such acts, coercion and other deprivations of liberty.[1]" Gender-based violence (GBV) is a grave social and human rights concern.

Background

NDHS 2016: Key findings

- **22%** of women have ever experienced **physical violence** since age 15.
- **7%** of women have ever experienced **sexual violence**.
- **26%** of ever-married women have experienced **spousal violence**, whether physical, sexual, or emotional.
- **22%** of women who have experienced physical or sexual violence have **sought help**.
- **66%** of women never tell anyone about their experiences or seek help.

Classification:

- Sexual violence:
  - Rape
  - Sexual assault
- Physical assault
- Forced marriage
- Denial of resources
- Psychosocial/emotional abuse

Health service provider's role

Health service providers may be the survivor's "first point of contact" and their role is to:

- Identify the survivor *(see box no. 9.1)*
- Provide care to the survivor (treatment and psychosocial counselling)
- Forensic evidence collection (medico-legal information)
- Recording and reporting
- Make appropriate referrals (multi-sectorial networks such as higher health facility, civil society organizations at central, provincial, local and community levels, shelter, rehabilitation centres
- Multi-sectoral coordination

High-risk individuals

- Unaccompanied women
- Single female who is head of household
- Children and young adults
- Children in foster care
- Physically and mentally disabled men and women
- The homeless or poor
- Individuals in prison or held in detention
- Individuals with a past history of rape or sexual abuse
- Individuals in an abusive intimate or dependent relationship
- Victims of war or armed conflict situations

Reference

MoHP. 2015 .*Clinical Protocol for Gender Based Violence.* Kathmandu: Ministry of Health and Population.

WHO.2018. *Family Planning: A Global Handbook for Providers,* 2018 Edition. Baltimore and Geneva: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project.

WHO. September 2014. *Health care for women subjected to intimate partner violence or sexual violence: a clinical handbook.* Geneva: World Health Organization.

[1] https://www.ohchr.org/EN/Issues/Women/Pages/VaW.aspx

9-1 IDENTIFICATION OF GENDER-BASED VIOLENCE SURVIVORS

Box 9.1

Suspect a woman has been subjected to violence if she has any of the following symptoms:

- Symptoms of depression, anxiety, post-traumatic stress disorder, or sleep disorders
- Suicidal tendency or ideation or self-harm
- Alcohol or other substance abuse
- Unexplained chronic gastrointestinal symptoms
- Unexplained reproductive symptoms, including pelvic pain and sexual dysfunction
- Adverse reproductive outcomes, including multiple unintended pregnancies or terminations, or both, delayed pregnancy care, or adverse birth outcomes
- Unexplained Genitourinary symptoms, including frequent bladder or kidney infections
- Repeated vaginal bleeding and STIs
- Chronic pain (that is vague and clinically unexplained)
- Traumatic injury, particularly if repeated and with vague or implausible explanations
- Problems with the central nervous system; headaches, cognitive problems, or hearing loss
- Repeated health consultations with no clear diagnosis
- Intrusive partner or husband in consultations

Box 9.2

Health service providers should ask all clients about violence

Health care providers should routinely ask all clients about violence only if they are trained in asking about violence and offering first-line support, if privacy and confidentiality can be ensured, and if referral linkages to other support services are in place.

9-2 MANAGEMENT OF ADULT SURVIVORS

Medical management of adult GBV survivors involves evaluation of the survivor regarding treating injuries, infections and other consequences that occur because of the GBV as well as documentation of medico-legal evidence. The management of medical emergencies should be a priority, but at the same time, the time-dependent preventive treatments (e.g. emergency contraception) should also be provided.

Sexual assault is a traumatic experience, both emotionally and physically. Survivors may have been sexually assaulted by one or several people and in different circumstances, once or repeatedly over a period. Therefore, it is very important that an examiner understands that the survivors may react in different ways. The manner in which they react may be affected by the way in which they are received and treated by the law enforcement officers and the medical community. Hence, it is important to conduct these examinations in an empathetic, understanding, ethical and non-judgmental manner, which would give them confidence and reassurance. This approach helps the health worker establish a rapport with the survivor, which leads to a higher quality medico-legal examination and management.

The responsibility of the examiner is to follow the national guidelines and protocol for providing the survivor with appropriate care, documenting the findings, and finally sending a comprehensive report with an opinion to a court of law to help in the administration of justice, as needed and requested by the survivor and appropriate referral, as needed.

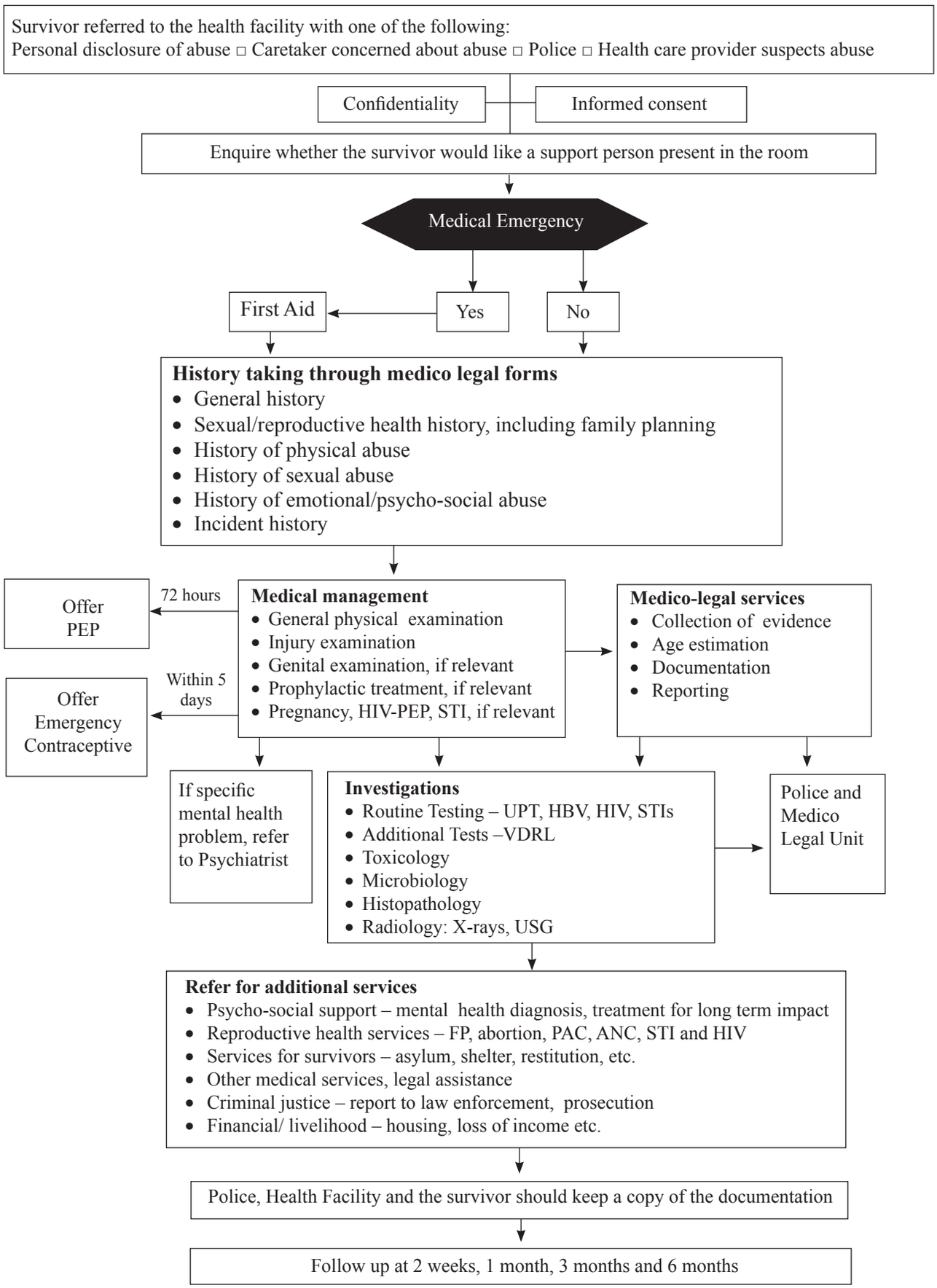
Guiding principles in working with GBV survivors

- Confidentiality and privacy
- Right to information
- Ensure safety
- Empowering the survivor
- Gender sensitivity and equity

References

MoHP. 2015. *Clinical Protocol for Gender Based Violence.* Kathmandu. Ministry of Health and Population.
WHO. September 2014. *Health care for women subjected to intimate partner violence or sexual violence: a clinical handbook.* Geneva: World Health Organization.

9-2 MANAGEMENT OF ADULT SURVIVORS



9-3 MANAGEMENT OF CHILDREN AND ADOLESCENT SURVIVORS

Children around the world including Nepal experience violence in a range of settings including at home and in the family, in schools and other educational settings, in care and justice systems, in workplaces and in the community. The consequences of violence against children include both the immediate personal impacts and the damage that they carry forward into later childhood, adolescence and adult life. Despite its devastating consequences on the child's physical, psychological, behavioural, and economic life, these experiences often remain unnoticed and under-reported at home or at health facility unless in extreme conditions.

The potential for damage to the child increases with increasing frequency and severity of victimization over time. Therefore, it is important to identify violence as early as possible and intervene to stop it. Health care providers have an important role in child protection because, except in very remote rural areas, infants and small children are usually taken to the health centre on a routine basis. Health service providers should be aware of the following physical and behavioural problems to watch for in children to identify survivors of GBV.

Physical Indicators	Behavioural Indicators
Unexplained genital injury	Regression in behaviour, or attaining developmental milestones
Recurrent vulvo-vaginitis	Problems at school-academic deterioration, school refusal/ avoidance
Vaginal or penile discharge	Isolation
Bedwetting and faecal soiling beyond the usual age	Restlessness, irritability and aggressive behaviour
Anal complaints (e.g. fissures, pain, bleeding)	Acute traumatic response such as clingy behaviour and irritability in young children
Pain on urination	Sleep disturbances
Urinary tract infection	Eating disorders
STIs	Depression
Pregnancy/presence of sperm	Poor self-esteem
	Inappropriate sexualized behaviours
	Suicidal/homicidal thoughts

Special consideration should be made during the management of children and adolescent survivors, special attention should be taken while taking consent. There are some injuries, which are very highly or moderately specific to child abuse. Children and adolescent with severe medical complications like convulsion, persistent vomiting, and stridor in a calm child, lethargy or unconsciousness, inability to drink or breastfeed need to be admitted.

Reference

MoHP. 2015. *Clinical Protocol for Gender Based Violence.* Kathmandu. Ministry of Health and Population.
WHO. September 2014. *Health care for women subjected to intimate partner violence or sexual violence: a clinical handbook.* Geneva: World Health Organization.

9-3 MANAGEMENT OF CHILDREN AND ADOLESCENT SURVIVORS