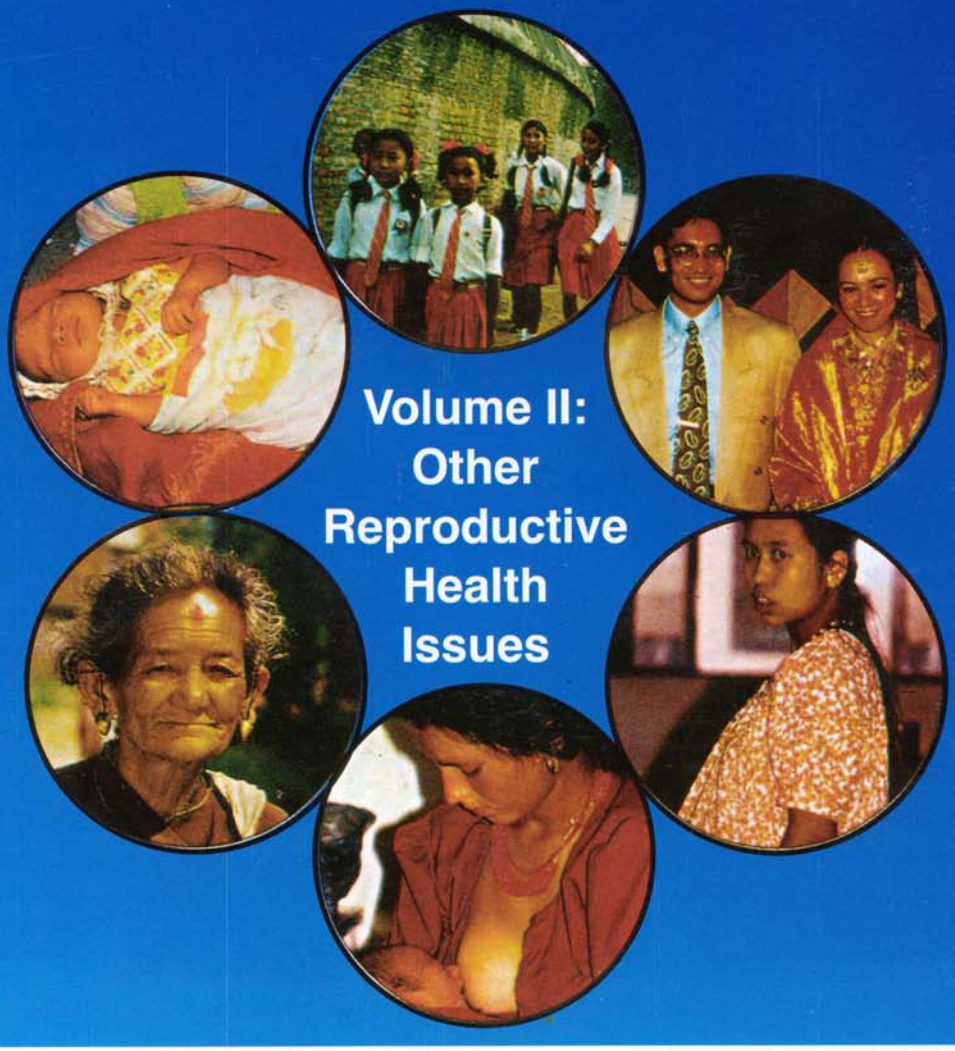
NATIONAL MEDICAL STANDARD FOR REPRODUCTIVE HEALTH



Volume II: Other Reproductive Health Issues

His Majesty's Government
Ministry of Health

FAMILY HEALTH DIVISION

August 2003

NATIONAL MEDICAL STANDARD FOR REPRODUCTIVE HEALTH

VOLUME II:

REPRODUCTIVE HEALTH SERVICES

His Majesty's Government
Ministry of Health

Family Health Division
2003

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FOREWORD

The *"National Medical Standard for Contraceptive Services"* was firs published in 1991. Family Planning experts in Nepal realized that *"National Medical Standard for Contraceptive Services"* should be updated so as to make it comparable to international standard. Hence it was reviewed and published in 1995 as *"National Medical Standard for Reproductive Health Volume I: Contraceptive Services.* In order to keep up with advances and changes in technology and policy, it was again reviewed and published in 2001. *"National Medical Standard for Reproductive Health Volume II: Other Reproductive Health Issues"* is a continuum of *"National Medical Standard for Reproductive Health Volume I: Contraceptive Services.* It was endorsed in 8th January 2004.

This manual is an endeavour to provide uniform medical standard and qualitative services in reproductive health issues by incorporating the latest developments in reproductive health areas. This document is also meant to serve as a guideline to service providers to give standard service in order to follow minimum basic standard.

It give me great pleasure to have this manual published which will be a milestone and will update not only the existing knowledge of the service providers but will also bring qualitative change in the service delivery at all levels. I believe the contents provided in this publication based on international reference materials and programme experiences of Nepal, will be pivotal to all health professional and program managers seeking to expand and improve the quality of reproductive health services through different delivery points in Nepal.

I would like to take this opportunity to congratulate each and every member of the writing team, editing team and review team in the successful publication of this manual. I would also like to thank all the people and organizations that have contributed directly or indirectly for the successful publication of this manual including the printing press.

Lok Man Singh Karki
Secretary

FOREWORD

I am pleased to announce publication of "*National Medical Standard for Reproductive Health Volume II: Other Reproductive Health Issues"*, a continuation of *"National Medical Standard for Reproductive Health Volume I: Contraceptive Services"*. It is our aim to incorporate the latest developments in reproductive health areas. This document is meant to serve as a guideline to service providers to give standard service in order to follow minimum basic standard.

"National Standard for Reproductive Health Volume II: Other Reproductive Health Issues" will no doubt be a milestone in reproductive health program. This manual will not only update the existing knowledge of the service providers but will also bring qualitative change in the service delivery at all levels.

I would like to thank all the experts, organizations and donor agencies involved in this endeavour and particularly Nepal Family Health Program for playing a key role in the publication of this document.

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The publication of *National Medical Standard for Reproductive Health Volume II* was made possible due to the tremendous efforts of many individuals and organizations. We have also included suggestions and comments provided by service providers, managers and policy makers. It is my privilege to acknowledge them for their valuable contributions.

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Special thanks are due to the Review Committee comprising of Ms. Anne Peniston/Ms. Jesse Brandt, United States Agency for International Development; Mr. Ashoke Shrestha, Engenderhealth; Ms Anne Erpelding, German Technical Corporation (GTZ); Mr. Bill Musoke/Dr. Peden Pradhan, United Nations Population Fund; Mr. Jim Ross, Family Health International; Dr. Laxmi Raj Pathak, Department of Health Services; Dr. Ganga Shakya, Family Health Division; Dr. Rajshree Jha, Institute of Medicine; Dr. Dibyashree Malla, National Institute of Medical Sciences; Dr. B.K. Subedi, National Centre for AIDS and STD Control; Dr. Sanu Maiya Dali, Nepal Medical College; Prof. Kanti Giri, Kathmandu Medical College for their valuable time and contribution.

Sincere appreciation is extended to USAID/Nepal for the financial assistance given for the publication of this edition, *"National Medical Standard for Reproductive Health Volume II"*. Due appreciation is also acknowledged to the staff of Nepal Family Health Program (NFHP) especially Mr. Badri Pant, Ms. Sandhya Limbu, and Ms. Suzu Khadka, for their hard work on computer processing to complete the manual.

This manual would not have come to the stage of publication without the technical expertise, dedication and commitment of the editorial/writing team who had the responsibility of seeing this document through it's completion. Hence I would like to express my sincere thanks to Ms. Cherry Bird, Johns Hopkins Program in International Education in Reproductive Health and Dr. Swaraj Rajbhandari, Nepal Family Health Program. Dr. Swaraj Rajbhandari, who also served as a co-ordinator. Her commitment and continuous hard work has contributed to the successful completion of this manual.

I would also like to express my sincere thanks to numerous people including service providers and supervisors working at the field level who have in one way or the other contributed to the publication of this manual.

Dr. Yasobardhan Pradhan
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National Standard for Reproductive Health Volume II will no doubt be a milestone in the family planning programme. I believe that this manual will not only update the existing knowledge of the service providers but will also bring qualitative change in the service delivery at all levels.

LIST OF ABBREVIATIONS

AFB	Acid Fast Bacilli
AHW	Auxiliary Health Worker
AIH	Artificial Insemination of Donor
AIDS	Acquired Immunodeficiency Syndrome
ANC	Ante Natal Care
ANM	Auxiliary Nurse Midwife
ARH	Adolescent Reproductive Health
AZT	Azieo Thymibine
BBT	Basal Body Temperature
BCC	Behaviour Change Communication
BP	Blood Pressure
CA	Candidida Albicans
CBC	Complete Blood Count
COCs	Combined Oral Contraceptive Pills
CO2	Carbon dioxide
D & C	Dilation and Curettage
D & E	Dilation and Evacuation
DH	District Hospital
DMPA	Depo-medroxyprogesterone acetate
EC	Emergency Contraception
ELISA	Enzyme Linked Immuno-Sorbent Assay
EOC	Emergency Obstetric Care
FCHV	Female Community Health Volunteers
FHD	Family Health Division
FHI	Family Health International
FP	Family Planning
FSH	Follicular Stimulating Hormone
FSW	Female Sex Worker
GIFT	Gamete Intrafallopian Transfer
GTIs	Genital Tract Infections
GTZ	German Technical Corporation
HA	Health Assistant
HBsAg	Hepatitis B Surface Antigen
HBV	Hepatitis B Virus
HCG	Human Chorionic Gonadotrophin
HIV	Human Immunodeficiency Virus
HMG	His Majesty's Government
HP	Health Post
HPF	High Power Field
H/O	History Of
HOD	Head of Department
HRT	Hormone Replacement Therapy
HSS	HIV Sentinel Surveillance

ICDC	Intra Cellular Diplo Cocci
ICPD	International Conference on Population and Development IDU
IEC	Information, Education and Communication
IM	Intra Muscular
INGO	International Non Governmental Organisation
IUCD	Intrauterine Contraceptive Device
IUD	Intrauterine Device
IUI	Intrauterine Insemination
IV	Intravenous
IVF	In Ivtro Fertilization
IVDU	Intravenous Drug User
KOH	Potassium Hydroxide
LMP	Last Menstrual Period
MBBS	Bachelor of Medicine and Bachelor of Surgery
MDGP	Masters in Doctor in General Practice
MOH	Ministry of Health
MVA	Manual Vacuum Aspiration
MCHV	Maternal Child Health Volunteer
MRI	Magnetic Resonance Imaging
NCASC	National Centre for AIDS and STD Control
NGO	Non Governmental Organisation
NHTC	National Health Training Centre
NMS	National Medical Standard
NPO	Nothing Per Oral
NTC	National Tuberculosis Centre
OB/GYN	Obstetric Gynaecology
OCs	Oral Contraceptives
OPD	Out – Patient Department
OT	Operation Theatre
ORS	Oral Rehydration Solution
PAC	Post Abortion Care
PCT	Post-Coital Test
PGL	Persistent Generalized Lymphadenopathy PH
PHC	Primary Health Care Centre
PID	Pelvic Inflammatory Disease
PMN	Poly Morpho Neutrophil PHC
PNC	Post Natal Care
PO	Per Oral
POC	Progestin Only Contraceptive
POA	Programme of Action
PPH	Post Partum Hemorrhage
PV	Per Vagina
RA	Risk Assessment
RH	Reproductive Health
RTI	Reproductive Tract Infection
SACTS	STD AIDS Counseling and Training Service

SCF/US	Save the Children Fund United States of America
SEDA	Society for Education and Developmental Activities
SHP	Sub Health Post
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infections
SW	Sex Worker
TB	Tuberculosis
UNFPA	United Nations Population Fund
UMN	United Mission to Nepal
UoH	University of Heidelberg
USG	Ultra Sono Gram
UV	Uterovaginal
VCT	Voluntary Counseling and Testing
VDRL	Veneral Disease Research Laboratory
VHW	Village Health Worker
VIA	Visual Inspection with Acetic Acid
WBC	White Blood Cell
WHO	World Health Organisation

INTRODUCTION

'*National Medical Standard for Reproductive Health'* is designed to provide policy makers, district health officers, hospital directors, clinical supervisors and service providers with accessible, clinically oriented information to guide the provision of reproductive health services in Nepal.

'National Medical Standard for Reproductive Health' Volume I was revised and published in August 2001. It contains standards for contraceptive services. *Volume II* includes the remaining reproductive health issues as outlined in the International Conference on Population and Development in Cairo and adopted by the Ministry of Health, Nepal. While *Volume I* has been published in Nepali and English edition, *Volume II,* the Nepali edition of this Volume is still to be published.

This book serves as a standard reference document for essential clinical materials and tools that support patient care and service provision. It has attempted to incorporate the recent developments on the changing medical techniques/concepts and relies on international reference materials and scientific evidence.

This *Volume II* states the medical criteria for the use of reproductive health methods and sets a national standard for the provision of these services. This book is divided into seven chapters: Reproductive Health Screening, Postabortion Care, Sexually Transmitted Infections and Human Immuno-Deficiency Virus/Acquired Immunodeficiency Syndrome, Subfertility/Infertility, Adolescent Reproductive Health, Genital Prolapse and Menopause respectively.

Chapter One (Reproductive Health Screening) provides a general introduction of reproductive health. It highlights on the importance of reproductive health screening at all ages, it's prevention and cure. Chapter Two (Postabortion Care) focuses on the pregnancies complication, referral, and it's treatment. It normally deals with policy input. Chapter Three on (Sexually Transmitted Infections, Human Immuno-deficiency Virus/Acquired Immunodeficiecy Syndrome) serves as quick reference since the national guidelines of STI and HIV/AIDS already exists. It mainly focuses on prevention and cure. Chapter Four (Subfertility/Infertility) provides general information to the district level service providers and higher centres should be referred since subfertility is a special condition. Chapter Five (Adolescent Reproductive Health) contains a guideline of adolescent reproductive health. Chapter Six (Genital Prolapse) highlights the preventive aspect more than the surgical since surgical can be found in other books. Chapter Seven focuses on counseling, family support, and referral.

We hope that the contents provided in this publication, which is based on international and national reference materials and programmatic experiences of Nepal will be pivotal to all health professionals and program managers seeking to expand and improve the quality of family planning care through different delivery points in Nepal. Since this is the first edition, health workers, service providers and clinical person's suggestions and feedbacks will be highly appreciated so that we can incorporate the same in our revised edition.

CHAPTER ONE

REPRODUCTIVE HEALTH SCREENING

1.1 BACKGROUND:

As stated in Nepal's National Reproductive Health strategy, Reproductive Health is recognized as a crucial part of overall health, and central to human development. It is a reflection of health throughout life, starting in infancy, and extending beyond the reproductive years.

The National Reproductive Health strategy is based on the comprehensive **definition of reproductive health** developed at the International Conference on Population and Development, held in Cairo in 1994: "Reproductive Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so."

1.2 COMPONENTS

The Nepal Reproductive Health strategy lists the following Reproductive Health issues as priorities in its Integrated Reproductive Health Package:

- Family planning.
- Safe motherhood.
- Child health (newborn care).
- Prevention and management of complications of abortion.
- Reproductive Tract Infection/Sexually Transmitted Disease/Human Immuno-Deficiency Virus/Acquired Immunodeficiency Syndrome.
- Prevention and management of subfertility.
- Adolescent reproductive health.
- Problems of elderly women (i.e. uterine, cervical and breast cancer treatment) at the tertiary level or in the private sector.

Many of these priorities of reproductive health topics have detailed standards, which can be found in *Volume I* or in *Volume II* of the *"National Medical Standard"*. This chapter focuses on how to "screen" all clients for Reproductive Health related to their age. There is additional information on Domestic Violence and Genital tract cancers *(Appendix 1)*, topics that are not covered elsewhere.

1.3 PREVENTION AND SCREENING

Prevention is the best way of achieving positive impact in any area of reproductive health. Prevention of unsafe sexual activity, sexual and physical violence, sexually transmitted infections, unwanted pregnancies, sexual dysfunction, reproductive cancers, etc are best achieved through information education communication and behaviour change communication (IEC/BCC) in at-risk populations without evidence of disease. Examples include prevention of anemia in adolescent girls, education about safe sex, and avoiding sexually transmitted infections.

When conditions already exist, early detection can prevent problems and disease from escalating. **Screening** for common or serious reproductive health problems should be as part of any health care visit. While many visits to health centers are for specific, acute health problems, others (e.g. for ante-natal and post-natal care, or for family planning purposes), are primarily for screening and educational purposes. All visits, even those for urgent problems, should include some basic screening and education in addition to managing the primary problem, because:

- Underlying disease often causes or aggravates the identified problem, and can prevent full recovery, or cause recurrence.

- Any visit, even if for an emergency, may be the only interaction with health care services, and the only opportunity to provide needed health screening and education.

- Many significant health and social problems, especially domestic violence, are not physically obvious, and may not be willingly revealed.

Health care providers need good counseling and communication skills to assess a person's reproductive health status and needs. Systematic screening will guide further assessment, prioritization, and management of identified problems.

1.4 LIFE CYCLE APPROACH:

Sexuality and reproductive health are lifelong issues, but assume increasing importance during adolescence and beyond. As people age, the issues of prime concern also change, though the broad categories may remain the same. Typical

sexual and reproductive health issues for males and females are organized according to life stage in the following table.

Life stage	Primary Concerns for Males	Primary Concerns for Females
Infancy and Childhood (0-9 years)	• Normal physical, mental, emotional development • Risks: physical and sexual violence	• Normal physical, mental, emotional development • Risks: physical and sexual violence
Adolescence (10 – 19 years)	• Changes associated with puberty • Increasing sexuality, and sexual awareness, curiosity • Social experimentation/risk taking • Sexual debut • Risk of physical and sexual violence • Risk of unsafe sexual activities	• Changes associated with puberty • Menstruation • Increasing sexuality, and sexual awareness, curiosity • Sexual debut • Risk of physical and sexual violence • Risks of unsafe sex: STIs, pregnancy
Early adulthood (20 – 35 years)	• Safe, responsible sexual activity • Marriage • Fatherhood • Physical and sexual violence • STIs • Subfertility/Infertility	• Safe, responsible sexual activity • Marriage • Pregnancy • Motherhood • Birth spacing/family planning • Physical and sexual violence • STIs • Subfertility/Infertility • Non-infectious menstrual or genital tract disorders
Late reproductive years (35 – 49 years)	• Decreasing libido, sexual function • Safe, responsible sexual activity • STI	• Sexual activity • Fertility regulation • STIs • Non-infectious menstrual or genital tract disorders • Breast and genital tract cancers
Elderly (over 50 years)	• Chronic medical conditions • Decreasing libido, sexual function • Genito-urinary symptoms • Genital tract cancers	• Chronic medical conditions • Menopausal symptoms • Genito-urinary symptoms • Breast and genital tract cancers • Decreasing libido, sexual function

Not all clients in each age category will have problems in the listed areas, but simple screening should be done through a combination of simple questioning, physical examination, or simple testing (e.g. Pap Smear, urine for protein and sugar, Hemoglobin measurement or estimation).

Infancy and childhood: although not directly concerned with many reproductive health problems, infancy and childhood set the stage for the reproductive health enjoyed in adolescence and adulthood. "Reproductive" complaints are not common, but screening should be carried out for:

- Boys: presence of two testicles, congenital penile abnormalities
- Girls: complaints related to vulvovaginitis (due to thinness of atrophic tissues)

For Women

Adolescents	Sexually active women (Married/unmarried)	Women over 35	Peri/menopausal women
• Menarche and menstrual periods/disorders	• Menstrual disorders	• Menstrual disorders	• Irregular or abnormal bleeding
• Sexual activity	• Sexual activity	• Sexual activity	• Sexual activity
• Physical/sexual violence	• Physical/sexual violence	• Physical/sexual violence	• Physical/sexual violence
If sexually active: • Pregnancy prevention • RTIs	• Family planning • Pregnancy care (ANC, delivery care, PNC) • Infertility • RTIs • Fistula	• Family planning • RTIs • Breast exams • Genital screening: prolapse, fistula, cervix	• Menopausal s/s • Breast exams • Genital screening: prolapse, fistula, cervix • Osteoporosis
Examine: • General • Thyroid • Anemia • Pelvis if indicated by screening or complaints	Examine: • General • Thyroid • Anemia • Pelvis if indicated by screening or complaints	Examine: • General • Thyroid • Anemia • Breasts • Pelvis if indicated by screening or complaints	Examine: • General • Thyroid • Anemia • Breasts • Genital/pelvic exam • Cervical screening
Counseling/education issues: * • Relationships, marriage and pregnancy • Sex negotiation and safety • STI and pregnancy prevention/ negotiation/ recognition • Normal menstruation, menstrual hygiene • Violence prevention and management options	Counseling/education issues: * • Spacing and limiting births • Comprehensive pregnancy care and birth preparedness • Safe sex/STI prevention, recognition • Violence prevention and management options • Drug history	Counseling/education issues: * • Long term family planning options • STI prevention/ recognition • Violence prevention and management options • Self breast examination • Genital Prolapse • Screening for cervical cancer	Counseling/education issues: * • Managing menopause symptoms, • Sexual activity • Breast exams • Urinary symptoms • Genital prolapse • Warning signs: (breast masses, vaginal bleeding,) • Violence prevention and management options

*See *Appendix 2* for detail.

For Men:

Adolescence (10 – 19)	Reproductive age (20 – 49 yrs)	Older (>50yrs)
Screening: • Sexual development	**Screening:** • Blood pressure	**Screening:** • Blood pressure • Prostate exam
Counseling: • Increasing sexual awareness; • Formation of romantic and sexual relationships, • Safe sexual activity, • Risk taking, peer pressure, experimentation, alcohol, tobacco, drug use/abuse, • Prevention/recognition of STIs	**Counseling:** • Safe/responsible sexual activity • Alcohol, tobacco, drug use/abuse • Support for, active participation, family planning • C.V. screening	**Counseling:** • Declining libido, sexual function ("male menopause") • Education/support female menopause

1.5 ELEMENTS OF CARE:

A comprehensive list of what services are expected at each level of care can be found in the National Reproductive Health Strategy.

Facilities: Health service sites (generally sub health posts and above) should be equipped with:

- A registration and waiting area with adequate seating and identification of emergent cases.

- At least one comfortable counseling area where privacy can be established. This can be a multi-purpose room. A counseling area should be equipped with:

  - A door or curtain so privacy can be established.

  - A desk or table.

  - Chairs for provider and client(s).

  - Posters, leaflets, and other client education materials on common reproductive health topics.

- An exam area with visual privacy, where both general exams and basic genital/pelvic exams can be performed. These should be equipped with:

  - Good light, including standing light for pelvic exams.

- A gynecologic examination table with leg supports.
- A small table for instruments used in examamination and minor procedures.
- Chair(s) for provider (preferably additional chair for client).
- Supplies for basic general and pelvic examination (see *Appendix 3*).
- Infection prevention supplies and equipment (see *Appendix 3*).

- Basic laboratory facilities (at PHC and above), capable of providing:
  - Basic microscopy (thick smears, blood counts, +/- gram stains, wet mounts).
  - Hemoglobin estimation.
  - Urine screening for protein and sugar, urine pregnancy tests.
- Referral level facilities (generally district hospitals) should also provide:
  - Surgical capacity (specialized procedures, anesthesia services, blood transfusion at selected district hospitals, zonal and referral hospitals).
  - More comprehensive diagnostic laboratory facilities: blood chemistries, basic serology (e.g. VDRL, HIV, blood typing), microbiology, semen analysis, post coital tests, X-ray, ultrasound, PAP screening and interpretation.

Supplies and equipment for basic facilities can be found in *Appendix 3*

Staff: Sub-health posts and above should have staff trained and skilled at:

- **Counseling and communication:**
  - Able to take a sensitive history, asking screening questions in a non-judgmental way.
  - Knowledgeable about issues related to the Reproductive Health problems they commonly encounter in their patient populations.
  - Knowledgeable about what services are available within the facility, within the community, and at referral facilities.
  - Able to deliver education and prevention messages about reproductive health issues, using clear, simple, non-technical language, written and visual materials.

- More information on counseling skills can be found in *chapter One* of *NMS Volume I.*

- **Examination**

  - General physical examination.

  - Genital and pelvic examinations (both male and female; details in STI and ARH chapters) .

  - Breast examination (pregnant women, women over 35).

  - Pregnancy detection, antenatal care.

- **Diagnosis and management or referral** of reproductive health problems for male and female clients of all ages.

  - Pregnancy and its complications, including abortion complications.

  - Fertility regulation (family planning) and basic infertility management (maximizing chances of conception).

  - Genital tract infections, non-infectious disorders (e.g. menstrual disorders, fibroids, prolapse), cancers.

  - Physical and sexual violence.

  - Aging, including menopause.

  - Recognition and stabilization of emergency conditions, e.g. hemorrhage, shock, serious infection, seizures, urinary retention and injury.

- **Referral level** staff should be able to provide:

  - Specialized diagnostic and treatment procedures (*see chapters on specific reproductive health problems for details*), specialized counseling (e.g. VCT for HIV, infertility, victims of abuse)

Training in the following topics is approved by or conducted by the NHTC:

- Counseling and Family Planning (including Norplant, IUD, sterilization).

- Post abortion Care.

- Diagnosis and management of STIs (Syndromic approach).

- Adolescent Reproductive Health.

- Training in Pap collection, processing, interpretation.

Record keeping and reporting: Most clients with reproductive health problems should be entered into routinely used registers. Additional special case reporting forms exist for the following reproductive health problems and can be found in *Appendixes.*

- Abortion complications.

- Pregnancy: ANC visits, deliveries.

- Family Planning.

- Sexually transmitted infections, including HIV.

- Rape, domestic violence, other medico-legal cases.

1.6 SERVICE DELIVERY

General assessment: Screening questions can usually be routinely asked during any health related visit, and especially during any "routine" health checks. A sexual and reproductive history should be taken of all men and women who are, or could be, sexually active. For a basic screening history and physical, enquire, ask, check and record:

- **Screening history:**
    - **General health**
        - Do you have any medical problems related to your undergoing treatment?
        - What surgery have you had?
        - When was your blood pressure last checked? Was it normal at that time?
        - What medicines do you take regularly? Do you have allergies to medications?
        - Do you smoke? If yes, how much?
        - Do you drink? If yes, how much?

- Do you engage in regular physical activity? How often and of what type? Has it ever caused shortness of breath or chest pain?

- Any problems with urination or sexual activity?

- **Sexual activity, safe sex, violence**

  - Are you in a sexual relationship at this time? (Is partner of same or opposite sex?)

  - Have you or your partner had other partners during the time you've been together?

  - Are you, or have you ever been, in a relationship where you felt physically threatened, were hurt, or have you ever been forced to have sex against your will?

  - Do you have any concerns about your sexual response and relationships?

- **Fertility**

  - Are you trying to become pregnant?

  - If not, what are you doing to avoid pregnancy?

- **RTI/STI/HIV**

  - Do you or your partner have problems with irritating vaginal or penile discharge, genital sores, or pain during intercourse?

  - Do you know how to protect yourself from HIV infection or other STIs?

- **For women:**

  - Menstrual history: Menarche, cycle and LMP

    - How old were you when menstruation started?

    - Please describe the pattern of your current menses? (Frequency, heaviness of bleeding, duration, discomforts). Has it changed in the past 6 months?

  - Reproductive history:

    - Have you ever been pregnant? How many times? (For men: have you ever fathered a pregnancy?)

- How many live births? How many children living now?
- Have you ever been anemic? Did you take iron at that time?

- For older women
  - Have you ever had a Pap smear or a breast check?
  - Have you had any hot flushes, changes in menstrual periods, or other signs of menopause?
  - Do you have any inter-menstrual or post menopausal vaginal bleeding or other symptoms that are <u>new or unusual</u>?
  - Any unusual growths or discomfort in the breasts or pelvic area?

Physical examination, female	**Physical examination, male**
Vital signs, height, weight General appearance • Nourishment (obesity, vitamin deficiencies) • Anemia • Recent or old trauma Thyroid exam Heart, lung, abdomen, groin **Extremities** Breast and genital/pelvic exam when appropriate (complaints, age, etc - details on performing speculum and bimanual exams are found in *chapter Seven*)	Vital signs, height, weight General appearance • Nourishment (obesity, vitamin deficiencies) • Recent or old trauma Heart, lung, abdomen, groin **Extremities** Genital/rectal exam when appropriate (complaints, age, etc - details on performing a complete genital exam are found in *chapter Seven*)

All women should be screened for:
- Anemia (clinical and visual signs might be all that is available)
- Domestic violence
- At age 35 and older:
  - Breast exams
  - Cervical screening (Pap Smear or Acetic Acid test) every 5 years

Abdominal examination for mass

Details on screening questions and tests are found in Appendix 1 and 4

- **Diagnosis and management** will depend on the problems identified. Detailed information on diagnosis can be found in the chapters dealing with specific reproductive health problems. Management of problems may not be possible at all facilities. Referral should be made when:

- Diagnosis or management are beyond the capacity of the staff and facility.

- In the case of urgent or emergent problems, stabilizing measures should be instituted before urgent referral/transfer.

Counseling and education:

Counseling should be provided on:

- The current problem:

  - Effective treatment.

  - Future prevention.

  - Signs of recovery, when and where to follow-up.

  - Warning signs suggesting worsening condition, development of complications.

- Any subjects relevant to the patient's particular circumstances or age group, as outlined in the table on life cycle approach. (See *Appendix 1* for basic messages)

Referrals to other facilities should be accompanied by a referral note, which contains the following information. Staff should identify ahead of time those community and higher level health resources where appropriate services may be obtained.

- The patient should be told precisely where and when to go for care.

- The referral note should include:

  - Identifying data.

  - Details of current problem, findings at time of referral.

  - Preliminary diagnosis and any treatment given.

  - Requested management or treatment.

  - Information on where to send report and patient for follow-up.

CHAPTER TWO

POSTABORTION CARE

2.1 BACKGROUND

Abortion performed under unsafe conditions is a major health hazard and a primary cause of preventable maternal mortality and morbidity. According to the Maternal Mortality and Morbidity Study, Nepal 1998, a 5.4% of maternal deaths at community level are due to abortion, and the leading reason for hospital admission is post-abortion complications (54%), followed by PPH (25%). Making Post Abortion Care services available and accessible is a major goal of FHD/MOH as a life saving measure to reduce maternal mortality.

Comprehensive Post Abortion Care (PAC) includes:

- **Good Interpersonal Services**: Counseling and client - provider interaction to identify and respond to women emotional and physical health needs and other concerns.

- **Treatment:** Treatment of incomplete and unsafe abortions and resulting complications that can become life threatening at any time; for this it is essential that emergency treatment is available at any time.

- **Family Planning Services:** Contraceptive and family planning services to help women to prevent unwanted pregnancy and practice birth spacing.

- **Reproductive Health Services:** Reproductive and other health services that are preferably provided on-site or via referrals to other accessible facilities in providers' networks.

- **Community Partnership Approach:** Community and service provider partnerships for prevention of unwanted pregnancies and unsafe abortion, mobilization of resources (to help women receive appropriate and timely care for complications from abortion), and ensuring that health services reflect and meet community expectations and needs.

2.2 ELEMENTS OF CARE

Comprehensive management of abortion complications requires prompt and careful assessment, stabilization, treatment and counseling. At all levels where care is provided:

- The facilities and trained personnel needed to provide emergency services, including care, and monitoring of the patient, should be available on a daily basis, preferably 24 hours a day.

- PAC service sites without surgical capacity must have written referral protocols and ready access to pre-arranged referral sites for care of complications beyond their own capacity.

- All women should receive post procedure counseling, including care instructions, warning signs, and referral information.

- Family planning counseling and a range of methods should be provided to all clients before discharge. The following options should be available:

  - Condoms, pills and DMPA at all sites.

  - IUD, Norplant and sterilization at all referral facilities.

- Information about and referral protocols for methods and services not available at the facility.

- Areas for counseling and performing procedures should be private and appropriately equipped.

Health facilities must fulfill these criteria to be certified as PAC sites and *see Appendix 4.*

2.3 PRE-REQUISITES

2.3.1 Infection Prevention

The two principle objectives of infection prevention practices in PAC services are:

1. To minimize the possibility of pelvic infection.

2. To prevent the transmission of blood born infections such as hepatitis (B & C) and HIV to both the patient and the PAC provider.

Sites should adopt universal precautions and follow the infection prevention principles and practices as described in *NMS, Volume 1 (Chapter Three).*

2.3.2 Facilities:

- A facility providing Post Abortion Care should include*:
  - A private/curtained area for consultation and counseling.
  - A private/curtained procedure area equipped for obstetric/gynecological procedures.
  - A comfortable, recovery area where staff are available to monitor vital signs and the general state of the patient.
  - Registration.
- **For first trimester abortions/complications:** most abortions occur in the first trimester**,** and one of the most common complications is incomplete abortion. Care can be provided at facilities with capacity for simple surgical or gynecological procedures, if they are equipped with:
  - Trained staff *(see below).*
  - Necessary supplies and equipment *(see below).*
  - Referral plans and protocols: Patients should be stabilized and referred to a higher level facility (with surgical capacity) in the following circumstances:
    1. The patient requires resuscitation, antibiotics, monitoring, or surgical treatment beyond the capacity of the facility (e.g. sepsis, hemorrhage requiring transfusion, intra-abdominal injury).
    2. Trained personnel, supplies and/or equipment for uterine evacuation are not available.
- **For second trimester abortions/complications:** these should be routinely referred to an appropriate health facility. The risks and complications associated with pregnancy loss increase with gestational age.

* Facilities without the capacity to definitively treat any of the complications of abortion must have written protocols for stabilization and referral.

2.3.3 **Equipment and Supplies** for uterine evacuation**

Physical structure and supplies:	**Instruments and procedure supplies:**
• Examination table with leg supports. • Light source to inspect cervix and tissue removed from the uterine cavity. • Seat for service provider. • IV sets and tubing. • Two plastic buckets for (1) cleaning and (2) decontamination of instruments • Momo steamer of diameter 30 cm. • Puncture proof container for disposal of sharps. • Utility gloves. • Strainer to strain the blood from the products of conception. • Clear plastic or glass (preferred) flat bottomed container or basin for tissue inspection. • Simple magnifying glass to inspect the tissue removed from the uterine cavity for chorionic villi or fetal parts.	• Vaginal specula, preferably bivalved specula (small, medium, large). • Uterine tenaculum/vulsellum forceps • Sponge forceps. • For Sharp curettage: metal curettes, varied sizes for dilatation and evacuation. • Ovum forceps. • Catheter. • For MVA: o MVA vacuum syringes (single or double valve). o Flexible plastic MVA cannulae of different sizes. o Adapters for cannulae. o Silicon for lubricating MVA syringe O-ring. • Sterile gloves or new examination gloves. • Swabs/gauzes. • 5-6 ml syringe with needle. • Antiseptic solution preferably povidone iodine.

** Management of severe complications requires additional supplies and equipment – parenteral antibiotics, surgical supplies, anesthetics, blood transfusion, etc. Supplies and capacity will vary depending on level of facility.

2.3.4 **Category of Provider/Training:**

- PAC service providers should be health staff who have been trained and certified by HMG/NHTC in comprehensive PAC Services, including the management of complications and provision of counseling. (Support staff who process instruments and maintain infection prevention practices receive on-site training and certification after a PAC site is identified.)

- The doctor and nurse service providers are responsible for managing or referring complications according to the PAC protocols, including provision of medical treatment, FP counseling, and referral to other reproductive health services.

- In most cases, the physicians perform uterine evacuation procedures with nursing assistance. However, FHD encourages nurses to provide uterine evacuation with MVA equipment under the following circumstances;

  a) The nurse has successfully completed MVA training and is certified to conduct PAC services.

  b) The nurse will provide PAC services as an emergency intervention in life saving situations.

  c) The nurse works under the supervision of a physician in a health facility that lacks adequate physician coverage.

2.3.5 Record Keeping and Reporting

Records should be kept of all incomplete abortions, complications, referrals to higher centers, and provision of family planning methods. This information should be registered and reported to the FHD according to the following format and schedule: *(See Appendix 4).*

2.4 SERVICE DELIVERY

2.4.1 Counseling and Communication: Counseling is a two way communication process between the woman/client and her care providers that should occur before, during, and after any treatment for her identified complications. Counseling should be:

- Conducted in privacy, should be confidential respecting the feeling of the woman/client. The client's partner or other immediate family member should be included in a counseling session only with the consent of the client.

- Flexible and responsive to individual needs. Counseling a woman with a complication due to a spontaneous abortion of a wanted pregnancy requires a different approach than counseling a woman who had an incomplete abortion of an unwanted pregnancy.

All women receiving post abortion care service need counseling and information to ensure that they understand:

- The nature of their problem and how it will be treated.

- How to care for themselves after their treatment: signs of a normal recovery, when to resume normal activities, warning signs to watch for, as shown below:

- Prolonged cramping (more than a few days).
- Prolonged bleeding (more than 2 weeks).
- Bleeding more than normal menstrual bleeding.
- Severe or increased pain.
- Fever.
- Chills or malaise.
- Fainting (syncope).

- The fact that they can become pregnant again before the next menses, as soon as 2 weeks after the pregnancy is ended.

  a) There are a variety of safe contraceptive methods that can be used immediately to avoid pregnancy.

  b) There are temporary family planning methods available at the PAC site, and referral for methods not available at the PAC site.

Note: *Information on appropriate postabortion contraception and counseling is located in NMS volume 1, Chapters One and Thirteen.*

2.4.2 Clinical Assessment:

Successful management of early pregnancy complications relies on timely diagnosis. Any patient of reproductive age presenting with vaginal bleeding and suspected pregnancy should be assessed immediately to determine:

- Is there an urgent life threatening complication?

- Is she pregnant?

- Is the pregnancy in the uterine cavity?

- Has there been previous instrumentation of the uterus? (Attempted induced abortion).

Providers should obtain the following information:

Medical History	Examination
• Date of last menstrual period and patient's perception of duration of pregnancy. • Current contraceptive method. • Previous reproductive history. • H/O interference. • Duration and amount of vaginal bleeding. • Whether she has experienced expulsion of products of conception. • Extent and duration of abdominal or shoulder pain (symptoms of infection or intra-abdominal trauma). • Fever, chills, or general malaise (symptoms of infection). • Tetanus vaccination status (important in cases of instrumentation from attempted induced abortion). • History of bleeding disorders. • Medications and any known allergies.	**General** • Vital signs (temperature, blood pressure, pulse, respiratory rate). • Pallor and extremities. **Systemic** • Lung, heart exam. • Abdominal examination (diffuse tenderness, rebound tenderness or guarding may indicate infection or uterine perforation with intra-abdominal trauma). **Local** • External genital examination. • Vaginal speculum examination (type and amount of vaginal bleeding, cervical dilation, tears or injury). • Careful bimanual pelvic examination (uterine size and shape, cervical motion tenderness, adnexal masses or tenderness). If ectopic pregnancy is suspected the service provider must be extra gentle.

2.4.3 Differential diagnosis of bleeding in (presumed) early pregnancy

1. **Abortion**: spontaneous or induced. History, physical examination and urine pregnancy tests will usually confirm diagnosis. Treatment will depend on the type or stage (eg threatened, incomplete, septic, etc) and the presence or absence of other complications. *See classification, and treatment in Appendix 2.*

2. **Ectopic pregnancy**: women with ectopic pregnancy typically have missed menses, abdominal pain, irregular bleeding or spotting, and a uterine size that is smaller than expected. An adnexal mass is palpable in about half of women with ectopic pregnancy. If there is little tissue on uterine evacuation, ectopic pregnancy should be considered. Treatment is laparotomy and salpingectomy. Treatment or referral to a facility with surgical capacity is required.

3. **Molar pregnancy**: hydatidiform mole varies in incidence from 1 in 250 deliveries to 1 in 1000 deliveries. Molar pregnancy is suspected in patients with pronounced signs of early pregnancy, moderate to heavy bleeding with or without passage of "grape like vesicles," and uterine size greater than expected by LMP.

Molar pregnancy, if diagnosed before evacuation, should be referred to a facility with surgical capacity and skilled providers.

4. **Dysfunctional uterine bleeding:** may easily be confused with early pregnancy bleeding since the patient usually gives history of amenorrhea preceding the excessive vaginal bleeding. A pregnancy test (sensitive urine "stick" test) should be done, and will be negative with anovulatory bleeding.

5. **Irregular Bleeding due to side effects of hormonal contraceptives**

ALERT: COMPLICATIONS OF INCOMPLETE ABORTION:

1. **Hemorrhage**
2. **Endometritis / pelvic infection/ Septicemia**
3. **Cervical or vaginal laceration**
4. **Uterine laceration or perforation**
5. **Intra-abdominal injury/Generalized peritonitis**
6. **Post abortion syndrome (retained blood clots)**

➡ **Shock** ➡ ➡ ➡ **Death**

Incomplete abortion can result from both spontaneous and induced abortions. When products of conception remain in the uterus, they provide an optimal environment for infection. Remaining products of conception can also lead to prolonged bleeding or acute hemorrhage. After instrumentation for induced abortion, incomplete abortion may be accompanied by sepsis, cervical or uterine laceration including uterine perforation with intra-abdominal injury. Hemorrhage, infection, and lacerations/perforations can all lead to shock and become life threatening. *See section 2.4.6 for management of these common and serious complications.*

2.4.4 Clinical Procedures for Incomplete Abortion

- **Uterine evacuation** should be performed as quickly as possible, but only after stabilization measures have been instituted, and other complications screened for and addressed if present:

For first trimester incomplete abortion:

- MVA is the preferred technique, as it is generally safer, quicker, and less uncomfortable for the woman.
    - Providers must be trained and certified by NHTC.
    - Necessary supplies and equipment must be available.

- Sharp curettage

    - Providers must be trained in sharp curettage, usually as part of medical (physician) training.

    - Necessary supplies and equipment must be available.

For second trimester incomplete abortion: choice of procedure will depend on the presence or absence of fetal parts in the uterus.

- Medical induction with oxytocin or misoprostol (not available at present), is indicated in the following circumstances:

    - Retained fetal parts.

    - Stable patient without brisk bleeding.

    - Possibility of uterine trauma (e.g. perforation).

- Sharp curettage is indicated in the following circumstances:

    - Retained placenta, no fetal parts.

    - Uterine injury, under visual confirmation *(see below).*

- Sharp curettage and extraction with grasping forceps is indicated when:

    - There is brisk bleeding in presence of retained fetal parts (***note**, this procedure requires a trained, skilled provider; the risk of complications is high*).

    (For additional complications, see 2.4.6)

2.4.5 Pain Management

Women with complications of abortion experience widely different levels of pain. The lower abdomen pain accompanying uterine instrumentation to address incomplete abortion is reduced by talking to the patient before, during and after the evacuation of the uterus. In cases where "verbal anesthesia" is not sufficient to calm apprehensive patients, or control the additional pain of trauma, infection, or exhaustion, additional medication is indicated. Pain medication of these types can be safely used.

1. Systemic analgesics.
2. Sedatives.
3. Local anesthetics.

Systemic analgesia is useful to ease the cervical, pelvic, and lower abdominal pain associated with the treatment of incomplete abortion. Analgesia may be used alone or in combination with the other two classes of medication. Oral analgesia is often sufficient, but in cases of excessive pain, more effective analgesia can be given by I.M. or I.V. route. Patients who receive I.M. or I.V. analgesia require more intensive observation for side effects, especially respiratory depression.

Sedatives are helpful for the apprehensive patient, and increase the effects of systemic narcotics, improving pain control. However, side effects such as respiratory depression may occur at lower doses of narcotics when sedatives are also given.

Local anesthesia given as a paracervical block is extremely effective in reducing pain associated with cervical dilation and uterine manipulation. Injections are given just under the mucosa at the cervico-vaginal junction in the vaginal fornix; 2-3 mm at 3, 5, 7, and 9 o'clock. Systemic side effects are rare if maximum doses (20 cc of 1% lidocaine for a woman >40 kgs) are respected, and intravascular injection is avoided.

Medication/ class	**Dose**	**Route of administration**	**Onset of action**	**Side effects/ complications concerns and comments**
Ibuprofen/ mild analgesic	400-800 mg	Oral	30-60 mins	Rare allergy will lower fever effective for post procedure cramping.
Paracetamol (acetaminophen)/mild analgesic	500-1000 gm (1-2 tabs)	Oral	30-60 mins	Rare allergy not very effective for pain and cramping lowers fever.
Diclofenac Sodium	50 mg (PO) 75 mg(IM/IV)	Oral IM / IV	1 hr	Nausea, epigastric discomfort, skin rash, peptic ulcer.
Pentazocaine/ Narcotic analgesic	30 mg	IM / IV	15-30 mins	Nausea, vomiting and euphoria, less likely to cause respiratory depression.
Pethedine /Narcotic analgesic	25 (IV) – 50 (IM) mg	IM / IV	15-30 min immed. IV	Can cause respiratory depression, nausea.
Diazepam (Valium, Calmpose)/Sedative	5-10 mg	Oral or IV	20-30 minutes oral, immed IV	Drowsiness, respiratory depression if overdosed.
lidocaine (Without epinephrine) Local anesthetic	10-20 mL of 0.5% - 1% (20 mL of 1% max)	paracervical (submucousal) injection	3-5mins	Rare allergy overdose or intravascular injection can lead to heart block, seizures.
Ketamine	5 mg per kg IM, 1-2 mg per kg IV	IM / IV	15-50 second action lasts for 10-15mins.	Causes transient depression of respiratory center, increase in BP and heart rate, delirium and hallucination.

All the injections mentioned above can be given intravenously if trained service providers (anesthetist or anesthetist assistant) are available.

2.4.6 Diagnosis and Management of Complications:

SHOCK:

Shock is a life-threatening condition that needs immediate and intensive management in order to save the life of the patient. In cases of PAC or incomplete abortion, shock is usually due to either hemorrhage, infection, or uterine with intra-abdominal trauma. Shock can occur rapidly in these instances and may progress to death. Patients suffering from shock require immediate identification and intensive treatment. Initial treatment is targeted at stabilization of the patient, while definitive treatment depends on the cause of shock.

Signs/Symptoms of Shock	Stabilizing Measures – Institute IMMEDIATELY
• Fast, weak pulse (rate >110/min) • Low blood pressure (diastolic <90/60 mm of Hg) • Pallor (especially of inner eye lids, palms and around the mouth) • Cold, clammy and sweating • Tachypnea (rapid breathing with respirations > 30/min) • Anxiousness, confusion or unconsciousness • Patient with septic shock may present with abnormal body temperature and toxic look.	• Assess vital signs frequently (temperature, BP, pulse, respirations). • Place the patient's head to one side to prevent aspiration of stomach contents. • Assure that airway is open. (Placement of oral cannula or intubation if necessary). • Give oxygen (6-8 liters /min) either by facemask (preferred) or nasal cannula. • Place the patient in the supine position with legs raised or head lowered (trendelenberg position) to help blood to return to the heart. • Start two large bore IV lines and transfuse 1 to 3 litres of isotonic IV fluid (Ringers lactate or isotonic saline solution) at the rate of one liter per 15-20 seconds (IV line wide open). • Draw blood for blood count (grouping, Rh factor and cross match, where transfusion is possible). • Assess need for transfusion (response to initial IV fluid, Hgb/Hct and amount of blood loss). • Perform vaginal speculum examination to assess the blood loss and to remove any products of conception from the cervical os or vagina. • Place a urinary catheter if available and maintain careful records of urinary output. • **Give nothing by mouth** until condition is stabilized. All medications should be IM or IV.

Definitive Treatment:

Once the patient has been stabilized and the cause of shock established, stabilizing measures should be continued while treatment directed at the cause of shock is

initiated. In situations where definitive treatment is beyond the capability of the facility, the patient should be transported to the nearest appropriate facility as soon as stabilizing measures have been instituted.

HEMORRHAGE

Signs/Symptoms of Hemorrhage	Initial Treatment - Institute IMMEDIATELY
• Heavy bright vaginal bleeding, with or without clots • Blood -soaked towel, pads, or clothing • Pallor • Dizziness • May be in shock due to hemorrhage.	• Start large bore IV lines and transfuse 1 to 3 liters of isotonic IV fluid (Ringers lactate or isotonic saline solution) at the rate of one liter per 15-20 seconds (IV line wide open). • Draw blood for blood count (Grouping, Rh factor and cross match, where transfusion possible). • Assess need for transfusion (response to initial IV fluid, Hgb/Hct, on going blood loss; *see criteria below*). • Perform vaginal speculum examination to assess the blood loss and to remove any products of conception from the cervical os or vagina. • Monitor closely for signs of developing shock. • In addition, consider: • IV or IM antibiotics if patient has undergone induced abortion or if infection is suspected after spontaneous abortion. • Tetanus toxoid (if patient has undergone induced abortion). • IM or IV analgesics for pain management.

Definitive Treatment of Hemorrhage:

Definitive treatment of hemorrhage depends on the source of the bleeding.

Retained product of conception:

- **Immediate** uterine evacuation (MVA or sharp curettage) is indicated if no lacerations or perforations are suspected.

***Note**: if there is evidence of infection as well as hemorrhage, see section below.*

- **Laparotomy**, uterine artery ligation with or without hysterectomy, or evacuation under visualization, is indicated for:
    - Cases unresponsive to evacuation and uterotonics/bimanual compression.
    - Possible perforated uterus or high cervical lacerations (evacuate under direct visualization, control bleeding).

- Presumed placenta acreta (retained tissue resistant to curettage).

- **Antibiotics** are indicated if there is a history of instrumentation or evidence of existing infection. These should be administered as soon as possible so as not to unnecessarily delay evacuation of the uterus. *See below* for recommended combinations.

Uterine Atony: Atony can result from retained products of conception, infection, or can be idiopathic. It is more common after second trimester abortions. Treatment:

1. Immediate evacuation of the uterine cavity as for retained tissue.

2. Administer uterotonic medication

   - Methylergometrine 5 mg IM.

   - Oxytocin 20 – 40 units IM - useful only for second trimester gestations.

   - Misoprostol 900 mg per rectum (currently not widely available).

3. Bimanual compression or massage may stimulate uterine contraction.

4. Laparotomy uterine artery ligation, with or without hysterectomy is indicated as above, and if initial measures are unsuccessful.

Cervical or Vaginal Injury: repair laceration - *see section below.*

Uterine or Abdominal Injury: if intra-abdominal injury is suspected, or significant uterine injury, laparotomy will be necessary.

Infection/Sepsis:

- While in principle, a woman with a septic abortion should be loaded with antibiotics prior to uterine evacuation, when there is hemorrhage with infection, the risk of dissemination of infection must be weighed against that of ongoing blood loss. Brisk hemorrhage due to retained products is life threatening, and waiting for antibiotics to take effect may not be possible. Give antibiotics as rapidly as possible as/before evacuating the uterus. *See next section* for appropriate antibiotics.

INFECTION

Infections associated with either spontaneous or induced abortion are caused by multiple organisms. Both may become septic. All infections should be treated with broad-spectrum antibiotics.

Risk factors/signs/symptoms of infection	Treatment
Ask about: • History of having induced abortion. • Lower abdominal pain. • Prolonged heavy bleeding (> 8 days). • General body aches and malaise. **Look for**: • Fever (temperature >38 degrees centigrade). • Foul smelling vaginal discharge. • Lower abdomen tenderness with or without rebound tenderness). • Muco pus discharge from the cervix. • Cervical or uterine tenderness on bimanual examination.	• Administer broad spectrum IV.antibiotics* immediately. • Administer tetanus toxoid, (assess need for tetanus antiserum). • Conduct careful examination to rule out uterine perforation and intra-abdominal injury/peritonitis. • Uterine evacuation is usually indicated after antibiotics have reached the tissue level (1-2 hours after last antibiotic given). • Monitor closely for signs of developing septic shock (vital signs, urine output, respiratory rate, level of consciousness). • In presence of shock/septic shock, stabilize patient prior to uterine evacuation.

* The following regimens are effective and available in facilities where sepsis can be managed *(list below is from WHO manual)*

Ampicillin (1 gm IM/IV q 6 hrs)*/ Gentamicin (1.5 mg/kg IV or IM q 8 hrs)/ Metronidazole (1gm IV q 12hrs or 500 mg po q 6hrs)

Pennicillin (10 million units benzylpenicillin IM/IV q 6 hrs*/ Chloramphenicol 1 gm IV q 6 hrs

Note: Ampicillin and Penicillin can be used interchangeably in these regimens

* IV or IM antibiotics should be continued for at least 48 hours after resolution of fever then may be changed to oral antibiotics to complete 7 to 10 days.

GENITAL TRACT TRAUMA

<table>
<tr><th colspan="2">CERVICAL / VAGINAL LACERATIONS</th></tr>
<tr><th>Risk factors/ examination</th><th>Treatment</th></tr>
<tr><td>• Can occur from instruments or passage of large/sharp fetal parts in the second trimester.
• Identified by careful vaginal speculum examination and digital exam.</td><td>• Suture lacerations to control bleeding (delayed absorbable suture preferred).
o If suturing not possible, clamp edges of laceration or pack vagina and transfer the woman to a facility with surgical capacity.
• For cervical canal lacerations that cannot be visualized, an inflated catheter bulb or gauze packing may tamponnade the bleeding.
o The patient should be at or transferred to a facility with surgical capacity.</td></tr>
<tr><td colspan="2">UTERINE PERFORATION: can occur prior to or during management of acute complications</td></tr>
<tr><th>Signs and Symptoms</th><th>Treatment</th></tr>
<tr><td>Patient may report acute pain during induced abortion or PAC uterine evacuation.
Instrument passes farther than expected by the size of uterus on exam.
Intermittent or continuous hemorrhage if blood vessel is lacerated</td><td>• If patient stable and uterus empty:
o Prophylactic antibiotics for 48 hours to 7 days (PO acceptable if no evidence of infection).
o uterotonic medication – methylergometrine and Oxytocin.
• If patient is unstable, with hemorrhage or possible intra-abdominal injury (see below): immediate laparotomy.
• If patient stable and the abortion is incomplete:
Evacuate uterus during laparotomy.
• When the perforation occurred during induced abortion laparotomy should be performed to rule out intra-abdominal injury. However, patients are carefully observed even in this situation.
• Patient may be discharged under the following conditions:
1. The patient is afebrile, has good bowel function, and stable vital signs.
2. The uterine cavity is fully evacuated.
3. There is no suspicion of intra-abdominal injury (See below).
4. The patient understands the symptoms and signs of intra-abdominal injury and knows where to go if they develop it.</td></tr>
</table>

INTRA-ABDOMINAL INJURY	
Signs and Symptoms	**Treatment**
Signs: • Distended abdomen • Decreased bowel sounds • Rigid, diffusely tender abdomen • Rebound tenderness • Bowel visible or palpable in the uterine cavity (rarely) **Symptoms:** • Nausea/vomiting • Fever • Shoulder pain • Abdominal pain and cramping	• Stabilize for surgery (laparotomy, possible hysterectomy, possible bowel repair) o NPO o Nasogastric aspiration (if required) o Catheterization to monitor urine output o IV access and hydration o IV antibiotic coverage / prophylaxis, or full treatment for infection, if present • If laparotomy is not available, the patient should be referred immediately to site with surgical capacity.

2.4.7 Post procedure monitoring: during and following both medical and surgical treatment of abortion complications, the client should be monitored until she shows signs of stabilization and improvement. After any procedure, the woman should be monitored as follows:

- General condition checked: level of consciousness, vital signs, pain/discomfort.
- Abdominal exam.
- Assessment of amount of vaginal bleeding.
- Continuation of antibiotics, either parenterally or orally until infection resolved (oral antibiotics are usually continued for 7 – 10 days in case of severe infection).

2.4.8 Comprehensive Discharge Instructions: these should be given orally, and in written form where possible. Content should cover:

- A check and review of the woman's understanding of her problem and the treatment.
- Need for on-going care.
- Self-care, including medications to take, wounds to keep clean, dressings to change, etc.
- Activity limitations and resumption of normal activity.

- Signs of normal recovery and warning signs for possible complications.

- Immediate fertility desires, information about family planning if interested, method if feasible and appropriate. PAC booklet is available from FHD to be distributed.

2.4.9 Stabilization and Referral Mechanisms

Referral is necessary in the following situations:

- Acute complications and medical/surgical conditions that are beyond the capacity of the facility.

- The woman has additional problems beyond the capacity and resources of the facility.

- The woman wishes to use a family planning method not available at the site.

Acute Care referral: Any case of incomplete abortion beyond the capacity of the service provider or the institution should be referred to a higher center immediately after the initial assessment and stabilization. The following criteria apply:

- The patient should be stabilized to the extent possible prior to transport.

- The referral center should be contacted to confirm the availability of the necessary service and provider.

- The institution should be informed by telephone (where possible) of the general condition and the provisional diagnosis of the patient.

- The patient should be accompanied by healthcare personnel whenever possible.

- A **referral slip** should be sent with the patient with the following information:

    - Age, marital status, address .

    - Number of children, date of last childbirth.

    - LMP and menstrual cycle details.

    - Duration and amount of bleeding: heavy, moderate, minimal.

    - Condition on departure from the PAC site.

        - General condition (level of consciousness, pain, pallor).

- Vital signs.

- Details of abdominal and pelvic exam (tenderness, rebound tenderness, guarding).

- Details of pelvic exam (pelvic masses, amount of bleeding, passage of POC, size of uterus, condition of cervical os, presence of foreign bodies in the vagina, foul smelling discharge).

o Provisional diagnosis.

o Initial management performed

- I.V fluid amount.

- Any blood drawn for cross matching.

- Use of antibiotics or any other medications.

- Tetanus toxoid, if given.

o Any surgical management performed.

Outpatient referral: Any medical or social issues under treatment or unresolved at the time of discharge should be referred to the appropriate outpatient or community resource. This might include routine follow-up, or initiation or continuation of a birth control method. This referral should consist of:

- Specific information for the woman about when and where to go, and whom to see.

- A written description of the findings leading to the recommended consultation, given to the woman to give to the consultant. This should include:

o Identifying information.

o Brief summary of hospital course.

o Findings and diagnosis resulting in referral.

CHAPTER THREE - I

SEXUALLY TRANSMITTED INFECTIONS (STIs)

3.1 BACKGROUND:

STIs (Sexually Transmitted Infections) remain a major cause of acute illness, and morbidity and have serious and far-reaching health, social and economic consequences for millions of men, women and children all over the world. After maternal causes, STIs are responsible for the greatest number of morbidity cases (healthy life years lost) among women in developing countries.

In developing countries, there is a high incidence and prevalence of STIs. Failure to diagnose and treat STIs at an early stage may result in serious complications and sequelae including infertility, fetal wastage, neonatal infections, ectopic pregnancy, pelvic inflammatory diseases, etc. The HIV/AIDS epidemic has focused more attention on STI prevention and control due to the evidence that untreated STIs increase the risk of sexual transmission of HIV.

The National STI Control Program in Nepal was initiated in 1994. Currently STI services are provided through general health services. Health staff are trained in the syndromic approach to STI case management, and if necessary referrals are made to centers where specialist services are available. STI services are also provided by private sector and NGO clinics in some places.

3.2 REPRODUCTIVE TRACT INFECTION and SEXUALLY TRANSMITTED INFECTIONS (RTI and STI):

RTI is an infection of the reproductive tract or genital tract and includes STIs.

STIs are diseases, primarily transmitted through sexual intercourse or close and intimate physical contact. Some STIs including HIV are also transmitted vertically from infected mother to newborn and through blood and blood products.

3.2.1 The Most Common STIs/RTIs Prevalent in Nepal are:

1. Gonorrhea
2. Syphilis
3. Trichomoniasis*
4. Chlamydia Trachomatis
5. Herpes genitalis
6. Genital warts
7. Candidiasis*/bacterial vaginosis*
8. Chancroid

9. HIV/AIDS
10. Hepatitis B & C
11. Granuloma Inguinale
12. Lymphogranuloma Venereum

***** RTIs (Not necessarily STIs)

3.2.2 The Interrelation Between STIs and HIV

The interrelation between sexually transmitted infection and HIV includes:

- STI increases the risk of acquisition and transmission of HIV
- STI may influence the progress of immunodeficiency in HIV positive individuals
- Concurrent HIV in an STI patient may change the natural history of the STI, Infectivity may be increased and treatment may be prolonged

3.2.3 Prevention and Control of STI

Primary prevention:

- Promotion of safe sexual behaviour including condom use.
- Promotion of condom use and provision of condoms at affordable prices.

Secondary prevention:

- Promotion of health care seeking behavior directed particularly towards those at increased risk of acquiring STI, including HIV infection.
- The provision of accessible, effective and acceptable services which offer diagnosis and effective treatment for both symptomatic and asymptomatic patients with STI and their partners.

3.2.4 Main Symptoms and Signs of STIs

Both in male and female	In male	In female
• Burning or painful urination. • Sores, blisters, vesicles or frank ulcers on genital organs or around surrounding areas of perinium, anal region or rectum and oral cavity. • Swelling and tenderness of lymphnodes.	• Thick watery or pus like discharge from urethra. • Pain and swelling of scrotum.	• Abnormal vaginal discharge –which may be thick, thin, foul smelling, whitish curd like or yellowish. • Dispareunia or painful intercourse. • Lower abdominal pain. • Redness, itching on vulva.

3.2.5 Management of STIs:

'STI case management' is the overall package of effective and acceptable care that should be accessible to any individual who thinks that he or she may have a sexually transmitted infection.

The objectives of STI case management are to:

- Provide treatment.
- Obtain cure.
- Reduce infectivity .
- Prevent, or at least reduce, future risk taking behaviour.
- Make sure sexual partners are appropriately treated.
- Prevent complications such as PID, infertility, low birth weight, and abortion in women.

In order to achieve the objective of appropriate case management the patient must receive:

- Correct **diagnosis.**
- Effective **treatment.**
- **Education** and counseling on risk reduction including promotion (and provision) of **condoms.**
- Encouragement to notify/treat sexual **partner(s).**
- Clinical **follow up** where necessary.

Traditionally two methods for diagnosis are practiced:

- **Clinical diagnosis:** is conventional method of diagnosis based on symptoms and signs. It relies on the clinical experience of clinicians, often the best educated guess, but unfortunately wrong in 50% of cases. Concurrent or mixed infections by multiple organisms are often missed.
- **Aetiological diagnosis:** Clinical diagnosis supported by laboratory investigation, which identifies the specific causative organism(s). These investigations may be accurate but are expensive, time consuming and sometimes require sophisticated equipment and specially trained personnel.

In the light of these limitations, WHO developed and recommended a simple, cheap and effective approach for diagnosis and treatment of STIs, which is called Syndromic diagnosis.

Syndromic diagnosis depends on identifying consistent and similar groups of signs and symptoms – **syndromes** – and providing effective treatment for all the organisms known to cause them

SYNDROMIC DIAGNOSIS IS STRONGLY RECOMMENDED

3.2.6 The Essentials of Syndromic STI Management:

- **Good interaction**
- **History Taking**
- **Examination**
- **Laboratory investigation***
- **Syndromic Diagnosis and Treatment**
- **Health Education/Follow up**
- **Infrastructure and Personnel****

* *Although this is not essential for Syndromic management of STI, if available it can help to support specific diagnosis.*

**
- *The setting should be as clean, pleasant and as comfortable as possible*
- *Physical infrastructure should include private examination room(s), comfortable sitting arrangements, good lighting, examination table, gloves, table lamp, curtains, washbasins, etc.*
- *Supplies and equipments such as vaginal speculums instrument/gown, sterilisation equipments*
- *Health worker must be trained in the syndromic approach*.

3.3 HISTORY:

For good history taking it is essential to have trained providers who use a communication technique known as **"WELL"**

Welcome your client

Encourage your client to talk

Look at your client

Listen to your client

The following are the basic questions to be asked:
• What are your symptoms? • When did they start? • When and with whom did you last have sex? • Number of different sexual contacts in last 3 months • Did you use a condom in last sexual act? • Are you married? When did you last have sex with your wife/husband? • Have you taken any medicine to treat the symptoms you are complaining of? • When was your last menstrual period? • Obstetric history in women • Does your partner have or does s/he recently had any STI symptoms? • Has your partner had any other partner in the last one-month? • Do you use a condom consistently?

3.3.1 Examination: Consent of the patient is essential

Male Patient	Female Patient
• Request the patient to take his trousers and underwear down • **Look** at the penis with the foreskin forward and pulled back • Ask the patient to **show** any discharge by 'milking' the penis • **Examine** the groin, genitalia, perineum, the periana anal region, oral cavity and body including palms ar soles • **Palpate** the groins and elbows (for enlarged lymph nodes in suspected syphilis), the testicles for swelling and tenderness *Note:* ▪ *Genital and body rashes, sores/ulcers, warts* ▪ *Swollen glands in the groins* ▪ *Discharge from the urethra*	• Request the patient to remove her underwear (undergarment) • **Examine** the patient on a couch or table on her back with the knees flexed and the legs apart • **Examine** the groin, external genitalia, perineum, perianal, anal region, oral cavity and body including palms and soles • **Palpate** the groin and elbows (for enlarged lymph nodes in suspected syphilis cases) for swelling and tenderness • With a gloved hand separate the outer labia, **look** at the inner labia, separate them and **look** at the introitus • **Speculum examination** • **Bimanual examination** *Note:* ▪ *Genital and body rashes, sores/ulcers,* ▪ *Warts* ▪ *Swollen glands in the groins* ▪ *Vaginal / cervical discharge* ▪ *Adenexal tenderness or mass* ▪ *Redness or itching*

Speculum Examination:

Speculum Examination is done to look for discharge coming from cervical os to diagnose cervicitis.

How to do Speculum Examination:

- With a gloved hand separate the outer labia and with the other gloved hand gently insert the speculum and open it. Locate the cervix between the blades
- Look at the cervix and its opening (cervical os), the vaginal vault and, as you remove the speculum, look at the walls of the vagina.
- Note the character of the exudates from the cervix - whether clear and mucoid, mucopus or frank pus or blood stained

Bimanual examination:

How to do bimanual examination:

Insert two fingers high up into the vagina and **palpate** the supra pubic region of the abdomen with the other hand so as to feel, as far as possible, the uterus, cervix, fornices for any mass or tenderness between that hand and the two fingers

Note any tenderness of the organs, any swellings or masses, any pain on moving the cervix with your fingers (cervical excitation). This is evidence of pelvic inflammatory disease (PID)

3.3.2 Laboratory Investigations

Wherever laboratory facilities are available, Boxes 1 and 2 describe the method of taking specimens for microscopy, serological and microbiological tests from men and women. *(See Appendixes 3 and 4).*

3.3.3 Health Education

Having established good rapport with client; taken the necessary history and carried out the required examination for diagnosis, syndromic STI case management includes education and counseling of the client on risk reduction, promotion and provision of condoms, partner notification, treatment and follow up.

Educational messages for STI patients

The education and counseling of clients includes discussion of:

- The cause and consequences of present infection.
- The need for completion of the treatment course.
- The need for sexual partner treatment.

- Risk reduction – condom use.
- The need to seek early treatment in future cases of suspected infection.
- The risk of HIV/AIDS from unsafe sex.
- The time of follow up.

These education messages are summarized as 4Cs.

4Cs
• **C**ompliance - completing all the treatment as prescribed. • **C**ounseling/education - about the disease. - about HIV and AIDS. • **C**ontact tracing - making sure all sexual partners are notified and encouraged to seek treatment. • **C**ondoms - promoting condom use and providing them. - how to avoid getting infected with an STI again.

3.3.4 Partner Notification and Treatment

Partner notification and treatment is a must to avoid reinfection. This can be achieved by client referral (asking the client to bring partner(s) for treatment), by giving the client treatment to take to their partner(s), or providing referral while observing confidentiality, human rights and non-compulsion.

3.3.5 Use of Flow Charts for Syndromic Management:

The flow chart is basic tool used in the Syndromic approach for STI case management. Each flow chart is a decision tree. Following the chart step by step a logical decision will be reached on how to diagnose and treat the condition with reminders on education, partner notification, condom promotion, referral and follow up.

The common STIs prevalent in Nepal are grouped into four main STI syndromes, namely urethral discharge in men, vaginal discharge in women, genital ulcers in both men and women, PID in women. The symptoms and signs, the causative organisms for these syndromes and recommended treatment are presented in following sections.

3.4 URETHRAL DISCHARGE SYNDROME IN MEN

Symptoms
- discomfort on passing urine slight to severe

Signs
- discharge from the **urethral opening** thin to thick clear to pus

Causative organisms

Main and important causes
- Neisseria gonorrhoeae
- Chlamydia trachomatis

Other causes
- Mycoplasma hominis
- Ureaplasma urealyticm
- Trichomonas vaginalis
- Unknown causes - 'non specific urethritis'

RECOMMENDED TREATMENT:

- **Urethral discharge**

  CIPROFLOXACIN, 500mg, as a single oral dose

  Plus

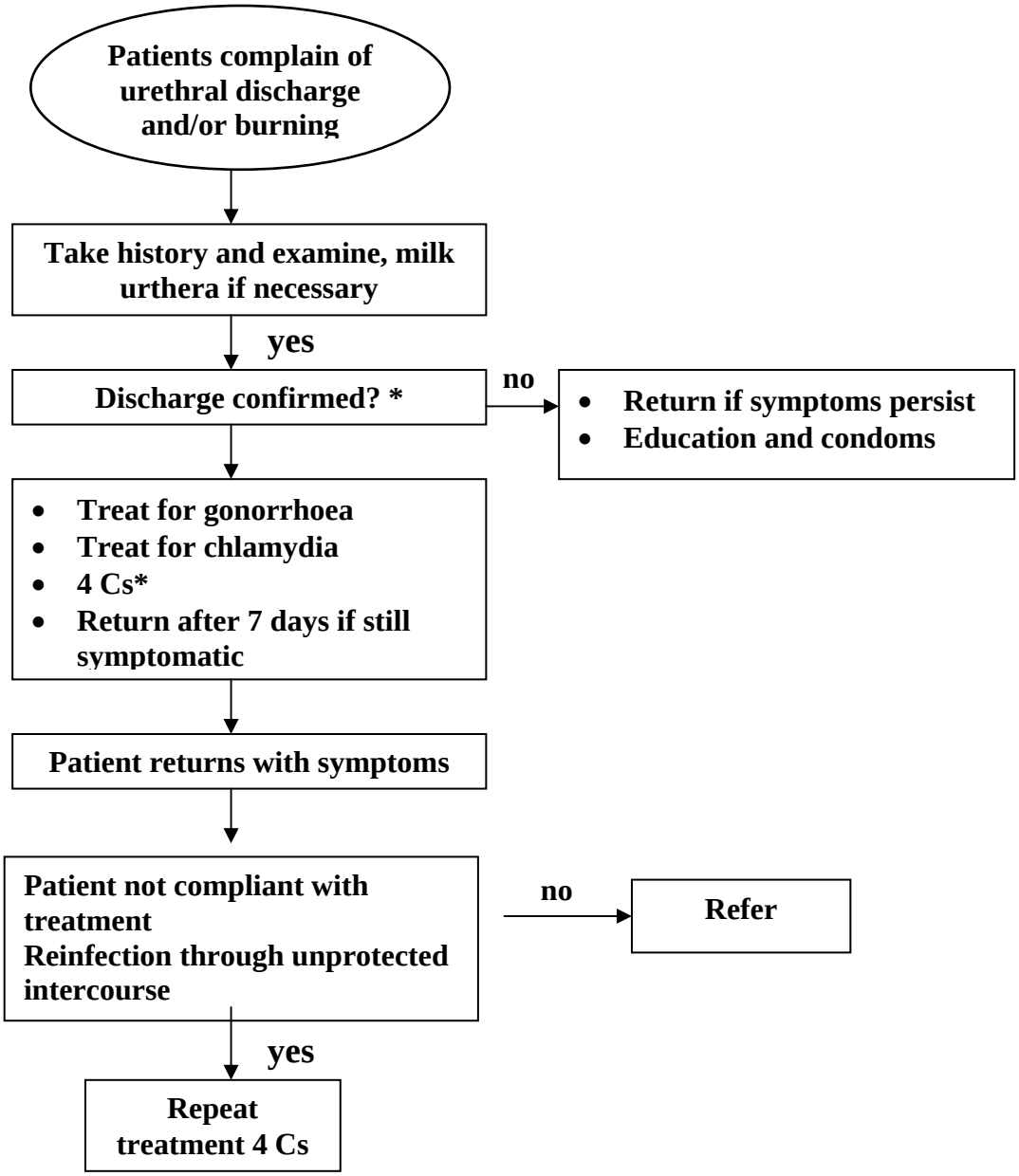
  DOXYCYCLINE, 100mg, two times daily for 7 days

  Or

  TETRACYCLINE, 500mg, four times daily for 7 days

REMEMBER THE 4 Cs WITH EVERY PATIENT

FLOW CHART FOR THE CASE MANAGEMENT OF URETHRAL DISCHARGE - NO LABORATORY SUPPORT AVAILABLE



*Discharge confirmed either by history and/or examination

REMEMBER THE 4 Cs WITH EVERY PATIENT

3.4.1 Genital Ulcers Syndrome

Symptom	• pain, soreness or discomfort at the site of the epithelial damage
Sign	• single or multiple painless / painful ulcers or sores in the oral cavity, genital, perineal, perianal or anal region
Causative organisms	
Main causes	• Treponema pallidum (Syphilis) • Haemophilus ducreyi (Chancroid)
Other	• Herpes simplex (Genital herpes) • Calymmatobacterium granulomatis (granuloma inguinale) (Donovania granulomatis)

RECOMMENDED TREATMENT

- **GENITAL ULCER DISEASE**

  BENZATHINE PENICILLIN, 2.4 million units, by I/M at a single session, 1.2 million unit in each buttock

  Plus

  ERYTHROMYCIN, 500mg, four times daily for 7 days

- **GENITAL HERPES**

  First clinical episode

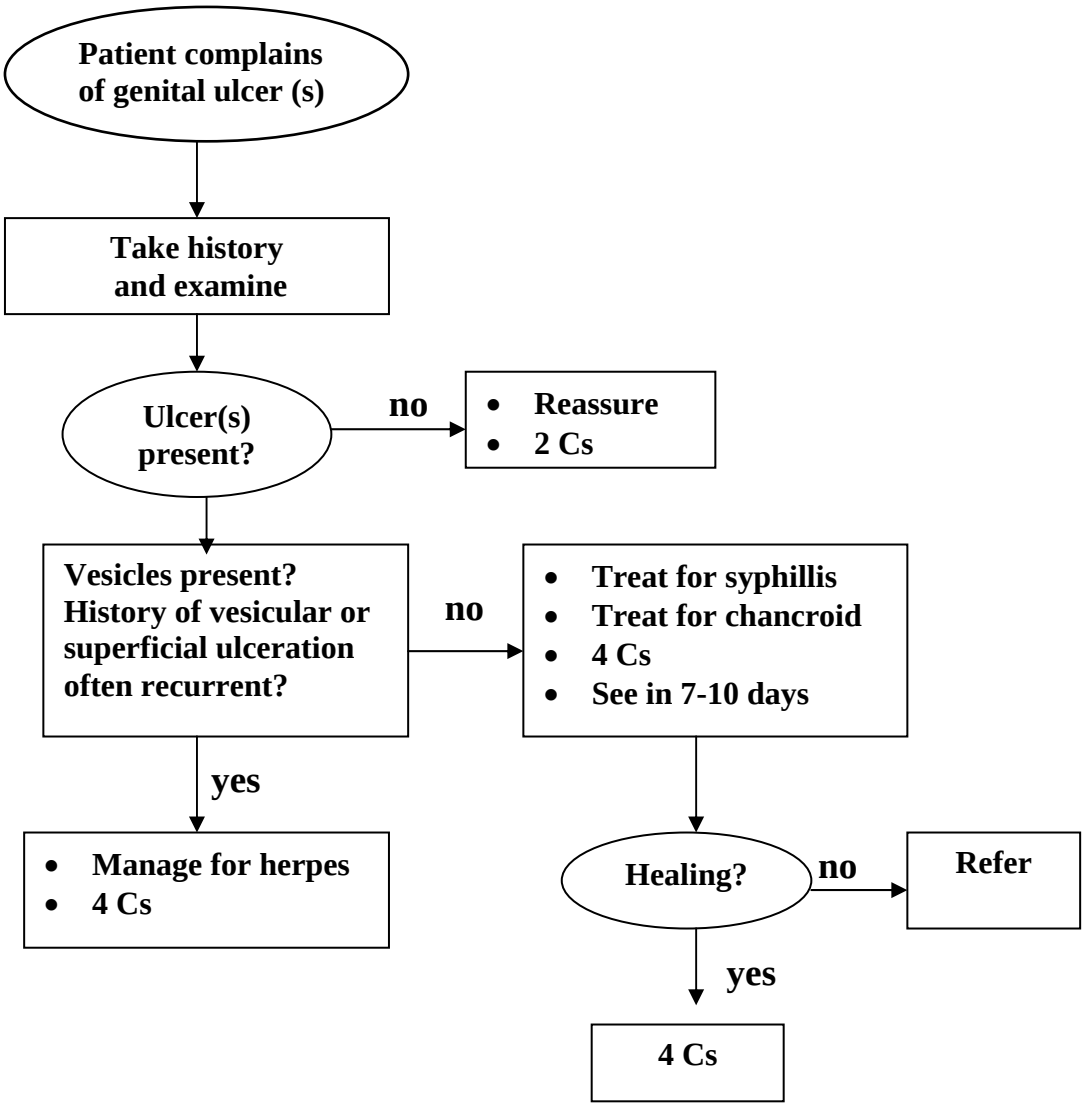
  ACYCLOVIR, 200mg, orally five times daily for 7 days

  For > 6 painful episodes of recurrences per year

  ACYCLOVIR, 200mg, orally three times daily, continuously.

Note: Refer to National STD Case Management Guidelines for treatment recommendation in detail for specific disease

FLOW CHART FOR THE CASE MANAGEMENT OF GENITAL ULCER SYNDROME



REMEMBER THE 4 Cs WITH EVERY PATIENT

3.4.2 Vaginal Discharge Syndrome

Symptoms

- Discharge from vagina*
- Vulvo vaginal irritation
- Vaginal soreness and smell
- Pain on intercourse

Sign

- Discharge from the vaginal opening
  - Thin to thick
  - Clear to purulent
  - Scanty to profuse

Causative organisms

Vaginal infection is caused by:

- Candida albicans
  - Trichomonas vaginalis
  - Bacterial vaginosis

Cervical infection is caused by:

- Neisseria gonorrhoeae
  - Chlamydia trachomatis

RECOMMENDED TREATMENT:

- **Vaginal discharge**

Where gonococcal / chlamydia **cervicitis**[1] is a distinct possibility

CIPROFLOXACIN, 500mg, as a single oral dose

Plus

DOXYCYCLINE, 100mg, two times daily for 7 days

Or

TETRACYCLINE, 500mg, four times daily for 7 days

Plus

TINIDAZOLE, 2gm, in a single oral dose

Or

METRONIDAZOLE, 400mg, three times daily for 7 days

Plus

CLOTRIMAZOLE, 200mg, vaginal pessary each night for 3 nights locally

[1] See the case management protocol for vaginal discharge for guidance on estimating the probability of a cervical infection

Where **vaginitis** alone is diagnosed:

TINIDAZOLE, 2gm, in a single oral dose

Or

METRONIDAZOLE, 400mg, three times daily for 7 days

Plus

CLOTRIMAZOLE, 200mg, vaginal pessary each night for 3 nights Locally.

*** What is normal and abnormal Vaginal Discharge?**

Women always have some vaginal discharge that changes throughout the month due to hormonal changes. Generally there is a small amount of clear mucus discharge, which starts from the first week of the menstrual period increasing in quantity and getting thicker close to the time of ovulation. Normal vaginal discharge increases during pregnancy, sexual excitement and at the times of emotional stress. Normal vaginal discharge contains dead mucus tissue cells and lactobacillus. All patients with the history of white discharge P/V may not have STI but should be investigated for STI.

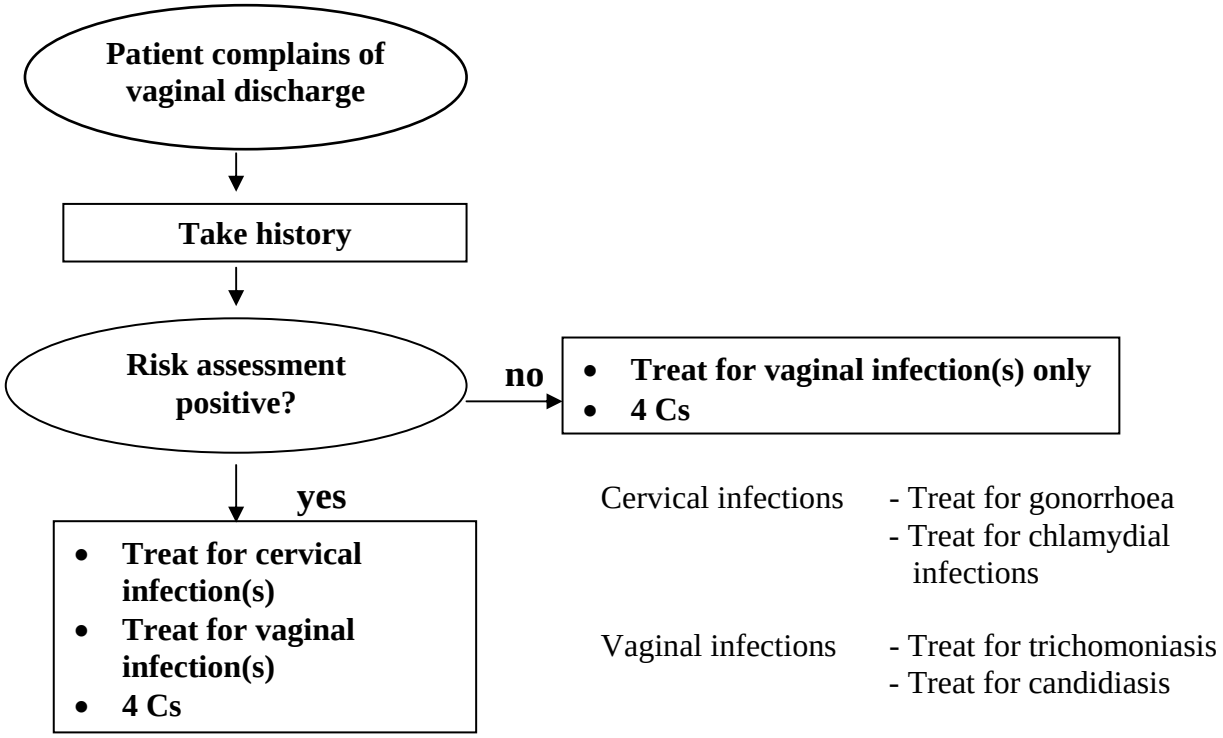
Abnormal vaginal discharge is changed in quantity, color and odor compared with normal vaginal discharge, and indicates infection of the vagina or cervix. The discharge may be thin or thick. It can be clear, without color, or white gray, green or yellow and smell like yeast or fish.

In the absence of laboratory facilities for identifying specific pathogens in the cervix, **risk assessment** is recommended for identifying women with cervicitis as it is a common cause of complications.

RISK ASSESSMENT

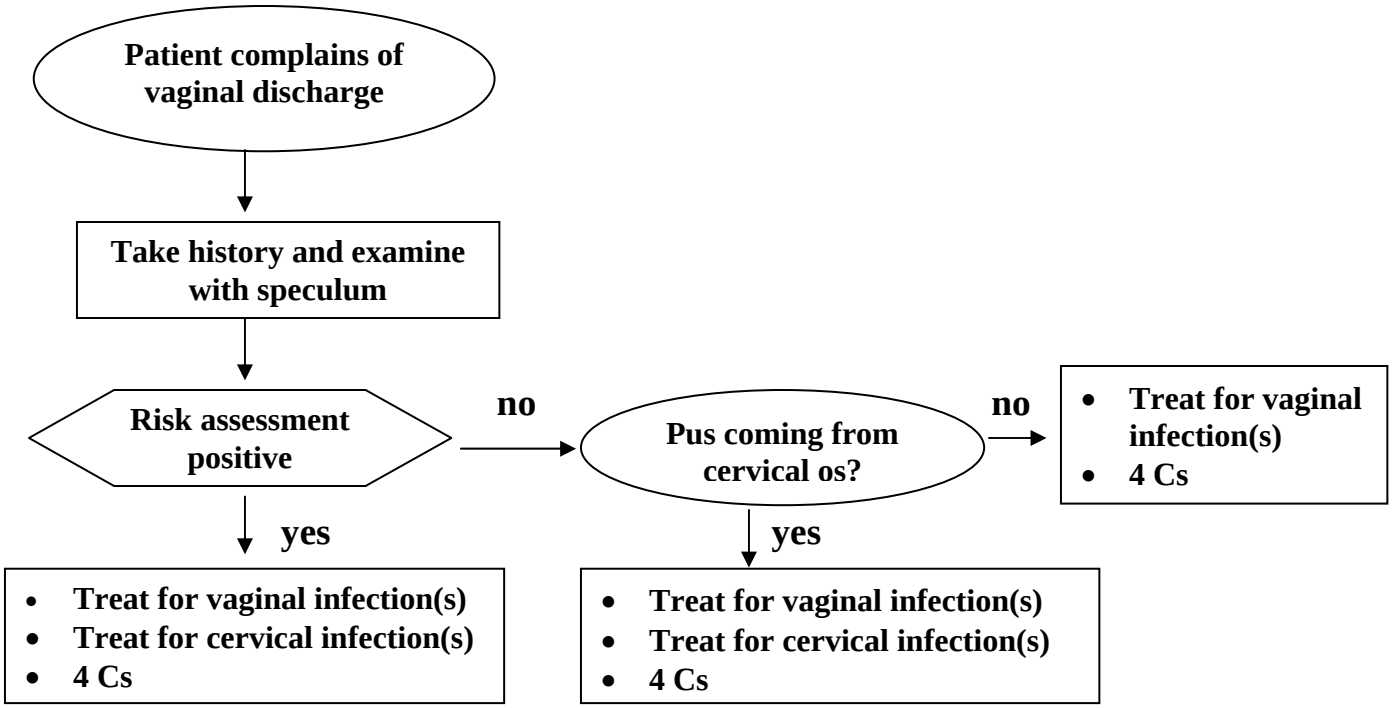
Positive Risk Assessment (RA +) is defined as women having (i) symptomatic partner and/or (ii) having more than one partner in the last month and /or (iii) her partner having multiple partners.

FLOW CHART FOR THE CASE MANAGEMENT OF VAGINAL DISCHARGE - NO SPECULUM EXAMINATION POSSIBLE



REMEMBER THE 4 Cs WITH EVERY PATIENT

FLOW CHART FOR THE CASE MANAGEMENT OF VAGINAL DISCHARGE - SPECULUM EXAMINATION POSSIBLE



REMEMBER THE 4 Cs WITH EVERY PATIENT

Lower Abdominal Pain Syndrome in Women (Pelvic Inflammatory Disease, PID)

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

Symptoms

- lower abdominal pain - continuous/ intermittent/mild to severe
- Pain on intercourse
- Vaginal discharge
- Fever

Signs

- Lower abdominal tenderness, guarding, rebound tenderness
- Pain on cervix movement, palpable, tender mass(es)
- Cervical discharge/bleeding
- High temperature

Causative organisms

- N. gonorrhoeae
- C. trachomatis
- Anaerobic bacteria
- Others – unknown

Differential Diagnosis:

It is important to exclude other surgical and gynaecological conditions that also cause lower abdominal pain such as:

- Threatened abortion
- Incomplete abortion
- Septic abortion
- Ectopic pregnancy
- Appendicitis
- Colitis
- Dysmenorrhoea etc

- **Out patient treatment:**

CIPROFLOXACIN, 500mg, as a single oral dose

Or

Inj. CEFTRIAXONE, 250mg, I/M Stat.

Plus

DOXYCYCLINE, 100mg, two times daily for 14 days

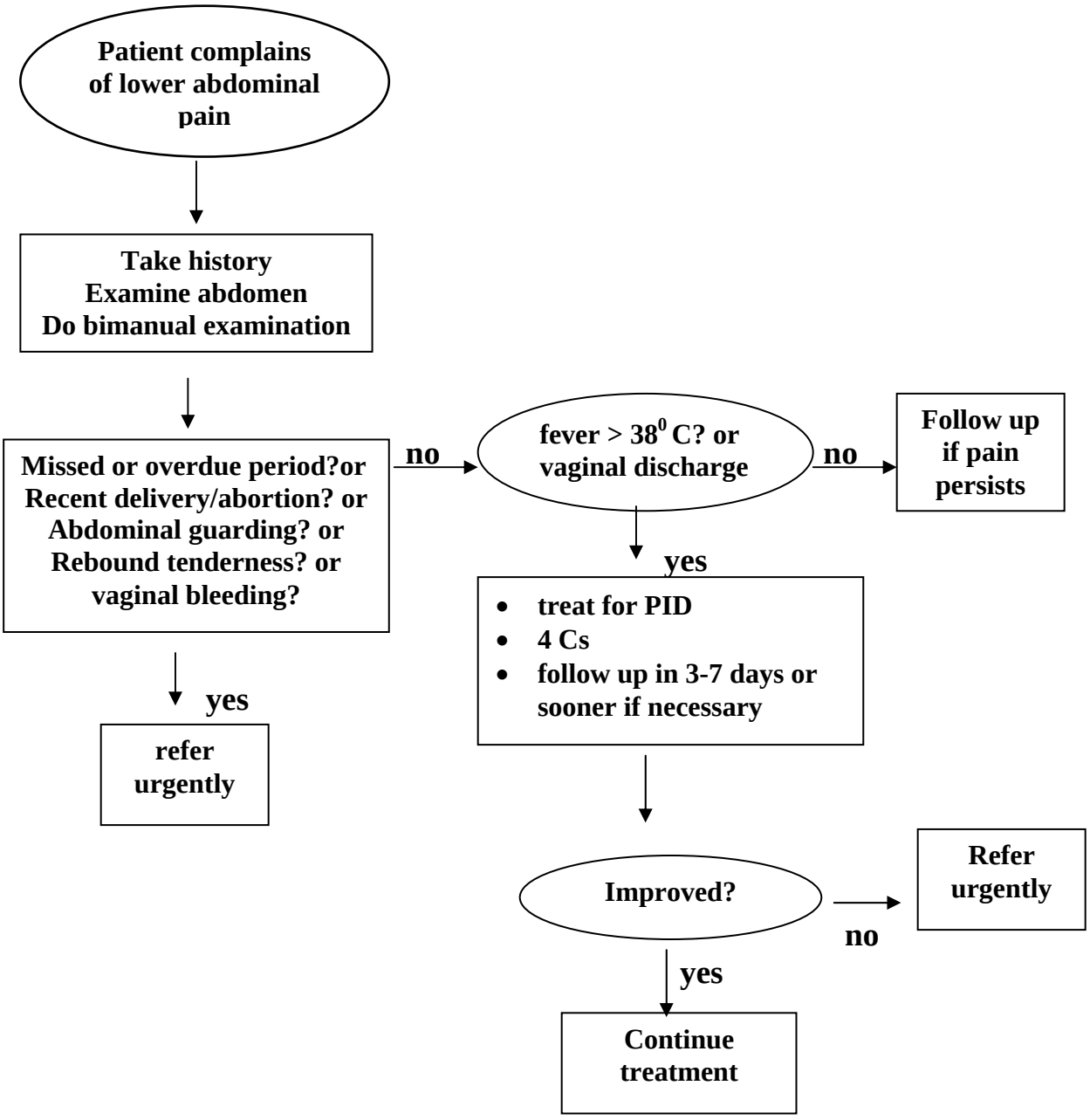
Or

TETRACYCLINE, 500mg, four times daily for 14 days

Plus

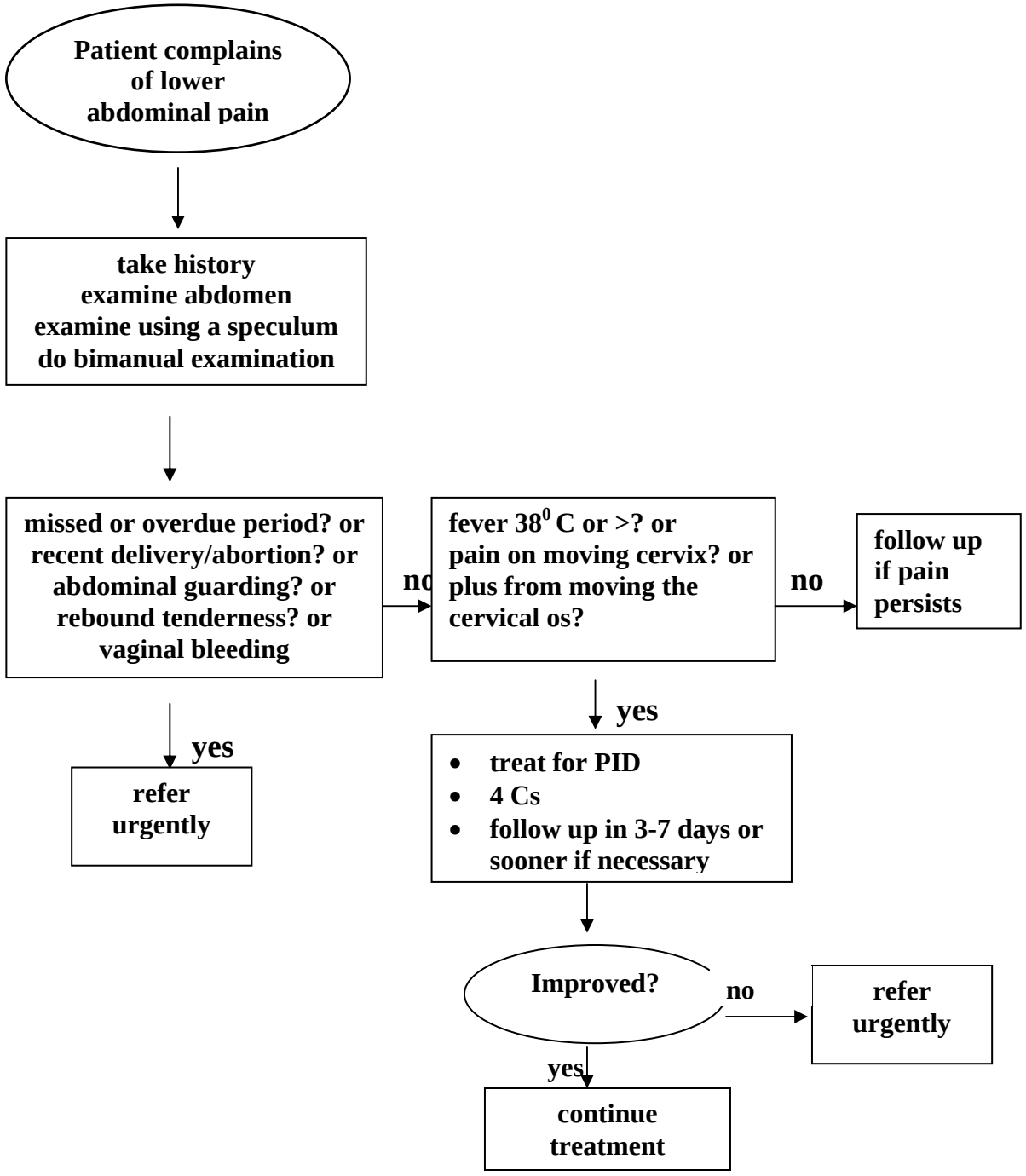
METRONIDAZOLE, 400mg, three times daily for 14 days

FLOW CHART FOR THE CASE MANAGEMENT OF THE LOWER ABDOMINAL PAIN IN WOMEN SYNDROME- NO SPECULUM EXAMINATION POSSIBLE



REMEMBER THE 4 Cs WITH EVERY PATIENT

FLOW CHART FOR THE CASE MANAGEMENT OF THE LOWER ABDOMINAL PAIN IN WOMEN SYNDROME - SPECULUM EXAMINATION POSSIBLE



REMEMBER THE 4 Cs WITH EVERY PATIENT

Note: See differential diagnosis in page 3-16

3.5 INFECTION PREVENTION

Every person should be considered potentially infectious to other people

Practice universal precautions for:

- Safety measures when handling body secretions and contaminated instruments/objects.

- Sterilisation and disinfection procedures.

Note: *Refer to National Medical Standard Volume I for details.*

3.5 **CONDOM PROMOTION** - Refer to *National Medical Standard Volume I* for details.

3.7 MEN'S ROLE IN STI

- Men play a key role in ensuring that partners are treated simultaneously to end the chain of STI transmission.

- Men should use a condom to prevent/reduce STI transmission.

- Men should remain faithful to one partner to prevent STIs.

- Men should access screening and treatment when STI symptoms present. They should initiate this because it is easier to diagnose STI in a man correctly.

- Men can educate other men about STIs and encourage them to seek screening and treatment.

CHAPTER THREE - II

HUMAN IMMUNO-DEFICIENCY VIRUS/ACQUIRED IMMUNODEFICIENCY SYNDROME (HIV/AIDS)

3.1 BACKGROUND

HIV/AIDS is rapidly increasing in most countries of the world, including Nepal. Initially the epidemic was concentrated in the African continent but now it is rapidly increasing in Asia. HIV/AIDS experts predict that Asia will be the hardest hit continent in the 21st century. Currently more than 7.1 million people are living with **HIV/AIDS** in South Asia. More than 60 million people are infected with HIV, and among them $^1/_3$ are aged between 15-24 years. In Nepal, the first case was diagnosed in 1988, and numbers are gradually increasing every year. Currently, it is estimated that there are more than 62,000 people living with **HIV/AIDS** in Nepal.

The HIV/AIDS Epidemiological Situation in Nepal

Cumulative HIV/AIDS Situation in Nepal

Condition	**Male**	**Female**	**Total**	**New Cases in May 03**
HIV Positive (Including AIDS)	2091	792	2883	101
AIDS (out of total HIV)	446	198	644*	6

Cumulative HIV infection by sub-group and sex

Sub-groups	**Male**	**Female**	**Total**	**New Cases in May 03**
Sex workers (SW)		491	491	18
Clients of SWs/STD	1716	57	1773	53
Housewives		223	223	17
Blood or organ recipients	4	2	6	
Injecting Drug Use	349	3	352**	11
Children	22	16	38	2
Total	**2091**	**792**	**2883**	**101**

Cumulative HIV infection by age group

Age group	Male	Female	Total	New Cases in May
0-5 Years	16	12	28	1
6-13 Years	8	2	10	1
14-19 Years	92	154	246	4
20-29 Years	1084	412	1496	43
30-39 Years	711	175	886	48
40-49 Years	156	34	190	4
50-above	24	3	27	
Total	**2091**	**792**	**2883**	**101**

*****Death – 159
**Mode of Transmission – IUD or Sexual

Data include results from sentinel surveillance and voluntary confidential testing.

(Source: National Public Health Laboratory, National Centre for AIDS & STD Control, Teku Hospital, April 2003).

H – Human – Found only in human	**A** – Acquired – not born with
I – Immunodeficiency – Weakening of body's defence system	**I** – Immuno – body's defence system
V – Virus – Micro organisms	**D** – Deficiency – not working properly
	S – Syndrome – signs and symptoms of many diseases

3.2 MODE OF TRANSMISSION

- Through unprotected sexual intercourse with an infected partner.
- Through **HIV** infected blood, blood products, organ transplant, and contaminated sharp objects (needle and blade).
- From an infected woman to her new born child before, during or after birth.

Who is at risk of getting HIV /AIDS

Each and every one of us is at risk of **HIV** infection, but certain practices carry high risk such as:

- Having many sex partners.
- Not practicing safe sex.

- Sharing contaminated needles/ syringes.
- Receiving **HIV** contaminated blood and blood products.
- Receiving organs from an infected person.

3.3 NATURAL HISTORY OF HIV INFECTION

After entering the body the HIV infection progresses in the following three stages.

Stage I. Acute infection/ Window period

Within 2-3 weeks of infection, most people develop flu like symptoms, such as fever, headache, night sweats, skin rash, cough, etc. This stage subsides without any treatment. The HIV antibody test does not show any positive result at this stage.

Window period

This is the time when a person is infected with **HIV** but has not yet produced antibodies. This period lasts for 6-12 weeks. During this period, the person is infectious but not positive for **HIV** antibody tests.

Stage II. **Asymptomatic stage (carrier stage)**

This stage may last up to15 years. The person is positive for HIV and can transmit the virus through blood and/or sexual fluid. **HIV** infected persons at this stage remain asymptomatic. However, some patients may present with Persistent Generalized Lymphadenopathy (PGL).

Stage III. **Symptomatic stage (AIDS)**

Constitutional symptoms in this stage include persistent fever, diarrhea, and loss of weight exceeding 10% body weight. The symptoms might be related with HIV only or related with the secondary infections like oral candidiasis, pulmonary tuberculosis, labial or genital herpes. There might be presence of skin cancer called Kaposi's sarcoma, which is a characteristic of **HIV** infection. Once the patient develops AIDS the survival period may range from a few months to years.

3.4 CLINICAL FEATURES OF AIDS

Major signs and symptoms

- Weight loss greater than 10% of the body weight.
- Fever for longer than one month duration.

- Chronic diarrhoea for longer than one month (intermittent or consistent).

Minor signs and symptoms

- Persistent cough for longer than one month.
- General itchy dermatitis (skin irritation).
- Recurrent Herpes Zooster (Shingles).
- Oropharyngeal candidiasis(fungus infection in the mouth/throat).
- Chronic progressive and disseminated Herpes Simplex infections.
- General lymphadenopathy (swelling of lymph glands).

3.5 LABORATORY DIAGNOSIS OF HIV / AIDS

Some of the HIV antibody tests available are:

- Enzyme Linked Immuno-Sorbent Assay (ELISA).
- Serodia.
- Western blot .

Recommendation for test diagnosis:

- If two ELISA tests based on different preparations are positive the result is positive for HIV antibody.
- If one ELISA is positive and another negative, conduct a third ELISA test or a western blot test. If this third ELISA or western blot test is positive, the result is HIV positive.

If the CD4 count is feasible, it can be recommended. An HIV infected person having a CD4 count of less than 200/mm is considered to have AIDS. (Normal CD4 count is 600-1500).

3.6 PREVENTION OF HIV/ AIDS

At present prevention is the only sure method of avoiding death from **HIV/AIDS**. Until now there is no cure. Methods of prevention include:

1. Encouraging safe sex practices.

2. Early treatment of STIs.

3. Use of blood and blood product only after screening for HIV.

4. Practice of universal (infection prevention) precautions at all levels.

5. Encouraging IVDUs harm reduction methods.

6. Counseling about the pros and cons of continuing pregnancy or breastfeeding. If applicable and available, use AZT, Nevirapine to reduce mother to child transmission.

General Management

People living with HIV/AIDS need medical, physical, psychological, social and occupational care/support. Case management includes:

- Reassuring the patient about privacy and confidentiality.
- Regular checkup, every 2-3 months including weight.
- Assessment of nutritional status and advice about proper nutrition.
- Maintenance of proper hygiene and sanitation.
- Prompt care for skin and mouth problems.
- Symptomatic and specific treatment for STIs when needed.
- Anti retroviral treatment when needed and feasible.
- Repeat blood count every 3-6 months.
- Advice about reducing the risk of transmitting the infection to others.
- Psychological, emotional support to the patient, family members and friends.
- Education and counseling for the individual about HIV/AIDS.
- Referral when needed to higher centers.

Symptomatic Treatment

HIV/AIDS patients can have a range of different symptoms, such as pain, diarrhea, weight loss, ulcers, generalized pruritis, anxiety/depression, etc that can be managed at home or at health facilities, as follows:

Pain

Tab Aspirin 300-600 mg every 6-8 hours.
Tab Paracetamol 500 – 1000 mg every 4 - 6 hours.
Tab Ibuprofen 400 mg every 6-8 hours.
Tab Diclofenac 50 mg every 8-12 hours.

Diarrhea

Encourage taking ORS solution.

If diarrhea is due to Shigella, Salmonella and Giardia treat with:

Tab Metronidazole 400 mg three times a day.

Or

Tab Tinidazole 300mgm twice a day.

And

Tab Ciprofloxacin 500mg twice a day for 7 days.

Anxiety/Depression

Counseling

And

Tab Diazepam 2 – 5 mg every 6-8 hours.

Or

Tab Alprazolam 0.5 – 2 mg daily.

Generalised pruritis

Application of emollients, olive oil, coconut oil etc.

Antihistamins such as:

Tab Chlorphenaramine Maleate 2 – 4 mg twice a day.

Or

Tab Cetrizine/ Astemizole 10 – 20 mg/day.

Or

Cap Fexofenadine tablet -180 mg per day.

Treatment for opportunistic infection

- **Fungal**

  Oral or vaginal candidiasis

  Cap Fluconazole 100 – 200 mg/day for 7-14 days.

  Or

  Tab Ketoconazole 200 – 400 mg/day for 7-14 days.

  And

  1% clotrimazole cream/oral mouth paint to apply twice a day.

  Superficial dermatophyte infection

  1% clotrimazole or Micanozole cream to apply twice a day for 4-6 weeks.

  And

  Cap Fluconazole 150 mg/once weekly for 4-6 weeks.

  Or

  Cap Iatraconazole 100mg twice a day for 7-14 days.

- **Viral Infections**

  Herpes simplex

  Tab Acyclovir 200 mg 4hourly for 7-10 days.

And

Topical Acyclovir 5% to apply 4hourly for 7-10 days.

Herpes Zoster

Tab Acyclovir 800 mg 4hourly for 7-10 days.

And

Topical Acyclovir 5% to apply 4hourly for 7-10 days.

And

Analgesics like Ibuprofen and Diclofenac

Molluscum Contagiosum

Chemical/electric cautery

- **Bacterial Infections**

  Pyoderma

  Topical antibiotics:

  Sisomycin or Mupirocin or Sodium Fucidate cream apply twice a day.

  And

  Systemic antibiotics depending on bacterial sensitivity and availability:

  Cap Cephalexin 500 mg 6 hourly for 7 days.

  Or

  Cap Cefadroxil 500 mg twice a day for 7 days.

  Or

  Erythromycin 500 mg 6 hourly for 7 days.

  Or

  Cap Azithromycin 500 mg once a day for 3 days.

Bacterial Pneumonia

Most common organisms are streptococcus pneumonia or H. influenza

Injection Ceftriaxone 1gm/day I/V or I/M

Or

Cap Ampicillin 500 mg 6 hourly for 7 days.

Or

Cap Amoxicillin 500 mg 8 hourly for 7 days.

Or

Cap cephalosperin 500 mg 6 hourly for 7 days etc can be used depending on sensitivity.

Pneumocystic Carnii infection

Tab Cotrimoxazole 15-30 mg/kg/day for three weeks.

Mycobactrium Tuberculosis

To be treated as non-HIV patients. 4 drugs in the initial two months, followed by two drugs for a total of 6-12 months.

Rifampicin 300mg/day
Isoniazide 300 mg/day
Pyrazinamide 1.5 - 2 gm/day
Ethambutal 800 mg/day

According to the National Tuberculosis Manual, the drugs for HIV positive patients are same. The only difference with HIV negative patients is that Thiacetazone is not prescribed.

Refer to higher centers for other opportunistic infections.

3.7 COUNSELING

Persons who require HIV/AIDS Counseling:

- Those who are going for an **HIV** test.
- Those diagnosed as **HIV** positive/**AIDS** and their families.
- Those involved in high risk behavior, currently and in the past.
- Those who fear they may be **HIV** positive.

i) Pre-test Counseling:

The purpose of Pre-test Counseling is to prepare the client:

- To determine if test is required, including discussion about the window period.
- To cope with the test result if positive.
- To prevent further transmission if positive.
- To reduce the risk of infection.
- To lead a positive and constructive life.

ii) Post-test Counseling:

Post-test Counseling takes place immediately after the test results are available. The purpose of post-test counseling is:

- To inform clients of the result.
- To encourage clients not to engage in further high-risk behavior if found negative.
- To enhance clients' level of knowledge through proper advice and regular counseling if found positive.
- To ensure that the disease is not transmitted to anyone else by HIV positive clients.
- To refer to the appropriate social service for support and care if required.

CHAPTER FOUR

SUBFERTILITY / INFERTILITY

4.1 BACKGROUND

Having children is important in all societies, and infertility is often considered a source of pain, anxiety, and shame for a couple. While there are signs of increasing acceptance parts of the world that a family can include couples without children, most societies still do not find this concept acceptable. Thus health care workers need to be ready and willing to help couples seeking help for this problem, as it clearly falls within the realm of reproductive health care.

About one in ten couples experiences difficulty in producing a child when they want to do so. More than 80% of married couples will conceive in the first two years, but over half the remainder will remain infertile if no treatment is given. This often creates psychological and psychosexual strains on relationships and should therefore be investigated and treated as rapidly as possible.

4.2 DEFINITIONS

The following are adapted from the WHO definitions of infertility in couples:

Primary Infertility: The couple has never conceived despite regular (2-3 times per week) unprotected intercourse for at least 12 months (one year).

Secondary Infertility: The couple previously had conceived, but are now unable to do so despite 12 months of unprotected intercourse.

Subfertility: The couple has difficulty in conceiving jointly because both partners may have reduced fertility.

Pregnancy Wastage: The woman is able to conceive but unable to produce a live birth (unable to carry the pregnancy long enough to deliver a living child).

In the remainder of this section, the term "infertility" is used to mean the inability to conceive and bear a living child or a man's inability to impregnate (cause to become pregnant) a woman.

4.3 BASIC FACTS ON FERTILITY

- Within 6 normal cycles 85% of couples will conceive.

- Pathology in both men and women contributes to subfertility.
- About 40% of infertility cases are wholly or in part due to a male factor.

4.4 BASIC CAUSES OF INFERTILITY BY REPRODUCTIVE ORGANS

Female		Male	
Ovarian	10 - 15%	Oligospermia/Azospermia	30 - 40%
Tubal	30 - 40%	Unexplained	10%
Cervical	10 - 15%		

Source: Keller** Div **et al. (1984)

4.5 PRE-DISPOSING FACTORS AFFECTING FERTILITY

Factor	Impact
Age of the woman	Older women (over 40 years) take longer to conceive.
Age of the man	Coital frequency declines with increasing age.
Coital Frequency*	There is a positive correlation between coital frequency and pregnancy rates.
Coital Timing	Coitus around the time of ovulation (days 10-15) maximizes the possibility of conception since the ovum lives only about 12-24 hours.
Lubricants	Lubricants like K-Y jelly have spermicidal properties and if used for lubricating purpose can hinder conception.
Smoking/Alcohol/ Narcotics	If used in excess, these may cause poor sperm quality. Marijuana use is believed to lower sperm motility and count.
Surgery	Reproductive/pelvic surgery in men or women may cause fertility problems due to altered anatomy or nerve damage Especially in the male).
Sexually transmitted genital tract infections (GTIs)	Gonorrhea and chlamydia are the principal GTIs leading to pelvic inflammatory disease and impaired fertility.
Non- sexually transmitted diseases	Illnesses like genital tuberculosis, mumps orchitis, postpartum and post-abortion infections may reduce fecundity.
Medications and toxins	Certain medications may cause male impotency (e.g. antihypertensives and tranquilizers). Other may impair spermatogenesis and ovarian function (e.g. anti-cancer drugs, amoebicides).
Radiation	Gonadal failure may occur as a result of radiation.

Source: Hatcher R.A. et al (1989)

*Frequency of Intercourse and Probability of conception within 6 months:

Less than 1 per week	- 17%
1 per week	- 32%
2 per week	- 46%
3 per week	- 51%

Source: Macleod (1953)

4.6 REQUIREMENTS FOR FERTILITY

Male

- Testes (at least one) capable of producing "normal" sperm in sufficient amounts to fertilize an egg.
- Ductal system (epididymis and vas deferens) patent (open) on at least one side to carry sperm to the penis.
- Ability to maintain an erection.
- Ability to achieve ejaculation in order to transmit sperm into the female vagina.

Female

- An ovary (at least one) capable of producing an egg (ovulation) on a reasonably regular (every four to six weeks) basis with an intact neuroendocrine system (hypothalamus and anterior pituitary).
- Fallopian tubes (at least one of which is normally functioning and open) to transmit the egg and sperm.
- Uterus capable of developing and maintaining the fertilized egg (embryo) to maturity (34 to 38 weeks from the last menstrual period, LMP).
- External genitalia (introitus, vagina and cervix) capable of receiving sperm during intercourse (coitus).
- Adequate sex hormone (estrogen and progesterone) production from the ovary to maintain the pregnancy until the placenta takes over (10 to 12 weeks from the LMP).

4.7 ASSESSMENT OF INFERTILITY

4.7.1 General Assessment of Couple

Basic Considerations

- Assess both partners.
- Ensure privacy during assessment.
- Avoid assigning blame to either partner.
- Provide basic interventions first.
- Ask for previous infertility investigations and treatment information.
- Find out whether the couple knows about fertility period.
- Obtain the reproductive health (medical, social and genetic) history.
- Start with simple laboratory testing, which can be very help to determine the cause of the infertility.
- Explain to the couple about the importance of investigation and estimation of cost, time, and treatment pattern.

Assessment: Female

Fertility history should include:

- Age.
- Previous pregnancies, including abortions.
- Known children outside this union.
- Menstrual history.
- Sexual frequency and timing.
- Dyspareunia or difficulty with intercourse.

Medical history should include:

- STDs or history of PID.
- Tuberculosis.
- Abdominal or pelvic surgery.
- Major medical problem (thyroid disease, pituitary).
- Familial genetic disease or infertility.
- Drug intake/ habits.

Physical Examination of Women:

- General feature.
- Body weight.
- Secondary sexual characteristics and hair distribution.
- Hirsuitism.
- Thyroid mass.
- Breast discharge.
- Abdominal mass.

Pelvic examination:

- Vulva: hymen.
- Vagina: infection, abnormality (e.g. Septum).
- Cervix: infection.
- Uterus: size, shape, mobility, nodules.
- Adnexa: mass, tenderness or fluid.

Assessment: Male

Fertility history should include:

- Age.
- Occupation.
- Any children from other partners.
- Sexual frequency and timing.
- Impotence or difficulty with intercourse.

Medical history include:

- STDs or history of urethral discharge.
- Mumps or orchitis after puberty.
- Genital surgery or hernia repair.
- History of genital trauma.
- Familial genetic disease or infertility.
- Drug intake.
- Drug and alcohol abuse.

Physical Examination:

- Secondary sexual characteristics and hair distribution.
- Thyroid mass.

Genital exam:

- Penile examination.
- Presence of both testes.
- Size of testes.
- Varicocele/Hydrocele .

- Scrotal mass or tenderness.

4.7.2 Basic requirements for assessment of a couple

- Minimal equipment for gynecological examination.
- Basal body temperature (BBT) chart (*Appendix 2).*
- Microscope for semen analysis and post-coital test.
- Laboratory for blood check-up and endometrium biopsy.
- X-ray facility for hysterosalpingogram *(Appendix 3).*
- X-ray of chest and skull.

A. Basal Body temperature recording technique

It is a simple non-invasive method but is cumbersome and patient dependent**.** Daily temperature monitoring sublingually at least recorded for three cycles.

- Before getting out of bed each day.
- Recorded on standard graph.

(Progesterone causes a rise in temp of 0.3C or 0.4-1. F creating biphasic temperature curve).

B. Post - Coital Test (PCT)

- Direct analysis of sperm - cervical mucous interaction.
- Reasonable substitute for semen analysis when male is unable to produce a semen sample.
- Day 12 - 14 of 28-day cycle.
- Intercourse after 48 hours abstinence.
- Mucous secretion is taken from post fornix of vagina within 2-8 hours after intercourse and examined under microscope to see the reaction of cervical mucous and sperm.

Normal parameters for PCT:

- 10 progressively motile spermatozoa per HPF.

- Clear a cellular mucus.

- Spinnbarkeit of 6- 8 cm.

C. Semen analysis

A semen specimen should be obtained by masturbation 2 -4 days after the last intercourse, and examined under a microscope. Semen analysis includes: volume, PH, colours, odour, liquefaction and viscosity and measurement and sperm count, viability and morphology determinations. WHO criteria for a normal semen evaluation are shown below.

Criteria for Normal Semen Evaluation (Adopted from WHO)

Name
Collection time _____
Examination time_____
Volume > 2.5 ml _____

Spertomatozoa

Concentration	> 20 x 10^6/ml
Motility	> 50% progressively motile
Morphology	> 50% normal (ideal) forms
Viability	> 60% live
Agglutination	None
Quality of motility	- graded 1 to 4 from poor to excellent

Seminal Fluid

Appearance	Normal
Viscosity	Normal
WBC count	<1 million/ml

4.8 SUB FERTILITY AND CONTRACEPTION

Type	Delayed return of fertility	Possible Sub fertility
COCs	Yes (2-3 months)	No
DMPA	Yes (up to 6months)	No
Norplant	No	No
IUD	No	If serious pelvic infection
Barriers	No	No

4.9 BASIC INTERVENTIONS

- Counsel for frequent and regular intercourse especially during fertile period.
- Avoid
    - Exposing the scrotum to extremes of temperature.
    - Lubricants.
    - Post coital or frequent douching.
- Counseling regarding the fertile period cervical mucus, which should be thin and watery during this period. *(Appendix 4).*
- Review of BBT chart useful in determining fertile period 2 days before and 7 days after the expected day of ovulation *(Appendix 5).*
- Basal body temperature (BBT) monitoring as mentioned in *4.7.2 (A).*

4.10 MANAGEMENT OF SUBFERTILITY AND INFERTILITY

Investigation facilities available:

Health Institution	Activities
Sub Health Post/ Health Post	• History taking • General physical examination • Counseling for post contraceptive delay and infertility • Basal body temperature • Syndromic treatment for STI infections • Referral
Primary Health Centre	• All above • CBC test • VDRL test • Pregnancy test • Semen analysis • Examination of reproductive organs • Treatment of non STI and RTI • Referral
District Hospital (without OB/GYN specialists)	• All above • Chest X – ray, skull X-ray • Blood sugar, HBsAg • Blood urea • Counseling for negative practices if any • BBT • Referral
District Hospital (with OB/GYN specialist)	• All above • Hysterosalphyngography • BBT charting, ovulation Induction (see 4.10, female) • Post coital test • D & C , Endometrial Biopsy • Tubal patency test or insufflation test • Hormonal Therapy • Referral
Zonal/Regional Hospital	• All above • Laparoscopic examination of pelvic organs (if available) • USG abdomen and see ovarian follicles • Referral
National Hospital (single or multi specialty with tertiary care services in OB/GYN, surgery or urology	• All above • Testicular biopsy • Endoscopy and Hysteroscopy • Menstrual blood for AFB culture • CT scan/MRI • Psychotherapy

	• Psychotherapy
	• Hormonal assay
	  o Sex hormone assay
	  o Thyroid hormone assay
	• AIH/AID
	• IVF
	• Investigation and treatment of chronic non-STI and reproductive tract infections
	• Corticosteroid therapy
	• Surgical correction of male or female surgical conditions related to infertility

4.11 WHEN TO REFER FOR SUBFERTILITY

Refer to the specialist unit situated as near as possible, and with the best success rate to reduce the stress and cost involved in traveling and techniques.

- Basic interventions should be tried for 6 months.
- Couple should be seen again to ensure that interventions have been correctly followed.
- Referral should be considered for further investigation and possible interventions.
- Referral should be considered in all patients over the age of 35 years.

4.12 TREATMENT

Male

- For oligospermia/ azospermia refer to appropriate specialist.
- For evidence of infections treat with antibiotic (Empirical).
- Surgical correction on anatomical defects in any parts.

Female

- Antibiotic if there is genital infection *(Primary Level).*
- Ovulation induction by clomiphene citrate at least six cycles gradually increasing the dose from 50 mg per day for five days to 100 mg, 150 mg, 200 mg in anovulatory cycles starting from second to fifth days of menstruation *(District Level).*

- Injection Human Menopausal Gonadotrophin (HMG) alone or combination with Human Chorionic Gonadotrophin (HCG) after close follicle monitoring (*Tertiary Level*).

- Hydrotubation in mid follicle phase with antibiotic and hydrocortisone at least for three cycles (*Tertiary Level*).

- Surgical correction in the anatomical defects of any parts (*Tertiary Level*).

- Intrauterine insemination (IUI) (husband or donor) with semen preparation (*Tertiary Level).*

- Bromocriptin starting from low dose 2.5 mg to 5 mg daily in case of hyperprolactinemia *(Tertiary Level).*

- Combined therapy like clomophine, bromocriptin (*Zonal Level*).

- Referring to higher medical center for IVF, GIFT, and other micromanipulations *(Specialised service centre).*

- Counseling and adoption.

- Psychotherapy.

- Sexual Therapy.

- Corticosteroids for antisperm anitbodies.

4.13 PREVENTION OF SUBFETILITY/INFERTILITY

- Prevention of STIs.

- Early recognition and management of tuberculosis.

- Early recognition and treatment of undescended testes.

- Prevention of iatrogenic infection e.g. unsafe abortion.

4.14 SOCIO CULTURAL ASPECTS

Many couples with involuntary infertility will eventually have to come to terms with their childlessness. Some do so during the course of their investigations or treatment and may choose not to continue with these. In many cultures the female partner is assumed to be responsible for the infertility and is consequently stigmatized. In some cultures women are divorced and abused because of their failure to have a child. Health professionals need to be sensitive to the social stigma that comes with infertility, within the setting in which they work. Careful counseling is essential. Some couples cannot accept a childless future, and the role of health professionals in helping these couples to come to terms with their situation is as important as, if not more so than, restoring fertility to others.

Figure 4-1: RELATIONSHIP OF SELECTED DIRECT AND INDRECT CAUSES OF MALE INFERTILITY

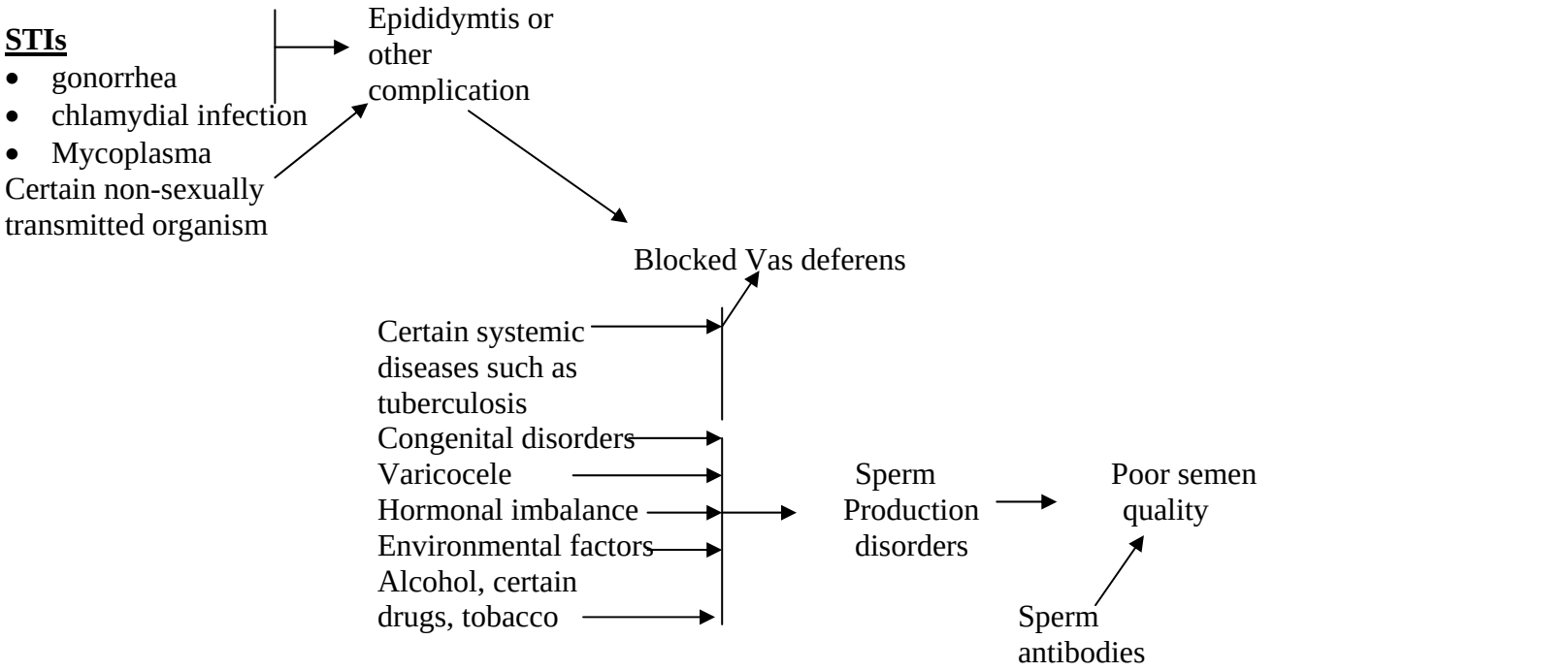
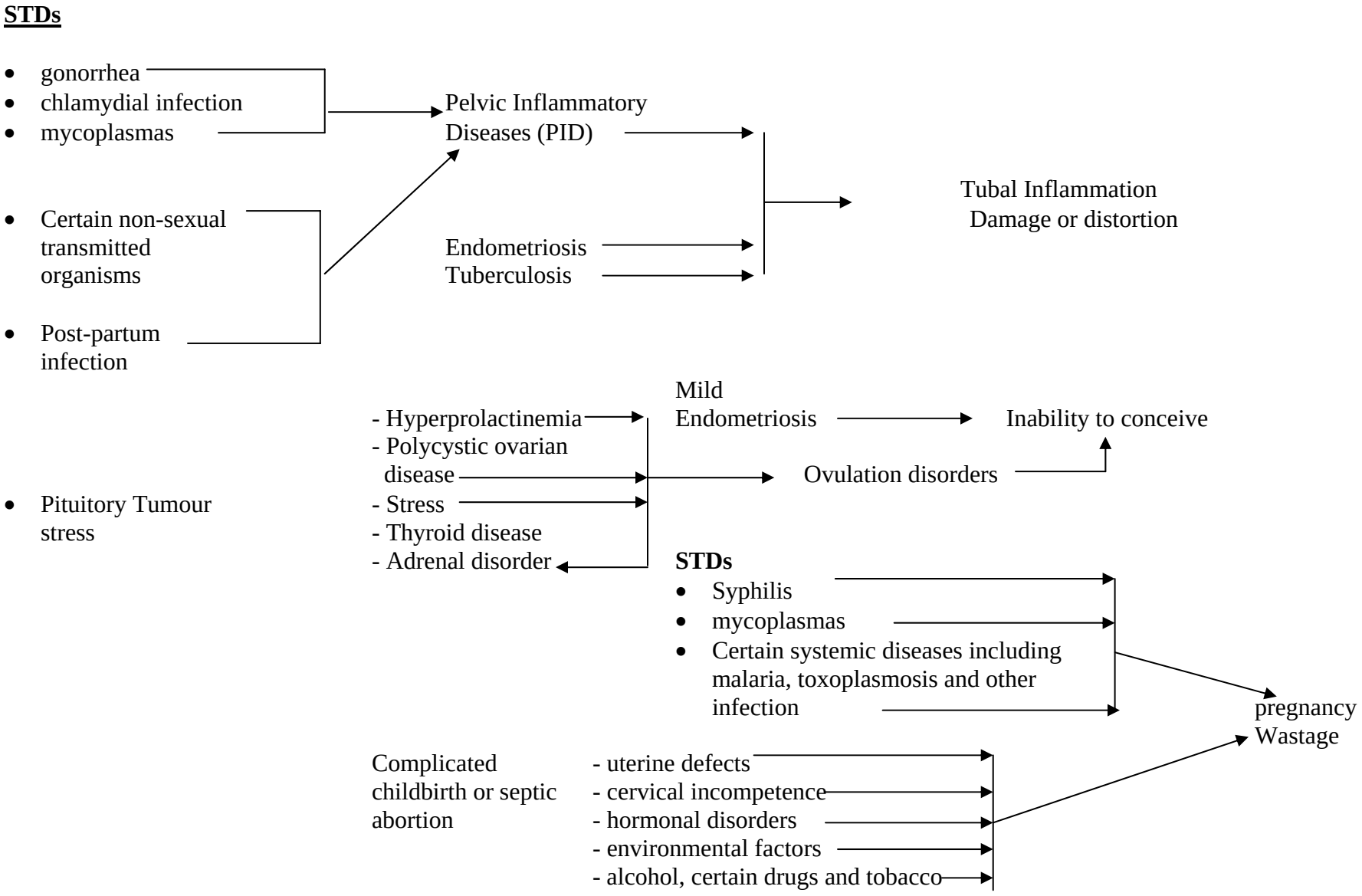


Figure 4-2: RELATIONSHIP OF SELECTED DIRECT AND INDRECT CAUSES OF FEMALE INFERTILITY



CHAPTER FIVE

ADOLESCENT REPRODUCTIVE HEALTH

5.1 BACKGROUND:

In the Program of Action (POA) adopted at the International Conference on Population and Development (ICPD) held in Cairo in 1994, the international community acknowledged for the first time that adolescent sexual and reproductive health involves a specific set of needs, which are distinct from adult needs. In Nepal, the Ministry of Health developed the National Adolescent Health and Development Strategy (2000) to address adolescent reproductive health and development issues and provide standard information and services.

Nepal uses the World Health Organization definition of adolescence as the **period between 10-19 years of age**. Today, adolescents comprise almost 20% of the world's population, and 22% of Nepal's population. Adolescence is a period of transition, growth, exploration and opportunities, but also a time of risk taking, experimentation, and vulnerability. While adolescence generally is a healthy period of life, adolescents are often not well informed about how to protect their sexual and reproductive health, and potentially are at risk from unwanted pregnancies, unsafe abortion, STIs, and HIV. They are less informed, less experienced, less comfortable, and have fewer resources to access reproductive health services than adults. Adolescents need special attention, guidance and support to address their specific concerns, problems and needs and to assist them in developing responsible behavior and a healthy life style.

5.2 ELEMENTS OF CARE

Adolescent Reproductive Health Care services should be friendly, affordable, accessible, confidential and non-judgmental in order to appeal to adolescents and improve their utilization of health care services.

The following are important components of Adolescent Reproductive Health Care:

- Counseling and education about sexual and reproductive health.
- Prevention and management (counseling, education, referral or provision of services) of STIs (including HIV/HBV).
- Counseling and education, with referral or provision of services for pregnancy prevention, family planning, pregnancy management.
- Linkages and referrals to other reproductive health care and other facilities.

5.3 PRE-REQUISITES

5.3.1 Adolescent Friendly Services

The Adolescent Friendly Services have following characteristics therefore services should strive to reflect these.

Programmatic Characteristics:

- Adolescent involvement in program design (adolescent input should be solicited about what services should be offered and how, including perceptions of appropriate welcome, privacy and confidentiality).
- Both married and unmarried boys and girls welcomed and served.
- Group discussions available.
- Parental involvement encouraged but not required.
- Affordable fees.
- Wide range of services offered or necessary referrals available.
- Adequate supply of commodities.
- Drop-in clients welcomed and appointments arranged rapidly.
- Short waiting times.
- Educational material available on-site.
- Services well-promoted in areas where youth gather.
- Linkages with schools, youth clubs, and other institutions.
- Alternative ways to access information, counseling, and services.

Provider Characteristics:

Adolescent services involve counseling and a variety of services, some of which may not be offered on site. All facilities should have staff who are able to provide basic counseling, basic examination and assessment, and know where to refer for services not available on site.

- **Counseling:** Many appropriate staff (e.g. FCHV, Peer Educators, MCHW, VHW, ANM, AHW, HA, MBBS or higher) can be trained in adolescent issues

and provision of non-judgmental counseling, which:

- Demonstrates respect for young people.
- Maintains privacy and confidentiality.
- Allows adequate time for client and provider interaction.

- **Services:** The type of care needed will determine what cadre (as above) is appropriate.

These service providers should be adequately trained by a recognized organization preferably in collaboration with FHD/NHTC. The counselor could be anyone trained in the basic skills of counseling or interpersonal communication with a particular focus on adolescent reproductive health. Young service providers are generally preferred.

Facilities: Health Facility Characteristics:

The minimum facility for providing Adolescent Reproductive Health Services should include:

- A place to register the client and adequate waiting area.
- Sufficient Privacy:
  - A private/curtained area for consultation and counseling.
  - A private/curtained procedure area equipped for clinical procedures.
- Convenient Hours.
- Convenient Location.
- Adequate Space.
- Comfortable Surroundings.

5.3.2 Equipment and Supplies of Adolescent Friendly Services

There is no unique equipment or supplies needed to provide adolescent friendly services, however availability of adolescent specific educational materials is required. See *Appendix* for list of basic equipment and supplies needed.

5.3.3 Record Keeping and Reporting

Information on adolescent visits should be registered and reported to the FHD according to the regular format and schedule. These records should remain confidential.

5.4 SERVICE DELIVERY

5.4.1 Counseling

Counseling should be flexible and responsive to individual needs. Counseling adolescent clients may require a different approach than regular FP counseling for adults. The client's partner or other immediate family member should be included in a counseling session only with the consent of the client.

The same general principles of counseling are used for counseling all adolescents requesting family planning services, as described in *Chapter One: Counseling and Informed Choice (NMS Volume I).*

The counselor may need special training in dealing with the particular needs and concerns of adolescents and should:

- Create a safe environment in which adolescents can express their needs.
- Build rapport with adolescents through use of language with which they are familiar.
- Ensure confidentiality, including agreeing not to discuss decisions with parents (guardians), as appropriate.
- Be open and non-judgmental in response to their questions and expressions about their sexuality.

All adolescent client visiting the service provider or health facility, need counseling and information to ensure that they understand:

- The nature of their concerns/problem and how it can affect their health and social life.
- The specific behaviors that will help them to minimize the reproductive health risk and the social consequences. Appropriate sex education should be provided to enable adolescents to develop the knowledge, skills and confidence to make decisions related to their sexual behavior, including decisions about marriage and engaging in the sexual intercourse when they are ready to do so.

- The variety of methods that can be used to avoid pregnancy and STIs, including abstinence and the benefits of certain contraceptive methods (condoms) in protecting against STD including HIV/AIDS and HBV.

- **Common counseling issues and concerns for adolescents:**

    - Self –esteem.

    - Appearance, body image/organs, body changes.

    - Sexual feelings/desire, wet dreams.

    - Menstruation.

    - Dealing with unwanted sexual advances, pressure from peers and partners.

    - Relationships with parents and guardians.

    - Marriage and its implications (pre-marital counseling).

5.4.2 Clinical Assessment:

For successful management of the problems of an adolescent client, the providers should obtain the information given in the table below. For most of adolescent clients, the clinical history taking and examination, particularly reproductive health related, is a new experience, thus they may be hesitant about accepting an examination. Therefore the following should be considered while examining an adolescent:

- Presence of a attendant/chaperon.

- Be gentle.

- Informed consent (explain what you are going to do and why).

- Watch very carefully the comfort level of the client.

Medical History

The details of history taking should be guided by the current complaints

Male	**Female**
Current complaint if present: • Nature, duration, severity, causative, aggravating factors. Medical history: • Any known medical problems. • Medications and any known allergies. Sexual/Reproductive review as indicated by problem: • History of sexual contact/current activity, new partners. • Current contraceptive method used by him or his partner and duration/side effects . • History of abuse (physical, mental and sexual).	Current complaint if present: • Nature, duration, severity, causative, aggravating factors. Medical history: • Any known medical problems. • Medications and any known allergies. Sexual/Reproductive review as indicated by problem: • Menstrual history. • Menarche (age at first menstruation). • Menstrual cycle- duration/regularity. • Flow- excessive/normal/minimal bleeding (normal is 60-80 ml/day). • Dysmenorrhoea (excessive pain during menstruation). • Date of last menstrual period. • Other vaginal bleeding- duration and amount. • History of or current amenorrhea (missed period). • History of sexual contact/current activity, new partners. • Current contraceptive method and duration/side effects. • Previous reproductive history including conception, abortions, deliveries. • Concerns about vaginal discharge. • Mass or pain in the abdomen. • History of abuse (physical, mental and sexual).

Physical Examination – **The need for and extent of a genital examination will depend on the problem. This should not be routinely done without indication.**	
• General and systemic examination, including: o Height/weight/build. o Thyroid. o Secondary sexual characteristics (including gynecomastia). If indicated by complaints or history, check: • Penis (size), presence of discharge, lesions, structural abnormalities. • Presence and size of testes, other scrotal masses, tenderness.	• General and systemic examination, including: o Height/weight/build. o Secondary sexual characteristics. o Thyroid. If indicated by complaints or history, check: • Hair distribution. • Breasts (size, discharge, tenderness, mass). • Abdominal exam: masses, tenderness. • Genital exam: o Vulva and perineum: anatomy, discharge, pustules, ulcers. o Bimanual Pelvic Examination: if necessary and client is virgin, do gently with one finger or do rectal exam. Note size of uterus, tenderness, any masses. • Vaginal speculum examination: look for discharge, ulcers, structural abnormalities

5.5 MANAGEMENT OF ADOLESCENT REPRODUCTIVE HEALTH ISSUES

5.5.1 Adolescent Pregnancy:

Compared with adults, adolescents are at increased risk following complications of pregnancy such as: eclampsia, intrauterine growth retardation, preterm labour, and cephalo - pelvic disproportion.

Condition	Issues for adolescents	How to manage
Pregnancy Prevention/ Family Planning	• Sexual gratification does not need to mean vaginal intercourse. • Most available methods are safe and effective for adolescents to use. • Some methods are easier to obtain or easier to use than others. - **Condoms** protect against both **STIs and pregnancy, but need to be used consistently**	Counsel about: • Safer sex, including abstinence, non-penetrative sex • All relevant FP methods (including condoms and EC). **Emergency Contraception (EC)** The most common suitable method of Emergency Contraception during adolescent is oral

	- **EOC** is useful if sex was unplanned or a reliable method not used. - **Oral pills** provide reliable contraception when taken regularly, and make periods lighter, more regular, and less painful. They provide no protection from STIs.	contraceptive pills. EC Pills contains the same hormones used in some birth control pills and should be used as follows: • The first EC Pills dose must be taken as soon as possible (within 72 hrs). • Take the second dose after 12 hours after taking the first dose. (One oral dose should be 100 microgram or more of the estrogen (4 tablets of low dose pill for example nilocon, sunaulo gulaf and low femilon). ***For detail information about EC and other FP methods, please see in NMS Volume I*)** • Where to go to obtain different family planning methods.
Early detection of Pregnancy	It is very important to detect pregnancy in early stage so that necessary action could be taken timely. • Adolescents are often unaware of (or in denial of) signs and symptoms of pregnancy (missed menses, nausea, fatigue, breast tenderness). • Early recognition of pregnancy increases the options and safety. • The easiest, earliest and most reliable test is a urine pregnancy test, which should be positive around the time of missed menses.	Counsel all sexually active adolescents about: • Signs and symptoms of pregnancy. • Need to get a test as soon as there is any suspicion of pregnancy, and where to go/how to get this.
Pregnancy options	• Unplanned adolescent pregnancy, especially in unmarried adolescents can cause severe social, financial, psychological and physical distress. • There are risks with both continuing and terminating a pregnancy. • Pregnancy termination, or starting antenatal care, should be done as early as possible in the pregnancy.	Counsel about, manage or refer: • Pregnancy options and where available. • Help client to consider the impact of a pregnancy and child on her immediate and long term future • Advise about immediate and

		long-term dangers of unsafe, "quack" abortions.
Pregnancy management	• Adolescents are at increased risk of the following complications during pregnancy: o Intra-uterine growth retardation o Preterm labor o Obstructed labor o Severe hypertensive disease and eclampsia	Counsel about, manage or refer: • Warning signs of complications in pregnancy • Need for early and frequent ANC • Information on complications of pregnancy can be found in "*Management of Complication in Pregnancy and Child Birth'.*
Sexually Transmitted Infections	Sexually active adolescents are at risk of acquiring STIs. Prevention, early detection and treatment of STIs is essential.	Counsel about, manage or refer: • Negotiating safe sex. • Risky sexual behaviors. • Use of condoms. • Signs and symptoms of infections. • Where to go if signs and symptoms develop ***See STI section for detail***

5.5.2 Menstrual Disorders/Menstrual Changes:

Condition	**Description/ Symptoms/Sign (Warning signs)**	**How to manage**
Painful menstruation (**Dysmenorrhoea)**	Menstruation associated with cramping, abdominal and back pain that interferes with normal activities (school, work) or causes vomiting.	• Counseling about need of normal activities or exercise. • Adequate rest /good diet/ increase fluid intake/analgesics-paracetamol or ibuprofen/mefenamic acid/ diclofenac.
Puberty menorrhagia	Infrequent (sometimes frequent) periods with heavy or prolonged bleeding.	• Reassurance/iron/vitamins. If pale/not controlled refer.
Premenstrual symptoms:	Headache/depression/bloating sensation/breast tenderness before the menses.	• Duration/reasurrence/analgesics-paracetamol or ibuprofen/ decrease salt intake / improve diet.
Genital hygiene during menstruation	Due to socio-cultural factors menstrual blood is considered 'impure' and many girls are barred from practicing daily chores including its hygiene which is most important during this period.	Explain following thing to keep better menstrual hygiene: • Daily bath (if possible) including genital parts. • Use clean pads or sanitary napkins and change it at least daily or more often depending upon amount of flow.

5.5.3 Concerns about changes during adolescence

Condition	Description/ Symptoms/Sign	How to manage
Wet dreams (nocturnal emission) Swapna dosh in Nepali.	• Erotic (sexual) dreams- can lead to orgasm. • Boys may experience ejaculation (that is why it is called wet dreams). Girls may experience wet vagina.	• Explain that this is a normal process of sexual development, which occurs in most of the adolescent and is more common in boys. Some adolescent may not experience. This does not need any treatment.
Masturbation	• Self-stimulation of the genitalia through hand or other manipulation to get sexual gratification.	• Explain that this is a normal process of sexual development, which occurs in most of adolescents and is more common in boys. Some adolescents may not masturbate. This does not need any treatment.
Sexual desire	• Desire to have sex (with opposite and same sex persons) is a new feeling that adolescent have. They think about it a lot but hesitate and feel uncomfortable to discuss about it. Lack of proper information may lead to risky sexual activity as there is a strong desire for experimentation along with peer pressure.	• Explain that having these feelings are normal and does not mean that one should start having sex. • Explain the health, social and economic consequences of early and unprotected sex and ways to avoid it. Explain about alternative ways of getting sexual gratification without having sex. • Also explain about different sexual orientations.
Size of the breast, penis and other organs	• Boys compare their size of the penis with their friends and they have great concerns about whether they are able to provide sexual gratification needed. • Similarly, girls have concern about size and shape of the breast which is most of the time related to their beauty rather than health. • Other times boys and girls have concerns about their height, weight and other organs.	• Examine these organs to rule out any abnormality present. • If within normal range, counsel them about size and shape of the penis and breast varies greatly and does not affect the sexual or other functions. • Also explain that these concerns are basically adjustment with the body image. Once they grow up things get settled.
Relationship-Love/Infatuation (romantic) and other relationship	• Both boys and girls can develop a strong affection towards other persons (generally opposite sex).	• Help them to differentiate between "crushes", infatuation and true love. In true love physical/sexual relation are not

	• Adolescent can not differentiate between infatuation and love. • As adolescent are becoming relatively independent from parents and other elderly family members- there is a kind of tension in the relationship. The short temperament and mood swings of the adolescent also add fuel to the situation.	important and they always try to give happiness to partner. • Counsel about coping mechanism in this conflict situation and how to communicate with others nicely. • Making parents understand the changes that are taking place in their child and how to deal with this also helps to minimize tension.
Pimples	• With increased hormonal level- activity of the sebaceous gland increases resulting into pimples. They can be found mostly in face though could be present in neck, back and head.	• Counsel that these are normal manifestation of sexual development. • If this is causing problem advise them to clean the face with warm water several times. Do not pinch them. • If it is worse, give a course of doxycyline for 6 weeks.
Nutrition and exercise	• All adolescents are attracted to "junk" food by taste appeal, advertisement. • Adolescent girls are often concerned about weight and appearance. • Anemia often starts during adolescence.	• Encourage balanced, iron rich diet, avoidance of fried and heavily sugared foods. • Use of exercise, not drastic diet, to control weight. • Iron supplementation may be needed.
Drug and alcohol experimentation and use	• Adolescence is often a time of curiosity, experimentation, and peer pressure to try new, "exciting" things. • Drugs and alcohol reduce judgment, increase risky behavior, and are addictive.	Counsel about consequences and risks of • Intoxication • Addiction • How to avoid peer pressure to try drugs and say **No**.
Smoking	• Adults, predominantly males, frequently start smoking as adolescents. • Smoking is extremely bad for health and very addictive	• Counsel about immediate and long term health and monetary consequences

5.5.4 Referral Mechanisms

Based on the condition, adolescent clients should be referred to appropriate centers where specific services are available and are adolescent friendly.

Referral is necessary in a variety of situations:

- Acute complications and medical/surgical conditions that are beyond the capacity of the facility the adolescent client has consulted (emergent care referral).

- The adolescent client has additional problems beyond the capacity and resources of the facility where s/he is treated (outpatient referral for medical or social needs) example vocational training, income generating activities sites.

- The adolescent client wishes to use a family planning method not available at the site (outpatient referral).

While referring the client, the following should be considered (If the condition is an emergency):

- The referral center is contacted to confirm the availability of the necessary service and provider.

- The institution is informed, (where possible) by telephone of the general condition and the provisional diagnosis of the patient.

- The client should be accompanied by other personnel (health personnel if necessary).

- A **referral slip** should be sent with the patient with the following information:

    - Age, marital status, address.

    - Brief h/o current problem.

    - Brief reproductive and contraceptive history.

    - LMP and menstrual cycle details.

    - Condition on departure from site.

        - General condition (level of consciousness, pain, pallor).

        - Vital signs.

        - Details of abdominal and pelvic exam (tenderness, rebound tenderness, guarding).

- Details of pelvic exam (pelvic masses, amount of bleeding, size of uterus, nature of discharge).

- Provisional diagnosis.

- Initial management performed including surgical ones.

- Any surgical management performed.

Outpatient referral: Any medical or social issues under treatment or unresolved at the time of discharge should be referred to the appropriate outpatient, community resource or higher-level resource. This referral should consist of:

- Specific information for the client about when and where to go, whom to see.

- Written description of the findings leading to the recommended consultation given to the adolescents to give to the consultant. This should include:

  - Identifying information.

  - Brief summary of hospital course.

  - Findings and diagnosis leading to referral.

CHAPTER SIX

GENITAL PROLAPSE

6.1 BACKGROUND

Genital prolapse or uterovaginal prolapse is one of the most common causes of gynecological morbidity among women of reproductive and postmenopausal age in Nepal. It is a challenge to all health service providers to provide preventive and curative services across the country.

There is a need to create awareness about genital prolapse among women, their husbands, their family members and the community to prevent this disorder, and relieve women who are already sufferers. The status of women in Nepal is low and they are considered the least important members in many families, and thus do not receive the care they need to prevent or treat genital prolapse and other gynecological conditions. Prolonged labor, inappropriate care during delivery, and inadequate rest in the post partum period are common contributory factors to genital prolapse. Pathological conditions such, as chronic coughing due to smoking is another common factor in genital prolapse.

- In 1993 in a study in Nuwakot (SCF/U.S), 35.3% of gynecological cases were found to be due to genital prolapse.

- In 1996, the gynecology and STI camp in Siraha district found 16.5% of gynecology patients suffering from genital prolapse.

- In the study carried out in Achham and Doti by GTZ, UNFPA and HMG (2002), one out of four women reporting to the clinic had pelvic organ prolapse or uterovaginal prolapse.

- In a study of admitted gynecological cases in Tribhuwan University Teaching Hospital in the period from April 1993 to January 2000, 12-17% of cases were genital prolapses.

- In 2001 in Prasuti Griha, Thapathali, 5.33% of the total gynecology out patients was genital prolapse patients.

These data show that the genital prolapse is a major problem in Nepal.

6.2 GENITAL PROLAPSE

6.2.1 Definition

Genital prolapse is the downward displacement of the uterus and/or bladder & bowel into the vagina due to weakening of the uterine support, with or without symptoms.

6.2.2 Types of Prolapse

Uterine prolapse may or may not be accompanied by one or one of the following conditions.

6.2.2.1 Vaginal Prolapse

The prolapse may involve mainly the upper or the lower vaginal wall and, according to the structure underlying it, the condition is then termed cystocele or urethrocele.

a. Cystocele and urethrocele (Figure 6-1):

In cystocele the bladder base descends with the anterior vaginal wall and ultimately forms a pouch. This represents a weakness of the investing fascia of the vagina (pubocervical fascia). In urethrocele the urethra is dislocated from the subpubic angle and is displaced backwards and downwards on straining.

b. Rectocele (Figure 6-2):

Lower posterior vaginal wall prolapse is called a rectocele, if it is very low it may not contain the rectum. A rectocele represents a break in the investing vaginal fascia with herniation of the bowel.

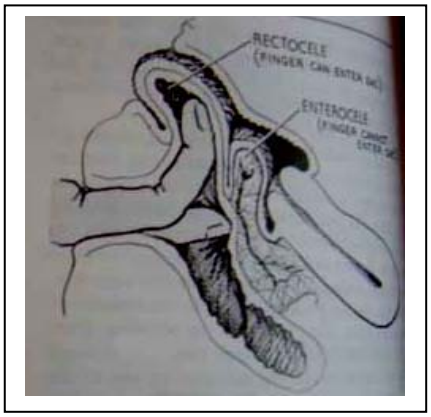
c. Enterocele (Figure 6-2):

Upper posterior wall prolapse is nearly always associated with herniation of the pouch of Douglas and since this is likely to contain loops of bowel, it is called an enterocele.

Figure 6-1

Cystocele

Figure 6-2



Rectocele and Enterocele

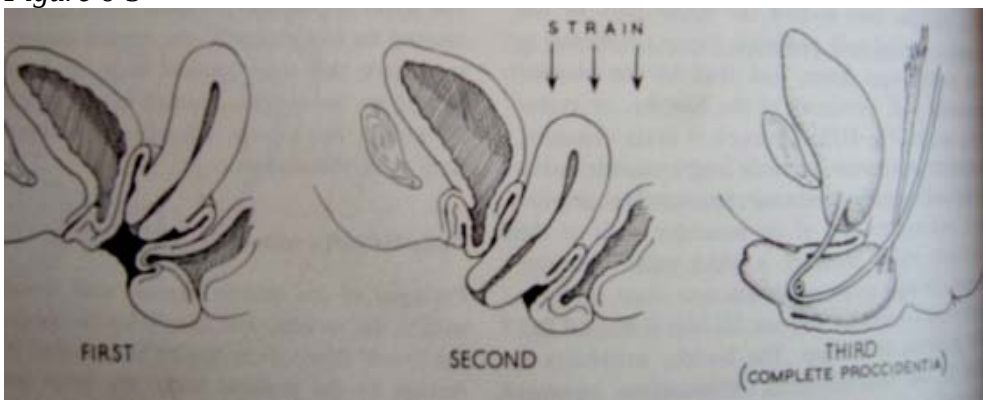
6.2.3 Degrees of Uterine (Uterovaginal) Prolapse

- **First Degree:** Slight descent of the uterus but the cervix remains within the vagina.

- **Second Degree:** Descent to the extent that the cervix projects through the vulva when the woman is straining or standing. The cervix extends outside of the vaginal orifice.

- **Third Degree:** (complete procidentia) the entire uterus prolapses outside the vulva.

Figure 6-3



6.2.4 Pelvic Anatomy:

The pelvic viscera are supported by the pelvic floor which is composed of muscle, fascia & ligamentous support. *(See Appendix 2 for detail).*

6.2.5 Causes of Genital Prolapse

There are multiple causes that produce many forms of pelvic organ prolapse. It is unusual to see a patient with only single etiological factor. Multiple factors are usually involved and each may be more or less evident and significant.

- Pregnancy, labor and vaginal delivery may result in various degrees of damage to pelvic, support structure, including the ligaments, fascia and muscles and their nerve supply. Causes may include:
    - Prolonged labour.
    - Bearing down before full dilatation of cervix.
    - Excessive and inappropriate downward pressure on the fundus to expel the baby, placenta or blood clots.
    - Many children.
        - Short birth spacing.
    - Increased intra abdominal pressure, due to:
        - Chronic cough.
        - Obesity.
        - Pelvic tumours, ascitis.
        - Hard physical exertion, heavy lifting.
        - Straining (constipation).
    - Malnutrition.
    - Menopause.
    - Congenital muscle weakness.

Most etiologies of uterine prolapse are acquired and are therefore amenable to preventive measures. *Some preventive measures and messages are mentioned in 6.6.1.*

6.3 SYMPTOMS OF GENITAL PROLAPSE:

- Heaviness or dragging sensation in the lower abdomen and perineum.
- Feeling of/ something coming out of vagina.
- Backache.
- Difficulty in walking, working, sitting, lifting, standing.
- Difficulty in urination or retention of urine.
- Stress incontinence (Urine leaking when a woman coughs, lifts heavy load, laughs, or changes position.
- Discharge from vagina.
- Ulcer on prolapsed part.
- Irregular P/V bleeding.
- Discomfort or difficulty with sexual intercourse.

6.4 ELEMENTS OF CARE:

6.4.1 Facilities, supplies and equipment:

- **Basic level:**
  - Counseling/assessment area where privacy can be established.
  - Exam area with visual privacy where a pelvic exam can be done (gynecology table, speculum, light, examining gloves).
- **Referral level:**
  - Counseling and exam areas as above.
  - Pessaries available.

- Surgical capacity (OT, anesthesia) and operative instruments for vaginal surgery.

6.4.2 Staff:

- **Basic level:**
  - Providers knowledgeable about signs, symptoms, and treatment options for genital prolapse, skilled at assessment of genital tract abnormalities.
- **Referral level:**
  - Providers skilled in pessary placement.
  - Surgeons skilled in corrective vaginal surgery.

6.5 ASSESSMENT: The final diagnosis and management will depend on the symptoms and findings on examination:

Ask, look and record findings:

History	Physical Examination
• **Chief complaints:** Duration and severity of: o Pain, o Pressure, o Sensation of uterus "outside", o Incontinence (stress or urgency), o Other *(see above)*. • **Obstetric history:** o Number and spacing of children. o Prolonged or complicated delivery or post partum. • **Aggravating factors:** o Heavy lifting. o Smoking, chronic cough. o Constipation.	**General:** vital signs, general nutrition assessment (weight, anemia, signs of other vitamin/mineral deficiencies. **Systemic:** examine lungs, heart, abdomen. **Pelvic:** examine in supine position, bladder should not be empty for initial examination. • **Visual/perineal examination:** look for evidence of old lacerations, obvious 2-3 degree prolapse/cystocoele/rectocoele. Separate labia and ask patient to bear down or cough. Note presence/absence of prolapse or vaginal wall weakening at rest and with bearing down, note loss of urine with bearing down. • **Speculum:** place Sims speculum against posterior, then anterior vaginal wall. Note degree of prolapse, size of cystocoele/rectocoele, presence of irritation/ulceration of cervix. Ask woman to cough or bear down again. Note change in degree of prolapse, size of vaginal wall defects. • **Bimanual examination:** Note size, position, degree of mobility of uterus, presence of other masses. • **Rectovaginal examination:** note presence of rectocoele, possibility of enterocoele (fullness in posterior vagina not directly demonstrable through posterior vaginal wall (see diagram).

6.6 PREVENTION AND MANAGEMENT OF GENITAL PROLAPSE

6.6.1 Prevention of genital prolapse in pre-menopausal and pregnant women: Health workers can help women avoid genital prolapse in the following ways:

- Encourage taking nutritious food to keep in general good health.
- Create awareness in the family and community about the benefit of good nutrition for a girl child who is a future mother, to prevent complications in pregnancy, delivery and postnatal period and long term complications like genital prolapse.
- Educate women and their families about prevention of prolonged labor by arranging for a trained health worker to assist at the birth.
- Tell women to avoid carrying heavy loads and performing heavy work after delivery (at least 6 weeks, post partum), and ensure the family understands this.
- Explain to women and their families the importance of spacing each child by at least two years and limiting the size of the family.
- Teach women the correct way to lift heavy objects without strain.
- Tell women to avoid wearing a tight patuka (waist band) just after delivery.
- Encourage women to stop smoking or working in smoky environments in order to prevent chronic cough, which is an important predisposing cause genital prolapse.
- Large perineal tears should be to be repaired immediately to prevent prolapse.

Pelvic floor exercises should be taught to women of reproductive age especially for the post partum period, to help prevent prolapse. Local applications of estrogen cream after menopause may help to prevent uterovaginal prolapse.

6.6.2 Management of Genital Prolapse: Some genital prolapses, vaginal wall defects, and stress incontinence will respond to conservative therapy. Surgical management is generally indicated in women who do not obtain satisfactory relief from conservative measures. W*omen with significant symptoms and pelvic floor defects should be evaluated by a specialist who can perform surgery if indicated.* This might be possible during campaigns if a surgical center is otherwise too far away.

6.6.2.1 Conservative therapy:

a) Behavior modification to avoid aggravating activities:

- In currently pregnant women or those likely to become pregnant in future:

- Improve nutrition.
- Educate about the benefits of skilled attendance, to avoid prolonged or difficult deliveries by seeking care in good time.

o In the postpartum period:

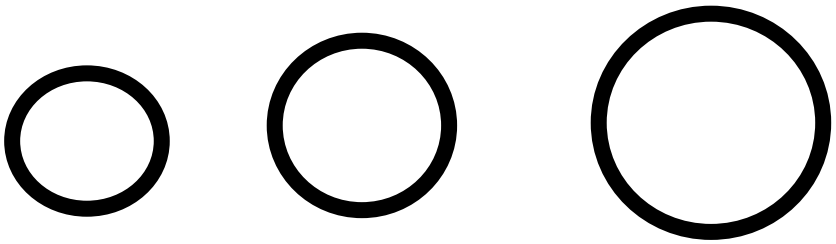
- Do pelvic muscle strengthening exercises *(See 6.6.3)***.**
- Avoid heavy lifting for at least 6 weeks.
- Avoid abdominal binding.
- Space children by 2 or more years.
- Limit number of children to those needed and wanted (safe and effective family planning methods are available).

o In peri/menopausal women:

- Teach proper lifting techniques.
- Counsel to stop smoking, avoid smoky environments and other cough inducers.
- Teach pelvic strengthening exercises *(see below)*.
- Tightening pelvic muscles during heavy lifting or changing position will help prevent further prolapse and incontinence.

b) Pelvic muscle strengthening exercises: Pelvic muscle exercises are designed to restore strength to the muscles that are stretched or torn during childbirth. These muscles hold the bladder and uterus in place. These exercises are most effective if done immediately post partum, but can help all women with some degree of prolapse or incontinence, even menopausal women. Pelvic muscle exercises are easy to do. They require no special equipment or positions, and can be done at almost any time. *See 6.6.3 for detailed information***.**

c) Use of pessaries: Pessaries will not definitively treat prolapse or vaginal wall defects, but can restore normal anatomy, relieve pressure, and sometimes improve incontinence. They can provide long term or temporary relief until more definitive surgery can be performed. The most commonly available pessary is the ring pessary, usually made of stiff latex, and available in a number of sizes – the most common are 6.5 – 7.5 cm.



5 cm 6.25cm 7.5 cm

Ring Pessary of different sizes

a. Indications:

   i. Women with symptomatic prolapse or urinary incontinence.

   ii. Women who cannot access surgery.

   iii. Women who are poor surgical candidates.

   iv. Women anxious to avoid risks of surgery, or have not completed childbearing.

   v. Women with symptomatic prolapse early in pregnancy (pessary should be removed at 36 weeks).

b. Contraindications:

   i. Women intolerant of pessary (women for whom it does not work, in whom it causes pain, urinary retention, or incontinence).

   ii. Women incapable of periodic self-care or access to provider for periodic removal/cleaning/evaluation.

c. Fitting:

   i. Do an internal vaginal exam. Use middle finger to "measure" distance between pubic bone and posterior vaginal fornix ("normal" or anatomic position of uterus). Measure this distance on the hand again with a centimeter ruler or tape measure. This is the correct diameter, or pessary size.

   ii. A pessary should be easy to insert, should feel comfortable, and not cause urinary or stool retention.

   iii. A trial of different sizes might be necessary.

d. Normal use:

i. Have the woman return after 1-2 weeks of fitting (sooner if problems) to assess effectiveness, adjust if necessary.

ii. Follow-up every 3 months for 1 year – remove, clean pessary, inspect vaginal walls, teach woman or family member how to remove pessary, clean, and reinsert.

iii. **Warning signs** to watch for:

⇒ Pain.

⇒ Inability to pass urine or stool.

⇒ Abnormal discharge (bloody, foul smelling, increased).

iv. Pessary should be removed every three months for cleaning. This can be done by the woman, an attendant, or at the health center.

6.6.2.2 Surgical management: Surgery can provide relief of prolapse, vaginal wall defects and some stress incontinence. Complete cure of genital prolapse is sometimes possible by surgical management, but prolapse has a tendency to recur, especially when aggravating conditions such as chronic cough continue. Operations should be delayed in women contemplating pregnancy until childbearing is completed.

Surgery is generally performed by specialists in equipped facilities, sometimes during campaigns. Referral is often necessary.

e. Indications:

i. Symptomatic or worsening prolapse unresponsive to conservative measures (usually 2-3º prolapse, large vaginal wall defects).

ii. Good surgical candidate.

iii. Absence of on-going aggravating conditions.

iv. Completed child-bearing.

f. Contra-indications

i. Poor surgical candidate.

ii. Persistence of causative/aggravating factors.

iii. Symptoms not consistent with prolapse noted.

g. Operation performed will depend on:

i. Condition of patient.

ii. Need to preserve reproductive function (these should be RARE patients).

iii. Need to preserve sexual function.

iv. Degree of prolapse.

v. Presence of vaginal wall defects.

vi. Presence of stress incontinence.

h. Post operative care:

i. Keep self retaining catheter in place if there is vaginal packing or post op urinary retention (due to anterior repair).

ii. Observe for urinary retention/incontinence, severe pain, foul smelling or bloody vaginal discharge.

iii. Avoid sex/anything in vagina for 6 weeks.

i. Follow-up:

i. Behavior modification for all aggravating factors (cough, heavy lifting, obesity).

ii. Pregnancy should be discouraged. If pregnancy occurs, delivery by C-Section is strongly encouraged.

- Sexual abstinence for 6 weeks after surgery is mandatory.

- Vault prolapse after hysterectomy should be looked for in follow up.

- Any foul smelly or bloody discharge from the vagina should be immediately evaluated and treated by a doctor.

- Retention or incontinence of urine after surgery should be treated seriously – if it happens, refer to urologist.

- Dyspareunia in young patient after pelvic floor repair should be referred for evaluation.

6.6.3 Pelvic floor exercise:

Teach women on how to do the exercises correctly:

- The best way to learn is by practicing stopping and starting the urine flow, something that almost everyone knows how to do. The muscles that do this are the ones that need strengthening.

- Have the client/patient/woman practice first during urination.

  - Tell her to deliberately stop and start urine flow several times while emptying her bladder to learn which muscles to tighten (women with incontinence may not be able to completely stop the flow of urine, but might be able to slow it).

- Ask the patient to practice, and to return when she can successfully contract these muscles.

- Check successful practice by asking her to tighten these muscles during an internal vaginal exam and noting contraction of muscles.

Once the patient knows HOW to tighten these muscles, she can do these at any time she is standing quietly, sitting or lying down. Ask her to:

- Tighten the muscles, hold for a count of three, and then relax.

- Repeat 10 to 15 times during each session (this takes less than a minute).

- Do three sessions each day.

  - Women can do these:

    - While lying down - before falling asleep, before rising in the morning.

    - When urinating.

    - When standing or sitting quietly, e.g. while preparing meals, sewing, or performing many normal household activities.

Remembering to tighten these muscles before coughing, sneezing or standing/sitting can also decrease stress incontinence (loss of urine with changes in abdominal pressure).

CHAPTER SEVEN

MENOPAUSE

7.1 BACKGROUND

Menopause is a normal part of the aging process, caused by declining ovarian estrogen production. This decline is gradual, and usually begins around the age of 40. The average age of menopause worldwide is 51, and menstrual changes start, on average, 2 – 5 years before cessation of menses. There is variation from country to country, and considerable variation from woman to woman. The average age of menopause in developing countries is slightly lower than in the developed countries, and studies suggest Nepal follows this pattern.

Location	Average age of menopause
Developed countries:	51.2
India*	
• State of Rajsasthan	48.9
• State of Himanchal Pradesh	47.3
Nepal	
• Kathmandu**	49.5
• Community study***	47

*Flint M, 1982 **Giri and Amatya, 1999 *** Giri, Backstrom and Ohlin, 2001

Factors that determine age of onset and the degree to which symptoms are experienced, include:

- Family history.
- Alcohol intake, smoking, caffeine consumption.
- Body weight and general nutritional status.

7.2 DEFINITIONS:

Menopause: the complete cessation of menstrual bleeding in association with declining hormonal levels. A woman is considered menopausal when there has been no vaginal bleeding for a minimum of 6 months.

Perimenopause: a period of 2 – 5 years prior to menopause marked by increasingly irregular menstrual periods.

Surgical menopause: the cessation of menstrual periods due to removal of the uterus. Not a true, or otherwise symptomatic menopause (due to declining ovarian function) unless the ovaries are removed as well.

Premature menopause: cessation of menstrual periods before the age of 40. Common causes include genetic predisposition, and infectious and non-infectious diseases.

7.3 SYMPTOMS

Women's experiences with menopause vary. For many the changes felt are minimal, while others, especially those for whom the drop in estrogen is abrupt (in surgical cases), experience discomforts such as hot flushes, night sweats, irregular bleeding, mood swings and irritability.

- **Symptoms in the perimenopause period** (period of ovarian decline): Symptoms are generally related to the menstrual cycle with changes in the predictability, amount, duration and frequency of bleeding. This is due to less regular ovulation. Hot flushes and irritability usually start only just before menstrual bleeding ceases.

- **Symptoms of Menopause**: In a recent community based study in Nepal (Giri et al, 2001), 25 symptoms were identified, out of which 5 were most pronounced. These are:

    1. Loss of sexual interest.

    2. Decreased vision.

    3. Joint pain and body aches.

    4. Urinary problems.

    5. Night sweats and hot flushes.

(See Appendix for the list of other symptoms)

Women come for medical care with a wider variety of complaints, including genital prolapse, skin changes (dryness and itching, acne, pigmentation), and mild mental changes (decreased concentration, fatigue, sleeplessness), to name a few. It is unclear how many of the complaints such as joint pains, body aches and decreased vision are a result of menopause, or simply aging. Urinary problems and decreased sexual

interest are often aggravated by declining hormone levels. Hot flushes are clearly related to the decrease in estrogen production by the ovaries. They consist of a sudden rise in the body temperature that originates in the upper part of the body and results into profuse sweating. These are more common at night (often called night sweats) and can result in disturbed sleep and irritability. Hot flushes last on average 6 months, but this can be longer.

- **Health consequences:**

  In addition to the symptoms above, the loss of estrogen in menopause

  - Increases the risk of heart attack.
  - Causes thinning and atrophy of the vaginal mucosa resulting in decreased lubrication and increased discomfort during sexual intercourse.
  - Is associated with weakening of pelvic floor muscles causes increasing urinary incontinence and prolapse of the uterus or vaginal wall.
  - Causes osteoporosis (calcium loss and weakening of the bones leading to stooping and fractures).

7.4 ELEMENTS OF CARE

7.4.1 Facilities should provide:

- **Counseling and education areas** that are private**,** and equipped with materials about the menopause.
- **Exam areas** that are private and where a pelvic exam can be done.
- **Supplies and equipment** for a basic screening exam and counseling. These are listed elsewhere (*see chapter One on Reproductive Health Screening*).

7.4.2 Staff should be trained and skilled in:

- Screening and counseling.
- Diagnosis of menopause and associated conditions.
- Breast and cervical screening (at District hospital and above).
- Treatment options and where they are available.

7.4.3 Referral protocols should be in place for treatment not available at the facility, (e.g.

Hormone Replacement Therapy (HRT), cervical screening, breast mass assessment, surgical evaluation/treatment of prolapse or other genital pathology).

7.4.4 Record keeping: Women with menopausal complaints should be registered in the routine clinic or hospital registers.

7.5 SERVICE DELIVERY

7.5.1 Assessment:

Consider **perimenopause** in any woman over 40 years with signs and symptoms such as:

- Changes in menstrual pattern, e.g. increasingly irregular cycles, increased or decreased bleeding.
- Increasing urinary complaints, vaginal dryness, and hot flushes.

Consider **menopause** in any woman over the age of 40 with:

- Cessation of menses for 6 months or more.
- Symptoms of menopause (hot flushes, mood changes, vaginal dryness, etc).

It is important to rule out uterine and ovarian pathology or disease, especially in women with changes in their menstrual pattern without other menopausal symptoms. A thorough general history and physical exam are necessary. Ask, look, and record:

History	Examination
• Current symptoms and complaints, (duration and severity, associated signs and symptoms). • Reproductive history: menstrual history, including LMP and recent bleeding pattern, obstetric history, contraceptive history, gynecologic history . • Family history (age of mothers and sisters at menopause, history of breast or other cancer). • Medical and surgical (pelvic) history. • Medications, including hormones. • Lifestyle: nutrition, workload, smoking, alcohol.	• General exam: height, weight, nutrition status, and blood pressure. • Thyroid exam (and evidence of hyper or hypo thyroidism). • Breast exam: examine for suspicious masses, retraction, and discharge. • Genital exam: look for prolapse, atrophy, chronic irritation or infection; do cervical screening (see chapter on RH screening for details).

7.5.2 Differential diagnosis:

- **Thyroid disease:** can cause vasomotor symptoms, with and without changes in menstrual pattern.

- **Amenorrhea due to anovulation:** younger women without signs or symptoms of estrogen deficiency, amenorrhea lasting for several months. A progesterone withdrawal test is diagnostically helpful if FSH levels cannot be checked (check urine pregnancy test; if negative, give 10 mg oral Provera daily for 5 days - or other progesterone equivalent; observe for withdrawal bleeding within following week. Bleeding in response to progesterone suggests annovulation as cause of amenorrhea. Absence of bleeding found in Asherman's syndrome, menopause).

- **Pregnancy:** amenorrhea of variable duration, no menopausal symptoms, pregnancy symptoms, clinical evidence (enlarged uterus), detected by urine pregnancy test.

Serum FSH level or a progesterone withdrawal test are diagnostic of menopause when the diagnosis is unclear.

7.5.3 Management:

The purpose of treating menopause is to relieve acute symptoms (such as hot flushes, vaginal dryness, or urinary symptoms) and prevent long-term problems.

- **Counseling:** Most women do not need medical treatment, but will benefit from information and counseling. Counseling should emphasize practical suggestions:

    - Menopause is not the end of womanhood or sex life, but a normal event.

    - Symptoms are often temporary, lasting on average, 6 months.

    - Symptoms can be relieved by:

        - Good nutrition.

        - Regular exercise.

        - Loose clothing, which can be removed easily after night sweating.

        - Drinking a glass of cold water or juice at the onset of a hot flush.

    - Good diet, regular activity and exercise also help prevent the longer term consequences (osteoporosis, heart disease) of menopause and aging.

- If symptoms are severe, hormonal therapy may be necessary for adequate relief.

- Education for spouse and other family members about menopause.

- **Diet:** The diet should be nutritionally balanced and emphasize:

  - Increased calcium (Soya products, milk products, fish products, green leafy vegetables) for prevention of osteoporosis. Calcium supplements are available in some pharmacies.

  - Avoidance of fried, highly salted or sugared foods, as these cause weight gain, aggravate hypertension, and increase risk of heart disease.

- **Exercise:** Regular exercise helps to decrease hot flushes**,** prevent osteoporosis, weight gain and heart disease**.**

- **Urogenital symptoms,** such as vaginal dryness and dyspareunia, or worsening of stress or urge incontinence are common and can be relieved as follows**:**

  - Decreased lubrication:

    - Extra time and care during intercourse.

    - Vaginal lubricants (K-Y jelly or local equivalent).

    - Estrogen cream, if available – this should be used sparingly, according to careful instructions, and **not** as a lubricant. See table below for instructions on use.

  - Urinary symptoms: Increasing urgency or incontinence

    - Pelvic floor exercises *(see section on genital prolapse).*

    - Bladder training (scheduled voiding every 2 to 3 hours).

    - Behavior modification (consciously tightening pelvic floor muscles before coughing/sneezing/laughing/lifting).

  - Genital prolapse: Descent of the uterus or vaginal wall can cause pelvic discomfort.

    - *See chapter Two for guidelines on management.*

    - Pelvic floor exercises (see above) can provide some relief.

- **Hormone Replacement Therapy:**

  - *A careful history and physical should be done prior to initiating therapy.*

  - Indications:

    - Relief of symptoms of abrupt estrogen withdrawal in pre-menopausal women who have undergone surgical removal of the ovaries. Estrogen replacement should continue until age 47, and then gradually be tapered off over 1-2 months.

    - Short term therapy (6 months, average) for severe or annoying menopausal symptoms (hot flushes, sleep disruption, irritability, vaginal dryness, worsening urinary symptoms) unresponsive to non-hormonal management.

  - Contraindications:

    - Suspicious breast mass[1], obvious breast cancer.

    - Unexplained, abnormal vaginal bleeding suspicious for cancer of the uterus.

    - Active liver or gall bladder disease.

    - Active or recurrent thrombotic disease (blood clots in brain or lungs).

  - Administration:

    - Women without a uterus can use estrogen alone (see table in appendix below for regimen).

    - Women with a uterus should take a combination of estrogen and progesterone.

    - Women with a uterus should be counseled that vaginal bleeding may resume or increase.

  - The hormone preparations are expensive and not widely available. Many different preparations are currently on the market. Effective, widely available products are listed in the following table.

  - Estrogen Replacement is no longer recommended for long term use.

[1] Suspicious breast masses are: hard, fixed in location (to skin or underlying ribcage, cause retraction of the skin, enlarge over 1-2 months

Population	Recommended Regimen	Dosage and schedule	Comments
Acute menopausal symptoms, women with uterus.	Cyclic regimen • Estrogen (Premarin). • Progesterone (Provera).	0.625 mg orally daily. 10 mg orally first 2 weeks of month.	Will cause resumption of withdrawal bleeding in most recently menopausal women.
	Daily regimen • Estrogen (Premarin). • Progesterone (Provera).	0.625 mg orally daily. 2.5 mg orally daily.	Irregular bleeding and spotting common, decreases with time.
Acute menopausal symptoms, uterus removed.	Estrogen only (Premarin).	0.625 mg (1 pill) daily.	In case of surgical menopause, continue until expected age of natural menopause.
Women with genito/urinary atrophy.	Estrogen vaginal cream (Evalon).	E.g.: 0.5gm vaginally once weekly.	Dose should be used daily for 1-3 months to reverse existing atrophy, then decreased to weekly doses.

Note: The above table is not comprehensive or representative. Other acceptable preparations might be available if listed ones are not. Client should discuss with provider or pharmacist.

7.5.4 Follow-up:

All women over 50 should be seen yearly for health screening (blood pressure, breast and cervical screening) and assessment of response to therapy.

- Women on hormone replacement should be periodically evaluated for:
  - Relief of symptoms.
  - New complaints.
  - Presence and pattern of vaginal bleeding.
  - Breast exam.
- After 6 months of treatment, women on hormone replacement should have the dose gradually decreased and discontinued over a period of 1 month. Dose can be increased again if intolerable symptoms return.
- Vaginal bleeding during hormone replacement should be evaluated:
  - Bleeding associated with recent start of hormones is not a problem.

- New onset of bleeding in woman on established therapy should be referred for evaluation (biopsy) and hormones discontinued.

7.5.5 Referral: Women who need treatment or management not available at the facility should be referred, where possible and convenient, to a facility where needed treatment is available. The woman should be told:

- Where to go/whom to see/when to go.
- The likely outcome of referral (treatment of genital or medical problems, etc).

A referral note should be provided:

- Name and age of the woman.
- Nature of the problem, requested management.
- Basics of medical history and findings.

7.6 ROLE OF MEN AND FAMILIES IN MENOPAUSE:

Educational and emotional support during menopause is important in helping women to deal with the problems mentioned above. Spouses and family members can help in the following ways:

- Ensure someone accompanies the woman for treatment of health problems. Make sure they have money for transportation and to access services.
- Be understanding and provide emotional support for the physical and mental changes that older women face.
- Promote healthy behavior to reduce the woman's risk for cardiovascular disease and osteoporosis. For example, encourage appropriate diet, regular exercise, and abstinence from smoking.
- Encourage regular health check- ups and screenings for cancers, cardiovascular diseases and reproductive tract infections. For example, routine blood pressure screenings can help identify risk of cardiovascular diseases. Routine pap smears can detect early stages which are the precursor of cervical cancer so that treatment can be initiated in time.

CHAPTER ONE

APPENDIX 1 (A)

Screening and management for Gender-Based Violence and Reproductive Cancers

Physical and sexual abuse: Abuse is an under-reported problem in all age groups, and causes considerable physical, emotional and sexual trauma. Some level of physical violence against women appears to be socially accepted, and sufferers often consider themselves somehow guilty. Sufferers of either physical or sexual abuse rarely complain publicly, or accuse their abusers directly, but will often respond when questioned directly, especially if questioned in a confidential and non-judgmental way.

Abuse should be suspected in children, adolescents, and adults who present with:

- Frequent medical visits, and vague complaints (abdominal pain, headache, insomnia).
- Depression, anxiety, substance use/abuse.
- A controlling partner who insists on being present during questioning, or answers questions for her and makes all the decisions.

In children with: Poor school performance, erratic attendance, and evidence of neglect, or bruising/evidence of trauma that is:

- Poorly explained.
- Of differing ages, suggesting separate events.

Abuse rarely stops without intervention. In most cases it increases in frequency and sometimes severity. Aggravating circumstances include:

- Unemployment, other economic or household stress.
- Social isolation of the abuse victim - few friends or family available for help and support.
- Pregnancy - frequency and severity of abuse, as well as risk of an adverse outcome, increase when women are pregnant.

Screening for Physical and Sexual Abuse:
Ask all clients routine screening questions:

- Are you, or have you ever been, in a relationship where you felt physically threatened, were hurt, or have you ever been forced to have sex against your will?
- If the answer is “yes,” ask further questions:

- Is the abuse on-going?
- What is your relationship to the abuser?
- Does anyone else know about the abuse?
- What would be the consequences if someone else found out?
- Is there anyone you could tell who could help or at least support you?
- Have you ever felt yourself to be in serious physical danger?
- Do you have any place where you could go where you would be safe?
- Would it be possible for you to get out of this situation?

Examination should be directed towards documenting the nature and extent of abuse.

Management:

All clients should be given basic information/education messages about abuse:

- Physical and sexual violence are more common than people think.
- **No one**, either a family member/spouse or other, has the right to hit or hurt you, or force you to have sex against your will.
- If you are the victim of physical or sexual violence, the most effective way to stop it is to report it.
- Support and help can be accessed from families, the community, and the legal system: (family members, friends, neighbors, police, women's groups, shelters, hospital, etc).

For identified victims of abuse, in addition to the above:

- Reinforce that the victim is rarely the cause of her/his abuse.
- The situation will be kept confidential if that is what is desired.
- Abuse is likely to escalate, with increasingly severe injury, even death as the result.
- Making others, even just one individual, aware of abuse greatly reduces the power of the abuser, and frequently the abuse.
- A plan for leaving (going to stay with relatives, to a shelter) should the situation become intolerable should be in place, along with some savings to make this possible.

- Provide victims of abuse with names, locations (and phone numbers) of facility or community based resources for victims of abuse.

- Be patient: Individuals stay in and tolerate abusive situations for a variety of reasons:

    - They are emotionally or financially dependent on the abuser.

    - There are other individuals to consider (e.g. children).

    - They perceive no alternatives.

    - They consider themselves somehow responsible for the abuse.

Facilities and providers find it helpful to have:

- IEC materials, including posters and leaflets about physical and sexual violence.

- An interested individual receive additional training in counseling and support.

- A list of resources within the community and at other facilities where support and assistance is available.

APPENDIX 1 (B)

Reproductive cancers: As women age, the risk of reproductive cancers increases. Common reproductive cancers in women worldwide (and in Nepal) are cervical cancer, breast cancer, and uterine cancer. Cervical cancer is found in younger women (often in their 40s and 50s), while breast and uterine cancer tend to be problems in menopausal women. Prevention of cervical cancer is possible with regular cervical screening techniques (Pap smears). Breast and uterine cancer can be detected early if warning signs are known and brought to attention.

Type of cancer	Population at risk	Screening Warning signs	Management
Breast	Menopausal women	• No screening for pre-cancerous lesions available • Provider and self-breast exams can detect suspicious masses while limited treatment possible. • Warning signs: o Suspicious lumps, o Breast discharge, o Changes in skin or nipple *(Criteria for "Suspicious" in Appendix 4)*	At zonal or tertiary referral hospitals: Persistent, suspicious lumps should be biopsied. Simple mastectomy for most confirmed breast cancers. Treatment more effective in combination with chemotherapy, where available.
Cervix	Peri-menopausal and menopausal women	• Screening of all women over 40 years for precancer changes: Pap smears, or other cervical screen every 5 years • Warning signs for cancer: o Irregular intermenstrual bleeding and contact bleeding (device coitus) o Increasing vaginal discharge	Dysplasia (pre-cancer): local excision/destruction (cryotherapy, cautery, cone biopsy) at district hospital Early cervical cancer: (zonal hospital and above): Biopsy (radical) hysterectomy Cervical cancer spread beyond cervix: chemotherapy or palliative treatment
Uterus	Menopausal women	• No screening test available for precancerous lesions • Warning signs to watch for: o Any resumption of vaginal bleeding in post menopausal women (except those recently started on hormonal replacement therapy)	Endometrial biopsy (zonal hospital and above) Hysterectomy (equipped hospitals)

APPENDIX 2

Basic counseling issues and messages:

Population/common issues	Basic health messages
<u>Adolescents:</u> • Sexual development • Marriage and pregnancy • Safe sex/STI and pregnancy prevention/ negotiation/ recognition • Normal menstruation, menstrual hygiene	• There is great variation in the range of *normal* sexual development (timing, secondary sex characteristics) • Marriage, (sexual activity) and pregnancy should be delayed until age 18 • Safe sex (abstinence, only one partner, avoiding "high risk" partners, using condoms, non-penetrative sex) can prevent pregnancy, STIs, HIV. • **No one** has the right to physically hurt you or force you to have sex if you don't want to. • Menstruation should have begun by age 16; periods may be irregular at first; "normal" bleeding is every 3 – 5 weeks, lasts 7 days or less, mild discomfort (should not interfere with normal activities) is common, bleeding should not be heavy or require frequent change of pads or cloths; menstrual pads or cloths should be clean – washed between uses, external genital area should be washed daily
<u>Young, sexually active men and women</u>: • Spacing and limiting births • Comprehensive pregnancy care and birth preparedness • Safe sex/STI prevention, recognition • Violence prevention and management options	• Births should be spaced 2 – 5 years apart for the health of mother and babies • Family planning methods are safe and effective and can help achieve desired family size • Pregnancy is a normal event, but complications are common, sudden, and unpredictable. Antenatal care can help ensure a healthy pregnancy, and help families prepare for both normal birth and potential complications. All pregnant women should be aware of the warning signs of pregnancy (bleeding at any time, severe swelling, headache, convulsions, fever, abdominal pain, hard labor lasting more than 12 hours), and have a plan for transport to a facility that can manage complications if necessary. • Safe sex (abstinence, monogamy, use of condoms, non-risky sex practices) can prevent STIs/HIV • Physical and sexual violence are more common than people think. **No one**, either a family member/spouse or other, has the right to hit or hurt you, or force you to have sex against your will. If you are the victim of physical or sexual violence, the most effective way to stop it is to report it. Support can be found at: (family members, neighbors, police, women's groups, shelters, hospital)

<u>Women over 35</u>: • Long term family planning options • STI prevention/ recognition • Violence prevention and management options • Preventing and detecting prolapse, • Self breast examination for mass/lump	• Fertility continues up until menopause. Women who have completed their families might have need for easy-to-use long-acting, or permanent methods to prevent pregnancy • Safe sex messages as above • Violence messages as above • Pelvic pressure or urinary problems might start to develop, especially in women who have had many children or complicated deliveries. Pelvic floor exercises can help to prevent this; if symptoms already exist, a health care provider might be able to help. • The risk of breast cancer is low, but increases with age. Checking your own breasts each month can detect any suspicious lumps early, when simple treatment is possible. If you feel a hard, painless lump that persists more than a month, have it checked by a health care provider.
<u>Peri/Menopausal women</u>: • Managing menopause symptoms, • Sexual activity • Urinary problems • Breast exams • Warning signs: (vaginal bleeding,genital prolapse)	• Menopause is a natural event in women's lives. Symptoms associated with stopping periods can be uncomfortable, but usually last no more than 6 months. Good health practices (diet, exercise) can alleviate some of these symptoms and prevent other medical problems; others might need medical or surgical treatment. Bleeding is often increasingly irregular as menopause approaches. Any resumption of bleeding after menopause (no bleeding for 6 months, with other signs and symptoms, such as irritation, hot flushes) is abnormal and should be evaluated by a health provider. • Many older women develop leaking of urine, notice pressure or can feel their pelvic organs at the opening of the vagina due to weakening of the supporting muscles of the pelvis. Pelvic exercises or sometimes an inserted support (pessary) can help with this. Surgery is sometimes needed if symptoms are severe. • Sexual activity frequently declines with age, but rarely stops completely. Intercourse might become more uncomfortable for women with increasing age. Some simple measures, such as increased foreplay and use of simple lubricants can help. • Men may notice changes in sexual drive, and ability to attain and maintain an erection. This may be normal due to aging, or may be related to lifestyle, chronic disease or medications. • Self breast and medical breast exams as above.

APPENDIX 3

Supplies and equipment needs for basic facilities

For counseling and communication:
• Flip charts and leaflets
• Miscellaneous materials (e.g. menstrual record/temperature charts)
 	
For assessment:
• Stethescope, BP cuff
• Scale, height measurement
• Anemia reference scale
• Measuring tape
• Non-sterile gloves
• Small cotton swabs
• Vaginal speculum
• Ring forceps
• (Sound, Tenaculum)
• Specimen containers
 	
Basic procedures: (PHC, some HPs)
• IUD insertion kits (see *NMS volume I*)
• MVA equipment for PAC (see *chapter Two*)
• Birth and episiotomy kits (maternity care guidelines)
• Emergency obstetric kits (maternity care guidelines)
 	
For record keeping and referral:
• General Registers
• Reporting form formats:
  o Abortion complications
  o STI/HIV
 	
• Referral forms
	For infection prevention:
	• Sinks for
	  o Hand washing
	  o Instrument processing
	• Toilets for client and staff use, waste disposal
	• Antiseptic solutions
	• Sterile gauze, drapes
	• Boiler or autoclave (pressure steam sterilizer)
	• Sterile/non-sterile/utility gloves
	• Plastic buckets for decontamination
	• Chlorine concentrate
	• Sharps containers
	• Protective clothing (glasses, masks, aprons, shoes)
	• Client barriers (table covers, drapes, gowns)
	
	For laboratory:
	• Microscope
	• Slides
	• Counting chamber
	• Urine dipsticks:
	  o Albumin and glucose
	  o Pregnancy
	
	• (Reagents for gram stain, wet mount, KOH preparation)
	• Sharps disposal containers

APPENDIX 4

Reproductive Health screening tests

Problem	Target population; frequency of screening	Screening tests, technique	Type of facility where available	Supplies and equipment needed
Anemia	All women: adolescents, pregnant women, non-pregnant women, and menopausal women. At each health care visit	Clinical signs (exam of conjunctiva, tongue and gums, fingernails, palms, etc) Colorimetry tests Quantitative Laboratory Hbg measurements	All facilities PHC and above	Colorimetry ref. charts, blood collection strips Blood collection supplies, reagents, counting chambers, measurement equipment (eg Sahlie, hemocue)
Cervical dysplasia	Women over 40 yrs of age, every 5 years	Visual inspection with acetic acid • Insert speculum, • Visualize cervix and vaginal fornices • Apply acetic acid to cervix • Assess within 1-2 minutes • Treat, reassess depending on findings Pap smear • Insert speculum • Collect cervical specimen by rotating spatula 360° once over face of cervix. Collect endocervical specimen with other end, if necessary. • Apply sample to microscopy slide gently, preserve immediately • Label and send to laboratory • Biopsy, Cryotherapy	Screening: VIA: PHC and above PAP: DH and above Diagnosis/Treatment: District hosp and above	Screening Speculae VIA: Acetic acid PAP: Swabs, cervical spatulas, microscopy slides preservative (alcohol, hairspray) On-site or referral laboratory for processing, interpretation Diagnosis/treatment: Biopsy forceps Preservative (formalin) Cryotherapy machine
Breast exams	Women over 35 years, check each visit	Visual inspection and palpation of breasts: Visual inspection: with woman sitting, look for retractions in skin, discoloration of nipple. Have woman lift arms about head, recheck Palpation, woman supine: working from	Screening: HP and above	IEC on self breast exams

		outside in, in circular motion, feels all breast tissue between skin and chest wall for lumps and masses. Gently squeeze nipple looking for discharge. **Suspicious lumps:** • Characteristics: hard, rough, irregular, fixed to skin, or underlying chest wall, cause changes in overlying skin; discharge from nipple. • Management: o Have patient return in 1 month. o If still present refer to hospital with biopsy capacity	Diagnosis (biopsy, surgery) Zonal hospital (biopsy) Zonal hospital	Diagnosis/treatment Needle, preservative, pathologist, surgeon skilled in lumpectomy/mastectomy (Chemotherapy)
Rape documentation	Women reporting recent rape	Take careful history of attack (when, where, assailant, type of physical and sexual violence/acts) Do careful physical exam and describe or note on diagram: • Evidence of trauma - cuts, bruises (location, size, severity, approximate age) Take specimens • Swab from vagina to document sperm • Fill out rape reporting form Treat/provide: • STI prophylaxis (gonorrhea/chlamydia) • Emergency oral contraception • Counseling referral and support o Locally available support groups	District hospital (Some primary health centers)	Basic Microscopy: • Swabs for specimen collection • Microscope • Slides • Saline solution Emergency Contraception pills (combined OCs or Levonorgestrel) Antibiotic for STI prophylaxis

CHAPTER TWO

APPENDIX 1

TREATMENT OF SECOND-TRIMESTER INCOMPLETE ABORTIONS

For treatment of middle to late second-trimester incomplete abortion, **intravenous oxytocin, sharp curettage (D&C)** or **dilation and evacuation** (**D&E**) by vacuum aspiration of the uterine cavity are the available methods. In the second trimester the risks are higher for increased blood loss and uterine perforation resulting from treatment. Therefore, treatment of incomplete abortion in the middle to late second trimester **must** be done by an experienced clinician. In addition, IV fluids, special equipment and the facilities to perform abdominal surgery should be available to manage possible complications. Dilation and evacuation, when combined with the use of a sponge or placental forceps for manual removal of retained POC, is the preferred method when a specially trained physician is available.

Intravenous oxytocin is the most commonly available medication which causes contraction of the uterus (uterotonic agent). Oxytocin, 10 units/500 ml IV over 4 hours (or equivalent solution) can be used to safely complete expulsion of retained POC in second-trimester incomplete abortions. Usually, the placenta or placental fragments will be expelled during this time or shortly thereafter. It is important to examine the POC for completeness. If expulsion occurs and appears to be complete, observe the woman for bleeding or evidence of retained placental fragments. If, after observation, the woman is stable, she may be discharged. If after observation, however, she is **not** stable (e.g., continues to have vaginal bleeding), vacuum aspiration with the largest available cannula may be necessary.

APPENDIX 2

ABORTION CLASSIFICATION

The term "abortion" refers to the termination of pregnancy before 20 weeks of pregnancy, either by elective induction or spontaneously (miscarriage). There are also several stages or classifications of spontaneous abortion, which are differentiated by the uterine size, amount of bleeding, condition of cervical os, and the general condition of the patient.

Diagnosis	Bleeding	Cervix	Uterine size	Other signs and symptoms	Treatment
Threatened abortion	Slight to moderate	Closed	Equal to dates by LMP	Mild or no cramping Uterus soft	Observation, or none except RhoGam PRN*
Inevitable abortion	Moderate to heavy	Dilated	Equals dates or slightly smaller than dates by LMP	Cramping	Evacuation of uterine cavity or observation
Incomplete abortion	Slight to heavy	Dilated	Smaller than dates by LMP	Cramping Partial expulsion of POC	Evacuation of uterine cavity
Complete abortion	Slight or none	Soft or closed	Smaller than dates by LMP	Little or no cramping Expulsion of POC Uterus is firm	None except RhoGam PRN*
Missed abortion	Slight or none	Closed	Smaller than dates by LMP	Little or no cramping (U.S.G. diagnosis)	Evacuation of uterine cavity
Septic abortion	Slight to heavy	Closed or dilated	Depends	Fever, chills, abdominal pain	Start antibiotics (usually IV), then evacuate uterine cavity

***Note**: where blood grouping and Rh testing is done it is advisable to give RhoGam for Rh negative mothers.*

APPENDIX 3

The Family Health Division and National Health Training Center recommend evacuation of the uterus by Manual Vacuum Aspiration (MVA) for treatment of incomplete abortions in the first trimester. MVA is preferred for the following reasons:

- It can be performed in a simply equipped procedure room, often as an outpatient procedure.
- It is safer (has fewer complications) than sharp curettage.
- It is less uncomfortable, requiring less or no anesthesia, and quicker to perform than sharp curettage.

Those sites interested in providing a full range of PAC services should send a letter to FHD requesting initiation of PAC services.

APPENDIX 4

POSTABORTION CARE
FACLITY NEEDS ASSESSMENT FORM
FAMILY HEALTH DIVISION

Part I: General Data

Version: 7 Nov 2001

Date: Day _____ Month _____ Year _____

Assessment conducted by (name): _____

Name of Facility:_____

Address: _____/_____/_____
(District) (Zone) (Region)
Phone No: _____ Fax No: _____

1. Which of the following services are offered at this facility? (Tick all that apply)

☐ Obstetrics ☐ Sexually Transmitted Diseases

☐ Gynecology ☐ Family Planning (FP)

☐ Antenatal/Postnatal Care ☐ Adolescent Health

☐ Infertility ☐ Others _____

2. Which of the following services receive postabortion patients? (Tick all that apply.)

☐ Maternity Ward ☐ Labor Room ☐ Emergency Department

☐ Gynae Ward ☐ Other (specify) _____

3. Number of women admitted for complications of abortion (*Calculate average from 6 months*):

Number perceived by providers: _____/ month
Number reflected in clinic records: _____ / month

4. Does the hospital have a blood bank facility? (*cross-matching; storing etc*) ☐ Yes ☐ No

5. Are there any maternal mortality data due to complication of abortion?

☐ Yes No ☐

If yes,
No of death/yr _____ Source: _____

6. Which of the following personnel treat postabortion patients? (Tick all that apply and please note specialty if applicable)

☐ Physician ☐ Staff Nurse

☐ ANM ☐ Other (specify) _____

7. How are incomplete abortion patients managed at present? ☐ MVA ☐ D&C ☐ Observation Expectant
If MVA available who is providing? _____

8. Are D&C/MVA services available 24 hours? Yes ☐ No ☐

9. How long do women stay for a D&C procedure? _____

10. How much does a D&C procedure cost? _____

11. Are there other facilities in the area that handle emergencies/referrals?

☐ Yes ☐ No

If yes, which ones?

Part II: Service Provision Capabilities

COUNSELING

1. a) Is FP counseling or service offered to postabortion patients?

□Yes □No □Not determined

b) When does this counseling take place?

□ Before procedure □ During Procedure □After Procedure

Comments _____

2. Is the counseling area suitably private?

□Yes □ No □ Not determined

3. Does the site have IEC materials for family planning?

□ Yes □ No

FP SERVICES:

4. Check the FP method available in the facility:

<u>Temporary method:</u>

Pills □ Yes □No Condom □ Yes □ No Depo □ Yes □No

IUD □ Yes □No Norplant□ Yes □No

<u>Permanent Method:</u>

Vasectomy □ Yes □No Comment _____

Minilap □ Yes □No Comment _____

SERVICE PROVISION AREA

5. Is this area:

	Yes	No	Not determined
Equipped with a sink and a reliable source of water			
Equipped with more than one consultation section			
Sufficiently lit/good source of light			
Equipped with a storage cabinet for contraceptives			
Equipped with buckets/container for mixing chlorine bleach			
Equipped with an autoclave machine			
Equipped with puncture proof container			

Comments: _____

6. Is there a recovery room/area?

□ Yes □ No □ Not determined

Comments: _____

7. Does this facility have the following?

	Yes	No	Not Determined
Instrument sterilization/High-level disinfection area			
Covered storage space for supplies/equipment			
Bleach for decontamination			
Local anesthetics			
Analgesics			
Antiseptics			
Tetanus toxoid			
Disinfectants			
Supply of emergency resuscitation drugs			
Antibiotics			
Ambu bag			
Oxytocics			
IV solutions			
Oxygen			
Blood products			

Part III: Other Services/Management Issues

1. What would be an ideal place for introducing PAC services? *(Should ask this question to Medical Superintendent and HOD of Gynae and Obs)*

   ☐ Gynae Ward ☐ Labour Room ☐ Emergency Department

   ☐ Maternity Ward Other ☐_____

2. Who needs to be trained at the site? (*list specific names*)

Service provider: (Name/Title)	Assistants: (Name/Title)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

3. Are there any INGO/NGOs who are supporting for reproductive health in the hospital?

PAC NEEDS ASSESSMENT SUMMARY- DRAFT

SN	Assessment/Conducted	/month	Yes	No
1.	**Caseload (ref mod.1Q.4)**			
2.	**Manpower**	**Number**		
	Gynaecologist			
	MDGP			
	Medical Doctors			
	Staff Nurse			
	ANM			
3.	**Physical Facility**			
	Waiting room			
	Examination or Counseling Room			
	Service Area (OT, Labour room)			
	Recovery Room			
	Medical Records			
	Emergency Backup			
	Toilet/water supply			
4.	**Family Planning Service**			
	Temporary- Norplant, Depo, Pills, IUCD			
	Permanent			
5.	**Infection Prevention Practice**			
	Autoclave			
	Boiler			
	Cidex			
	Virex			
	Puncture Proof Container			
6.	**Commitment**			
7.	**Linkage**			

APPENDIX 5

PAC REPORTING FORM QUARTERLY

Name of Hospital/Facility: _____

Reporting Period: _____

Date of Reporting: _____

SN	Months	No. of MVA Performed	No. of D & C Performed	Total	Family Planning Service Accepted						Remarks
					Condom	Depo	Pills	IUD	Norplant	Others	
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.	Total										

Prepared By (name and Signature): _____

In-charge of Hospital/Facility (Name and Signature): _____

CHAPTER THREE – I

APPENDIX 1

REQUIREMENTS FOR PUBLIC OR PRIVATE FACILITIES PROVIDING STD SERVICES

Referal Clinics / Laboratories (Serological and biochemical examination)	Peripheral Facilities (Microscopic Examination)
1. Sterile Swabs 2. Glass Slides 3. Cover slips 4. Inoculating Wire Loop and Stand 5. Petri Dishes 6. Incubator 7. Autoclave + Ordinary Heater 8. Distillation Plant (glass) 9. Weighing Machine with Accessories 10. CO2 Jar or CO2 Incubator 11. Serological Pipettes 12. Micro Pipettes 13. VDRL Shaker 14. ELISA Reader 15. Microscope + Microscopic Oil 16. Glass Wares - tubes, Pasteur Pipettes 17. Steel or Plastic Buckets 18. Water Bath 19. Burner 20. Refrigerator 21. Tray 22. Test Tube Rack 23. Centrifuge 24. Forceps 25. Dropping Bottles 26. Hot Air Oven 27. Diamond Pen 28. Glass Marker 29. Table Lamp	1. Microscope + Microscopic Oil 2. Glass Slides 3. Cover Slips 4. Sterile Swabs 5. Tray 6. Staining Rack 7. Forceps 8. Spirit Lamp/ burner 9. Steel or Plastic Buckets/ Container 10. Glass Wares - Test Tube, 11. Micro Pipettes 12. Test Tube Rack 13. Centrifuge 14. Dropping Bottles 15. Table Lamp

APPENDIX 2

TAKING SPECIMENS FOR LABORATORY EXAMINATION FROM THE MALE

Taking a smear from the urethra

- Have the patient retract the foreskin. If necessary ask the patient to milk the urethra to express discharge
- Obtain a specimen by applying a glass slide to the discharge or by using a cotton tipped swab or a loop
- If frank pus is not present obtain a urethral specimen using a platinum loop of a fine swab – insert 2 mm into the urethra and rotate gently
- Smear the material thinly onto a clean glass slide and gram stain for microscopic examination to detect Gram Negative Intra Cellular Diplo Cocci (ICDC) and increased PMN > 5 / HPF

APPENDIX 3

TAKING SPECIMENS FOR LABORATORY EXAMINATION FROM THE FEMALE

A bivalve vaginal speculum should be inserted into the vagina and the cervix visualised as a part of the examination. Specimen is collected from posterior fornix of vagina and cervical os for the following laboratory investigations.

Vaginal specimen:

PH test:

PH test is done by placing litmus paper in collected pool of vaginal specimen or against the lateral vaginal wall. Normal vaginal PH is in the range of 3.8 – 4.2 and PH more than 4.5 is suggestive of Bacterial Vaginosis and frequently of Trichomonas Vaginalis.

Wet Mount:

Inoculate the vaginal specimen into one or two drop of normal saline on a glass slide and cover with a coverslip. The slide is immediately examined under low and high power of microscope for motile trichomonas suggesting Trichomonas Vaginalis, also for Clue Cells (vaginal epithelial cells coated with coccobacilli as in Bacterial Vaginosis) and to detect fungal hyphae indicating Candidida albicans (CA) or increased Poly Morpho Neutrophil (PMN) cells as seen in Trichomonas Vaginalis.

KOH Test:

A second specimen of vaginal discharge is placed on slide and 1 – 2 drops of 10% KOH is added, covered with coverslip and air or flame dried and examined under low power of microscope to detect candidal hyphae, mycelial tangles and spores.

Whiff Test:

During the preparation of KOH slide when a drop of KOH is added to vaginal specimen, fishy or amine odour come out, suggestive of Bacterial Vaginosis.

Amsel's diagnostic Criteria for Bacterial Vaginosis *

Thin, homogenous discharge

Positive "Whiff" test

"Clue cells" present on microscopy**

Vaginal pH > 4.5

* -- Three of four criteria must be met; establishes accurate diagnosis of bacterial vaginosis in 90% of affected women

**-- Highly significant criteria

Endocervical specimen:

- Clean the **cervical os** carefully with cotton swab on sponge holders
- Insert a sterile cotton swab into the cervical os, rotate mildly sideways and collect the specimen

Gram stain: Make a thin smear of material from the cervical os on a glass slide, air dry it and gram stain to detect Gram Negative Intra Cellular Diplo Cocci (ICDC) and more that 20 Poly Morpho Neutrophil (PMN) cells/ HPF.

Refer to higher centres if Gonococcal Culture is required:

APPENDIX 4

STI CASE RECORD BOOK

Institution: ……..DH/PHC/HP/SHP

Month & Year: ……..Period: ……..to……

SN	Name	Age	Sex	Marital Status	Address	Occupation H/W	Complaints	Signs	Diagnosis	Treatment Provided	Follow-up			Remarks
											Improv -ed	Cured	Referr - ed	

Prepared by: Date:

Signature:

Approved by: Date:

Signature:

APPENDIX 5

STI Case Reporting form

Institution: ……..DH/PHC/HP/SHP

Month & Year of Reporting: …….Period: ……to……

STI syndrome	M	F	Total
1. Urethral discharge syndrome			
2. Vaginal discharge syndrome **Vaginitis** **Cervicitis**			
3.Genital ulcer syndromes			
4 PID			
5. Others			
Total			
Total OPD cases			

Prepared by: Date:

Signature:

Approved by: Date:

Signature:

APPENDIX 6

HIV / STD Prevalence in Nepal among different population groups

Population Groups	ANC Clients		STI symptomatic patients		IVDUs	IVDUs	Terai Seroprevalence		Kathmandu	Pokhara	Sentinel surveillance (HSS) among STI patients			TB Patients	TB Patients	TB Patients	Blood Donors
							Truckers	FSWs	FSWs	SWs							
Sample Size	[n= 1802]	[n =2030]	Male [n=199]	Female [n=268]	Male [n=560]	Male [n=560]	[n=400]	[n=410]	[n=300]	[n=250]	[n=1767]	[n=1821]	[n=1666]	[n= 300]	[n= 1000]	[n= 1221]	[n=59740]
Studies done by	UoH	UoH	UoH	UoH	NCASC	SACTS /FHI	FHI, New ERA, SACTS	FHI, New ERA, SACTS	FHI, SACTS	UoH, SEDA	NCASC, FHI, UoH	NCASC, FHI, UoH	NCASC, FHI, UoH	NTC	NTC UMN	NTC UMN	Blood Bank
Year	1996	1999	1997	1997	1999	2001	1999	1999	2000	2000	1998	1999	2000	1993	1996	1999	1999
Trichomonas				9,3%			0,5%	9,0%		21,1%							
Chlamydia			5.5%(2)	5.2%(2)			2.8%(2)	9.3%(2)		2.8%{3}							
Gonorrhoea			13.6%(3)	1.9%(3)			2.5%(3)	9.0%(3)		0.8%{3}							
Syphilis (4)	1.3%	1.8%	9.5%	7.9%	10.7%	10.7%	5.3%	18.8%	19.0%	13.8%{RPR}	1.8%	2.0%	2.0%				
HIV (5)	0.2%	0.2%	0.6%	0.6%	40.4%	68%	1.5%	3.9%	17.3%	0.8%	1.3%	1.0%	2.4%	0.0%	0.6%	2.2%	0.32%

CHAPTER FOUR

APPENDIX 1

General Causes of Infertility

Male	Female
Hypothalamic dysfunctions	Mullerian duct abnormality
Pituitary failure(tumor, radiation, surgery)	Cervical stenosis
Hyperprolactinemia(drug, tumor)	Surgical treatment (conization, cryotherapy)
Thyroid diseases	Cervicitis, chronic inflammation)
Adrenal hyperplasia	Hostile cervical mucus
Mumps orchitis	Congenital malformations of uterine cavity
Chemical/radiation/heat exposure	Submucosal leomyoma
Vericocele	Intrauterine synaechiae (Asherman' syn.)
Cryptorchidism	Tubal occlusion due to PID, ligation
Antisperm antibodies	Endometriosis
Idiopathic abnormal sperm motility	Pelvic adhesions
Retrograde ejaculation	Idiopathic
Impotence	Ovulatory Factors #
Decreased libido	

Ovulatory Factor Infertility

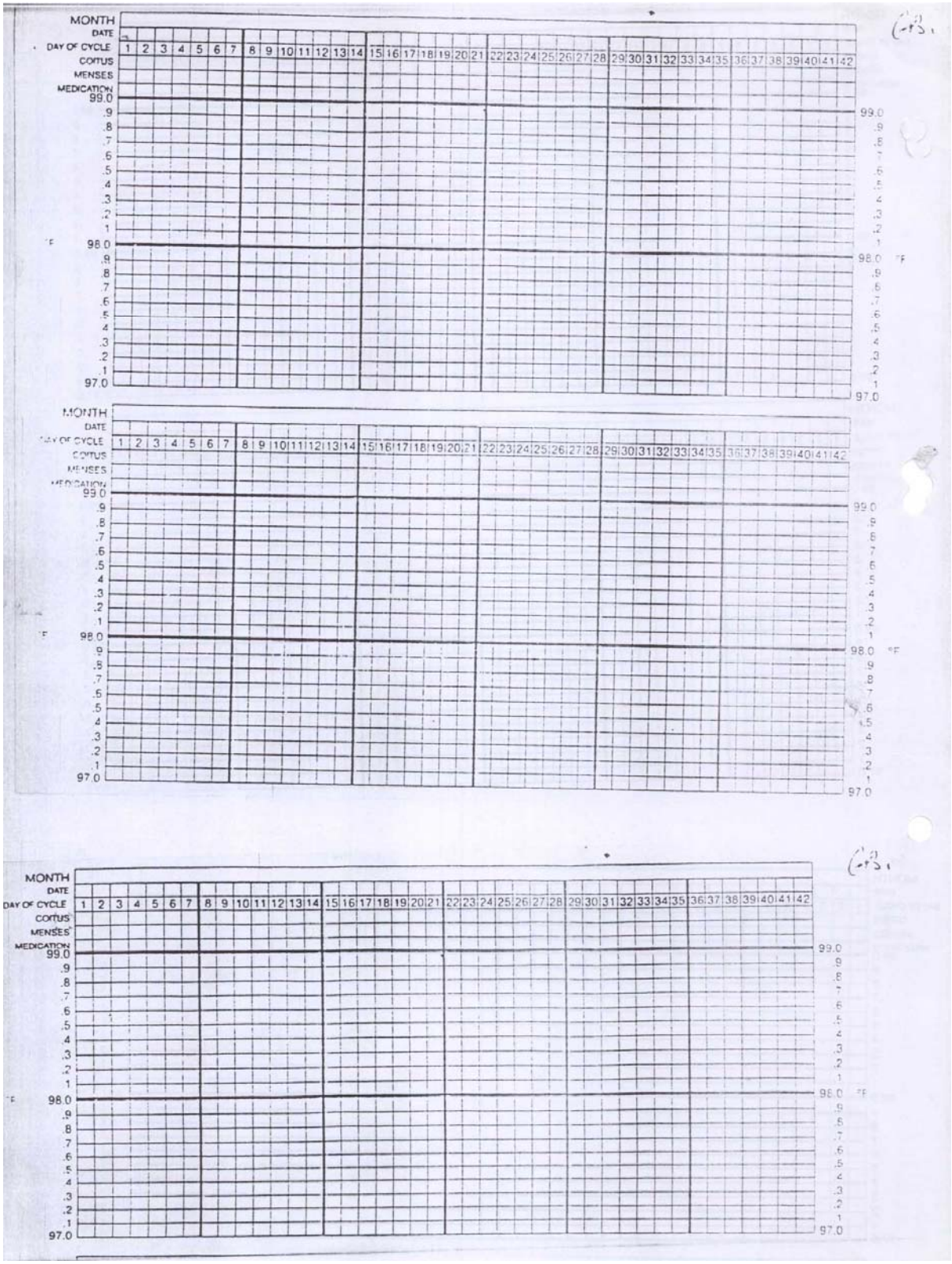
Central defect
- Piturary insufficiency (trauma, tumor, congenital)
- Hypothalamic insufficiency
- Hyperprolactenaemia (drug, tumor, empty sella)
- Polycystic ovarian disease (chronic hyperandrogenimic an ovulation)
- Luteal phase defects

Peripheral defects
- Gonadal dysgenesis
- Premature ovarian failure
- Ovarian tumor
- Ovarian resistance

Metabolic disease
- Thyroid disease
- Liver disease
- Obesity
- Malnutrition

Androgen excess (adrenal, neoplastic)

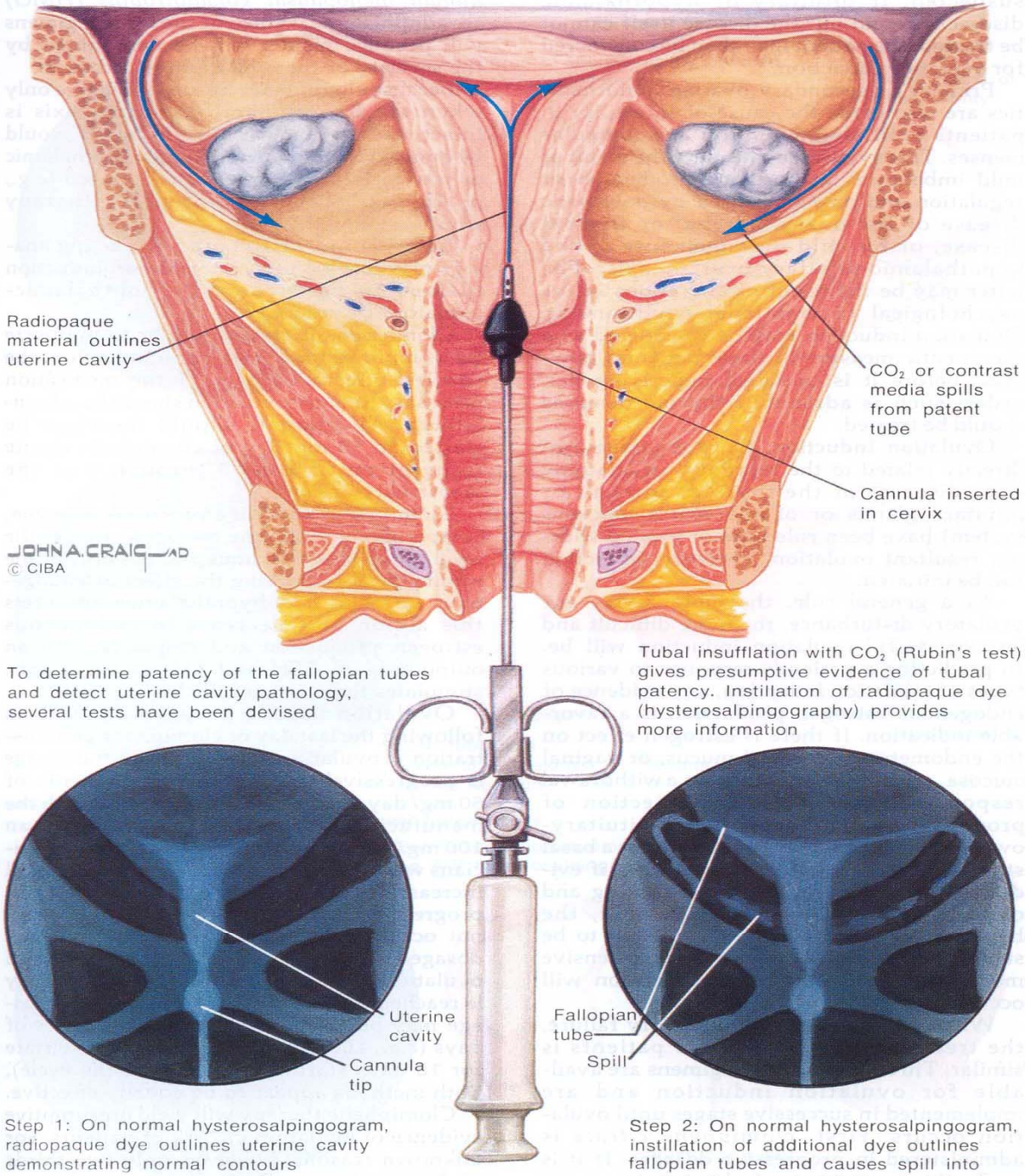
APPENDIX 2
Basal Body Temperature Chart



APPENDIX 3

Plate 10

Tests for Tubal Patency and Uterine Anomalies



APPENDIX 4

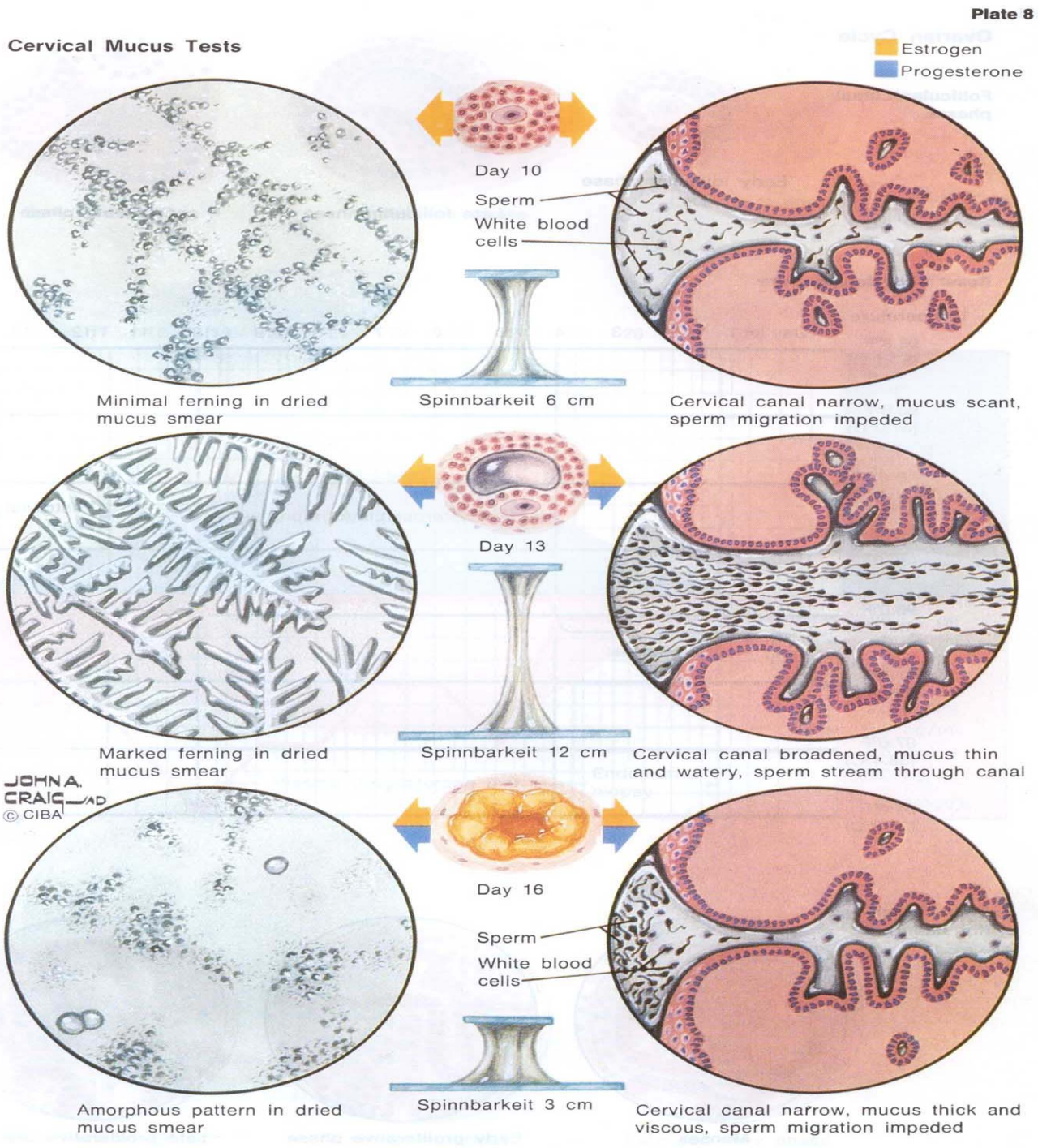
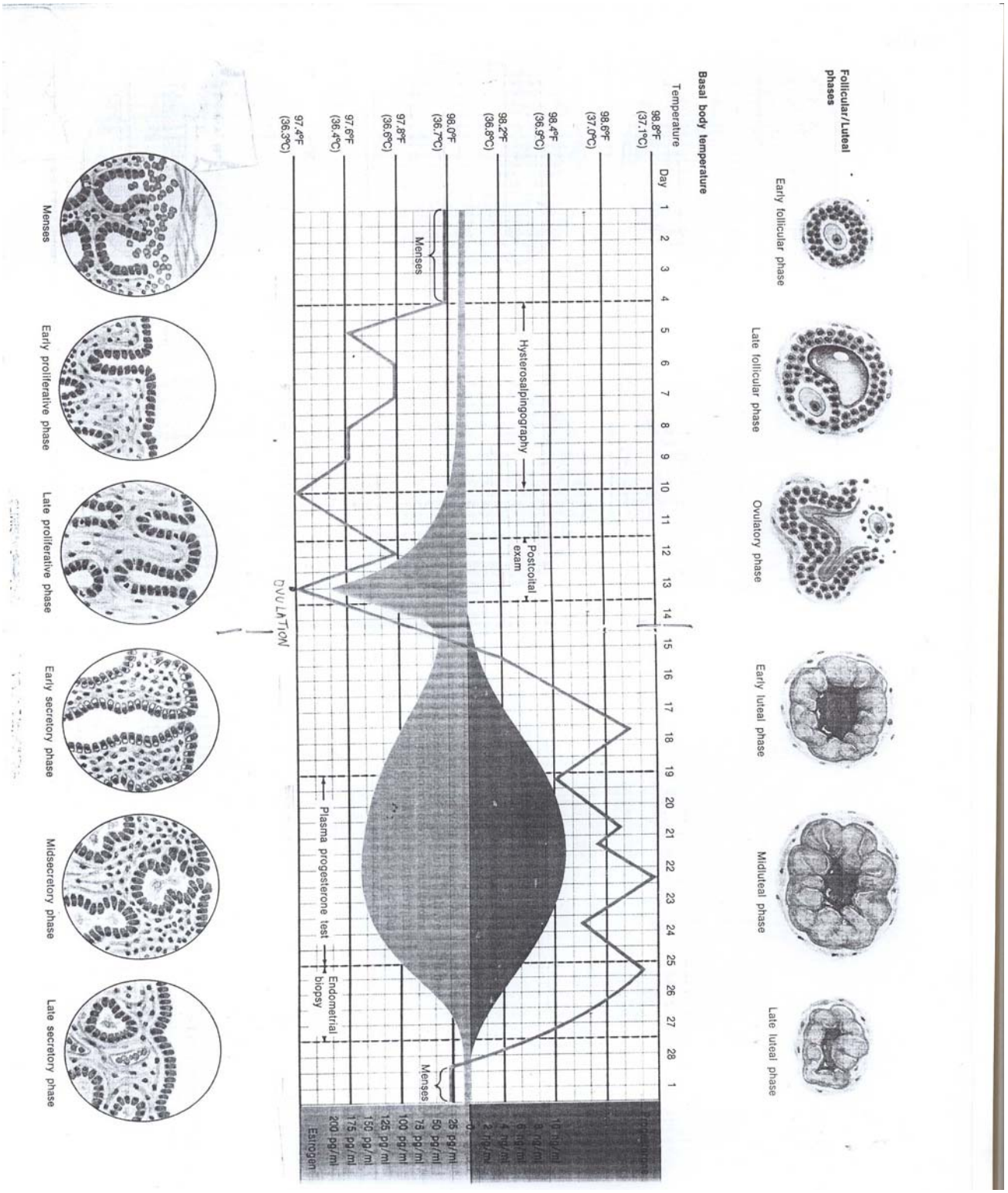


Plate 8
Cervical Mucus Tests
Estrogen
Progesterone
Day 10
Sperm
White blood cells
Minimal fern in dried mucus smear
Spinnbarkeit 6 cm
Cervical canal narrow, mucus scant, sperm migration impeded
Day 13
Marked fern in dried mucus smear
Spinnbarkeit 12 cm
Cervical canal broadened, mucus thin and watery, sperm stream through canal
JOHN A. CRAIG—MD
© CIBA
Day 16
Sperm
White blood cells
Amorphous pattern in dried mucus smear
Spinnbarkeit 3 cm
Cervical canal narrow, mucus thick and viscous, sperm migration impeded

APPENDIX 5


Follicular/Luteal phases
Early follicular phase
Late follicular phase
Ovulatory phase
Early luteal phase
Midluteal phase
Late luteal phase
Basal body temperature
Temperature
Day
Hysterosalpingography
Postcoital exam
Menses
OVULATION
Plasma progesterone test
Endometrial biopsy
Estrogen
Menses
Early proliferative phase
Late proliferative phase
Early secretory phase
Midsecretory phase
Late secretory phase

CHAPTER FIVE

APPENDIX

Equipment and Supplies of Adolescent Friendly Services

Physical structure and supplies:

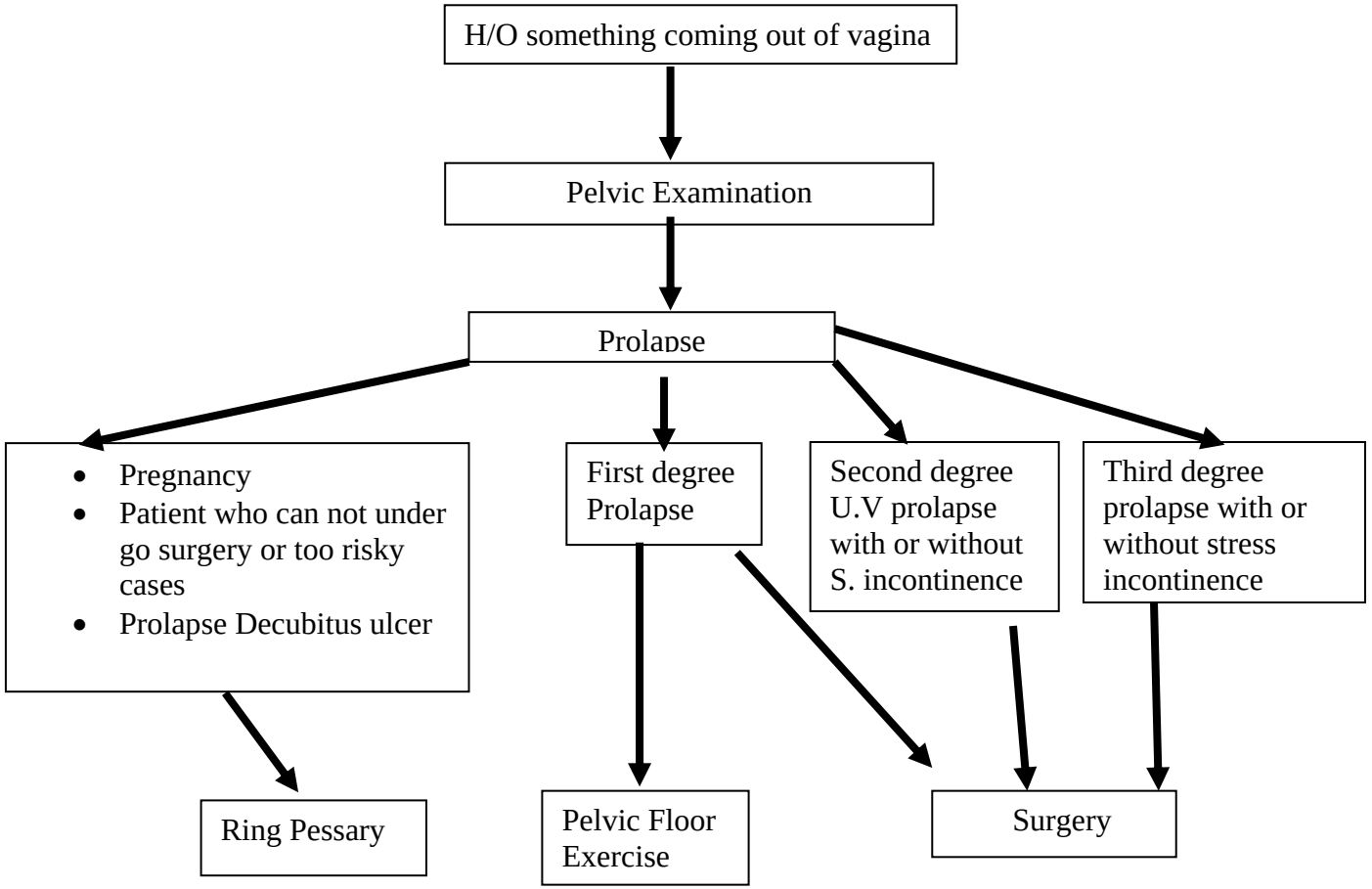
- Examination Gloves
- Antiseptic solution (betadine)
- Examination table (with bed sheet) with leg supports
- Light source to inspect genitalia/ cervix (standing lamp and torch light)
- Speculum (cusco's or sim's)
- Sponge holder
- Swab sticks
- Weighing machine
- Measuring tape
- Seat for service provider
- Puncture proof container for disposal of sharps objects
- Utility gloves
- Educational materials
- Table/Chair
- Thermometer/BP instruments

Separate counseling room and examinations room is preferred for privacy

CHAPTER SIX

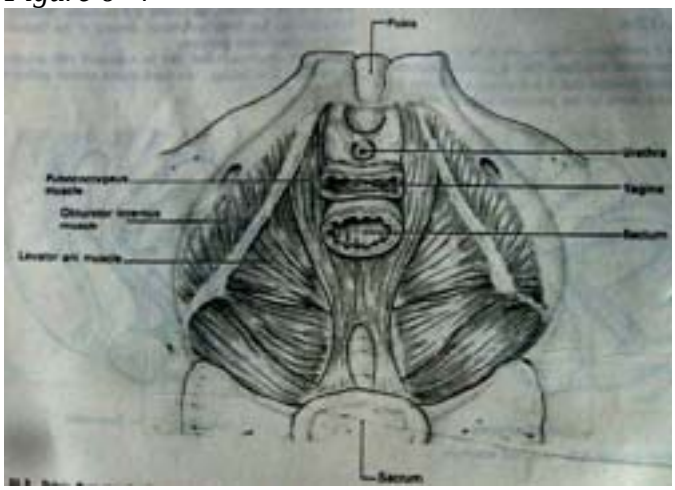
APPENDIX 1

Clinical Approach to a Genital Prolapsed Patient



APPENDIX: 2

Figure 6- 4

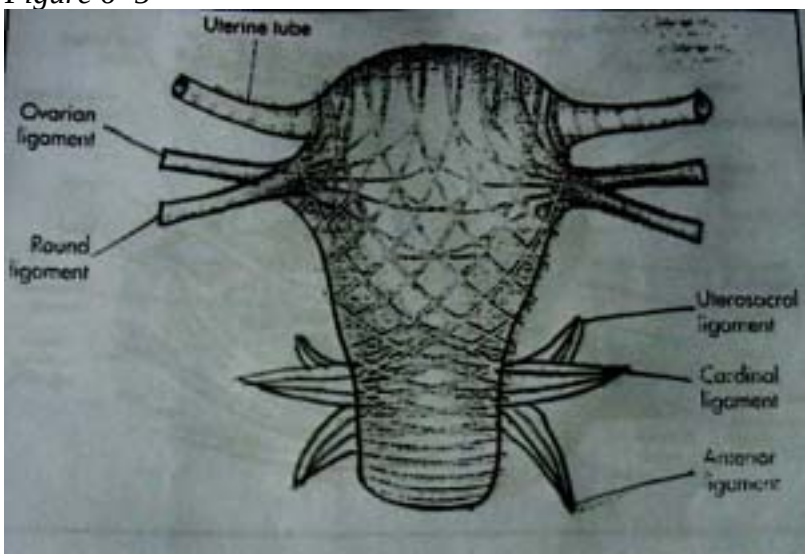


Pelvic floor.

The ligaments are:

- The pubocervical ligaments (in front).
- Lateral cervical ligaments (Transverse cervical & Machenrodt's ligament).
- Utero-Sacral ligament (at the back).
- Posterior pubourethral/pubovesico cervical ligament.
- Round ligament – It is believed to keep the uterus anteflexed but plays little part in actually supporting the uterus.

Figure 6- 5



Supports of the Uterus

CHAPTER SEVEN

APPENDIX

List of common symptoms reported by menopausal women in a community based study (Giri, 2001)

1. Loss of sexual desire
2. Decreased visual activity
3. Loss of memory/Absent mindedness
4. Burning during urination
5. Joint, muscle and body pain
6. Headache
7. Blushing of face/getting hot
8. Palpitation of Heart
9. Day and Night Sweats
10. Dry during intercourse
11. Feeling dizzy
12. Burning of feet
13. Irritability
14. Burning of stomach
15. Restlessness
16. Vomiting
17. Sensation on the feet
18. Tiredness
19. Swelling of the feet
20. Sleeplessness
21. Tingling on hands and feet
22. Crawling under the skin
23. Burning eyes

REPRODUCTIVE HEALTH REFERRAL SLIP

Name: _____ Age/sex: _____ Marital status_____

Address: _____ Date: _____

Present complaints:

Reproductive/contraceptive history:

Findings on examination:

- General condition:
- Vital signs:
- Abdominal examination:
- Pelvic examination:
- Others:

Provisional diagnosis:

Management performed:

Any significant notes:

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