



THE REPUBLIC OF UGANDA  
MINISTRY OF HEALTH

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**SEXUALLY TRANSMITTED INFECTIONS**  
**TREATMENT GUIDELINES**  
**FOR USE BY**  
**OPERATIONAL LEVEL HEALTH WORKERS**  
**IN**  
**UGANDA**

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## ACRONYMS

ACP	AIDS Control Programme
AIM	AIDS Integrated Model district programme
AIDS	Acquired immuno-deficiency syndrome
ART	Anti retroviral therapy
ARV	Anti retroviral
BV	Bacterial vaginosis
ELISA	Enzyme linked immuno-sorbent assay
FP	Family planning
FTA	Flourescent treponemal antibody
GUD	Genital ulcer disease
HBV	Hepatitis B Virus
HIV	Human immuno-deficiency virus
HSV	Herpes simplex virus
IU	International units
IUCD	Intra uterine contraceptive device
LCR	Ligase chain reaction
LGV	Lymphogranuloma venerium
MCH	Maternal Child Health
MU	Mega units
NGU	Non gonococcal urethritis
PCR	Polymerase chain reaction
PHC	Primary Health care
PID	Pelvic inflammatory disease
RPR	Rapid plasma regain
STD	Sexually transmitted Disease
STI	Sexually transmitted infection
TOM	Tubo-ovarian mass
UDS	Urethral discharge syndrome
VCT	Voluntary counseling and HIV testing
VDRL	Venereal Disease Research Laboratories
HPV	Human papilloma virus

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## **INTRODUCTION**

This manual has been prepared to act as a first hand guide in the management of patients with Sexually Transmitted Diseases. It is recommended that all health care providers in the country acquaint themselves with this manual. This is particularly important in the light of the fact that the management of sexually transmitted diseases has undergone several changes in the past decade. These changes are not only due to the HIV epidemic, but also due to the fact that causative organisms adapt increasing resistance to commonly used drugs and the fact that the aetiology of various STI syndromes changes over time even in the same geographical area.

The manual contains of important information on clinical aspects as well as counseling, community education information and support services which will be extremely important to all health care providers who are responsible for STI case management and other STI control activities.

The guidelines are intended to provide solutions to most STI problems presenting in health care facilities. Users of the manual are encouraged to make further references as the case may be.

## **PUBLIC HEALTH IMPORTANCE AND EPIDEMIOLOGY OF STIs**

STIs constitute a significant cause of morbidity and mortality world wide, particularly in developing countries. However, their importance had not been realized till only recently, in the wake of the HIV epidemic.

### **Why should STIs be a public health priority?**

There are several reasons in favour of prioritizing STIs on the public health agenda world wide, particularly in developing countries. Some of the most important include the following:

1. **Magnitude:** The burden of STIs is high world wide in terms of their associated morbidity, mortality and socio-economic impact. WHO estimates about 333 million new cases of curable STIs each year, the disproportionate share of which is in Sub Saharan Africa. In Uganda, STI or related complications have consistently ranked among the leading causes of out patient consultations in public health facilities, accounting for about 20% of adult out patient consultations in public health facilities for many years. At population level, one study in rural Uganda found high prevalence of STIs, with up to 50% of adults 15-49 having at least one STI.
2. **Complications:** Untreated or poorly treated STIs lead to very serious complications particularly among women where there are associated with adverse reproductive health consequences. Among children STIs cause blinding eye infections, congenital malformation, premature deliveries, low birth weight, growth retardation, mental sub-normality, etc. Among men and women, they can lead to secondary infertility and chronic debilitating conditions. The psychological consequences of such complications to affected individuals can be very disturbing.
3. **Socio-economic consequences:** It is indisputable that STDs are associated with significant socio-economic consequences. These include costs of treatment, cost of absenteeism from work, social stigmatization, psychological consequences of complications such as secondary infertility, etc. The World Bank estimates that STIs excluding HIV rank second only to maternal causes as the leading cause of healthy years of productive life lost among women of reproductive age in developing countries.

4. STIs are infectious and transmissible. As such, effective public health interventions are necessary to break the chain of transmission.
5. STIs are preventable and many are curable: The realization that the serious consequences of STIs can be averted through preventive interventions and effective case management renders it incumbent on all public health managers to accord to high priority to STD control.
6. Cost effectiveness of interventions: Interventions for STI control have been proved to be cost effective. STI control interventions directly benefit the individual and the community. A cost effectiveness analysis by the World Bank group showed that STD control interventions were comparable to tuberculosis control and measles immunization since their impact is felt beyond the affected individual. STI case management is therefore a public health measure, whose cost should not be born only by the affected individual.
7. Enhancement of HIV transmission: This fact has been demonstrated in many epidemiological and biological studies. Many symptomatic STDs enhance the transmission of HIV through increased viral shedding as well as providing a weakened barrier for acquisition of HIV. Effective case management of STIs not only reduces viral shedding in genital secretions, but was demonstrated in a community randomized longitudinal study in Mwanza region to reduce HIV incidence by 42%.
8. Stigma: In many societies, STIs are associated with stigma, a fact that reduces health seeking behaviour. However, this only serves to drive the epidemic even more underground. Public investment and involvement is vital to break this conspiracy of silence.

#### **Determinants of STI Epidemiology in Sub Saharan Africa:**

The high incidence and prevalence of STIs in developing countries is partly explained by the prevalence of many risk factors. They include the following:

1. Young age structure: Youth constitute the majority of the population in Sub Saharan Africa. Young people are more likely to engage in multiple sexual relationships with a concomitant increased risk of HIV/STI. In addition, they are more likely to lack access to barrier methods and STD care services which increase the period of

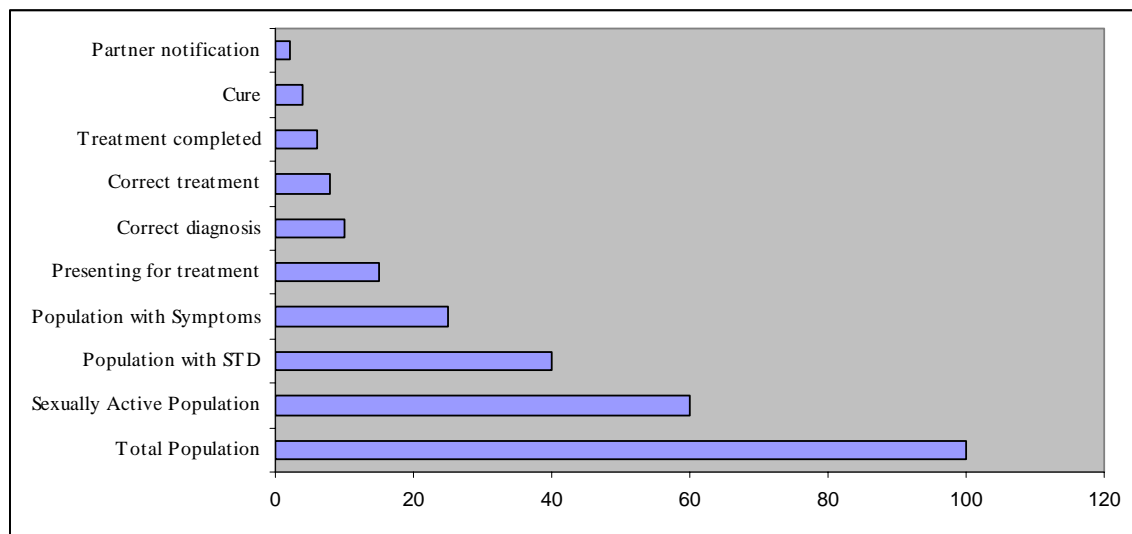
infectiousness. In addition, young women are more susceptible to STI acquisition due to hormonal changes.

2. Gender inequalities, poverty, wars and urbanization all combine to lead to break down in traditional social values with a resultant increase in such high risk activities as commercial sex that are associated with high rates of partner change and attendant increase in risk of STIs.
3. Poor health seeking behaviour and lack of effective services for STD care in most developing countries imply that the period of infectiousness is increased which ultimately leads to increased incidence and prevalence of STIs.
4. Socio and cultural beliefs, attitudes and customary practices that encourage risky sexual behaviour such as multiple sexual partnerships by men are highly prevalent in African communities.
5. Sub clinical or asymptomatic infection especially among women which results in delayed treatment while at the same time infectious to others.

### **STI Epidemiological/Operational Model:**

While effective STI case management represents the cornerstone of STD control, STI control efforts must go beyond case management, given that only a small proportion of people with STIs actually access health care services. The epidemiological model of STIs developed by Oval and Piot summarises this situation.

### Operational model of STDs in a community:





The model clearly shows that the proportion of people in any community who have or at the risk of STDs exceeds those seen in clinics.

**Implications of the model for STD Control:**

The scenario presented by the STI operational model mandates various interventions to contain the STI epidemic. They include:

- Reduce risk through education to communities and specific groups
- Condoms promotion through improving their availability to the sexually active
- Case finding through partners notification and screening programmes such as routine antenatal syphilis serological screening.
- Promotion of health seeking behaviour through early STI symptom recognition.
- Provision of user friendly services and increase accessibility of services particularly for youth and other vulnerable groups
- Other innovative approaches for STD service delivery e.g. training pharmacists, traditional healers, birth attendants etc in STI recognition and referral.
- Social marketing of STI treatment kits e.g. urethral discharge treatment kits
- Improve STI case management in health facilities through training and supporting health workers to make correct diagnosis and provide correct treatment
- Provision of full package of STI case management including partner notification

## **BASIC FACTS ABOUT SEXUALLY TRANSMITTED INFECTIONS**

Sexually transmitted diseases are infectious diseases caused by one or more microorganisms that are mainly transmitted from one infected person to another during unprotected sexual intercourse. The risk of transmission of STIs from one infected person to another varies according to the causative organism of the particular STI. For instance, as many as one out of two sexual partners of a patient with gonococcal urethritis may be infected after a single act of sexual intercourse. On the other hand, the risk of sexual transmission of HIV after a single act of sexual intercourse in the absence of other STI lesions may be as low as 0.1-1%

Most people with STIs such as gonococcal and non gonococcal cervicitis, syphilis, HIV etc may be asymptomatic or mildly symptomatic for a long time, but still infectious and at risk of complications and disease progression. Such people can spread the infections to uninfected sexual partners during sexual intercourse, and the such contacts go on to develop disease and complications. For this reason, a more inclusive term of “**Sexually transmitted Infections**” (STI) is recommended. Understanding of STDs is important because they lead to serious complications of their own if they are not treated or poorly treated. In addition, they enhance sexual transmission of HIV. For this reason, making proper diagnosis and treatment is of paramount importance.

Some infections which are sometimes sexually transmitted can be endogenous infections. These include vaginal candidiasis and bacterial vaginosis. These are part of the endogenous reproductive tract infections. Knowledge of this is important from the point of view of patient education and partner management.

There are over 20 different types of STIs. They are summarized in the table on the next page. The most common presentations are

1. A discharge from the penis (urethritis)
2. Discharge from the vagina (vaginitis and rarely cervicitis)
3. Sores or wound on the genital parts of both men and women (genital ulcers)
4. Abnormal swellings of the lymphnodes or groin (buboes)
5. Abnormal growth on the genital parts or other neighbouring areas in both men and women (warts)

The list of the most common STDs is shown below.

Table 1: Common Sexually transmitted Diseases and their clinical features:

STD	Main Clinical Features	Causative agent	Incubation period
Gonorrhoea	Pus discharge from the urethra or the cervix, dysuria, frequency.	<i>Neisseria gonorrhoea</i>	2 - 6 days
Genital candidiasis	White curd like discharge coating the walls of the vagina that is itchy. Soreness, excoriation and cuts.	<i>Candida albicans</i>	May be endogenous and recurrent
Trichomoniasis	Greenish itchy discharge from the vagina with offensive smell	<i>Trichomonas vaginalis</i>	Variable
Chancroid	Dirty painful ulcer, Usually one that is undermining	<i>Haemophilus ducreyi</i>	1 - 3 weeks
Herpes genitalis	Recurrent small multiple painful ulcers which begin as vesicles	<i>Herpes simplex virus</i>	2 -7 days ( initial infection)
Lymphogranuloma venerium ( LGV )	Swollen painful inguinal glands (buboes) occasionally with an ulcer and may occasionally be bilateral	<i>Chlamydia</i> organism - LGV strains	3 - 30 days.
Granuloma inguinale	Heaped up (beefy) ulcer, usually painless which may be associated with inguinal lymph node swellings	<i>Calymatobacteria granulomatis</i>	1 - 10 weeks
Syphilis	Primary chancre is a painless, well demarcated ulcer. Other features depend on the clinical stage.	<i>Treponema pallidum</i>	2 - 4 weeks
Non gonococcal urethritis / cervicitis	Thin non itchy discharge from the cervix or urethra	<i>Chlamydia, Mycoplasma hominis</i> and others	7 - 14 days
Bacterial vaginosis	Thin discharge with a fishy smell from the vagina	Overgrowths of <i>Gardenerella vaginalis</i>	May be endogenous
Hepatitis B virus infection (HBV)	Jaundice with inflammation of the liver	<i>Hepatitis B Virus</i>	
HIV / AIDS	According to WHO clinical criteria for the case definition for AIDS	<i>Human Immuno deficiency Virus</i>	Months – 10 years or more
Scabies	Vesicles containing the mites in pubic area	<i>Sarcoptes scabiei</i>	30 days
Venereal warts	Finger like growths on the genitals	<i>Human papilloma virus</i>	weeks - months
Pediculosis	May see knits in pubic hair, itching in pubic area.	<i>Phthrius pubis ( pubic Lice )</i>	days
Ring worm	Patches of hypo / hyper-pigmentation in the pubic area.	<i>Tinea organisms</i>	

### Aetiological classification of STDs:

STDs can be grouped into 5 groups according to causative agents namely:

- i. Bacterial STIs: This category includes: gonorrhoea, syphilis, chancroid, LGV, non gonococcal genital infection and bacterial vaginosis
- ii. Viral STIs: This category includes: Genital herpes, viral warts, HIV, HBV.
- iii. Protozoal STIs: This includes trichomoniasis

- iv. Fungal infections: e.g genital candidiasis and ring worms
- v. Infestations e.g. pubic lice and scabies.

### **Common complications of STDs**

Complications of STDs are long term outcomes or sequelae of untreated or poorly treated STDs. Most STDs are associated with serious complications that can be avoided if early and appropriate treatment is provided to patients. STI complications include:

#### **1. Complication of gonorrhoea and non gonococcal genital Infections:**

The complications of gonococcal and non gonococcal genital infections vary by sex and anatomical site affected.

*a) Complications in the male include:*

- Urethra: urethral stricture
- Seminal Vesicles: seminal vesiculitis
- Epididymis and testes: epididymorchitis

These complications can result in reduction of spermatozoa in semen and male infertility.

*b) Complications in the female include:*

- Bartholin's gland which can result in Bartholinitis and Bartholin's abscess
- Fallopian tubes that can lead to salpingitis. This may be further complicated by:
  - Pelvic inflammatory disease (PID).
  - Tubo - ovarian masses (TOM)
  - Irregular and painful and heavy menstrual bleeding
  - Ectopic pregnancies
  - Secondary infertility

*c) Complications in the babies:*

- Eyes: - Ophthalmia neonatorum with risk of corneal ulceration and blindness

#### **2. Complications of Syphilis:**

Untreated or poorly treated syphilis can lead to:

*a) Secondary syphilis (4 weeks to months)*

Secondary syphilis is characterized by lesions on different parts of the body such as:

- Skin : - non itchy skin rash extending to the palms and soles

- Alopecia

- Lymph nodes: - painless enlarged discrete lymph nodes especially behind the ears ( post auricular) and above and behind the elbows (epitrochlear)
- Wet areas: Flat topped swellings (condylomata lata or syphilitic warts)

*b) Latent syphilis:*

This may occur from two years, characterized by asymptomatic infection and may only be detected by blood test such as VDRL or RPR.

*c) Late syphilis:*

This stage may occur from four years. It can affect any part of the body and lead to:

- Skin with characteristic lesions referred to as gummata
- Bone leading to swelling and thickening of affected bones
- Eyes characterized by iritis and choroidoretinitis
- Cardiovascular system lesions eg. aortic valve incompetence and aortic aneurysm
- Nervous system characterized by “general paralysis of the insane”, and loss of sensation of the feet leading to painless sores of the feet.

*d) Syphilis and pregnancy outcomes:*

The complications of syphilis on pregnancy are characterised by an apparent “improving obstetric performance” i.e. if a mother infected with syphilis is not treated, she can experience the following pregnancy outcomes in a consecutive order.

- late abortions
- intra uterine foetal deaths with macerated still births
- premature delivery
- intra uterine foetal growth retardation
- live child born with congenital syphilis

*e) Congenital syphilis (Disussed in more detail under Congenital STIs):*

The features of a baby with congenital syphilis are similar to secondary syphilis together with other congenital abnormalities, growth retardation and mental sub-normality.

### **3. Complications of other STDs:**

Other STIs are also associated with complication that may include:

1. Genital ulcers can lead to fibrosis of affected organs

2. Venereal warts due to HPV are associated with cancer of the cervix
3. HBV can cause chronic hepatitis that may predispose to hepatocellular carcinoma
4. LGV often results in fistulae, sinuses and fibrosis

## CLINICAL ASSESSMENT OF STD PATIENTS:

The aim of clinical assessment is to make a correct diagnosis necessary for choosing the correct treatment option for the patient. It comprises of taking appropriate history, performing clinical examination and if necessary laboratory investigations.

In order to make the correct diagnosis, the patient should be questioned carefully about the nature of symptoms such as a “discharge, sores, warts, swollen lymph nodes, abdominal pain. In addition, history relating to the duration of the complaints and the recent sexual partners is necessary.

Physical examination should commence with a general examination and conclude with a genital examination. Remember that many patients will incorrectly describe their symptoms or fail to report a symptom, so the examination is extremely important part of clinical assessment. Mixed infections with different STDs are common, any patient reporting symptoms of one STD should be examined for presence of other STDs.

Conditions necessary for proper clinical evaluation of STD patients include:

- i. The setting should have an air of privacy for sensitive information to be solicited from the patient. A room separated from the waiting area or screens will suffice.
- ii. The clinical facility where the assessment is conducted should have adequate light
- iii. Good communication between patient and clinician and confidence setting
- iv. Adequate time for attending to the patient
- v. Informed consent for clinical examination
- vi. An assistant or chaperon of the same sex of the patient should be around throughout the assessment. This is essential to meet medical legal requirements.
- vii. Adequate facilities for examination such as examination couch, speculum, gloves

### **A: History taking.**

If the health worker is seeing the patient for the first time, a comprehensive history should be taken. The following points should be noted and the reason for each question should be appreciated by the clinician.

a) *Questioning technique:*\_ Beginning by asking open ended questions which allow the patient to express his/her problems to the clinician. Close ended questions should be used at the end to clarify issues as necessary.

*b) Format for history taking:* The following order is recommended:

- i. Names, Age, address, sex, marital status, occupation, date of consultation.
- ii. Presenting complaint, nature of symptoms and their duration
- iii. History of previous medication for the complaint and duration of treatment
- iv. Previous history of STDs
- v. Past medical history and treatment for allergies.
- vi. Recent sexual partners:
  - a. Last sexual intercourse, with who, when, and condom use.
  - b. Previous sexual intercourse with another person before the one above, with who, when and condom use.
  - c. Number of partners in the last twelve months.
  - d. Whether any of the partners have an STD complaint

In addition, for females:

- i. Last normal menstruation period and pregnancies
- ii. Regularity of flow and the amount of blood
- iii. Number of children with their ages from the youngest to oldest.
- iv. Number of abortions with ages of gestation in order of occurrence.

### **Clinical Examination:**

Before commencing the physical examination, the patient should be informed and permission sought. The following should be included in the clinical examination.

#### ***General Physical Examination:***

Look for important findings in: hair and skin and the palms and soles, preauricular and epitrochlear lymph nodes, eyes, mouth, abdomen and inguinal lymph nodes

***Genital examination:*** Important findings in the genital examination may be in:

- i) ***Males:*** pubic hair, scrotum, inguinal lymph nodes, testes, epididymis, shaft of penis, prepuce (circumcised / uncircumcised), glans / coronal sulcus, urethral meatus, genital discharge after milking the penis and perineum
- ii) ***Females:*** pubic hair, inguinal lymph nodes, labia, vulva, urethral opening, bimanual palpation, cervical excitation, tenderness, masses, discharge on examining finger (colour, smell, consistency) and perineum.



## COMPONENTS OF SYNDROMIC STI CASE MANAGEMENT CLINICAL

Case management of STIs refers to the care of a person with an STI syndrome or with a positive laboratory test result for one or more STIs. The goal of STI case management is not only to cure the client, but also to break the chain of transmission and avoid complications. For this reason, the STI case management package goes beyond diagnosis and prescription, to include patient education and partner treatment as well as provision of condoms.

### Goals of STD case management:

1. To make a correct diagnosis based on appropriate clinical assessment
2. To provide proper antimicrobial therapy in order to, obtain cure, decrease infectivity and avoid complications
3. To reduce and prevent future risk taking behaviour
4. To treat sexual partners in order to break the transmission chain.

### Components of STD case management:

- i) Clinical assessment based on appropriate history taking and physical examination (to be seen shortly)
- ii) Syndromic diagnosis as previously discussed
- iii) Specific antimicrobial therapy for STD syndromes as will be seen under each syndrome.
- iv) Education / counseling on:
  - a. treatment compliance for patients to take all the prescribed medication even when the symptoms resolve before completing medication
  - b. nature of infection
  - c. mode of transmission of infection
  - d. risk reduction
  - e. proper use of condoms and other safer sex methods
  - f. early STD care seeking behaviour
- v) **Provision of condoms:** All STI patients should receive from the attending clinician, advice on condom use in the future. In addition, clinicians must demonstrate condom use to all STI clients using a penis model or other material. Lastly, health workers must provide condoms to all STIs patients as part of their prescription.

- vi) **Partner notification:** All recent sexual contacts of STI patients should be treated for the syndrome corresponding to that of the index patient. Index patients should be encouraged to contact their recent sexual partners and notify them about the need for treatment. Partner notification cards may be used whenever available and where appropriate. All recent sexual partners should be treated irrespective of whether they have symptoms or not. However, when the index patient has a diagnosis of an endogenous reproductive tract infection, health workers should exercise caution in notifying partners.
- vii) Counsel and provision or referral for HIV Voluntary counseling and testing. STI patients should be counseled about their increased risk of HIV and encouraged to seek HIV VCT services if their HIV status is not already known.
- viii) Follow up examination - only if such a visit will be convenient for the patient.

The patient should be advised to avoid sexual contact until:

- He / she has completed taking all prescribed medication
- The STD symptoms have completely resolved
- All the sexual partners have been properly treated
- If possible, he/she has been re-evaluated by the clinician cured.

Here, we deal in detail with the first component of case management i.e. clinical assessment of patients. Appropriate antimicrobial treatment and other aspects of STI case management are dealt with later.

## **SYNDROMIC APPROACH TO STD MANAGEMENT:**

Most developing countries including Uganda have adopted the syndromic approach to STI management that was recommended by WHO in the nineties as the cost effective approach to the management of STIs.

### **Definition of STD syndrome**

STD syndromes refer to a group of consistent symptoms and/or easily recognisable signs caused by two or more STD agents. Syndromic diagnosis is based on identification of a group of consistent symptoms and easily recognized signs (syndromes) and the provision of treatment that deals with the majority or most serious organisms responsible for producing the syndrome, rather than for specific STDs.

### **Rationale for syndromic Approach:**

In most health care settings in developing countries, health care providers lack time and/or equipment to diagnose STDs with laboratory tests. In addition, the reliability of test results in most setting is affected by the sensitivity and specificity of the available STI tests and competence of the laboratory staff. In addition, using laboratories is time consuming for patients and clinicians. In fact, it common for many patients not to return for test results that are usually not available on the day of consultation and the opportunity to treat them is lost. For these reasons, many health workers often diagnose STDs basing on clinical judgment alone. However, in most cases, such clinical impressions turn out to be wrong for various reasons. First, mixed infections with STI agents that produce similar signs and symptoms are common which would require many laboratory tests not only to confirm the causative organisms, but also to rule out the other possible co-infections. Secondly, the clinical presentations of STIs can be altered by prior medication or immunosuppression.

The syndromic approach overcomes the above set backs and makes diagnosis more accurate without extensive laboratory tests and allows treatment on a single visit. Considered with improved drug supply, the approach can make STD services more widely available through primary care clinics.

Traditionally, health care providers relied on two approaches to diagnosing STDs.

- i. Aetiological diagnosis: Identifying the organism causing the symptoms with laboratory tests. It is not only expensive, manpower intensive, but also time consuming.
- ii. Clinical diagnosis: Identifying the STD based on clinical experience. However, even experienced STD service providers often make wrong diagnoses of STDs when they rely only on their clinical experiences.

A third approach, i.e. the syndromic approach is now recommended. A syndromic diagnosis is made and treatment provided for the possible or serious causative agents for the symptoms or syndrome, e.g. treatment is given for genital ulcer or vaginal discharge rather than syphilis or gonorrhoea. Since several STD agents can cause a particular syndrome, providers may need to treat for several STDs at the same time.

### **Advantages and disadvantages of syndromic approach**

The advantages of the syndromic approach to STD management include:

1. Improves clinical diagnosis, avoids wrong diagnoses and ineffective treatment.
2. It is easy for primary health care workers to learn
3. It enables treatment of symptomatic patients in one visit. Otherwise patients would spend time lining up or being referred for laboratory tests, lining up for consultations and dispensing of drugs, which might involve a return visit if (as is usually the case) the laboratory test results are not available the same day.
4. Treatment is provided at the first point of contact with the health care delivery system enabling treatment for STIs to be provided even in peripheral health units. Referrals are limited to complicated cases since the same kind of treatment is provided at most health units in the country.

The disadvantage of the syndromic approach to STD management include

1. It doesn't adequately care for people with STDs who have no symptoms, especially women with STDs as they are often asymptomatic
2. Wasting drugs, on treatment for STDs that patients do not actually have.
3. In some cases, especially women, the symptoms and signs are poorly predictive of STI e.g. vaginal discharge for gonococcal and chlamydial infections.

Table 2: STD Syndromes and Causative Organisms

STD Syndromes	Causative Organisms
<b>1. Urethral discharge</b> (urethritis) Gonococcal Non gonococcal	<i>Neisseria gonorrhoeae</i> -common <i>Chlamydia trachomatis</i> - common <i>Trichomonas vaginalis</i> -uncommon <i>Ureaplasma urealyticum</i> - common <i>Herpes simplex</i> – uncommon
<b>2. Vaginal discharge</b> i) Vaginitis / vaginosis Trichomoniasis Candidiasis Bacterial vaginosis  ii) Cervicitis Gonococcal Non gonococcal	<i>Trichomonas vaginalis</i> <i>Candida albicans</i> <i>Gardnerella vaginalis</i>  <i>N. gonorrhoeae</i> <i>Chlamydia trachomatis</i>
<b>3. Genital Ulcer Disease (GUD)</b> Syphilis Chancroid Genital herpes Granuloma inguinale Lympho granuloma venerium	<i>Treponema pallidum</i> <i>Haemophilus ducreyi</i> <i>Herpes simplex</i> <i>Calymato bacteria granulomatis</i> <i>Chlamydia LGV strain</i>
<b>4. Lower abdominal pain ( Pelvic inflammatory disease)</b>	<i>N. gonorrhoeae</i> <i>C. trachomatis</i> <i>Mycoplasma hominis</i> Anaerobic bacteria Other miscellaneous bacteria
<b>5. Inguinal adenopathy( buboes)</b> Lymphogranuloma venerium Chancroid Syphilis	<i>Chlamydia LGV Strains</i> <i>Haemophilus ducreyi</i> <i>Treponema pallidum</i>
<b>6. Painful scrotal swelling ( epididymorchitis)</b>	<i>N. gonorrhoeae</i> <i>C. trachomatis</i> Other miscellaneous bacteria
<b>7. Bartholins abscess</b>	<i>N. gonorrhoeae</i> <i>C. trachomatis</i>
<b>8. Conjunctivitis with pus in the New born (ophthalmia neonatorum)</b> Gonococcal Non gonococcal	<i>N. gonorrhoeae</i> <i>C. trachomatis</i>
<b>9. Genital growths (warts)</b> Syphilitic (condylomata lata) Viral (condylomata acuminata) Molluscum contagiosum	<i>T. pallidum</i> <i>Human papilloma virus</i> <i>Molluscum contagiosum virus</i>
<b>10. Balanitis</b>	<i>Candida albicans</i> <i>Chlamydia trachomatis</i>

In our current circumstances, the advantages outweigh the disadvantages. A theoretical comparison of the cost effectiveness of the three approaches to diagnose 500 patients with genital ulcer, 500 patients with urethral discharge, and 500 with vaginal discharge found that the clinical and laboratory approach to diagnosis and management, each cost 2 - 3 times as much as syndromic diagnosis. The cost of personnel and consequences of incorrect diagnosis accounted for most of the difference. By treating for all STDs that cause a syndrome, syndromic diagnosis avoids many complications. Even in developed countries, many health care providers prefer to use the syndromic approach to avoid delay in treating their patients while waiting for laboratory results.

**STD syndromic treatment flow charts (Algorithms):**

Diagnosis and treatment flow charts formalising the syndromic approach have been developed. They provide health workers with step by step instructions to diagnose and treat STDs with recommended drugs. The advantages of STD treatment algorithms are:

- i) They are problem oriented and improve clinical diagnosis
- ii) Can be used as a training tool for primary care providers
- iii) Enable standardisation of treatment
- iv) Enables disease surveillance
- v) Enables evaluation of training
- vi) Enables treatment in one visit.

## URETHRAL DISCHARGE SYNDROME

Urethral discharge is one of the commonest STI syndromes among men, and is associated with serious complications. It is characterized by purulent urethral discharge with or without dysuria. The amount of discharge varies depending on the causative pathogens as well as prior antibiotic treatment.

Patients with this syndrome often complain of a discharge from the urethra. They may have symptoms of burning sensation while passing urine and frequency of micturition. Examination might reveal a purulent discharge from the urethra. If the discharge is not readily apparent, it may be necessary to milk the penis and massage it forwards before the discharge becomes apparent. If the discharge is copious, do not milk or squeeze the penis. If the patient is not circumcised, you should examine with the foreskin retracted so that you ascertain whether the discharge is from the urethra or from beneath the prepuce. The discharge may be frank pus or may be mucopurulent.

**Case definition:** Urethral discharge in men with or without dysuria

**Aetiology:** This syndrome is commonly caused by *Neisseria gonorrhoeae* and *Chlamydia trachomatis* in over 98% of cases. Other infectious agents associated with urethral discharge include *Trichomonas vaginalis*, *Ureaplasma urealyticum* and *Mycoplasma* spp. Mixed infections especially of *Neisseria gonorrhoeae* and *Chlamydia trachomatis* are common.

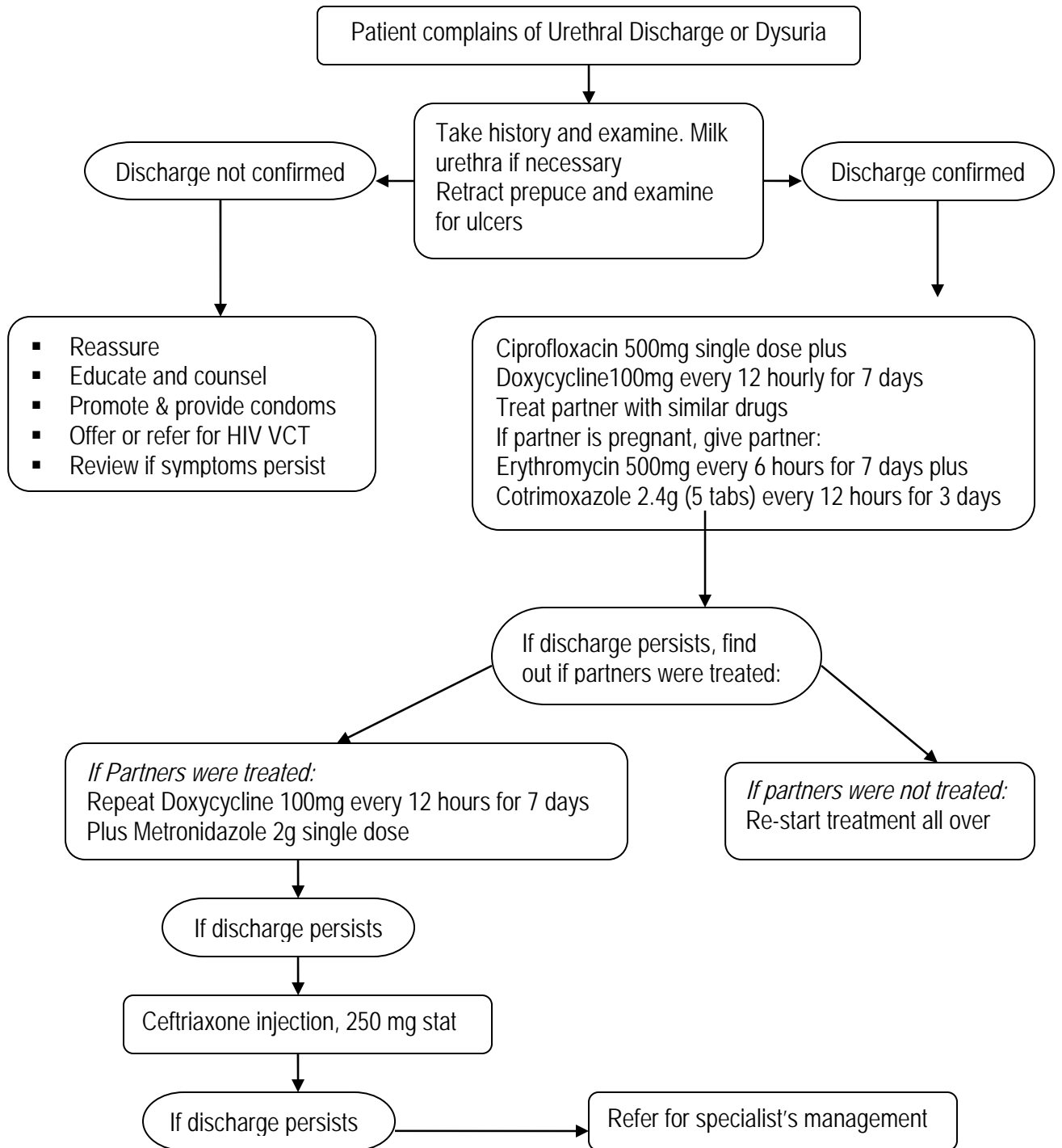
**Management of Urethral Discharge:** All male patients with urethral discharge should be managed according to the syndromic chart on the next page. Treatment should be provided to cover the commonest causes. The drugs of first choice are ciprofloxacin and Doxycycline. In the absence of these, cotrimoxazole may be given to cover gonorrhoea while tetracycline could be used to cover chlamydial infections. However, increased resistance to cotrimoxazole has been reported in the region.

Besides antibiotic treatment, all the other components of STD case management package should be provided to patients presenting with this syndrome. They include: i) Education on treatment compliance ii) Promotion and provision of condoms and demonstrating their use, iii) Partner notification and offering treatment, iv) Offering or referring for HIV VCT services if necessary

Partners should be treated irrespective of whether they are symptomatic or not. Persistent or recurrent urethritis may be due to drug resistance, poor compliance or re-infection. There is increasing evidence of high prevalence of *Trichomonas vaginalis* among men in Sub Saharan Africa, for which patients with recurrent urethritis should be treated.



## MANAGEMENT OF URETHRAL DISCHARGE




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### Counsel and educate all clients on:

- Treatment compliance
- Condom use and provide condoms
- Partner management
- Offer or refer for HIV VCT services if necessary
- Schedule a return visit
- Abstinence from sex till all symptoms have resolved

## GENITAL ULCER SYNDROME

Genital ulcer syndrome is one of the commonest syndromes to affect men and women. The aetiology of the syndrome varies in different geographical areas and can change over time. Single or multiple ulcers can present. In addition, the clinical manifestations are quite variable and can be altered by HIV infection. Furthermore, mixed infections are common.

Genital ulcers have an epidemiologically synergistic relationship with HIV. There is evidence that HIV alters the natural history of syphilis. HIV can also increase treatment failure with single dose therapies. The natural history of chancroid is altered with more aggressive lesions manifesting and there is treatment failure especially with single dose therapies. Genital herpes can also be affected by HIV resulting in more persistent and more aggressive lesions. On the other hand, the evidence of enhanced HIV transmission in presence of STIs is more conclusive for ulcerative STIs.

Male patients with genital discharge but with genital ulcers on the glans or under the prepuce should be treated as genital ulcer syndrome. In addition, female patients with ulcers in the vagina may present with a discharge, hence the importance of performing clinical examination. Male patients should have the prepuce retracted and examined for lesions, while female patients should have the labia separated and inspected. Speculum examination may be necessary.

**Case definition:** Two types of genital ulcer should be distinguished: i) Non-vesicular Genital ulcer: Ulcer on penis, scrotum or rectum in men and on labia, vagina or rectum in women with or without inguinal adenopathy. ii) Vesicular genital ulcer: Ulcer with presence of or history of ulcers on genitals or anal rectal areas.

Non vesicular ulcer syndrome is typically caused by syphilis, chancroid, lymphogranuloma venereum, granuloma inguinale or atypical cases of genital herpes. Vesicular ulcers on the other hand are caused by HSV infection. In Uganda, the aetiology of genital ulceration has not been ascertained recently. However, the most frequent causes are Herpes genitalis, syphilis and chancroid.

**Management of Genital ulcer:**

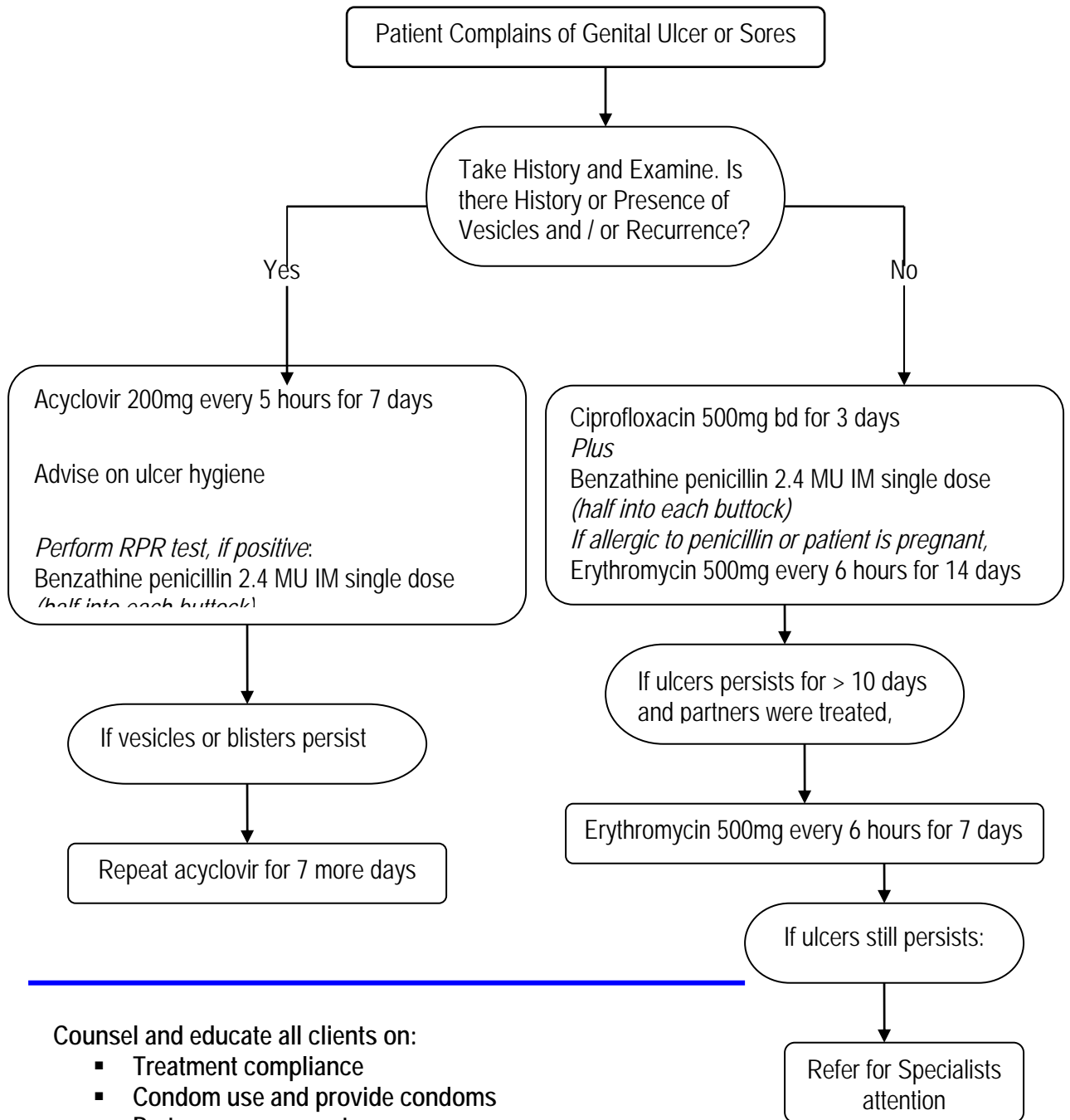
Treatment should be given as soon as possible owing to the increased risk of HIV transmission. The treatment for this syndrome is similar for males and females. Treatment should be based on the local epidemiology of genital ulcers. In Uganda, treatment should be according to the flow chart on the next page. Distinction should be made between vesicular and non vesicular genital ulceration.

Owing to the increased risk of HIV transmission, treatment for genital herpes is now strongly recommended. The recommended treatment for non vesicular genital ulcers is with oral course of Acyclovir.

The treatment recommended for vesicular ulcer targets syphilis and chancroid with penicillin and ciprofloxacin respectively.

Besides antimicrobial therapy, the other components of STI case management including partner notification and treatment should be given.

## MANAGEMENT OF GENITAL ULCER DISEASE




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### Counsel and educate all clients on:

- Treatment compliance
  - Condom use and provide condoms
  - Partner management
  - Offer or refer for HIV VCT services if necessary
  - Schedule a return visit if feasible
  - Abstinence from sex till all symptoms have resolved
-

## **ABNORMAL VAGINAL DISCHARGE SYNDROME**

A normal physiological vaginal discharge is found in all women. This discharge increases during certain situations such as sexual arousal. Women will only complain if they perceive the discharge to be abnormal. Abnormal vaginal discharge is one of the most common STI syndrome among women. It is also one of the most complicated to manage. The commonest causes of the syndrome are endogenous vaginal infections (bacterial vaginosis and vaginal candidiasis) that are not sexually transmitted.

**Case definition:** Abnormal vaginal discharge (indicated by amount, colour and odour) with or without lower abdominal pain or specific risk factors.

### **Aetiology:**

Abnormal vaginal discharge is usually due to infection of the vagina (Vaginitis and vaginosis) and rarely due to muco purulent cervicitis, although the later is more serious. Bacterial vaginosis, vulvovaginal candidiasis and trichomoniasis are the commonest causes of vaginitis. Gonococcal and chlamydial infections cause cervicitis. Distinguishing between the two on clinical grounds is usually not possible.

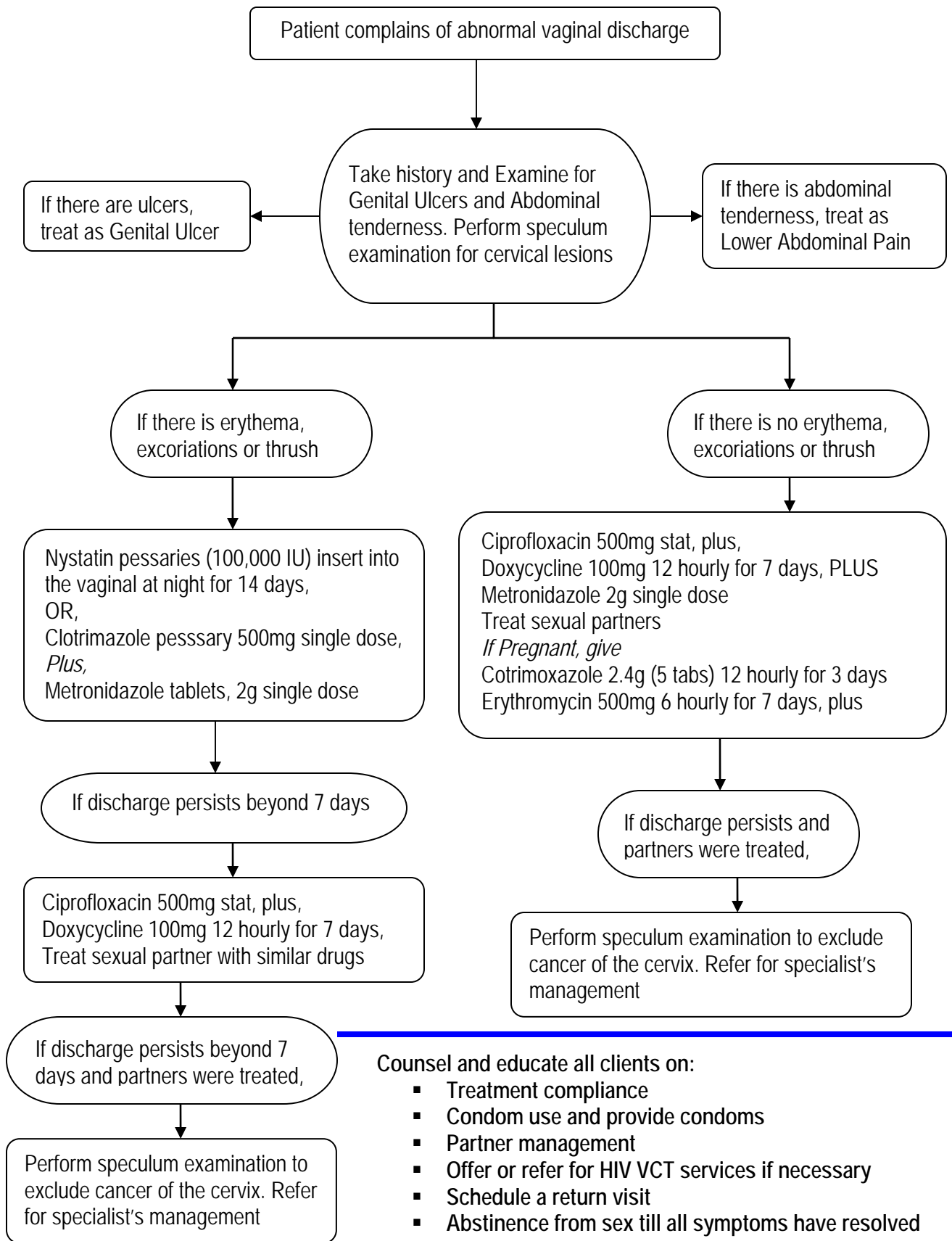
The symptom of vaginal discharge is highly indicative of vaginitis and poorly predictive of cervicitis. Indeed, cervicitis is usually asymptomatic. Thus all women with vaginal discharge should receive treatment for trichomoniasis and bacterial vaginosis. Since cervicitis is usually asymptomatic, an attempt may be made to identify women with increased likelihood of cervical infection by using a locally validated risk score assessment. However, this has not yet been standardized for Uganda. Microscopy of a cervical smear and speculum examination may not increase the likelihood of identifying cervical infections, but are recommended to rule out early lesions of cervical carcinoma.

### **Management of vaginal discharge:**

Women with vaginal discharge should be managed according to the flow chart on the next page. The flow chart differentiates between candidiasis and other vaginal discharges. However, all women with vaginal discharge are treated for bacterial vaginosis and trichomoniasis. At the moment, it is not possible in this country to identify women with cervicitis, and all women with a non curd like discharge should be treated for cervicitis.

While other components of the syndromic management package should be promoted in management of vaginal discharge, patients should be explained the nature of the infection, with emphasis on the endogenous and recurrent nature of vaginitis to avoid uncalled for marital discord. Women whose partners have urethral discharge should be treated for cervicitis. Persistent vaginal discharge should be evaluated to exclude cervical cancer. Speculum examination and referral for specialist management is recommended.

## MANAGEMENT OF VAGINAL DISCHARGE SYNDROME



## LOWER ABDOMINAL PAIN SYNDROME

Lower abdominal pain perhaps one of the commonest and most serious STI syndromes among women with very serious reproductive health and socio-economic consequences. It can present acutely or chronically. It is often very difficult to diagnose and treat effectively given the many differential diagnoses.

Patients will often complain of abdominal pain, bleeding, dyspareunia, menometrorrhagia, fever and sometimes, vomiting. Patients should be carefully evaluated for abdominal tenderness, cervical motion and adnexial tenderness, enlargement of uterine tubes, and tender pelvic masses. The temperature may be elevated. Female patients with other STIs should be carefully evaluated to exclude this condition since some may not complain of abdominal pain. A bimanual vaginal examination is required. A thorough history and examination to exclude other surgical emergencies which present in a similar way must be done, and if necessary, referral for specialist management done

**Case definition:** Symptoms of lower abdominal pain and pain during sexual intercourse, with examination showing vaginal discharge, lower abdominal tenderness on palpation, or temperature > 38 degrees Celcius.

### **Aetiology:**

This syndrome is suggestive of pelvic inflammatory disease (PID), i.e. salpingitis and or endometritis. It may be caused by gonococcal, chlamydial, or anaerobic infection.

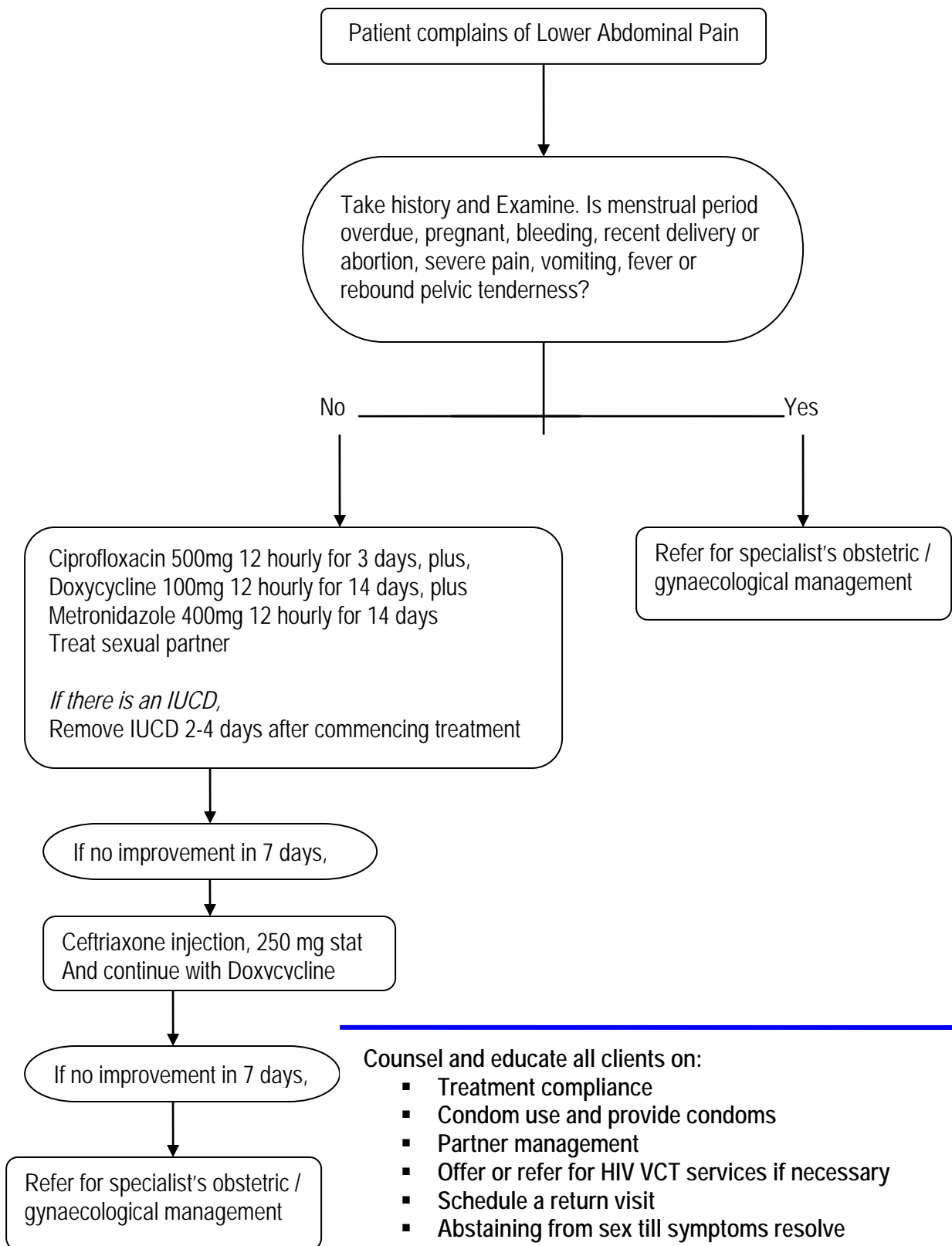
### **Management of Lower Abdominal Pain:**

Patients with acute PID or the other surgical emergencies should be referred immediately for in patient admission and management. Acute PID is treated parenterally atleast initially with ceftriaxone, metronidazole and doxycycline. Antibiotic treatment is clearly syndromic and is directed at the aetiological agents since specific diagnosis is not possible. Out patient treatment should be prolonged due to the chronicity of the condition.

Patients with Intrauterine Contraceptive Devices, which are predisposing factors for PID should have the device removed after initiating treatment for at least 2 days. Such patients require contraceptive counseling. The other components of STI case management should also be provided to patients with Lower abdominal pain syndrome.



## MANAGEMENT OF LOWER ABDOMINAL PAIN IN WOMEN



## OTHER STI SYNDROMES

In addition to the STI syndromes discussed previously, other less common but nevertheless important STI syndromes include inguinal buboes, painful scrotal swellings, balanitis, Bartholin's abscess and genital warts.

### 1. Inguinal Bubo:

These are localized swellings or enlarged lymph glands in the groin and femoral area, hence the local term "*grenade*" used to describe this syndrome. They may be painful and fluctuant. They are usually associated with LGV and chancroid. In the case of chancroid, an associated ulcer may be visible.

Non sexually transmitted local and systemic infections (e.g. infection of the lower limb or gluteal region) can also cause swellings in the inguinal region and should be excluded.

Management is according to the flow chart below. Fluctuant swellings should be aspirated daily with a large bore needle passing through normal skin, but they should never be incised as this can result in sinuses.

### 2. Painful Scrotal swelling

Sexually transmitted epididymitis or epididymo-orchitis is inflammation of the epididymis and/or testis, that is usually unilaterally. It is of acute onset and painful and may be accompanied by urethral discharge. This condition if not treated early can cause secondary male infertility.

It is important to exclude other non STI causes of scrotal swelling such as trauma, testicular torsion and tumours which should be referred for surgical attention. Other causes of epididymo-orchitis include *E.coli*, *Klebsiella spp*, *Pseudomonas aeruginosa*, *Brucella spp* and Mycobacteria tuberculosis. In children, mumps epididymo-orchitis may accompany parotid enlargement.

### 3. Balanitis

Balanitis in men refers to inflammation of the glans penis and the prepuce. There may be discharge, erythema and erosion of the glans, however, the prepuce is retractable.

This syndrome is often caused by infection with candidiasis and rarely by trichomoniasis. Treatment should be according to the flow chart below including improvement of local hygiene. In recurrent cases or if symptoms don't resolve, the partner should be treated as well. Circumcision may be recommended in recurrent cases, but should be done only after symptoms have resolved.

#### **4. Bartholin's abscess**

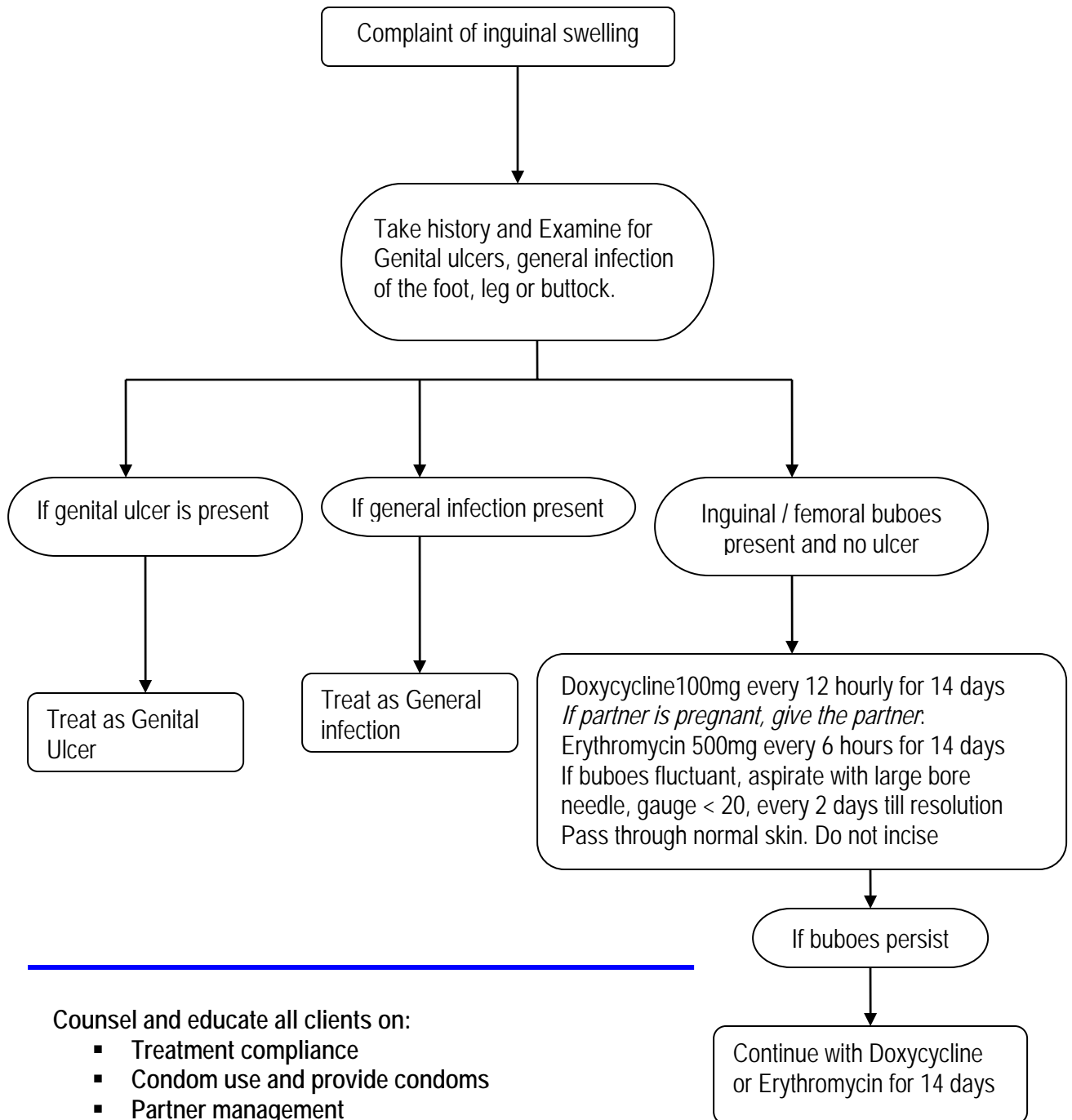
This complication of gonococcal or chlamydial infection of the Bartholin's gland in women presents as an extremely painful swelling at the vaginal introitus. It should be managed as a surgical emergency. Initiate treatment as for cervicitis and refer the patient immediately for incision and drainage in hospital.

#### **5. Genital warts**

Genital warts are caused by Human Papilloma virus. They usually have the appearance of flesh-coloured cauliflower-like growths on the genitals. The penis and foreskin (prepuce) of men and the labia or vagina of women are the most common sites of the warts. The warts can be variable in number and size, either few or multiple, small to very large.

Warts are treated with local application of podophyllin (10 - 25% solution). After treatment of warts, the medication must be washed off in 2 - 4 hours after it is applied to the warts or the patient risks developing sores at the site of treatment. If used too frequently and extensively, podophyllin can lead to severe blood and liver damage. Podophyllin is toxic and can be absorbed through the skin, so it should not be used in pregnant women. Genital warts often require more than one course of treatment. If the patient fails to respond to the three weekly treatments, he/she should be referred.

## MANAGEMENT OF INGUINAL BUBO

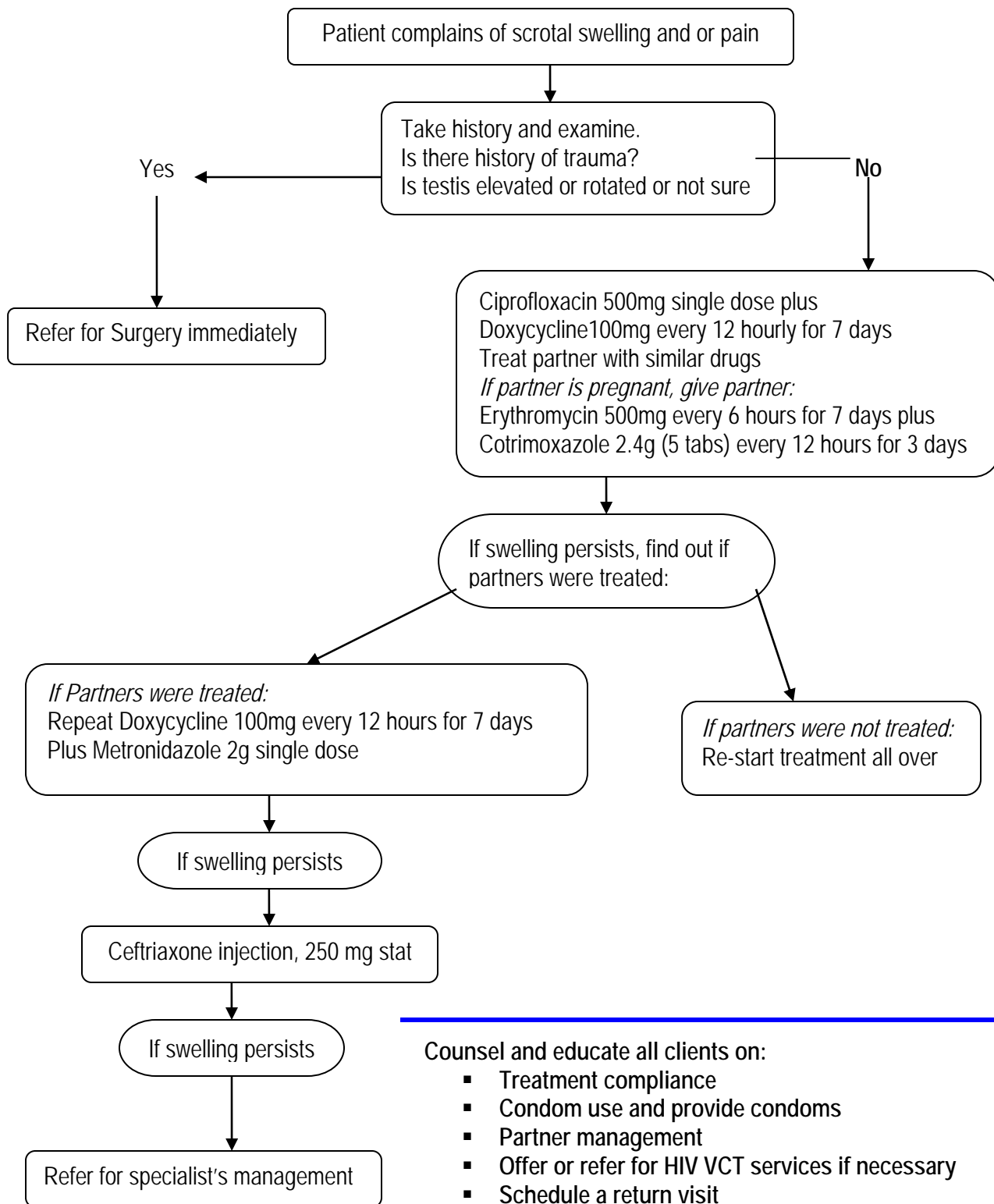


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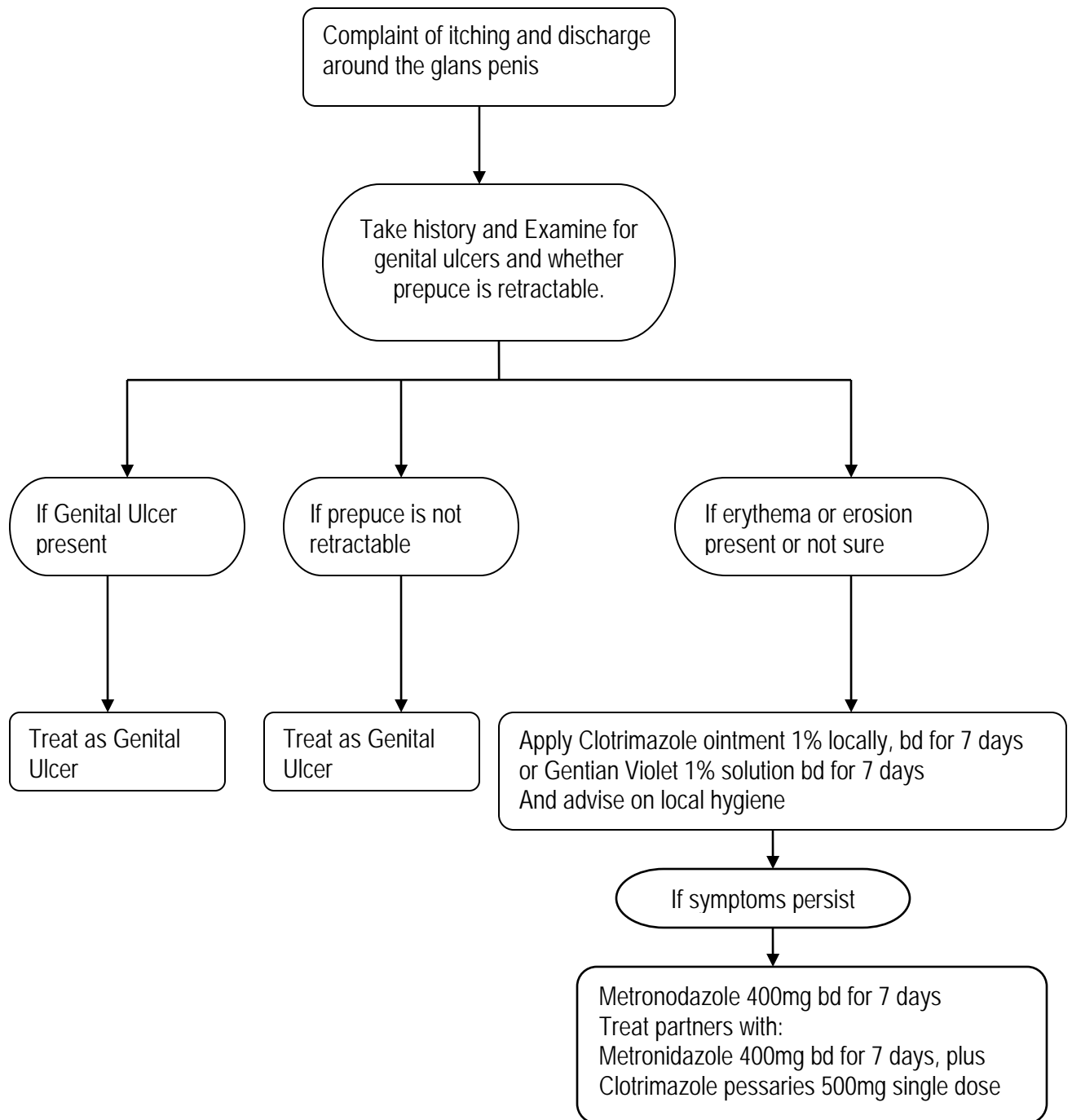
### Counsel and educate all clients on:

- Treatment compliance
- Condom use and provide condoms
- Partner management
- Offer or refer for HIV VCT services if necessary
- Schedule a return visit
- Abstaining from sex till symptoms resolve

## MANAGEMENT OF ACUTE SCROTAL SWELLING IN MEN



## MANAGEMENT OF BALANITIS IN MEN



## CONGENITAL STI SYNDROMES

Infection of babies in utero or during delivery is one of the leading complications of untreated STIs among mothers. This can result in congenital STIs among newborns. Among the most serious congenital infections are infections with syphilis, HIV gonococcal and chlamydial organisms and herpes simplex.

### **1. Neonatal Conjunctivitis:**

This refers to conjunctival infection of neonates by STI organisms in the infected mother's birth canal. Neonates acquire this infection during passage through an infected birth canal during delivery. It is a very serious condition that can lead to corneal ulceration and ultimately to blindness. Blind children are associated with high infant morbidity and mortality.

### **Main clinical Presentation:**

This disease begins during the initial thirty days after birth. It is often characterized by bilateral purulent eye discharge with the conjunctiva and eyelids swollen and inflamed. If untreated, the cornea may be affected giving rise to corneal ulceration that can lead to perforation and blindness. Corneal scarring may occur if treatment is delayed.

**Case definition:** A purulent conjunctivitis with at least one polymorphonuclear leucocyte per high power field on a Gram stain of a smear of the eye discharge of an infant less than 30 days old.

**Aetiology:** Ophthalmia neonatorum may be caused by a number of organisms but the most common are *N.gonorrhoea* and *C. trachomatis*. However, there are other non STI causes of neonatal conjunctivitis predisposed by difficult labour such as early rupture of membranes, vacuum extraction or other assisted vaginal delivery.

### **Antibiotic treatment of choice:**

Treatment should be given to cover both STI causative organisms. Attempts to differentiate between the two based on clinical grounds can be counter productive. Systemic treatment is recommended as well as irrigation of the eyes. Staff should use gloves and wash their hands thoroughly after handling the eyelids. The recommended treatment is Ceftriaxone injection, 125 mg single dose intramuscular

Alternative treatment to cover gonococcal infections is Spectinomycin 25 mg per kg to a maximum of 75 mg as a single IM injection, Kanamycin 25mg per kg to a maximum of 75 mg as single IM injection may also be used. This treatment will also cover Chlamydia.

Topical Tetracycline eye ointment has been shown to have no added benefit. However, local irrigation of the eye with saline or sterile water should be carried. Staff should cover the eye with gauze while opening the eyelid as pus may be under pressure. Staff handling the eyes must use gloves at all times.

**Other components of the case management package:**

Parents of babies diagnosed with ophthalmia neonatorum should be treated for cervical infection of *N.gonorrhoea* and *C. trachomatis*.

Prevention of ophthalmia neonatorum through screening and treatment of infected mothers and ocular prophylaxis of all newborns in high prevalence areas with 1% silver nitrate or 1% tetracycline eye ointment at the time of delivery is strongly recommended.

**Management flow chart for Ophthalmia neonatorum:**

The syndromic management flow chart for ophthalmia neonatorum is shown below.

**2. Congenital syphilis:**

Congenital syphilis is a serious debilitating and disfiguring condition that can be fatal. About one third of syphilis infected mothers have adverse pregnancy outcome, one third give rise to a health baby, while the remaining third may result congenital syphilis infection, although the stage of syphilis may confound these outcomes.

**Main clinical Presentation:** Some cases of congenital syphilis can be asymptomatic, while others may present with early congenital syphilis, and others may manifest symptoms of late congenital syphilis after two years. Early syphilis begins to show after 6-8 weeks of delivery and consists of snuffles, palmar and plantar bullae, hepatosplenomegally, pallor, joint swelling with or without paralysis and cutaneous lesions. These signs are non specific. Late signs include microcephally, depressed nasal bridge, arched palate, and perforated nasal septum, failure to thrive, mental sub normality and musculo skeletal abnormalities.

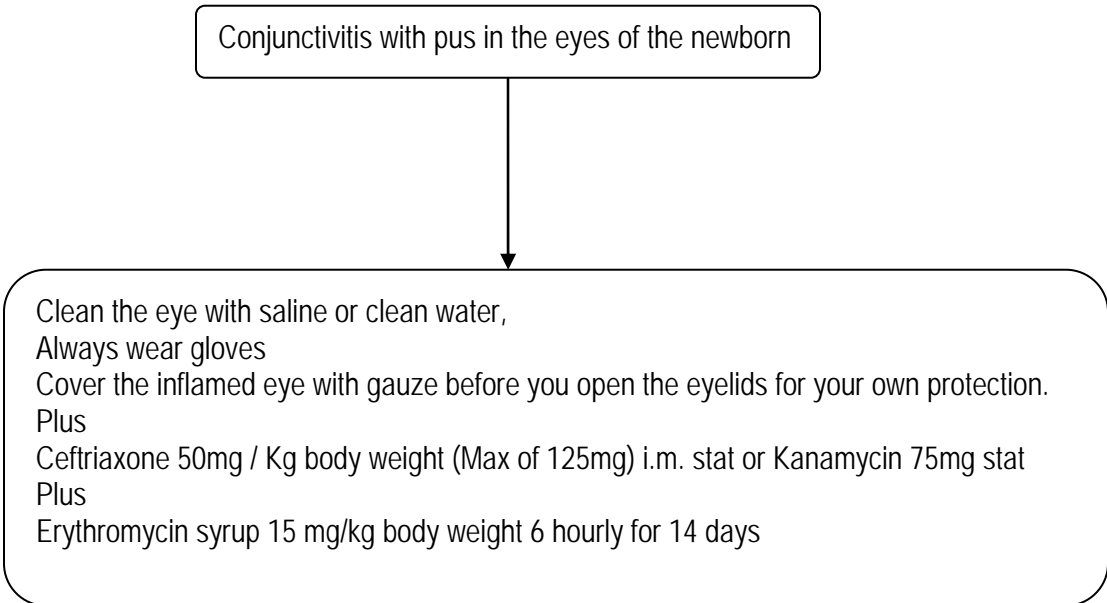
**Management of congenital syphilis:**



Penicillin is the drug of choice for congenital syphilis. Procaine penicillin, 50,000 IU per Kg body weight daily for 10 days is recommended. Symptomatic patients should be admitted. Treatment for all babies less than 2 years should assume cerebrospinal involvement. Aqueous benzyl penicillin should be administered, 50,000 IU/kg body weight every 12 hours for a total of 10 days. Alternative treatment is procaine benzyl penicillin, 50,000 IU/kg body weight, single dose daily for 10 days. Both parents should be treated for syphilis with benzathine penicillin. The adverse effects of syphilis on pregnancy can be prevented by programmes of routine screening and treatment of syphilis infected mothers in antenatal clinics.

## MANAGEMENT (OPHTHALMIA NEONATORUM):

Conjunctivitis with pus in the eyes of the newborn



```
graph TD; A[Conjunctivitis with pus in the eyes of the newborn] --> B[Clean the eye with saline or clean water, Always wear gloves Cover the inflamed eye with gauze before you open the eyelids for your own protection. Plus Ceftriaxone 50mg / Kg body weight (Max of 125mg) i.m. stat or Kanamycin 75mg stat Plus Erythromycin syrup 15 mg/kg body weight 6 hourly for 14 days];
```

Clean the eye with saline or clean water,  
Always wear gloves  
Cover the inflamed eye with gauze before you open the eyelids for your own protection.  
Plus  
Ceftriaxone 50mg / Kg body weight (Max of 125mg) i.m. stat or Kanamycin 75mg stat  
Plus  
Erythromycin syrup 15 mg/kg body weight 6 hourly for 14 days

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Treat mother and father for cervical and urethral discharge respectively.  
Prophylaxis for ophthalmia neonatorum: Tetracycline eye ointment stat or Silver nitrate 1% stat, immediately after birth.

## **PREVENTION AND CONTROL OF STDs:**

Although most STDs can be treated and cured, it is more cost effective to prevent them. Furthermore, some of the STDs have no cure. Prevention and control of STDs relies heavily on interventions through community education on the risk factors and promotion of behaviour change. STDs prevention measures revolve around intervention on sexual behaviour of the individuals. Different people have different desired outcomes of sex and one intervention measure may not satisfy all. In facilitating behaviour change, it is therefore necessary to provide options to individuals.

### **Primary Preventive measures:**

Some of the measures one can employ to avoid STDs include the:

- i) **Abstinence:** This might be total abstinence from sex or for groups such as students and youths not yet married, one should encourage, “postponed sex” till one is ready for marriage.
- ii) **Mutually faithful sexual relationship or “Mutual monogamy”.** This is what is usually termed as “Zero grazing”. It is useful if both partners are not already infected.
- iii) **Correct and consistent use of condoms and other safer sex practices.** This intervention is recommended for those who cannot abstain and yet cannot have mutually faithful relationship.
- iv) **Safer Sex practices.** There are many safer sex practices but they all revolve on the principle of avoiding exchange of sexual or body fluids of the partners, yet enabling the individual(s) to obtain what they desire out of sex. Safer sexual practices include:
  - Correct and consistent use of condoms
  - Masturbation of self or with objects
  - Intimate romance
  - Sex with clothes on (romance )
  - Sex with other parts of the body that don't produce body fluids.

### **Secondary prevention** includes:

- i) Early diagnosis and prompt and correct treatment of STDs
- ii) Promotion of STD care seeking behaviour including reduction of barriers to care.
- iii) Notification of partners and treatment
- iv) Screening for asymptomatic cases such as syphilis screening of pregnant mothers

## **CONDOM USE:**

Condoms are penis shaped thin walled sheaths molded from natural rubber. Like a surgeons gloves, they are designed to provide a barrier against microorganisms without significantly reducing the sense of feel. If used correctly and consistently, they provide good protection against STDs, HIV and unwanted pregnancies.

Modern rubber condoms are made by dipping a glass mold into a liquid made up primarily of water and natural latex. All of the operations are performed automatically on a conveyor containing thousand of these glass molds. The latex films, still on their glass molds, pass through an oven which “vulcanizes” the thin latex into a thin but tough elastic film. After further processing each condom is rolled back on to another large penis shaped form made of metal and subjected to an electric charge. If the condom contains a pin hole anywhere, an electric current flows through and triggers a switch which causes the condom to be rejected. Even after this thorough screening, the condoms are sampled and other tests carried out for pinholes, strength, size, and other characteristics.

### **How to use a condom - Demonstration and discussion:**

**Note:** It is absolutely necessary to demonstrate the use of a condom to STI patients. A penis model or soft drink bottle can serve as the erect penis. Provide a sample of condom to each participant and let each open the package and roll the condom on the model.

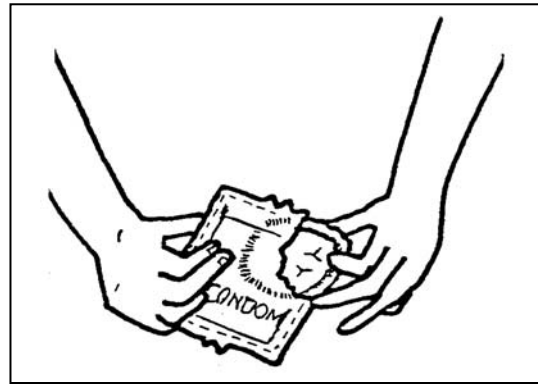
#### *Hints for effective condom use:*

- i) Know your condom: Get used to handling it and familiarizing with the package and opening it. Don't wait for a sexual encounter to try the condom on. Try one on in the privacy of your own room. Get used to the way it rolls on.
- ii) Keep enough condoms with you if you think you may need to use them.
- iii) Put the condom on: The condom should be rolled on the erect penis. If you use 2 hands, use one to squeeze the tip of the condom (to expel air) as you roll it on.
- iv) Handle the condom with reasonable care (watch out for fingernails and jewelry). Roll the rim all the way to the base of the penis.
- v) Take the condom off: Do this while the penis is still erect. One of the most frequent causes of condom failure results from the condom slipping off the limp penis while it is still inside the vagina. Grasp the ring top of the condom and hold it tightly around the penis that is still. Withdraw the penis with condom still firmly grasped. Slide the condom off, pinching shut the grasped ring top end.

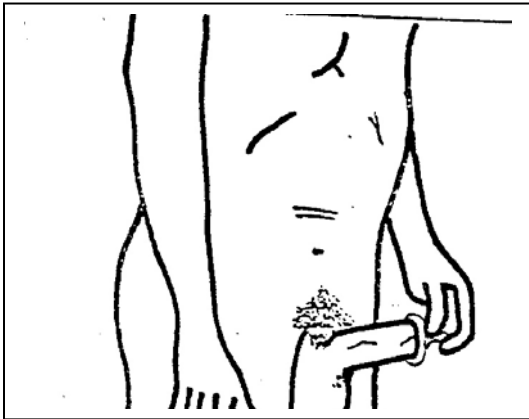
**Illustrations of how to use condoms:**



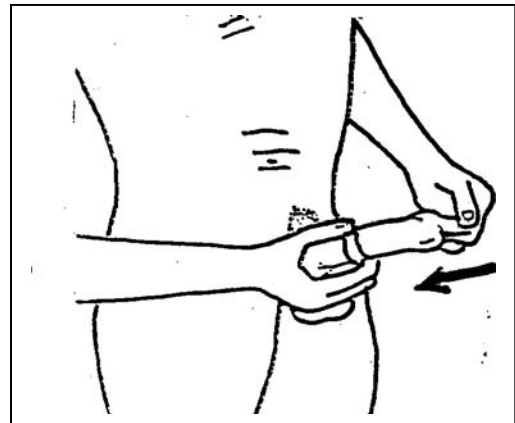
1. A condom in its Pack.



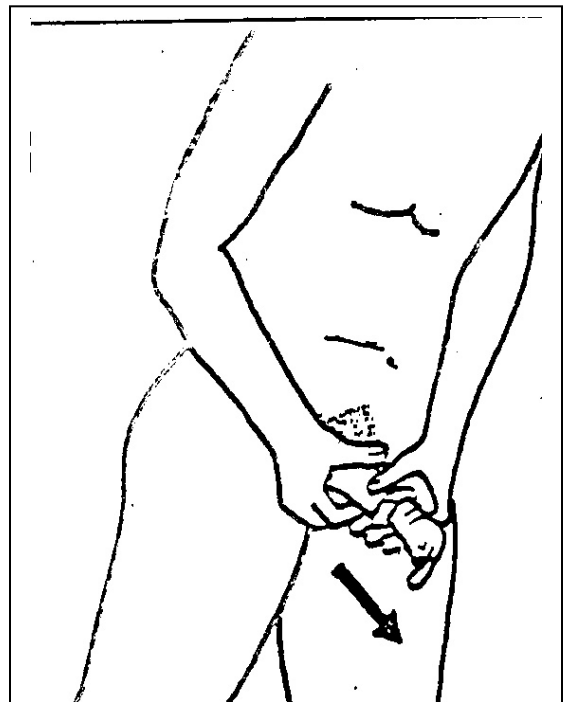
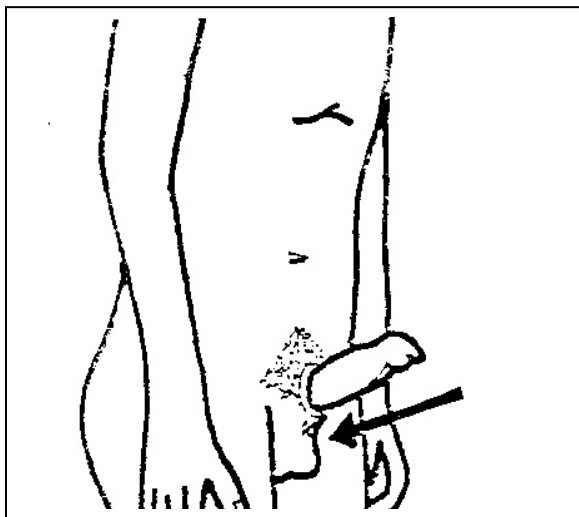
2. Remove the condom from the packet carefully to prevent any tears or damage.



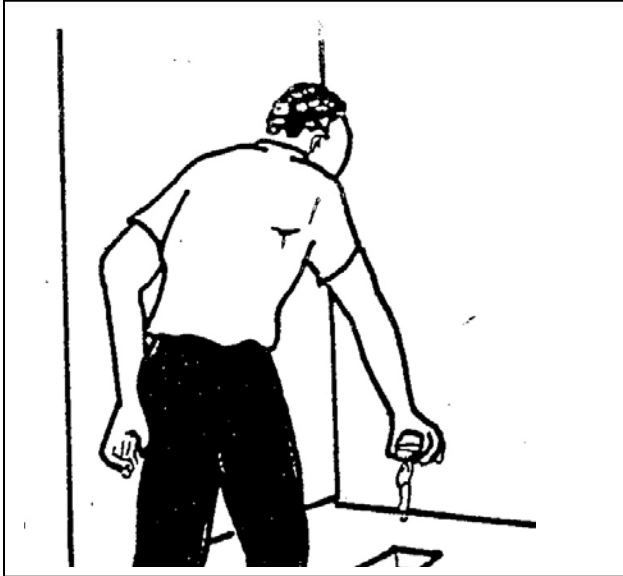
3. Hold the tip of the condom to squeeze out air make room for sperms.



4. Unroll the condom onto the erect penis. Continue to hold the tip of the penis and unroll



5. Keep unrolling the condom the whole length penis until it gets to the base



6. After orgasm, hold onto the edge of the condom and pull out of your partner while the penis is still erect. Remove the condom by carefully rolling it down the penis.

7. Throw it away into a latrine or burn or bury it in the ground.

**Core group intervention strategy using local knowledge, attitudes practices and behaviour:**

Trainers should stress to the health workers that in formulating an intervention strategy, it is necessary to formulate messages that have targeted intervention information. Such messages should target that specific aspect of behaviour which those practicing it need to address. The messages should be pointing out the risk inherent in that aspect of behaviour, the reason for the risk and should point out how to go about modifying it. Trainees too ought to tell you where the perceived risk groups are likely to be found. The messages should sound persuasive, not intimidating and not blaming those practicing.

What follows is the thinking of trainees of one workshop on what they perceived to be high risk groups.

<b>Target group</b>	<b>Reasons for the risk</b>	<b>Where found</b>	<b>Risk perception message</b>
1. Bar maids/ waiters.	Take alcohol Become loose Deal with drunkards.	Bars Hotels	People who buy sex from you also buy from others who may have STDs. So by selling sex, you expose yourself to STDs.  Drunkards have lost sense of judgment and have sex with multiple partners who may have STDs.
2. Soldiers	Rape Multiple sexual partners Desperate Take alcohol	Barracks	Having forcedsex leads to trauma which makes it easy to get HIV.
3. Travelers and businessmen.	Multiple partners at stopovers. Buy sex Take alcohol	Hotels, Bars Garages	Those who sell sex to you also sell sex to others who may have STDs.
4. Musicians.	Travel a lot Attract Women Take alcohol	Night clubs Parties	The people who admire you admire other people and have sex with them. They may have STDs.
5. Polygamists	Multiple partners Cannot satisfy all their wives sexually	RC Meetings	When a woman sleeps alone without her husband, she may look for someone to keep her company who may give her STDs.
6. Students	Experimenting with sex Selling sex	Schools	To experiment with sex, you meet with many sexual partners who may have STDs. This increases your chances of getting STDs.

## COUNSELLING IN STD MANAGEMENT:

### Meaning of counseling:

Counseling is a helping relationship where a counselor helps a client to identify and analyse his/her problems, explore possible options and come up with realistic action plans. Counseling therefore is a way of facilitating someone to explore their needs and discover their strengths and resources.

Qualities of a good counselor:

1. **Empathetic understanding:** This is the ability to cognitively and emotionally experience the world from the other person's perspective and help them cope and be able to stand up on their own feet as soon as possible
2. **Genuine sincerity:** The ability and willingness to be open, real and consistent in the relationship with the client. A counselor should be prepared to give time and attention to the client
3. **Unconditional positive regard:** The ability to communicate with the client without blame or negative feelings and making them feel they are accepted.
4. **Emotional stability and maturity:** The counselor should be a mature person who can handle his / her problems and anxieties effectively
5. **Warmth.** The counselor care and respects clients
6. **Knowledgeable:** The counselor should be well trained and equipped with the basic knowledge and skills such as basic facts about STIs and HIV/AIDS, Communication skills in counseling, positive attitudes in counseling etc.

A health worker can help people by using simple counseling rules. These are, being a good listener, taking time to counsel, being concerned about clients' issues, being available when clients need you, establishing trust and confidentiality with client, being consistent in all that you say, with correct and accurate information and being empathic

It is also important when talking to clients to avoid:

- i. Telling them what to do, e.g. go and use condoms
- ii. Doing all the talking, allows the client to do so to.



- iii. Using complicated or confusing words e.g. “it seems you have bacterial vaginosis”. You can say “you have an STD that brings vaginal discharge”
- iv. making promises that can’t be kept e.g. “ I will see you on Sunday”
- v. Giving false reassurances e.g. “These sores will not come back if you take these drugs” when dealing with somebody with genital herpes.
- vi. Being judgmental e.g. “how can you sleep with all these women in 2 days!”

The following are practical counseling hints for health workers.

**1. Being available.** This means that you must take time to talk with people and listen to their concerns. Sometimes this may mean not doing something else in order to have time with someone. Other times, it may mean making arrangements to come back and talk to someone at a later date. Being available is often as much a way of thinking as it is a matter of time.

**2. Listen actively.** It is important to listen to what a person is saying. This means listening to their words and listening to how something is said. It is important to hear how a person sees his situation. Listening is by far the most important component to good communication. Part of learning to listen involves reproducing behaviour that accompanies “active listening”. Behaviours that indicate active listening include:

- i. Meeting clients at a place that is comfortable and private or talking softly.
- ii. Maintain eye contact.
- iii. sit quietly while the other person is talking
- iv. Acknowledge the person talking by nodding or using words as “then”, “and” etc. These kinds of words encourage the client to keep talking.
- v. Give clients time to think, ask questions and talk.
- vi. Every now and then restate and paraphrase what the person has said in order to check that you understood it correctly. Ask the client questions in order to clarify.

**3. Use effective questions.** Unless you ask questions effectively, you can never know the line problem of the client. Asking questions that can yield answers to help solve the problems of the client requires:

- i. using a friendly tone that shows interest and concern and friendliness.
- ii. asking one question at a time and waiting for an answer. clients get mixed up with many questions especially with their disturbed emotional state.

- iii. asking questions that cannot be answered “yes” or “no”. Ask open ended questions that encourage clients to say more. For instance, instead of asking “are you married?”, ask “ tell me about your life”
- iv. avoid starting questions with “why” which sounds as if you are finding fault with the client. For instance, instead of asking “Why didn’t you use a condom?”, ask “ You didn’t use a condom, what happened?”.
- v. must be able to ask the same question in many different ways if the client hasn’t understood the question.

**4. Provide accurate and complete information.** Through questions and discussion

- i. use short words and sentences.
- ii. use words the person understands
- iii. use pictures whenever they are available
- iv. use stories to help a person to understand
- v. stop from time to time and ask clients if they understand
- vi. ask if they have questions
- vii. repeat instructions
- viii. ask them to repeat instructions to check if they have understood the important messages or actions

**5: Notice any non verbal communication.** It is important to be able to notice any non verbal communication that the client exhibits. That is being sensitive to his body movements. Many clients may not be able to talk but you can notice his movements and interpret these movements and ask him what he feels. A client may sit with his legs as entwined together and arms too. He may be tense and cold. A client may fail to talk or may get numb. He may be depressed, tense, stressed, or not at ease to talk or angry. A client may cry, be sad or happy. Therefore it up to the counsellor to be able to interpret this behaviour to be able to solve this clients problem.

**6: Discuss sensitive topics with ease.** Demonstrate ease when talking about topics normally avoided in ordinary social life. The ability to talk and ask questions about sex and sexuality, including unusual or taboo practices in such a way that clients will respond honestly without taking offense must be practiced. Often generalising questions to other people will allow a person to talk more freely at the beginning of a counseling session. For example you may say “some people believe that you can only get AIDS only from bar girls”. By beginning with what “other people’ do, you indicate that the client is not

alone in whatever risk behaviour is being practiced and that you are familiar and at ease when discussing the issues.

**7: Respect the clients rights and confidentiality.** Anyone who counsels should care about people, which doesn't necessarily mean liking everyone. It means recognising the individual as a person with hopes, family, friends, and rights of their own. Trust and confidentiality are cornerstones of counseling. Many of the things which are discussed are sensitive and personal. If the information is not kept confidential, trust may be lost and you can no longer be a source of support.

*A FINAL HINT:* Remember you will only succeed to the degree that you can communicate effectively at the client's level of comprehension.

**Situations in STD management where counseling is particularly important:**

In the management of STDs, counseling issues revolve around prevention and care and ultimately behaviour change. Pertinent issues to be addressed include

- i. Partner notification / contact tracing and treatment for both
- ii. Ensuring treatment compliance
- iii. Prevention of STDs and re-infection, safer sex with emphasis on condom use
- iv. complications of STDs e.g. Infertility, chronic PID,
- v. Recurrent and incurable STDs like genital herpes
- vi. Education about high risk groups e.g. barmaids, sex-workers, truck drivers
- vii. Relationship between HIV/AIDS and STDs
- viii. Referral for HIV counseling and testing
- ix. Follow up after treatment
- x. Client education on basic facts about STIs and HIV/AIDS

## **ORGANISING STD SERVICES DELIVERY AND INTEGRATION INTO REPRODUCTIVE AND OTHER HEALTH SERVICES:**

### **Introduction**

The provision of early and effective diagnosis and treatment of sexually transmitted diseases (STDs) is the cornerstone for STD control. Appropriate STD diagnosis and management requires provision of non-stigmatising, acceptable, accessible and affordable services for persons with STDs. The most effective way to reach this goal is to provide STD care services within the reach of the community by incorporating them into primary health care (PHC) services and family planning (FP) and maternal and child health (MCH) services.

Whereas there is a role for dedicated STD clinics in teaching, referral and reference centres, there is little justification for setting up stand-alone clinics dedicated exclusively to the diagnosis and management of patients with STDs. Additional problems are encountered and access to STD services is reduced by holding special sessions for STD patients within PHC, FP and MCH clinics. Vertical STD services may be more convenient for the clinic staff but, from the point of view of the STD patients, the restricted opening hours and special days of operation are unacceptable because of the potential delay in diagnosis and treatment and because of the possibility of stigmatisation of persons attending dedicated STD clinics. In addition, from the public health point of view, any obstacle to the timely diagnosis and appropriate management of STDs potentially contributes to the spread of these infections in the community.

Therefore all PHC clinics should provide comprehensive health care for the community including care for STDs. Efforts should be made to provide PHC services, including STD services, whenever the health unit is open. Whenever possible, diagnosis, treatment and education/counselling services for STD patients should be offered during the patient's first visit to the clinic. Experience has shown that many STD patients are unwilling or unable to attend more than once for these services.

### **Functions of STD Services**

The functions of STD services include the:

- to detect STDs including HIV infection and offer prompt and appropriate treatment
- to advise on treatment compliance and follow-up procedures
- to manage treatment failures

- to ensure that the patient's partner(s) are evaluated and treated
- to counsel on disease prevention including the use of condoms
- to identify other health problems and, if necessary, to manage them or refer the patient to other appropriate health services
- to compile records of clinical activities and reporting data
- to use these data to evaluate the services, order supplies, plan for future needs and facilitate disease surveillance and trend analysis

### **Organisation of the Patient Management Process**

- patient registration and recording of basic information
- patient education while waiting to be seen by the clinician (posters, leaflets, educational talks and demonstrations, films etc.
- clinician consultation including greeting, history taking, examination, specimen collection, diagnosis, treatment, counselling, specific patient education, partner and contact notification etc.

### **Basic requirements of STD Clinical Services**

Basic requirements for STD services delivery in a health unit include:

#### *i. Staff*

- a clinician for diagnosis and treatment of patients
- an assistant to assist the clinician during examination and to help collect specimens and administer treatment
- a counsellor to assist in patient education and counselling and partner/contact notification and tracing
- a clerk for registering patients, maintaining records and preparing statistics
- a secretary to type correspondence, arrange meetings etc.

#### *ii. Materials, Equipment and Supplies*

These include consultation/examination room with provision for privacy, examination couch, stirrups (if vaginal examinations will be performed), bed sheets and screens. Other equipment include a desk or writing table and chairs, speculum, bowls, torch or other source of light source, drinking water, drug box, bucket, emergency kit for treatment of anaphylaxis, condom demonstration models (model penis) and STD Treatment Guidelines and treatment algorithms. Consumable items required include: drugs for STD treatment, batteries for torch, disinfectant (e.g., dettol or jik), record books and related forms, condoms, water for injection, syringes and needles, gloves and cotton wool

## **Reporting Forms**

Records of STD clinical activities are the primary data upon which most STD data and reports are based. Such patient records typically include basic demographic information about the patient (i.e. age, sex, address etc.) and information about the patient's clinical presentation, diagnosis and treatment prescribed. It is important to collect data about STD patients on a regular basis because these data are necessary:

- to assess the size of the STD epidemic
- to assess the services being delivered
- to plan for the human and material resources needed
- to monitor and evaluate the efforts to prevent and control the STD epidemic

Any summary or report that is written about STDs is based on data collected at the time STD patient are seen. Hence, the information contained in the reports can be no more accurate than the basic data from which they are drawn. Therefore, it is critically important to record accurately the information requested concerning STD patients. This will help to assure that the accumulated data provides the best possible picture of the true STD situation in the community and at the health unit.

## **Writing Reports**

STD reports are the statistical and narrative summaries of these patient records that are compiled and analysed periodically for use at the health unit level. These reports are also forwarded to the district and national levels where they are combined with other reports and data sources to help describe the STD situation in the country.

The first step in making a report is to collect all the pertinent recorded data about STD patients that are available at the health unit. These raw data may be found on clinic records, tally sheets and in detailed clinical notes of individual patients. The required information is then extracted from these primary sources and presented in the form of a statistical and narrative summary of activities for a particular period of time. The easiest and clearest way to present this sort of information is in a series of simple tables or graphs accompanied by written descriptions. The reports should be retained for use at the community and local health unit level in addition to forwarding them for use at the district and national levels.

## **Monitoring**

Monitoring is a continuous process used to promote and maintain the delivery of efficient and high quality STD services. The purpose of monitoring is to ensure that work is

progressing as planned and to anticipate or detect any problems in implementation. The monitoring process focuses attention on the implementation of activities. Some examples of monitoring activities for STDs include checking on the availability of adequate supplies for the diagnosis and treatment of STD patients and supervising the clinical performance of health workers at the health unit level.

### **Support supervision**

Supervision is one of the most important methods used in monitoring. Properly conducted supervision is non-threatening to the person being supervised and should be designed to assess job performance and ensure competence through observation, discussion, support and guidance. Supervisory checklists that might be used to monitor STD service delivery include the following elements:

- details about the clinic facility, i.e. name, type, location etc.
  - details about the supervisory visit, i.e., name of supervisor, name of person met, the date and time of the visit etc.
  - list of the established staff at the clinic by name and cadre noting if they were seen during the supervisory visit
  - list of clinical equipment noting if each item is present and in working order
  - review of clinical case management by sitting in on patient/clinician sessions and reviewing recent cases from the records - are diagnoses made correctly?, is the proper treatment given?
  - review of the records to ensure that all data is collected and recorded legibly
  - review reports from recent months to ensure they were written, that they reflect the primary data kept at the clinic and that they are consistent in comparison to other data such as drug use etc.
- record of questions asked and topics discussed with the health unit staff.

## COMMUNITY EDUCATION ABOUT STDs:

Health workers will have the greatest impact on preventing STDs if their educational efforts go beyond the health facilities. Most people do not know how to recognise the signs and symptoms of STDs or what to do should they experience those symptoms. There are several ways you can reach the people who don't visit your health facilities.

- You can give brochures or pamphlets about STDs to your clients and ask them to share them with others.
- You can put up posters for the community.
- You can organise and conduct community education events like film shows, group talks or drama presentations.

This Unit will focus on how to conduct community education events.

### **Planning for Community Education:**

Community education events are most successful when they are carefully planned and prepared. When planning an event, it is important to ask yourself the 5W's and 1 H:

**Who?** Who is your audience? Do you want to educate every one in the community or you would like to segment your audience by age or other criteria?

**Why?** Why do you want to educate your audience? What is the objective of the event? In most cases, you will want your audience to help prevent the spread of STDs by recognizing signs and symptoms and seeking appropriate treatment, and notifying their partners. In some cases, there may be a special problem that you have noticed among your clients or in the community and you want to tackle it. For example, there may be serious rumours about the effectiveness of condoms that you want to dispel.

**What?** What information do you want to get across your audience? In order to establish this, you need to take into account the knowledge, attitude and practices of your audience. Sometimes you may decide to conduct education because of a problem that you have noticed among your clients. At other times you may want to educate as wide an audience as possible with general information about STDs and how to prevent them.



**Where?** Where will you hold the event? This will depend a lot on who your audience is, how many people you expect to attend, what you intend to discuss, and how you will put your message across. For example, if you plan to use a video, then you will want a venue with electricity, seating and a place to set the video monitor. If you are going to address a large crowd, then you may decide to hold the event outside in a central location.

**When?** When will the event take place? You may decide to hold the event on a week end, in the morning or in the evening. This will depend on your audience, when they are most likely to attend? Give yourself enough time to prepare and publicise the event.

**How?** How will you get the information across to the audience? You should select a method that will best clarify and illustrate information, and hold the attention of the audience. Some suggestions are: discussions for groups of 15 or less, videos or films for large groups and for youth, drama presentations for older men or women, contests or quizzes for youths, or lectures for groups of 15 or more or a combination of these.

### **Organising the event:**

Once you have answered the above questions, you can now organise the event. Organisation includes 4 steps.

**Step 1: Mobilising the Audience:** There are 2 ways of mobilising the audience. Both begin by introducing yourself to the local leaders first, and explaining the purpose of the event. Often, you will find the leaders are very interested in helping with the organisation of the event. Once you have introduced your self to the leaders, you may decide to work only with existing community groups. The advantage of this method is that you will not have to publicise the event so vigorously since organised groups will most likely be having regular meetings. They may be able to schedule the event as part of their regular meetings. The disadvantage is that you will be able to reach people who are members of the group. You may decide to organise a community event. The advantage of this approach is that you will reach a larger group of people. The disadvantage is that it will involve more work to publicise the event and you will have less information about the audience around which to plan your messages and the educational methods. If you have introduced yourself to the community leaders and asked their help, they will be able to call the people to your event. To make sure that as many people as possible attend, you can also put up posters inviting community members and tell all your clients so that they also spread the word.

**Step 2: Learning about the Audience.** Your event will be most successful if you tailor your messages to the educational needs of your audience. The only way you can do this is to learn a little about your audience. In particular, it is helpful to know:

- the age of the group members
- how many they are in the group
- the group's interests
- whether the group is men, women or both.

There are a couple of ways of learning about the audience. If you are planning the event for an organised group, you can ask their leader about the members. If you are planning a community event, then you ask the audience a few questions at the beginning of the event and adjust your messages accordingly. You can also base your messages on the educational needs of your clients since they are part of the community.

**Step 3: Preparing the venue and visual aides.** Before the day of your group talk, confirm the time and place. Be sure that seating arrangements are in order. Collect and organise your visual aids. Prepare any handouts you want to give to the group. Be sure you have enough copies for all. Check any equipment that you will use in advance.

It is important to prepare an outline for talk. Include the following information:

- Topic                      What will you talk about?
- Objectives                What do you want the audience to know or do after the talk?
- Main points               What are the most important points of your talk?
- Questions                 What questions can you ask the audience to start discussions?
- Visual aids                Posters, flip charts, pamphlets, or models will you use to show the main points.

There are many different types of visual aides you can use to help your audience understand important points. When used correctly, visual aids assist you to:

- hold people's attention longer.
- explain sensitive points such as condom use.
- provide similar information to every person you talk with.
- show your interest in your audience's understanding, and
- describe the internal organs of reproduction.

Visual aides may include posters, flipcharts, videos, brochures, anatomical models etc. They should be chosen carefully so that they illustrate important points that you want to

make. Visual aids must be large enough for everyone in the group to see and they should be simple enough for them to understand. Not every visual aid is right for presentation. You should first plan the objectives and content of presentations and then make appropriate visual aids for the talk. Visual aids illustrate the presentation. They are not the reasons for the presentations.

**Step 4: Conducting the event.** The first rule of a successful health education event is to be on time. If you appoint a specific time for the event, then be there and ready to begin at the time. The second rule is to prepare well in advance. Don't leave preparations until the last minute. So if you are going to show a film, set up the equipment well in advance. The third rule is to practice what you are going to say. The following is the list of steps you should follow when conducting a group talk:

- Introduce yourself and the topic of your talk.
- Encourage group participation
- Guide the discussion and encourage everyone to talk.
- Encourage people to respond to each others' questions.
- Use clear correct information and answers using flip charts, films or posters.
- Use simple, clear and understandable language.

#### **KEY MESSAGES ON STDs FOR THE COMMUNITY THAT MAY BE USED**

1. 1. STDs are a real danger to your health. They make it easier to get HIV infection and can cause other problems like infertility for both men and women.
2. If you have a swelling, wound (sore), abnormal discharge or any discomfort around the genitals, you could have an STD and need to see a health worker.
3. Most STDs are curable if treated correctly.
4. You could avoid STDs by using by sticking to one partner who is not infected by abstaining from sex, and by using condoms correctly every time.
5. To get cured of STDs, all sexual partners must be treated and abstain or use condoms until the treatment is completed.
6. Take all your medication as instructed even if symptoms disappear or you feel better.
7. After treatment, return to the health worker to be sure you are cured and avoid re-infection, ensure that all your sexual partners receive treatment and use condoms.

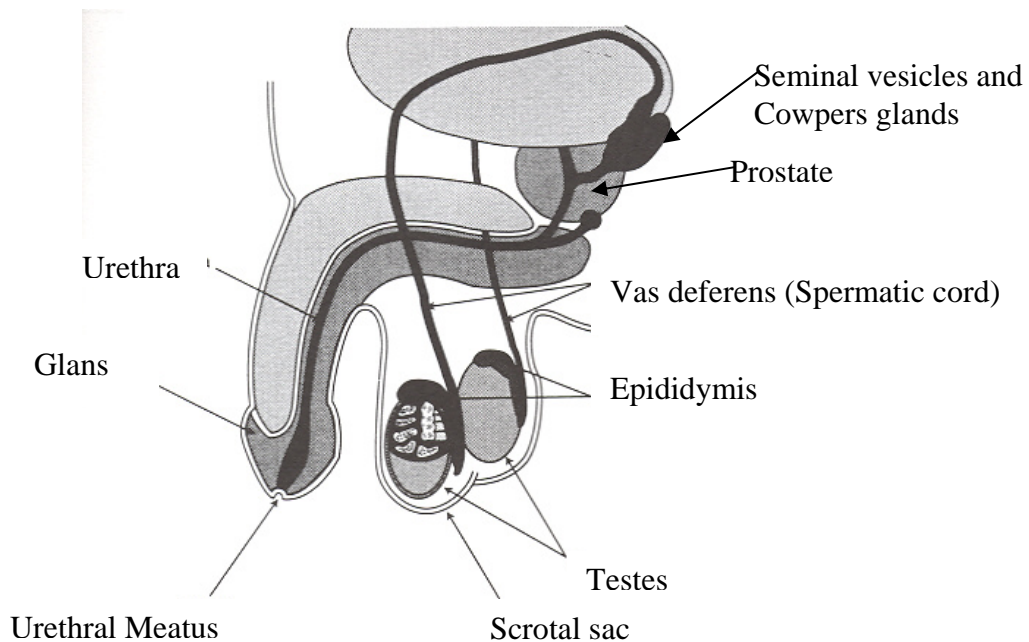
## **BASIC CLINICAL ANATOMY AND PHYSIOLOGY OF THE GENITAL TRACT**

Knowledge of the reproductive organs is necessary for providing sex education, STD diagnosis and management. Local names of the reproductive and sex organs and local sexual terminology should be encouraged and used.

The male reproductive organs consist of:

- the penis with the shaft, prepuce and glans penis
- the glands (Cowper's glands, prostate, seminal vesicles)
- the urethra which opens into a meatus
- the scrotum
- the testes
- the epididymis
- the vas deferens

An outline of the male reproductive organs in section is shown below:

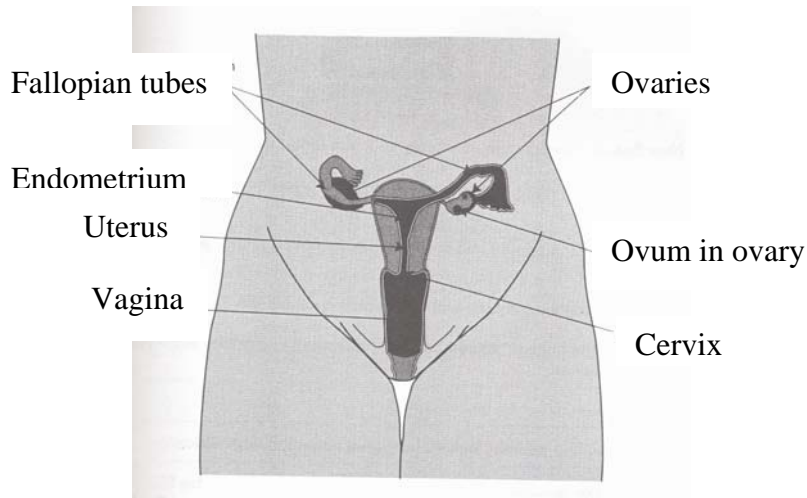


The female reproductive organs consist of:

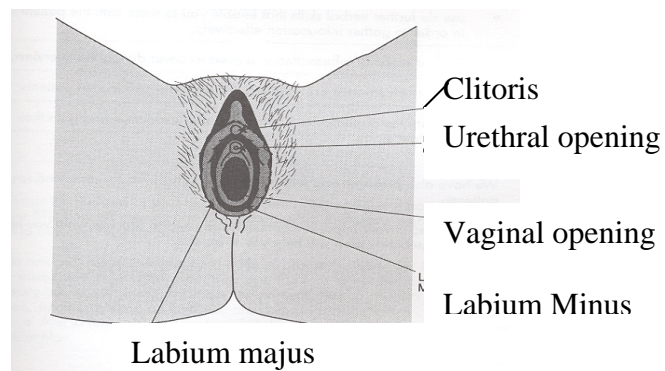
- Vulva consisting of labia majora and minora, vaginal introitus and urethral meatus
- clitoris
- mons pubis and the pubic hair
- Bartholin's glands
- perineal body

- vagina with the vaginal canal, the anterior and posterior fornices.
- cervix and uterus
- fallopian tubes
- ovaries

The internal female reproductive organs are shown below.



The vulva is the external part of the female sex organs shown below:



### **The normal functions of the reproductive organs:**

The reproductive organs function to propagate the human species, a function that requires sexual union of the male and female organs.

### **The male reproductive organs**

The male reproductive organs are responsible for production and maturation of sperms. The system produces stores and delivers the sperms into the female sex organs during sex with the aim of fertilising the ovum.

The testes hang on the outside in a sac called the scrotum. They manufacture the sperms and are responsible for their maturation. They also produce hormones that are responsible for the male sex characteristics.

The epididymis is attached to the posterior and upper portion of each testis. It contains ducts in which the sperms are stored and through which they pass into the vas deferens. Vas deferens transport sperms from the epididymis to the ejaculatory duct.

The prostate and seminal vesicles are glands that produce seminal fluid, a viscous fluid which nourishes the spermatozoa and serves as a transport medium.

The urethra is a tube through which semen is discharged during ejaculation. It opens at the urethral meatus.

The penis is the organ which takes part in sexual intercourse. It is the organ of copulation. When stimulated, it gets engorged with blood leading to erection. It consists mainly of an erectile and a spongy body. It terminates at the glans which in the uncircumcised is covered by a fore skin - the prepuce

### **The female reproductive organs**

The Vulva consists of the labia majora (outer lip of the vagina) and the labia minora (inner lip of the vagina).

The Clitoris consists mainly of sensitive and erectile tissues.

Bartholini's glands are located near the vaginal introitus and produce lubricating fluids.

The vagina is a tubular structure leading from the uterus to the vaginal introitus. Sexual intercourse takes place in this tube and it acts as the passage for the baby during delivery. It has anterior and posterior fornices.

The cervix is the lower part of the uterus projecting into the vagina and is the external opening of the uterus.

The uterus takes part in menstruation during which its lining is shed. It holds the foetus during gestation and the placenta which nourishes the foetus.

The Ovary produces hormones that are responsible for the female secondary sexual characteristics and also periodically produces the ovum.

The Fallopian tubes are the passage through which the ovum passes to reach the uterus and it is here that fertilization usually occurs.

**Development changes associated with sexual maturity:**

Prior to puberty, the growth of the reproductive organs proceeds at the same rate as the rest of the body. However, at the stage of puberty, which occurs from 11 - 18 years in girls and from 12 - 21 years in boys, there are significant changes in the reproductive systems which prepare the body for sex, reproduction and child rearing. These changes constitute the secondary sexual characteristics, brought about by hormonal changes.

Secondary sexual characteristics in the male include:

- Deepening of the voice.
- Hair growth in the pubic area, armpits, beards.
- Growth in general body size i.e. height and weight.
- Increase in size of the sexual organs mainly the penis and testes.
- Ejaculation may start with experiencing of “wet dreams”.

Secondary sexual characteristics in the female include:

- Increase in size of the breasts and darkening of the areola.
- Growth of pubic hair and hair in the armpits.
- Increase in body size i.e. the height and weight with the rounding of the figure.
- Changes in the voice.
- Menstruation usually commences.

These physiological changes are accompanied by psychological changes. It is important that the sexual organs fully develop before the body is ready for sex and reproduction. In adolescents, the body is still developing and is not yet ready for sex and reproduction.

**Physiological and psychological changes associated with sex.**

During puberty, the sexual organs are developing in readiness for sex, reproduction and child rearing. When the individual is ready for sex, he undergoes certain physiological and psychological changes.

In the male, stimulation comes from various sources such as sight, touch, sound or smell or even near imagination or thinking about someone. The higher centres are stimulated and relay messages via the spinal cord to the sexual organs resulting in sexual stimulation. The penis erects in anticipation for penetration of the vagina. This is brought about by engorgement and filling of the blood in the spongy and erectile tissues of the shaft of the penis. There is a slight secretion of fluid at the glans penis which serves a lubricating function. During coitus, the penis penetrates the vagina. During orgasm (the point of maximum physical and psychological excitement), ejaculation of the semen is achieved by contraction of the epididymis and seminal vesicles with expulsion of the semen via the ejaculatory ducts. This is followed by both physical and mental exhaustion and the penis relaxes and becomes flaccid.

In the female, the same factors may precede stimulation. In anticipation for sex, the vaginal walls and the glands in the vulval area secrete lubricating fluids and the size of the vagina is slightly increased. There is in addition engorgement of the vagina and vulva with resultant erection of the clitoris. At the point of orgasm in the females, there is a nervous release that results in muscular tightening and relaxation of the perineal muscles which is accompanied by a pleasurable sensation. This too is followed by a period of both mental and physical relaxation.



## **BASIC FACTS ABOUT HIV / AIDS AND RELATIONSHIP WITH STI:**

The Acquired immunodeficiency syndrome (AIDS) is caused by a retro virus of the lenti virus family known as the Human immunodeficiency virus (HIV). The HIV epidemic which was first reported in the early 1980s in the United States and later in Africa is now widespread, with over 60 million people infected since then, of whom about 20 million have since then died. In Sub Saharan Africa HIV mainly sexually transmitted unlike other parts of the world where intravenous drug use and gay sexual relationships are the leading modes of transmission. The length of the interval between HIV infection and manifestation of AIDS is varied. However studies done in developed countries show that 50% of infected people develop full blown AIDS in 10 years. The rate is thought to be faster in Africa, perhaps due to interaction with endemic infections and infestations, malnutrition, stress and other factors. Use of anti retroviral drugs alters the clinical course of the disease, although at the moment, there is still no definitive cure or vaccine for HIV.

After primary infection with HIV, the infection goes through the following distinct stages.

- i. Window period, lasting several weeks or months, average 6 weeks. The infected individual is still antibody negative on serological tests for HIV.
- ii. Asymptomatic phase, lasting from several months to several years but individuals are HIV sero positive, median 7 years in the absence of without anti retroviral therapy
- iii. Symptomatic and HIV positive (AIDS), lasting from several months to few years.

### **Epidemiology of HIV / AIDS in Uganda:**

Uganda has been experiencing a severe HIV epidemic for over 2 decades todate. The first cases were reported towards the end of 1982 in Rakai district. From this epicenter, the epidemic spread very rapidly throughout the country, so that by early nineties, every district had reported cases AIDS. It is estimated that as of the end of 2002, about 2 million people in Uganda had been infected, with about 800,000 people were living with the infection and over one million deaths. The main source of HIV data in the country is sentinel surveillance of HIV based on seroprevalence among antenatal mothers attending selected antenatal clinic surveillance sites. According to the available data, HIV prevalence is higher in major urban areas currently estimated at 5-10% of adults relative to rural areas where it is less than 5%.

*Trends:* The HIV prevalence in most antenatal sites represents a decline of over 50% since 1992. This is most marked in urban areas and more particularly among the younger women aged less than 25 years. This is likely to be due to declining HIV incidence.

*Age and Sex:* The males: female ratio is nearly 1:1, but there are age group specific differences. Most affected is 15 - 49 years, followed by 0 - 4 years. AIDS cases and HIV prevalence are higher among young women, with men catching up 5-10 years later. Among young people 15-24 years, HIV prevalence among girls is 5-6 times higher than males in the same age group. This is due to cross generational sex with girls becoming sexually active at an earlier age and having sex with older men.

### **Modes of HIV transmission:**

HIV is found in blood, semen, vaginal and cervical sections, sweat, tears, saliva, and breast milk. However it is infective mainly in the blood, semen, vaginal, and cervical secretions. The three main modes of HIV transmission are:

- i. Sexual intercourse - i.e. from an infected person to his or her sexual partners.
- ii. From exposure to infected blood, blood products or transplanted organs or tissues. exposure to HIV - infected blood may occur as a result of the transfusion of unscreened blood and the re-use of contaminated piercing instruments
- iii. From an infected mother to her foetus during or shortly after birth (vertical and peri-natal transmission)

The Efficiency of transmission of HIV is: Blood transfusion, 90%, perinatal transmission, 20 - 40%, sexual contact, 0.1 - 1%, needlesticks injury, < 0.5%

### **Clinical features of AIDS:**

The clinical criteria for the case definition of AIDS in adults:

*A: Major signs / symptoms:*

- i. Fever of over 1 month duration - intermittent or constant
- ii. Weight loss of over 10% of body weight
- iii. Chronic diarrhoea of over 1 month duration.

*B: Minor signs / symptoms:*

- i. Cough of over 1 month without evidence of TB

- ii. Generalised pruritic dermatitis
- iii. Herpes zoster
- iv. Oral thrush
- v. Chronic and ulcerative and aggressive herpes simplex
- vi. Persistent generalised lymphadenopathy

AIDS is diagnosed if at least 2 major and 1 minor signs are present. AIDS is also diagnosed on the basis of either of the definitive signs/symptoms below. A positive serological test in the presence of any one of the above features on its own is definitive.

*C: Definitive signs/symptoms:*

- i) Disseminated Kaposi's sarcoma
- ii) Cryptococcal meningitis

***Clinical criteria for diagnosis of AIDS in Children:***

Paediatric AIDS is suspected in children presenting with at least 2 major signs /symptoms and at least 2 minor signs / symptoms in the absence of a other known causes of immuno suppression such as severe malnutrition.

*Major signs / symptoms:*

- i) Weight loss or failure to thrive
- ii) Chronic diarrhoea of over 1 month
- iii) Fever for more than a month

*Minor signs and symptoms:*

- i) Generalised lymphadenopathy
- ii) Oral pharyngeal thrush
- iii) Repeated common bacteria infection e.g. otitis media, tonsillitis, pneumonia, skin infections.
- iv) Persistent cough for more than a month
- v) Generalised dermatitis
- vi) Confirmed maternal HIV infection.

The presence of disseminated Kaposi's sarcoma and or cryptococcal meningitis also confirms AIDS. A positive HIV test especially in children above 18 months increases the certainty of the diagnosis.

## **WHO Clinical stages of HIV/AIDS**

### *WHO Clinical Stage 1:*

- No clinical symptoms
- May have persistent generalised lymphadenopathy (PGL)
- Normal activity, Performance scale 1

### *WHO Clinical Stage 2:*

- Weight loss < 10%
- Minor skin rash
- Herpes zoster
- Recurrent upper respiratory infection
- Symptomatic but normal activity, Performance scale 2

### *WHO Clinical Stage 3:*

- Weight loss > 10%
- Chronic diarrhoea > 1 month
- Recurrent fevers > 1 month
- Oral thrush
- Pulmonary tuberculosis
- Bedridden < 50% of day, Performance scale 3

### *WHO Clinical Stage 4:*

- Cryptococcal meningitis
- Toxoplasmosis of the brain
- Kaposi' sarcoma
- Dementia
- Bedridden > 50% of day, Performance scale 4

## **HIV prevention and control:**

In the absence of a cure or a vaccine, prevention is the cornerstone in the control of HIV transmission. This is done through:

### *1. For sexual transmission:*

- i) Total abstinence from sex
- ii) Zero grazing or mutual monogamy with mutually faithful uninfected partner.
- iii) Correct and consistent use of condoms and other safer sex methods.

- iv) Early diagnosis, prevention and treatment for STDs.

*2. For transmission through blood and blood products:*

- i) Screening of blood and blood products prior to transfusion and limiting blood transfusion to cases that really need it for saving life.
- ii) Observing universal precautions of infection control including correct sterilisation of instruments and needles used in clinical settings and traditional practices
- iii) Screening of donors organs, tissues and semen.

*3. For mother to child transmission:*

- i) Proper and sterile deliveries especially when cutting the umbilical cord
- ii) Providing voluntary contraception to HIV infected mothers of reproductive age
- iii) Prevention of HIV in women of reproductive age.
- iv) Administration of ARVs to the mother during labour and to the newborn shortly after delivery significantly reduces perinatal transmission
- v) Safe breast feeding practices for HIV infected mothers, either through exclusive breast feeding with early weaning or no breast feeding.

**Care of people with AIDS:**

This is an area that has seen dramatic changes over the last few years as more breakthroughs in knowledge about HIV has emerged. There is currently a paradigm shift to care in most countries. However, there is still no cure, but currently available care and support measures significantly increase the quality of life, delay onset of AIDS and repair immune damage. The objective of care is to improve the quality of life

Diagnosis: History and physical examination to establish presence of HIV/AIDS and to identify associated complications. Serological tests for HIV are increasingly available through VCT programme. VCT is now considered a cornerstone in HIV control through promotion of behaviour change and opening avenues to prevention and care.

***Levels of care for HIV/AIDS***

- i) Home and community based care: Aims at not to disrupt normal life, reduce hospital burden and to promote early detection of problems
- ii) General clinics and specialized HIV clinics
- iii) In patients care indicated for very sick patients. No isolation, follow standard guidelines for infection control e.g. safe and proper handling of sharps.

***Treatment of HIV/AIDS:*** This takes several forms including:

- i) Supportive care e.g. counseling, good nutrition
- ii) Early diagnosis and treatment of opportunistic diseases
- iii) Counseling and psycho social support
- iv) Health promotion: education of patients to prevent deterioration, prevention and early treatment of infection, avoidance of cofactors e.g. malnutrition.
- v) Prophylaxis against opportunistic infections such as Cotrimoxazole prophylaxis, TB prophylaxis, Fluconazole prophylaxis etc.
- vi) Anti retroviral drugs: Are becoming increasingly accessible and more convenient dosing schedules with low toxicity are increasingly available
- vii) Terminal care: This requires laying down good plans for death. Introduce the topic of death through counseling. Help clients in deciding whether to die, either at home or hospital, by balancing social, cultural and economic considerations

Treatment, care and support are a responsibility every health workers, not specialists only. Regular follow ups are often necessary.

Support in the care of AIDS patients can be from various sources including:

- i. The patient providing own care, just like diabetics and hypertensives
- ii. Health workers
- iii. Traditional healers who share common socio-cultural environment, provide medication and some form of counseling
- iv. Non governmental and Community based organisations
- v. Extended family members and community members. These need education and counseling especially in home care, nursing care and prevention, psychosocial and material support, protective wear and other clinical supplies.

### **INTERACTION BETWEEN HIV AND OTHER STDs**

The relationship between STIs and HIV/transmission has been described as an epidemiological synergy. In addition, HIV and STIs share the same risk factors.

*1. STDs enhance the sexual transmission of HIV through:*

- a) STDs that primarily cause ulcers e disrupt the integrity of the skin barrier enabling HIV easy access through such defects in the skin. The presence of genital ulcers is known to increase the risk of HIV transmission from 0.1% -10% to nearly 100%
- b) STDs that primarily cause inflammation such as gonorrhoea, trichomoniasis, and chlamydial infections present a weak barrier to HIV.
- c) In both a and b above, infected lymphocytes among HIV infected individuals are attracted to the lesions and hence increase likelihood of infection to the partner
- d) Increased viral shedding has been reported in genital fluids of patients with STIs and STI treatment has been demonstrated to significantly reduce viral shedding.

2. *HIV infection affects STIs through:*

- a) Altering susceptibility of STD pathogens to antibiotics. This has been reported for chancroid and syphilis
- b) Clinical appearance and natural history of STDs may be grossly altered as in genital herpes and syphilis.
- c) Increased susceptibility to STDs among immuno suppressed individuals

In conclusion, STDs both as a marker of contact with increased number of sexual partners and high risk partner selection, and in their own right are associated with increased heterosexual HIV transmission. Conversely, HIV infection alters the clinical presentation and anti microbial susceptibility of STIs. This epidemiological synergy has been followed by public health action in many countries with STI control considered as a key strategy in the primary prevention of HIV transmission. At community level, one randomized community study in Mwanza region of Tanzania demonstrated a reduction in HIV incidence of 42% after STI syndromic treatment in health facilities.

**Other cofactors for HIV sexual transmission:**

Other factors related to sexual activity which may enhance HIV transmission include:

- a. Rough sex especially with insufficient lubrication, sometimes with bruising and bleeding and can lead to micro-ulcers which can facilitate HIV transmission. Such situations include rape, sex with virgins of young people and sex without fore play.
- b. Cervical ectopy: This occurs when the usually weaker mucosal lining within the endocervical canal extends outside the cervical opening towards the vaginal walls.

HIV crosses this weak mucosa more easily. This can happen in females around puberty and those taking combined contraceptive pills.

- c. ***Intrauterine contraceptive devices: (IUCD):*** Although no conclusive data exists on the relationship between HIV transmission and IUCDs, some concerns abound. This might be due to the micro trauma to the glans penis caused by the projecting threads or the chronic inflammation of the cervix leading to a cervicitis and presenting a weakened barrier. Women who are using IUCDs and who are at high risk should be advised to use condoms with their partners.
- d. ***Lack of male circumcision:*** There is increasing evidence suggesting this as an independent risk factor for HIV transmission. Reasons postulated include the prepuce presenting a larger surface area through which HIV may traverse and it also increases the risk of trauma. The circumcised penis has a harder surface which reduces the risk.
- e. ***Sex during menstruation*** or shortly after delivery exposes raw bleeding areas which increases the chances of transmission.