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A sexually transmitted infection (STI), also known as sexually transmitted disease (STD) or venereal disease (VD), is an illness that has a significant probability of transmission between humans by means of human sexual behavior, including vaginal intercourse, oral sex, and anal sex. While in the past, these illnesses have mostly been referred to as STDs or VDs, in recent years the term sexually transmitted infections (STIs) has been preferred, as it has a broader range of meaning; a person may be infected, and may potentially infect others, without showing signs of disease.

## Causes

### 1. Bacterial

- Chancroid (*Haemophilus ducreyi*)
- Chlamydia (*Chlamydia trachomatis*)
- Granuloma inguinale (*Klebsiella granulomatis*)
- Gonorrhoea (*Neisseria gonorrhoeae*)
- Syphilis (*Treponema pallidum*)

### 2. Fungal

- Tinea cruris (jock itch) May be sexually transmitted.
- Candidiasis (yeast infection)

### 3. Viral

- Viral hepatitis (Hepatitis B virus) saliva,
- venereal fluids.
- Herpes simplex (Herpes simplex virus 1, 2)
- skin and mucosal, transmissible with or
- without visible blisters
- HIV (Human Immunodeficiency Virus) venereal
- fluids, semen, breast milk, blood
- HPV (Human Papilloma Virus) - skin and
- Mucosal contact.
- Molluscum contagiosum (molluscum
- contagiosum virus MCV) close contact

### 4. Parasites

- Crab louse, colloquially known as "crabs" or "pubic lice" (*Phthirus pubis*)
- Scabies (*Sarcoptes scabiei*)

### 5. Protozoal

- Trichomoniasis (*Trichomonas vaginalis*)

## Diagnosis

A syndrome-based approach to the management of STI patients has been developed and promoted in a

large number of countries. The syndromic management approach is based on the identification of consistent groups of symptoms and easily recognized signs (syndromes)

## URETHRAL/VAGINAL DISCHARGE

Male patients complaining of urethral discharge and/or dysuria should be examined for evidence of discharge. If none is seen, the urethra should be gently massaged from the ventral part of the penis towards the meatus. In the male, more than 5 polymorphonuclear leukocytes per high power field (x 1000) are indicative of urethritis. The major pathogens causing urethral discharge are *Neisseria gonorrhoeae* and *Chlamydia trachomatis*

Tests: Genital discharge screen which include:

- Urethral/Vaginal swab for MC&S (bacterial and fungal culture, *Ureoplasma/ Mycoplasma* Culture)

Although *M. hominis* and *Ureaplasma* species are frequently detected in the lower urogenital tracts of healthy adults, they can also produce localized urogenital diseases. In humans, both *Mycoplasma* and *Ureaplasma* species may

Main Laboratory / Headquarters  
5th Avenue Office Suites  
Opp. Traffic HQ - Upper Hill  
5th Ngong Avenue | Ngong Road | Switchboard:  
0703 061 000  
Landlines: 020 273 5123, 271 6701 | 020  
2508456, 271 6697  
Mobile: 0729 111110, 0736 493100  
Email: [info@lancet.co.ke](mailto:info@lancet.co.ke)  
Website: [www.lancet.co.ke](http://www.lancet.co.ke)



## PATHOLOGISTS LANCET KENYA BRANCHES

### LANCET- MOMBASA

Biashara Building,  
Tel: 0721 143 766

### LANCET- KISUMU

WEDCO Centre on Oginga Odinga Street  
Tel: 0726 838773

### LANCET- THIKA

Thika Arcade  
Tel: 020262 2633/ 0717414684

### LANCET- EASTLEIGH

Alliance Medical Centre Madina Shopping  
Mall Avenue Tel: 0717 414682

### LANCET GA

Within Zenith Medical Centre  
Tel: 0726 995 860

### Prof. NELSON AWORI CENTRE

Next to Nairobi Hospital Tel: 0726 839341

### LANCET- BURUBURU

Buruburu service point behind Misora  
Tel: 0717414708

### LANCET GARISSA

Mabruk House  
Mobile: 0704 819 799

### LANCET- ELDORET

KVDA Plaza  
Tel: 0714 403 655

### LANCET- PARKLANDS

Park Place, 1st floor  
Tel: 0708727628

### LANCET MALINDI

At Tawfiq Hospital  
Mobile: 0721 143 766/

### Mombasa - Links Plaza

Links Road, Nyali  
Mobile: 0722 355 796

be transmitted by direct contact between hosts (ie, venereally through genital-to-genital or oral-to-genital contact), vertically from mother to offspring (either at birth or in utero), or by nosocomial acquisition through transplanted tissues.

- Urethral swab/Vaginal swab/Urine for Chlamydia trachomatis PCR
- Urethral swab/Vaginal swab/Urine for Neisseria gonorrhoeae PCR

## GENITAL ULCERS

Clinical differential diagnosis of genital ulcers is inaccurate, particularly in settings where several etiologies are common. Etiologies include: syphilis, chancroid, granuloma inguinale, lymphogranuloma venereum (LGV) and Herpes simplex infections.

Tests: Genital ulcer screen which include:

- Syphilis serology (RPR and Treponema pallidum IgG)
- Swab for Herpes simplex PCR
  - Please consider testing for Hepatitis B Surface antigens and HIV as well!
  - Chlamydia antibody testing is non-specific (do not distinguish between Chlamydia pneumonia and Chlamydia trachomatis) and is often a Retrospective diagnosis
  - HSV serology is only useful in the diagnosis

of primary infection, especially if seroconversion to herpes antibodies can be demonstrated in specimens approximately 4-6 weeks apart. Because serology is difficult to interpret in asymptomatic patients routine screening for HSV antibodies is not recommended except for the diagnosis of;

- recurrent genital disease of unknown cause
- counselling patients with initial episodes of disease, including pregnant women
- investigating asymptomatic partners of patients with genital herpes, including pregnant women

### Cash screen: HIV, HepB S Ag, Syphilis serology Screening

The CDC recommends in their STD Treatment guidelines of 2010 the following routine laboratory screening for sexually active adolescents:

- Routine screening for C. trachomatis of all sexually active females aged <25 years is recommended annually. Evidence is insufficient to recommend routine screening for C. trachomatis in sexually active young men based on feasibility, efficacy, and costeffectiveness. However,

screening of sexually active young men should be considered in clinical settings associated with high prevalence of Chlamydia (e.g., Adolescent clinics, correctional facilities, and STD clinics). Screening involved a vaginal/urethral swab or urine for PCR testing.

- Routine screening for N. gonorrhoeae in all sexually active women at risk for infection is recommended annually. Women aged <25 years are at highest risk for gonorrhea infection. Other risk factors that place women at increased risk include a previous gonorrhea infection, the presence of other STDs, new or multiple sex partners, inconsistent condom use, commercial sex work, and drug use.
- HIV screening should be discussed with all adolescents and encouraged for those who are sexually active and those who use injection drugs..
- The routine screening of adolescents who are asymptomatic for certain STDs (e.g., Syphilis, trichomoniasis, BV, HSV, HPV, HAV, and HBV) is not recommended.

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