Module 8

Adult and Paediatric Communicable Diseases; Sexually Transmitted Infections and Public Health Contact Tracing

Presenter: Aric Rankin NP-PHC, MN

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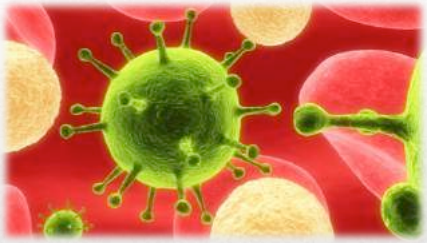

Discuss and Describe:

1. Assessment of communicable diseases
2. Common communicable diseases

Module 8 Objectives

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History:

- Onset of symptoms
- Presence of symptoms: e.g. fever, pain, rash, cough, vomiting, diarrhea
- Contact with ill persons
- Dietary history
- Recent travel

Assessment of Communicable Diseases 3

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Physical Examination:

- Vital signs
- Inspection
- Palpation
- Auscultation

Assessment of Communicable Diseases 4

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- Gastroenteritis
- Varicella
- Viral Hepatitis
- Human Immunodeficiency Virus
- Fifths Disease
- Invasive Group A Streptococcal (GAS) Infection
- Streptococcal Toxic Shock Syndrome
- Mononucleosis (Infectious)
- Rabies Exposure
- Tuberculosis

Common Communicable Diseases

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- William Bear, a 23 year old male attends his appointment with complaints of sudden loose stools after attending a community social.

Clinical presentation

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Bacterial gastroenteritis is a bacterial infection of the gastrointestinal tract. There are many different causes:

- E. Coli
- Campylobacter
- C. difficile (recent antibiotic use)
- Salmonella
- Shigella

Bacterial Gastroenteritis 7

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Salmonella

Shigella

OR

- Transmission by fecal-oral route
- Carried by domestic and wild animals (poultry and pets)
- Symptoms appear: 1-2 days
- Resolves: 3-6 days
- Symptoms: sudden colicky abdo pain, watery brown stools and **may** contain blood and mucous, fever, N/V

- Transmission by direct or indirect fecal-oral route
- Ingestion of contaminated food or water or contact with feces of infected humans
- Symptoms appear: 2-4 days
- Resolves: 4-8 days
- Symptoms: sudden fever, anorexia, vomiting, solid stools at first then watery brown **with mucous, blood and pus**

Bacterial Gastroenteritis 8

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Differential Diagnoses:

- Viral gastroenteritis
- Parasitic gastroenteritis (for example, giardiasis)
- Ulcerative colitis

Bacterial Gastroenteritis

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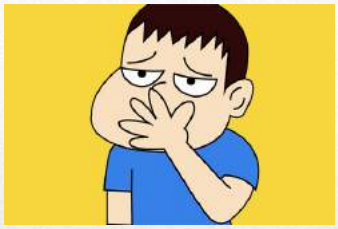

Management:

Pharmacologic Intervention

- If nausea and vomiting are present: dimenhydrinate (Gravol), 25–50 mg IM or IV STAT, then 50 mg PO or PR q4–6h PRN
- Do not give anti-diarrheal medication (Imodium) as this will slow bacterial clearance

Bacterial Gastroenteritis

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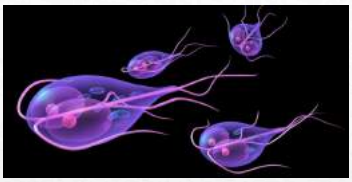

Causes:

- *Giardia lamblia* parasite, transmitted by fecal-oral contact
- Person-to-person, ingestion of contaminated water, or ***venereal transmission by sexually active homosexuals***

Symptoms:

- Sudden onset of explosive, watery diarrhea, abdominal cramps, nausea/vomiting, foul flatus

Giardiasis Gastroenteritis 11

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Differential Diagnoses:

- Gastroenteritis (viral, bacterial)
- Amebiasis
- Bacterial overgrowth syndromes
- Crohn's ileitis
- Irritable bowel syndrome

Giardiasis Gastroenteritis 12

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Management:

- Antibacterial, anti-protozoan to treat infection: metronidazole (Flagyl), 250 mg PO TID x 5 days
- Follow up daily for dehydrated patients
- Obtain repeat stool sample in 1-2 weeks to ensure clearance of infection

Giardiasis Gastroenteritis

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Causes:

Virus	Route of Transmission	Incubation Time (days)
Hepatitis A	Fecal-Oral	15-50
Hepatitis B	Parenteral, sexual, perinatal	45-180
Hepatitis C	Parenteral	14-180
Hepatitis D	Parenteral; only present with Hep B	14-56
Hepatitis E	Fecal-Oral	14-60

Symptoms:

- Fever (common in Hep A), nausea/vomiting, dark, urine, abdominal pain, jaundice

Viral Hepatitis

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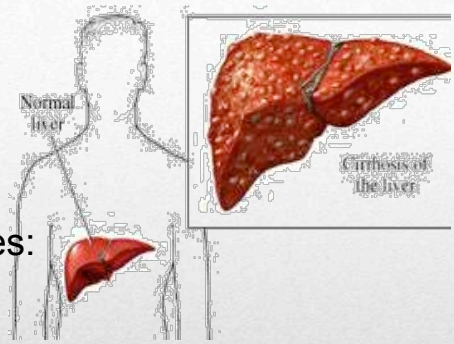

Differential Diagnoses:

- Hepatic cancer
- Cirrhosis
- Infectious mononucleosis
- Alcohol-induced hepatitis
- Drug-induced hepatitis

Viral Hepatitis 15

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Management:

- Acetaminophen (Tylenol), 325 mg 1–2 tabs PO q4h PRN.

Use with caution as acetaminophen is metabolized by liver

- Dimenhydrinate (Gravol), 50 mg PO q6h PRN

Viral Hepatitis 16

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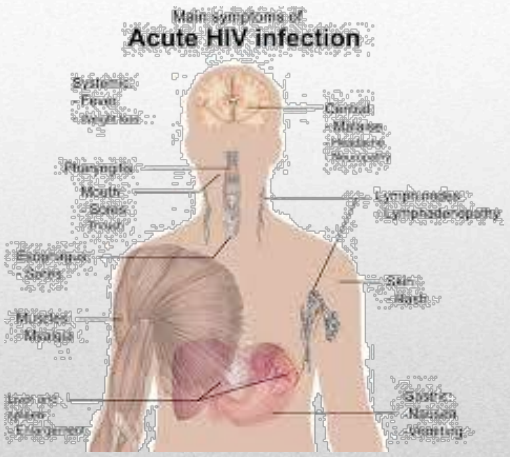
- HIV attacks an individual's immune system until it grows weak
- Time that it takes to affect a person's immune system varies widely between people



Human Immunodeficiency Virus (HIV) 17

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Clinical characteristics:

- Insidious onset of disease, fever, diarrhea, weight loss, fatigue

May present with infections such as:

- *Pneumocystis jirovecii* pneumonia, Cryptosporidiosis, Toxoplasmosis
- May have unusual cancers or conditions like wasting syndrome, or encephalopathy

Acquired Immunodeficiency Syndrome (AIDS) 18

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- Sierra Kakegamick, a 4 year old female attends the clinic with her grandmother and mother with complaints of a red rash on her torso starting this morning.

Clinical presentation

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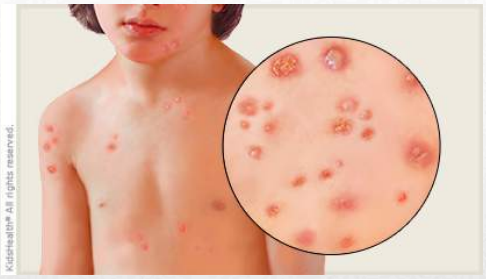

Causes:

- Herpes Zoster Virus
- Direct contact or inhalation of airborne droplets
- Incubation: 13-17 days, up to 3 weeks

History:

- Slight fevers, skin lesions, mild constitutional symptoms

Varicella (Chicken Pox)

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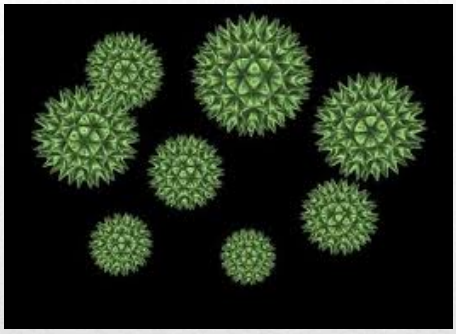

Differential Diagnosis:

- Scabies
- Impetigo
- Herpes Simplex
- Infection with coxsackie virus

Varicella (Chicken Pox)

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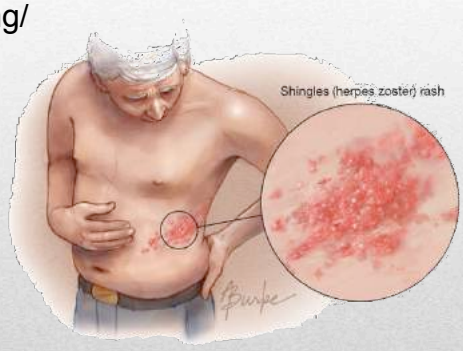
Management:

- Calamine Lotion or Oatmeal baths
- Acetaminophen 10-15mg/ kg PO, q4-6hr PRN
- Diphenhydramine
- Hydroxyzine

Consult:

- Antiviral therapy
- Immuno-compromised hosts
- Varicella Zoster Immunoglobulin (VZIG)



Varicella (Chicken Pox)

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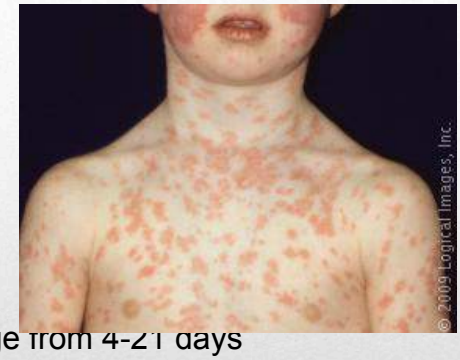

Cause:
- Human parvovirus B19

Transmission:
- Respiratory secretions,

Incubation:
- 7-10 days, but can range from 4-21 days

Contagion:
- Once rash appears, no longer communicable

Erthema Infectiosum (Fifth Disease) 23

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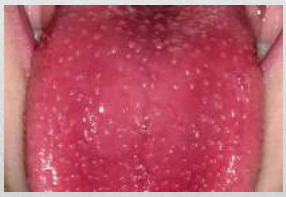
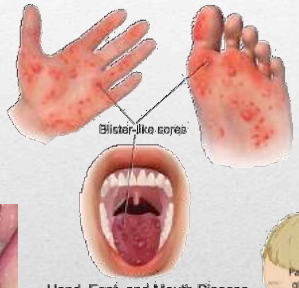
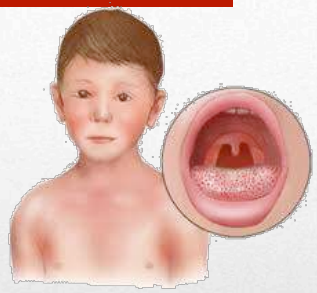
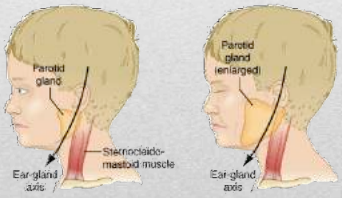
Differential Diagnosis:
- Hand-foot-and-mouth disease
- Rubeola
- Parotitis
- Rubella
- Scarlet fever





Hand, Foot, and Mouth Disease





Erthema Infectiosum (Fifth Disease) 24

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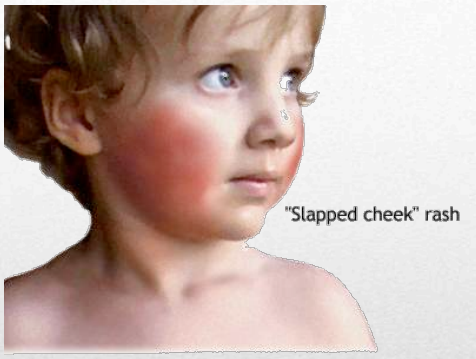

Management:

- Avoid excessive heat or sunlight
- Acetaminophen 10-15mg/kg PO, q4-6hr PRN

Erthema Infectiosum (Fifth Disease) 25

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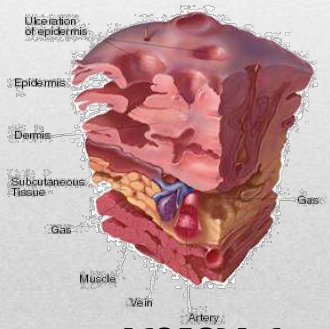
Causes

- Group A Streptococcus
- Risk increases with underlying disease such as diabetes mellitus, chronic heart, lung or kidney problems, and cancer

Symptoms

- Fever
- Severe pain around the lesion site



Invasive Group A Streptococcal (GAS) Infection 26

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Must present with following clinical signs within 48 hours:

- Hypotension (SBP≤90 mmHg)
- 2 or more of
  - Renal impairment
  - Coagulopathy
  - Liver involvement
  - Acute respiratory distress syndrome

Streptococcal Toxic Shock Syndrome 27

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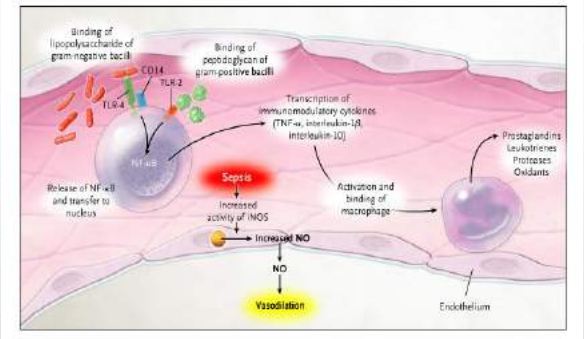

Differential Diagnoses:

- Cellulitis
- Sepsis
- Septic Shock

Streptococcal Toxic Shock Syndrome 28

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Management:

- Oxygen 6–10 L/min or more prn to keep oxygen saturation > 97% to 98%
- Start IV therapy with normal saline to keep vein open
- Refer to Medevac and consult the physician to start antibiotics

Streptococcal Toxic Shock Syndrome 29

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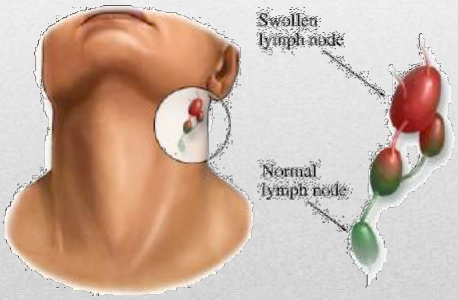
Causes:

- Epstein-Barr virus
- Oral transmission (saliva)

Symptoms:

- Symptoms
- Fever
- Sore throat
- Fatigue
- Swollen lymph glands



Mononucleosis (Infectious) 30

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Differential Diagnoses:

- Group A streptococcal (GAS) pharyngitis
- Hepatitis
- Viral pharyngitis
- Cytomegalovirus infection
- Toxoplasmosis

Mononucleosis (Infectious) 31

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Management:

- Ibuprofen (Motrin), 200 mg, 1–2 tabs PO q4h prn
  OR
- Acetaminophen (Tylenol), 325 mg, 1–2 tabs PO q4h prn

Mononucleosis (Infectious) 32

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Causes:

- Transmitted by saliva from rabid animal bite that penetrates the skin

Initial Symptoms:

- Headache, fever, malaise, poor appetite, tingling or itching at the bite site

Symptoms after 2-10 days:

- Hyper excitability, anxiety, hyper salivation, muscle spasms, delirium, convulsions

Rabies Exposure 33

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Differential Diagnoses:

- Delirium tremens
- Drug reaction
- Acute psychosis
- Tetanus
- Meningitis

Rabies Exposure 34

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Management:

- Flush the wound with soap and water, then rinse with antiseptic

Pharmacologic Intervention:

- **IMOVAX Rabies 1 mL IM on days 0, 3, 7, 14 and 28**

AND

- **Rabies Immune Globulin (HyperRAB S/D) 20 IU/kg x (client weight in kg) ÷ 150 IU/mL = dose in mL**

Rabies Exposure

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Causes:

- Mycobacterium tuberculosis bacterium

Symptoms:

- Chronic cough, lasting ≥3 weeks
- Fever
- Night sweats
- Fatigue
- Weight loss

Tuberculosis

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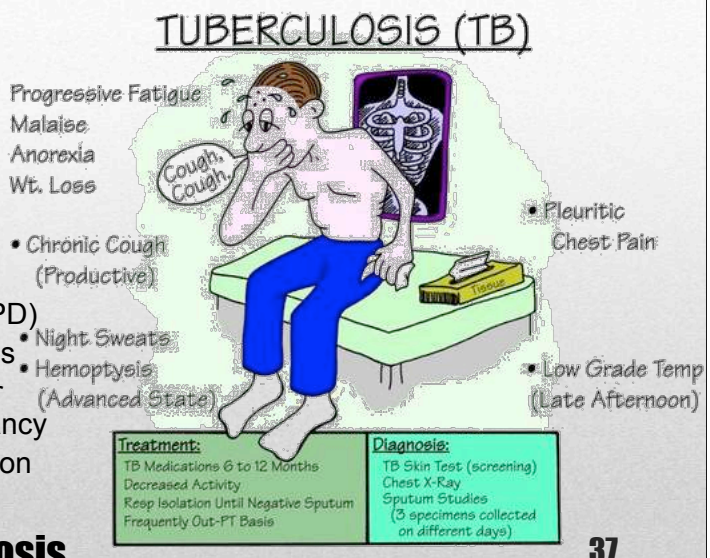
Differential Diagnoses:

- Chronic or subacute pneumonia
- Chronic obstructive pulmonary disease (COPD)
- Bronchiectasis
- Lymphoma or other malignancy
- Fungal infection



Tuberculosis

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Management:

Latent Infection:

- **Isoniazid (INH),** 5 mg/kg to max 300 mg PO od for 6–12 months & **pyridoxine** (vitamin B6), 25 mg PO od

Active Infection:

Drug	Usually Daily Dosage (mg)	Adverse Reactions
Isoniazid	300	Hepatitis, paresthesia
Rifampin	600	Drug interactions, flu-like illness
Pyrazinamide	1500-2000	Hepatitis, elevated serum level of uric acid
Ethambutol	800-1600	Ocular toxicity
Streptomycin	1000	Vertigo, tinnitus, renal failure

Tuberculosis

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Monitoring and Follow up:

- Follow closely during treatment
- Monitor liver enzymes (ALT, AST, GGT, ALP)
- Patients receiving ethambutol should have baseline visual acuity and color vision screen Q6months while on Tx
- Patients with active TB infection require monthly CXR for the first 3 months

Tuberculosis 39

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Sexually Transmitted Infections and Contact Tracing

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Objectives

Discuss and Describe

- History taking procedure
- Physical examination
- Differential diagnoses
- Diagnostic Tests
- Management

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History

General History

- Site of sexual contact (vaginal, oral, anal)
- Sexual orientation
- Use of condoms
- Number of past sexual partners
- History of sex with injection drug users
- Present symptoms of STIs in client or his/her partner

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Specific History

Men

- Urethral discharge (amount, colour and time of day)
- Dysuria
- Itch
- Pain or swelling in scrotum or inguinal region

Women

- Vaginal discharge (amount, colour, vaginal itch)
- Burning sensation with urination
- Painful intercourse with penetration
- Post-coital, mid-cycle or excessive menstrual bleeding

History

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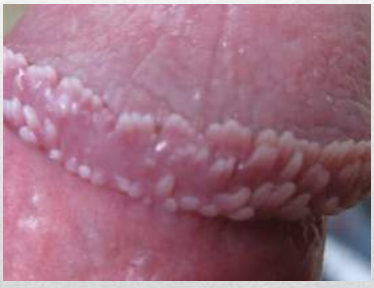
Men



- Inspect and palpate the penis and glans for lesions
- Examine meatus for discharge
- Inspect and palpate scrotum for heat, tenderness, swelling and lesions
- Examine perianal area for lesions or discharge

Physical Examination

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Women

- Inspect and palpate the external genitalia to detect lesions, swelling, discharge
- Observe amount and colour of vaginal discharge
- Examine and visualize the cervix via a speculum examination

Physical Examination

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Men

Symptoms	Possible STI Syndrome
Urethral discharge, burning on urination, itch	Urethritis
Painful genital ulcers or lesions	Genital ulcer disease (eg. genital herpes, syphilis)
Acute onset of unilateral scrotal pain or swelling	Epididymitis

Differential Diagnosis

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Women

Symptoms	Possible STI Syndrome
Vaginal discharge, odour, genital itch	Vulvovaginitis (eg. Trichomonas vaginalis)
Recent onset of abdominal pain, vaginal bleeding, deep dyspareunia	Cervicitis, pelvic inflammatory disease
Painful genital lesions or ulcers, painful inguinal lymphadenopathy	Genital ulcer disease (e.g. genital herpes, syphilis, cancroid)

Differential Diagnosis

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- Urine for GC/CT
- Test and treat same day for symptomatic contacts
- Swabs including cervix, rectum and pharynx to be cultured for *Chlamydia*, *N. gonorrhoea* and other bacteria
- Serology sample for VDRL test for syphilis, hepatitis B and C, and HIV.

Diagnostic Tests

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Pharmacologic Interventions

Chlamydia:

- Azithromycin 1 g PO in a single dose

Gonorrhoea:

- Ceftriaxone 250 mg IM x 1 dose.

Management

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Non-Pharmacologic Interventions

- Advise client of appropriate administration of medications
- Counsel the client about abstinence during course of treatment
- Teach client about barrier methods for protection during intercourse
- Remind client to return for test of cure.

Management

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HIV Serology Test Requisition

HIV Serology Test Requisition

- In Ontario can be nominal or anonymous.
- Anonymous testing at 50 sites in the province
- Prenatal women offered HIV testing at initial Prenatal workup.
- Offer HIV testing regularly, especially to IV drug users.

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Blood Testing for STIs


General Test Requisition

ALL Sections of this Form MUST be Completed

Ontario Public Health General test Requisition

- Syphilis (VDRL)
- Hepatitis B
- Hepatitis C

* This requisition is also used for Chlamydia and Gonorrhea

www.sexualhealthontario.ca

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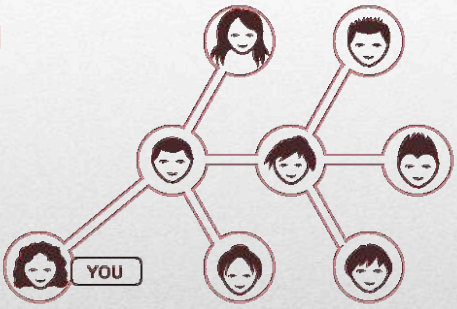
Blood Testing for STIs

Contact Tracing

- Assume the presenting client is the index case until proven otherwise
- Obtain a list of all sexual partners in the past 3 months (or more) when samples are collected
- If test results are positive, all contacts must be reported and tested appropriately



Management

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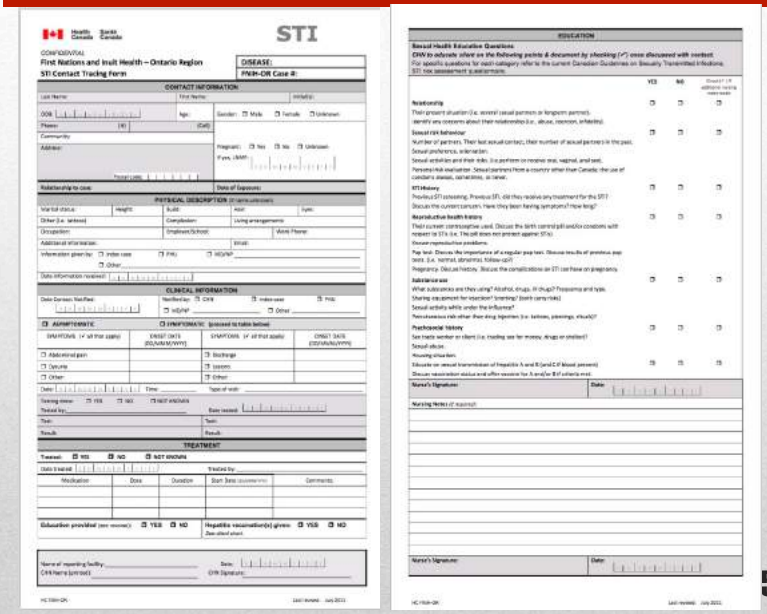

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Contact Tracing Form

Health Canada / Santé Canada

Contact Tracing – Line List

DISEASE:

Name	DOB (DD/MMM/YYYY)	Address	Phone	Relationship to Case	Type of contact/exposure ①	Immunization Status ②	Symptoms	Chemoprophylaxis	Referral			

① Type of contact/exposure
H – Household
CI – Close
C – Casual

② Immunization Status
C – Complete
UTD – Up-to-date
I – Incomplete

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Contact Tracing

Follow up is essential when:

- Treatment has failed previously
- Compliance is uncertain
- Re-exposure to untreated partner is likely
- Infection occurs during pregnancy

Management

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First Nations and Inuit Health Branch Clinical Practice Guidelines for Nurses in Primary Care; Chapter 11; Health Canada (2010)

First Nations and Inuit Health Branch Pediatric Clinical Practice Guidelines for Nurses in Primary Care; Chapter 18; Health Canada (2010)

- Canadian Guidelines on Sexually Transmitted Infections. Retrieved on Oct 14th 2014: http://www.cpha.ca/uploads/portals/idp/23384.pdf
- www.Sexualityandu.ca

References

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