

# Tutorial 8: counseling for infectious diseases

## Objectives

- To Understand Counselling for Infections diseases .
- To identify pathways how infectious disease spreads.
- To understand who are at most risk of getting infection when exposed .
- To correlate different modes of common infectious disease transmissions .
- To understand key steps of standard precautions .
- To understand the implications of primary & secondary prevention with practical case scenarios.
- To identify prevention types and targeted people for each type with examples
- **OSCE**

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# What is Counselling?

- ❖ A Support process in which a counselor holds face to face talks with another person to help him or her solve a personal problem, or help improve that person's attitude, behavior, or character.
- ❖ The act of helping the client to see things more clearly. **To reach a decision**

## Counselling is an understanding

- ❖ It's an opportunity to talk to a person in non-judgmental and supportive way.
- ❖ To better understand his/her current problems
- ❖ To identifies strategies to help problem solve.

## Counselling for infectious disease

### Take history of:

- **Exposure:** when and how exposed
- **Symptoms:** which symptoms he or she came with
- **Precautions:** measures should be taken for the infected person
- **Prophylaxis:** for which prevention he or she came for
- **Prevention:** either primary or secondary prevention

## Aim: Disease Prevention

### Primary prevention

Refers to efforts to eliminate health or functional problems at their source—that is, **preventing their occurrence**, (such as **immunizations, improving nutritional status, and increasing physical fitness and emotional well-being** that reduce the incidence of disease or render a population at risk not vulnerable to that risk.

### Secondary prevention

Involves efforts to detect **adverse health conditions early** in their course and to **intervene** promptly and effectively, or to reduce the spread of disease to others or **complications**

## Standard precaution

Standard Precautions are group of practices of infection prevention and control based on a principle that all blood, body fluids secretions, excretions (except sweat), non intact skin and mucous membranes may contain transmissible infectious agents .

It is applied to all patients regardless of their diagnoses **since they could be carriers of other diseases.**

## Standard precautions apply to the following



**Blood**



**All body fluids (even tears), secretions and excretions except sweat**



**Non-intact skin**



**Mucous membranes**

## Elements of standard precaution

1. Hand Hygiene
2. Gloves
3. Gown
4. Goggles/face protection
5. Mask
6. Safe injection practices
7. Patient care equipment/devices
8. Environmental control
9. Worker safety
10. Textile and laundry
11. Patient placement and transport
12. Respiratory hygiene/cough etiquette
13. Infection control practices for lumbar puncture

## Standard Precautions-Key Steps

Frequently wash hands or use alcohol-based handrubs.

Use gloves.

Wear an apron, mask, and eye protectors, as necessary.

Properly handle and dispose of possibly infected linens and wastes.

Properly handle and dispose of sharp instruments, such as needles.

# Bloodborne and other common infectious diseases:

1

## Bloodborne diseases

- HIV/AIDS.
- Hepatitis B and C.

2

## Other Common Infectious Diseases

### Bacterial:

- Staph skin infection.
- Pneumonia / TB
- Parasitic—*Giardia* diarrhea.

### Viral:

- **COVID-19<sup>1</sup>**
- Influenza, or the flu.
- Respiratory infections.
- Hepatitis A infection.
- Diarrhea.
- Chickenpox, measles, mumps.

## Understanding How Infectious Diseases Spread

Where Infection Lives Blood or Body Fluids: (depending on mode of transmission, use precautions)

- |          |                  |                 |
|----------|------------------|-----------------|
| ❖ Urine  | ❖ Food           | ❖ Vomit         |
| ❖ Feces  | ❖ Water          | ❖ Sweat         |
| ❖ Tears  | ❖ Organic matter | ❖ Semen         |
| ❖ Sputum | ❖ Pets           | ❖ Vaginal fluid |
| ❖ Saliva | ❖ Pests          |                 |

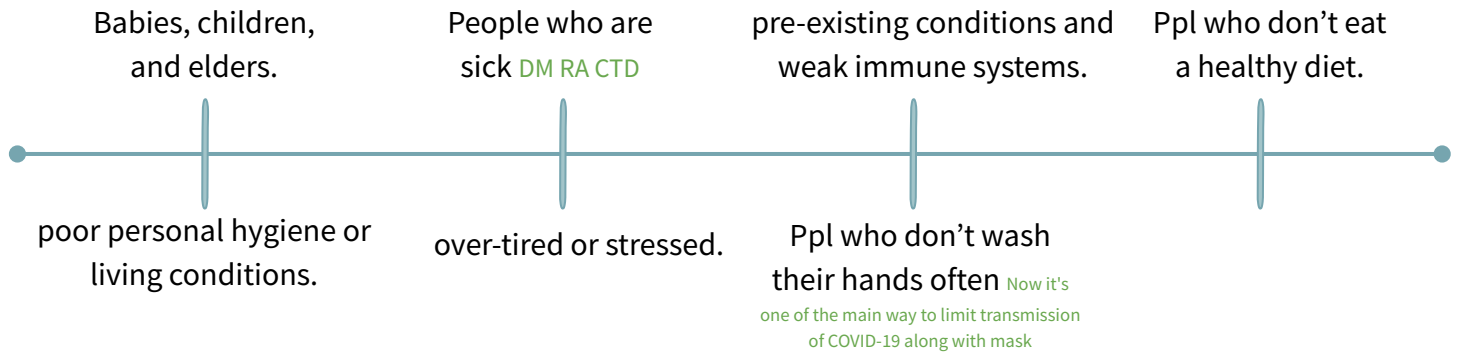
## Pathways Through Which Infectious Diseases Spread

- Being stuck by a sharp with infected body fluids.
- Eating, drinking, or handling infected food, water, or dirt. (I.e. food borne)
- Touching infectious people—or surfaces, objects, clothing, and linens that carry body fluids.
- Breathing spray from coughs, sneezes, talking and this is the main way for transmission of COVID-19
- Being bitten by animals and insects, or by coming into contact with animals' body fluids. (I.e. vector borne)

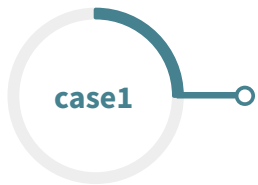
1. Transmitted by droplets or even touch

# Who is at Most Risk of Becoming ill When Exposed to Infection?

 **Anyone CAN be at risk!**



## Cases and questions:



A 26-year-old woman presents to clinic for advice as her brother is recently diagnosed as a case of hepatitis A (**fecal oral route**) 3 days ago. She asked for any intervention as she never received any vaccination for hepatitis before.

## How are you going to counsel her?

1

### Hygienic measures

- ❖ Hand washing, Limiting contact with him, Don't share his personal items, Avoid sharing<sup>1</sup> drinking glasses or dining utensils.
- ❖ Isolation in one room **since the patient is infectious.**

2

### Start vaccination

- ❖ For Hepatitis A and **better immunoglobulins<sup>2</sup>**

1. That's why we advise to use disposable one  
2. Why? Because vaccine takes time to be effective, and we need the protection to start now

## case2

A 32-year-old male married and has 2 children came for pre-employment check up. The following hepatitis B (vertical, blood borne, and sexual route of transmission) markers are shown:

Hepatitis B S antigen <sup>1</sup>	Reactive
Anti-Hepa B Core IgG <sup>2</sup>	Reactive
Hep- B e Antigen <sup>3</sup>	Reactive
Anti- Hepa B e Antigen	Non-reactive
Anti-Hepa B Surface <sup>4</sup>	Non-reactive

- ❖ He has chronic hepatitis B virus as Core IgG is reactive or positive
- ❖ He is highly infectious as e antigen is reactive or positive

## What measures are you going to take?

1

### Measures for the patient

- ❖ Break the news for the patient / Ask for a source of infection<sup>5</sup> / exposure.
- ❖ Request Liver function tests, Ultrasound liver, PCR, Referral to hepatologist and follow up.
- ❖ **Educate** how to be careful in contact with body fluids<sup>6</sup>, inform him that the infection could be transmitted through mainly blood, Protective measures for relation with his wife, No blood donation.

2

### Measures for contacts

- ❖ Ask about vaccination of children, Screen family contacts if they are immune or not and start vaccinate the non immune ones (give booster shots if vaccines aren't completed).

1. The infectious agent  
2. Means it's old more than 6 months  
3. High viral load indicates viral activity (highly infectious)  
4. Indicates Immunity  
5. Important for **OSCE** as you may ask about the source of Infection: operation, dental procedures... etc  
6. For example, if the patient got wounded in a public place, educate him on how to protect others and himself.



A 42-year-old man presents with one day H/O fever, sneezing and cough. He used to go his farm, which has camels and sheep. The nurse in vital signs informed you that we may have a case of Corona virus. An outbreak of corona virus (**MERS-CoV**) is running.

## What general as well as specific measures should be taken?

Take steps to ensure all persons with symptoms of a respiratory infection adhere to:

**Respiratory hygiene Cough etiquette**, and **Hand hygiene**.

Wear a mask / Cover your mouth and nose with a tissue when coughing or sneezing. Use in the nearest waste receptacle to dispose of the tissue after use.

**Consider posting visual alerts** (e.g. signs, posters) in strategic places (e.g., waiting areas, elevators, cafeterias) to provide patients and HCP with instructions (in appropriate languages) about hand hygiene, respiratory hygiene, and cough etiquette.

**Provide supplies to perform hand hygiene** to all patients upon arrival to facility (e.g. at entrances of facility, waiting rooms, at patient check-in) **sterilizers are everywhere nowadays**.

**Personal Protective Equipment (PPE):** Gloves, Gowns, Respiratory Protection (N95 filtering facepiece respirator) and Eye Protection (eye goggles)

**Patient Placement:** Place a patient who might be infected with MERS-CoV in an Airborne Infection Isolation Room (AIIR) Take a nasopharyngeal swab (If positive, Isolate and treat) and (if negative, reassure and discharge)

**Isolation for cases:** for 10 days or 72 hours after the fever and respiratory symptoms disappear whether at home or in quarantine facilities.

## You are entering the room of a patient with confirmed MERS-CoV. What precautions you should adhere to?

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**Standard, Contact, and Airborne precautions, including the following:**

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- ❖ Hand Hygiene
  - ❖ Personal Protective Equipment (PPE):
    - Gloves
    - Gowns
    - Respiratory Protection (N95 Mask) §Eye Protection (eye goggles)
-

## case4

You have seen a 46-year-old man come for advice regarding malaria protection as he will travel after a week to a country endemic with malaria in Africa and will stay for 2 weeks.

## How are you going to counsel him?

### General

**No antimalarial drug is 100% protective** and must be combined with the use of personal protective measures, (i.e., insect repellent, long sleeves, long pants, sleeping in a mosquito-free setting or using an insecticide-treated bednet).

### Specific (Chemoprophylaxis)<sup>3</sup>

- ❖ **Proguanil (Malarone):** Begin 1-2 days before travel, 1 tablet **daily** during travel, and for 7 days after leaving.
- ❖ **Mefloquine:** 1 tablet weekly. Begin 1-2 weeks before travel, **weekly** during travel, and for 4 weeks after leaving.
- ❖ **Doxycycline:** Begin 1-2 days before travel, **daily** during travel, and for 4 weeks after leaving.

## case5

A 56-year-old man came to you as planning to go to Haj. He asked is there any vaccines he should take and how to protect himself in crowded Tawaf.

### Which disease are you afraid from other than flu?

- Meningitis<sup>1</sup>

### Which Immunoprophylaxis are you going to give?

- Vaccination is used for meningococcal disease due to A, C, Y, and W serogroups (MCV4) **better than chemoprophylaxis**, but if the individual is traveling within a short time, like 7 days, give chemoprophylaxis.

### How to protect himself in Tawaf?

- Putting a face mask to protect against any nosocomial infections.

### Chemoprophylaxis (when there is probability of presence of cases)

- Person-to-person transmission can be interrupted by chemoprophylaxis, which eradicates the asymptomatic nasopharyngeal carrier state **given in المصابدين to eradicate carriers**.
- Rifampin<sup>2</sup>, Ciprofloxacin, and Ceftriaxone are the antimicrobials that are used to eradicate meningococci from the nasopharynx.

1. Influenza could be given also but it is **not** required  
2. For 2 days  
3. Malarial chemoprophylaxis are given to travelers not vaccines (vaccines are usually for children in endemic areas).



## case6

A 58-year-old man came with his son because of fever and cough for 3 weeks. A sputum smear was sent and revealed TB bacilli positive.

### How are you going to counsel him and his son regarding transmission of this infection?

#### Measures for the patient:

- ❖ Patient will put a face mask and should be admitted and isolated in a negative pressure room.
- ❖ Also should be learned for cough etiquette.
- ❖ Only discharged from isolation when 3 consecutive sputum smears are negative.

#### Measures for contacts:

- ❖ Screen by history taking, Quantiferon<sup>1</sup>, Chest X-ray

1. We do it for ppl with high risk such as healthcare workers

# Quick quiz from Doctor slides

1



What percentage of people living with hepatitis KNOW they are infected?<sup>1</sup>

- A. Less than 5%
- B. 30 %
- C. 50%
- D. More than 90%

2



You have a friend who is going to China for 7 months. He leaves in 2 weeks. He has never received either hepatitis A or B vaccines.

**Which is the best choice today for his immuno-prophylaxis of hepatitis A?**

- A. A dose of hepatitis A vaccine
- B. A dose of IM immunoglobulin<sup>2</sup>
- C. A dose of IM immunoglobulin and a dose of hepatitis A vaccine
- D. First dose of hepatitis A vaccine today and a booster dose the day before he leaves

3



What is the most important patient education information to give your friend about avoiding hepatitis A exposure?

- A. Tell him to avoid sharing needles or using non-sterile needles.
- B. Remind him about using insect repellent and mosquito netting at night.
- C. Encourage him to take safe sex precautions.
- D. Explain good hand washing and food and water precautions.

4



A nurse sustains a needle stick from a patient who is known to be HBsAg-positive. She has been vaccinated previously with hepatitis B vaccine and is a known non-immune (No antibodies). **What postexposure prophylaxis should the nurse receive?**<sup>3</sup>

- A. One dose of hepatitis B vaccine.
- B. One dose of HB immunoglobulins and one dose of hepatitis B vaccine.
- C. No vaccination but proper cleaning of site of injury.
- D. Test the nurse for anti-HBs level; treat accordingly.

1)A  
2)A  
3)D  
4)B

- 1. Less than 5%, that's why we always screen (pre-marital, pre-employment etc.)
- 2. Given for ppl with **high** risk of hepatitis and in a short period, 2 weeks is enough for hepatitis A vaccine immunity to develop.
- 3. After any needle stick injury, we check if the patient has any blood borne diseases, then check the health care worker for antibodies, and treat accordingly.

5



Which of the following viral causes of hepatitis is transmitted by contaminated food or water?

- A. Hepatitis B
- B. Hepatitis C
- C. Hepatitis D
- D. Hepatitis E

6



Hepatitis D is commonly associated with what other type of viral hepatitis?

- A. Hepatitis A
- B. Hepatitis B
- C. Hepatitis C
- D. Hepatitis E

7



A pregnant woman is known to be HBsAg positive delivered her baby. **Which of the following is the appropriate measure has to be taken with her baby?**<sup>1</sup>

- A. Check the baby for hepatitis B markers.
- B. Start Hepatitis B immune globulin (HBIG) and HBV vaccine within 12 hours of delivery.
- C. Start Hepatitis B immune globulin (HBIG) and delay HBV vaccine till age of 6 weeks.
- D. Start with HBV vaccine only within a week after delivery.

1. Routinely, every newborn is given hepatitis B vaccine within 12 hours, and this newborn isn't different. However, we will also add immunoglobulins.