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Physical Education Syllabus
B.A. Second year

		Paper No.	Name of Paper	Marks
Part-A	Theory	1.	OFFICIATING & COACHING	80
		2.	CONCEPT OF HEALTH AND SPORTS REHABILITATION	80
Part-B	Practical			40
Total				200

Out of 5 different sports in B.A.- 1st year any **Two Sports**

B.A. – II

Paper- II (CONCEPT OF HEALTH AND SPORTS REHABILITATION)

Unit – II

- Communicable Diseases
- T.B., Chicken Pox, Malaria, AIDS, Hepatitis
- Non communicable diseases
- Heart Disease, Cancer, Diabetes

Unit-II

Communicable Diseases

T.B., Chicken Pox, Malaria, AIDS, Hepatitis

Non communicable diseases

Heart Disease, Cancer, Diabetes

Communicable Diseases:

A communicable disease is one that is spread from one person to another through contact with blood and bodily fluids, breathing in an air born virus or by being bitten by an insect. In another word communicable or an infectious disease that is contagious and that can be transmitted either directly or indirectly from one source to another by an infectious agent or its toxin.

Communicable, or infectious diseases, are caused by microorganisms such as bacteria, viruses, parasites and fungi that can be spread, directly or indirectly, from one person to another. Some are transmitted through bites from insects while others are caused by ingesting contaminated food or water.

T.B. (Tuberculosis)

T.B. (Tuberculosis) is an infectious disease caused by *Mycobacterium tuberculosis*(MTB) bacteria. **T.B.** bacteria usually attack the lungs, but it can attack any part of the body such as the kidney, spine, and brain.

It is not everyone infected with TB bacteria becomes sick, so as a result, two T. B. related conditions exist:

1. Latent T.B. infection (LTBI)
2. T.B. disease.

If T. B. not treated properly, it can be fatal.

Caused of T.B.(tuberculosis):

Tuberculosis (TB) is caused by a type of bacterium called *Mycobacterium tuberculosis*. It's spread when a person with active TB disease in their lungs coughs or sneezes and someone else inhales the expelled droplets, which contain TB bacteria.



Cond....

How T.B. Spread :

TB bacteria are spread through the air from one person to another. The TB bacteria are put into the air when a person with TB disease of the lungs or throat coughs, speaks, or sings. People nearby may breathe in these bacteria and become infected.

- When a person breathes in TB bacteria, the bacteria can settle in the lungs and begin to grow. From there, they can move through the blood to other parts of the body, such as the kidney, spine, and brain.
- TB disease in the lungs or throat can be infectious. This means that the bacteria can be spread to other people. TB in other parts of the body, such as the kidney or spine, is usually not infectious.
- People with TB disease are most likely to spread it to people they spend time with every day. This includes family members, friends, and co-workers or schoolmates.



Cond....

Type of T.B.

1. T.B. :-

TB bacteria become active if the immune system can't stop them from growing. When TB bacteria are active (multiplying in your body), this is called TB disease. People with TB disease are sick. They may also be able to spread the bacteria to people they spend time with every day.

Many people who have latent TB infection never develop TB disease. Some people develop TB disease soon after becoming infected (within weeks) before their immune system can fight the TB bacteria. Other people may get sick years later when their immune system becomes weak for another reason.

For people whose immune systems are weak, especially those with HIV infection, the risk of developing TB disease is much higher than for people with normal immune systems.



Cond....

2. Latent T.B. :-

TB bacteria can live in the body without making you sick. This is called latent TB infection. In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. People with latent TB infection:

- Have no symptoms
- Don't feel sick
- Can't spread TB bacteria to others
- Usually have a positive TB skin test reaction or positive TB blood test
- May develop TB disease if they do not receive treatment for latent TB infection
- Many people who have latent TB infection never develop TB disease. In these people, the TB bacteria remain inactive for a lifetime without causing disease. But in other people, especially people who have a weak immune system, the bacteria become active, multiply, and cause TB disease.

Cond....

T.B.	Latent T.B.
Has symptoms that may include <ul style="list-style-type: none">*a bad cough that lasts 3 weeks or longer*pain in the chest*coughing up blood or sputum*weakness or fatigue*weight loss*no appetite*chills*fever*sweating at night	Has no symptoms
*Usually feel seek	*Does not feel sick
*May spread TB bacteria to others	*Cannot spread TB bacteria to others
*Usually has a skin test or blood test result indicating TB infection	*Usually has a skin test or blood test result indicating TB infection
*May have an abnormal chest x-ray, or positive sputum smear or culture	*Has a normal chest x-ray and a negative sputum smear
*Needs treatment to treat TB disease	*Needs treatment for latent TB infection to prevent TB disease



T.B. Signs and Symptoms:

Symptoms of T.B. disease depend on where in the body the TB bacteria are growing. TB bacteria usually grow in the lungs. TB disease in the lungs may cause symptoms such as

- a bad cough that lasts 3 weeks or longer
- pain in the chest
- coughing up blood or sputum

Other symptoms of TB disease are

- weakness or fatigue
- weight loss
- no appetite
- chills
- fever
- sweating at night

Symptoms of TB disease in other parts of the body depend on the area affected.

- People who have latent T.B. infection do not feel sick, do not have any symptoms, and cannot spread TB to others.

TB Prevention and Treatment:

Many people who have latent TB infection never develop TB disease. But some people who have latent TB infection are more likely to develop TB disease than others. Those at high risk for developing TB disease include:

- ▶ People with HIV infection
- ▶ People who became infected with TB bacteria in the last 2 years
- ▶ Babies and young children
- ▶ People who inject illegal drugs
- ▶ People who are sick with other diseases that weaken the immune system
- ▶ Elderly people
- ▶ People who were not treated correctly for TB in the past
- ▶ If you have latent TB infection and you are in one of these high-risk groups, you should take medicine to keep from developing TB disease. There are several treatment options for latent TB infection. You and your health care provider must decide which treatment is best for you. If you take your medicine as instructed, it can keep you from developing TB disease. Because there are less bacteria, treatment for latent TB infection is much easier than treatment for TB disease. A person with TB disease has a large amount of TB bacteria in the body. Several drugs are needed to treat TB disease.
- ▶ When TB bacteria become active (multiplying in the body) and the immune system can't stop the bacteria from growing, this is called TB disease. TB disease will make a person sick. People with TB disease may spread the bacteria to people with whom they spend many hours.
- ▶ It is very important that people who have TB disease are treated, finish the medicine, and take the drugs exactly as prescribed. If they stop taking the drugs too soon, they can become sick again; if they do not take the drugs correctly, the TB bacteria that are still alive may become resistant to those drugs. TB that is resistant to drugs is harder and more expensive to treat.



Vaccination:

- BCG (Bacille Calmette-Guérin) is a vaccine for TB (tuberculosis) disease. it is often given to infants and small children in the countries where TB is common. BCG does not always protect people from getting TB.



Chicken Pox

Chickenpox is caused by the contagious varicella virus and mainly affects children but adults can get it, too. The telltale sign of chickenpox is a super-itchy skin rash with red blisters. Over the course of several days, the blisters pop and start to leak. Then they crust and scab over before finally healing. It's easy to spot because of its red, itchy rash, mild fever,

Symptoms appear within 10 to 21 days after you've been in contact with someone who has the virus. Most people recover in about 2 weeks. Chickenpox is generally mild, especially in children. But in severe cases, the blisters can spread to your nose, mouth, eyes, and even genitals.



Who Gets Chickenpox:

- Children under age 2 are most at risk for chickenpox. In fact, 90% of all cases occur in young children. But older kids and adults can get it, too.

Who are more at risk for chickenpox if you:

- Haven't had the virus before
- Haven't been vaccinated for it
- Work in a school or child care facility
- Live with children
- New-borns and infants whose mothers never had chickenpox or the vaccine
- Adolescents and adults
- Pregnant women who haven't had chickenpox
- People who smoke
- People whose immune systems are weakened by medication, such as chemotherapy, or by a disease, such as cancer or HIV
- People who are taking steroid medications for another disease or condition, such as asthma



How Is It Spread:

Chickenpox infection is caused by a virus. It can spread through direct contact with the rash. It can also spread when a person with the chickenpox coughs or sneezes and you inhale the air droplets.

Very easily. You can get the virus by breathing in particles that come from chickenpox blisters or by touching something on which the particles landed.

Chickenpox is most contagious from 1 to 2 days before the rash appears until all the blisters are dried and crusted.

The best way to prevent the spread of the virus is to get the *Varicella vaccine*. Children who've never had chickenpox should get two doses of the vaccine -- the first at 12 to 15 months of age, and the second between ages 4 and 6. People over age 13 who've never been vaccinated should get two doses of the vaccine at least 28 days apart.



Complications:

- Adults have a higher risk for developing complications from chickenpox than children. Those with weakened immune systems due to cancer, HIV, or another condition are also at risk.
- Once you've had chickenpox, the varicella-zoster virus stays in your nerve cells for years. It can “wake up” and become active again years later. It can lead to shingles , a condition that causes painful blisters. Fortunately, there's a vaccine for shingles. Doctors recommend it for adults over 60.
- Bacterial infections of the skin, soft tissues, bones, joints or bloodstream (sepsis)
- Dehydration
- Pneumonia
- Inflammation of the brain (encephalitis)
- Toxic shock syndrome
- Reye's syndrome in children and teenagers who take aspirin during chickenpox
- Death



Prevention:

- ▶ The chickenpox (varicella) vaccine is the best way to prevent chickenpox. Experts from the Centers for Disease Control and Prevention (CDC) estimate that the vaccine provides complete protection from the virus for nearly 98 percent of people who receive both of the recommended doses. When the vaccine doesn't provide complete protection, it significantly lessens the severity of chickenpox.
- ▶ The chickenpox vaccine (Varivax) is recommended for:
- ▶ **Young children.** In the United States, children receive two doses of the varicella vaccine — the first between ages 12 and 15 months and the second between ages 4 and 6 years — as part of the routine childhood vaccination schedule.
- ▶ The vaccine can be combined with the measles, mumps and rubella vaccine, but for some children between the ages of 12 and 23 months, the combination may increase the risk of fever and seizure from the vaccine. Discuss the pros and cons of combining the vaccines with your child's doctor.
- ▶ **Unvaccinated older children.** Children ages 7 to 12 years who haven't been vaccinated should receive two catch-up doses of the varicella vaccine, given at least three months apart. Children age 13 or older who haven't been vaccinated should also receive two catch-up doses of the vaccine, given at least four weeks apart.
- ▶ **Unvaccinated adults who've never had chickenpox and are at high risk of exposure.** This includes health care workers, teachers, child care employees, international travellers, military personnel, adults who live with young children and all women of childbearing age.
- ▶ Adults who've never had chickenpox or been vaccinated usually receive two doses of the vaccine, four to eight weeks apart. If you don't remember whether you've had chickenpox or the vaccine, a blood test can determine your immunity.



Malaria

Malaria is a communicable disease which is transmitted or spread through the bite of an infected female Anopheles mosquito. Infected mosquitos carry the Plasmodium parasite. When this mosquito bites you, the parasite is released into your bloodstream. Once the parasites are inside your body, they travel to the liver, when they mature. After several days, the mature parasite enter the blood stream and begin to infect red blood cells. Within 48 to 72 hours, the parasites inside the red blood cells multiply, causing the infected cells to burst open. The parasite continue to infect red blood cells, resulting in symptoms that occur in cycles last two or three days at a time.

Malaria transmitted by blood, so it can also be transmitted through

- An organ transplant
- Blood transfusion
- Use of share needles or syringes



Symptoms of malaria:

The symptoms of malaria typically develop within 10 days to four weeks following the infection. In some cases, symptoms may not develop for several months. Some malaria parasites can enter the body but will be dormant for long periods of time.

- Common symptoms of malaria:
- Shaking chills that can range from moderate to severe
- High fever
- Profuse sweating
- Headache
- Nausea
- Vomiting
- Abdominal pain
- Diarrhoea
- Anaemia
- Muscle pain



How malaria is diagnosed:

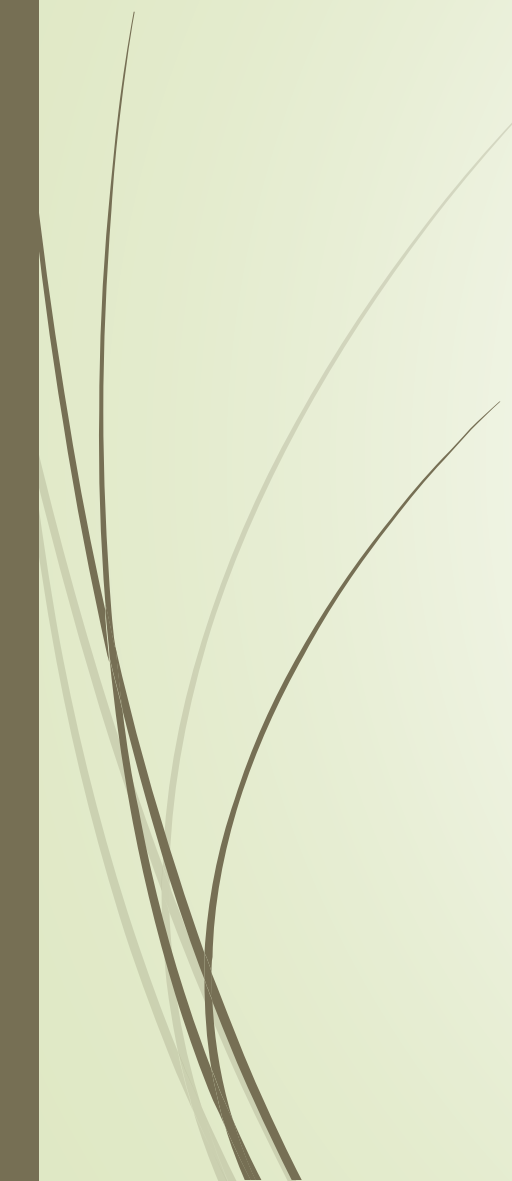
Malaria is diagnosed by blood test. Other symptoms like high fever with chills, Shaking chills that can range from moderate to severe, High fever, Profuse sweating, Headache, Nausea, Vomiting, Abdominal pain or enlarged spleen or liver may be sign of malaria.

If you have symptoms of malaria, doctor may order additional blood tests to conform your diagnosis. These test will show :

- Whether you have malaria
- What type of malaria you have
- If your infection is caused by parasite that's resistant to certain types of drugs
- If disease has cause anaemia
- If the disease has affected your vital organs



Malaria can cause of a number of life-threatening complications. The following may occur:

- Swelling of blood vessels of the brain, or cerebral malaria
 - An accumulation of fluid in the lungs that causes breathing problems, or pulmonary oedema
 - Organ failure of the kidneys, liver, or spleen
 - Anaemia due to destruction of red blood cells
 - Low blood sugar
- 



Treatment of malaria:

The disease should be treated early in its course, before it becomes serious and life threatening. Several good antimalarial drugs are available, and should be taken early on. The most important step is to go to see a doctor if you are sick and are presently in, or have recently been in, an area with malaria, so that the disease is diagnosed and treated right way.

Malaria can be cured with prescription drugs. The type of drugs and length of treatment depends on the types of malaria.

Prevention of Malaria:

Talk to your doctor about long term prevention if you live in as area where malaria is common. Sleep under a mosquito net, covering your skin or bug sprays containing DEET. Keep clean surrounding area.



AIDS

AIDS: Acquired immunodeficiency syndrome(AIDS) is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV). By damaging your immune system, HIV interferes with your body's to fight infection and disease.

In another words AIDS is a set of symptoms (or syndrome) caused by the HIV virus. A person is said to have AIDS when their immune system is too weak to fight off infection, and they develop certain symptoms and illnesses (known as 'opportunistic infections '). This is the last stage of HIV, when the infection is very advanced, and if left untreated will lead to death.

Although there is no cure for HIV, with the right treatment and support, people living with HIV can enjoy long and healthy lives. To do this, it's especially important to commit to taking treatment correctly.



Basic facts about AIDS:

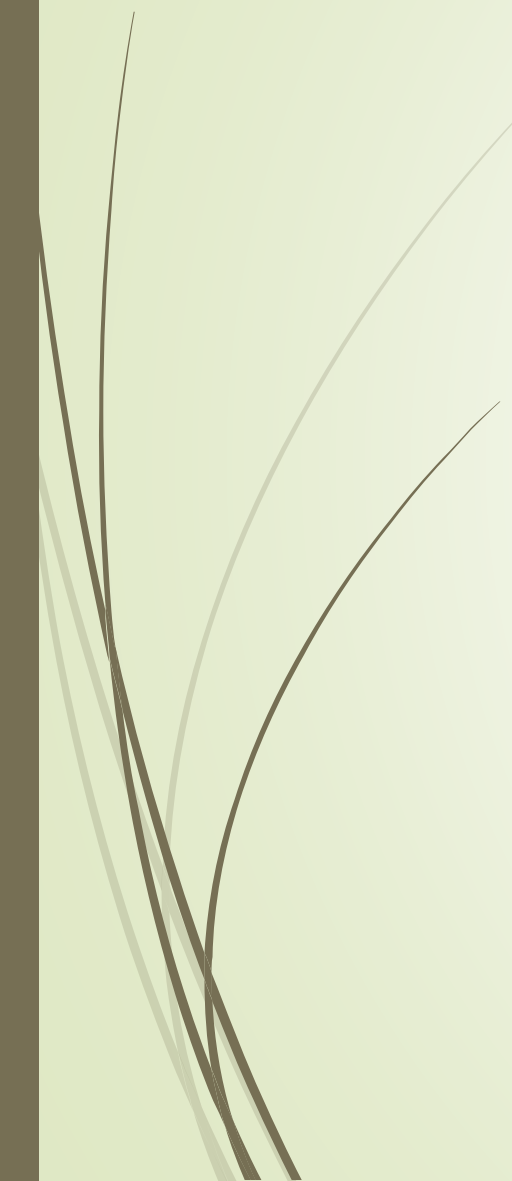
- AIDS stands for acquired immune deficiency syndrome. It's also called advanced HIV infection or late-stage HIV.
- AIDS is a set of symptoms and illnesses that develop when an advanced HIV infection has destroyed the immune system.
- Fewer people develop AIDS now, as more people are on treatment for HIV and staying well.

Symptoms of AIDS :

- Weight loss,
- Fever or night sweats,
- Fatigue
- Recurrent infections.
- Forgetfulness



What is HIV:

- HIV is a virus that attacks cells in the immune system (the body's natural defence against illness). The virus destroys a type of white blood cell in the immune system called a T-helper cell – also referred to as a CD4 cell – and uses these cells to make copies of itself.
 - As HIV destroys more CD4 cells and makes more copies of itself, it gradually weakens a person's immune system. This means that someone who has HIV, and isn't taking treatment for it, will find it harder and harder to fight off infections and diseases.
 - If HIV is left untreated, it may take up to 10 or 15 years for the immune system to be so severely damaged that it can no longer defend itself. However, the rate at which HIV progresses varies depending on age, general health and background.
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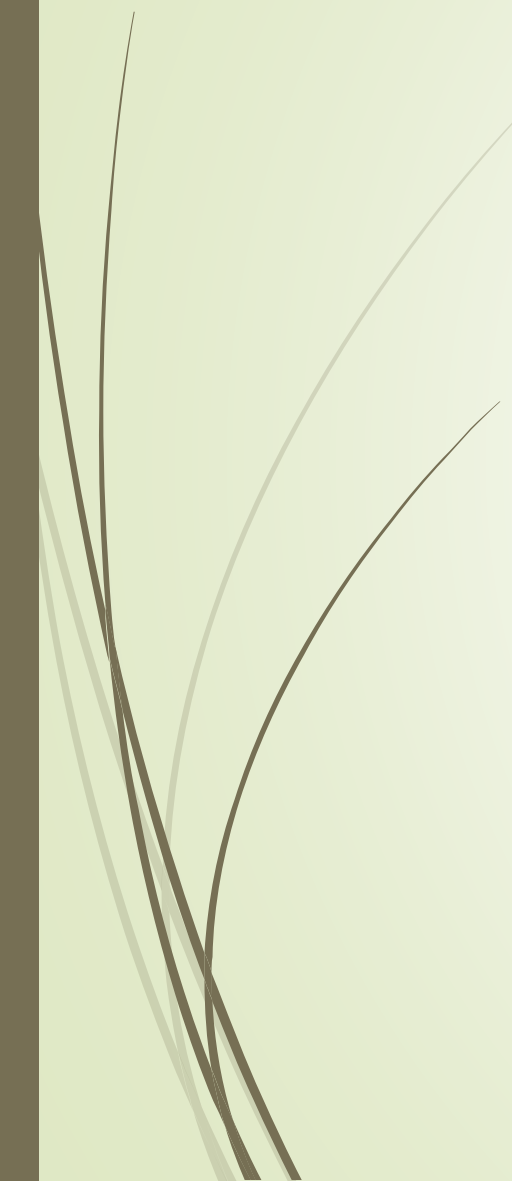


Basic facts about HIV:

- ▶ HIV stands for human immunodeficiency virus.
- ▶ People with HIV can enjoy a long and healthy life by taking antiretroviral treatment (ART) which is effective and available to all.
- ▶ The earlier a person is diagnosed with HIV, the sooner they can start treatment – which means they will enjoy better health in the long term.
- ▶ When taken properly, ART can reduce the level of HIV in the body (the viral load) to such low levels that blood tests cannot detect it (known as ‘undetectable’). Having an undetectable viral load means you cannot pass on HIV.
- ▶ Regularly testing for HIV will help you to know your status, and start treatment if you need it.
- ▶ HIV is found in semen (cum), blood, vaginal and anal fluids, and breastmilk. It is mainly passed on through unprotected sex, sharing needles or syringes and during pregnancy, birth or breastfeeding.
- ▶ HIV can’t be transmitted through sweat, saliva or urine. This means it cannot be passed on through coughing or sneezing, hugging, kissing, or sharing towels or a toilet seat with someone who has the virus.



Treatment of HIV AIDS:

- No cure exists for AIDS, but strict adherence to antiretroviral regimens (ARVs) can dramatically slow the disease's progress as well as prevent secondary infections and complications.
- 



Prevention of HIV:

- Using safety precaution during sex. .
- If you inject drugs, always use a clean needle and syringe, and never share equipment.
- If you're pregnant and living with HIV, the virus could pass into your baby's body during pregnancy, birth or through breastfeeding. Taking HIV treatment correctly during pregnancy and breastfeeding can virtually eliminate this risk.
- Careful during blood transfusion
- Careful during saving blade used at barber shop



Hepatitis

Hepatitis is a communicable disease which is communicated through viruses. It is an inflammatory disease of the liver caused by virus. There are five kinds, and each has different causes. They share one thing in common: Hepatitis infects your liver and causes it to get inflamed. Types of Hepatitis. Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D, Hepatitis E and Hepatitis G. The cause of different types is the type of virus that's causing your hepatitis affects how severe your disease is and how long it lasts.

Hepatitis A. You usually get it when you eat or drink something that's got the virus in it. It's the least risky type because it almost always gets better on its own. It doesn't lead to long-term inflammation of your liver.

Even so, about 20% of people who get hepatitis A get sick enough that they need to go to the hospital. There's a vaccine that can prevent it.

Hepatitis B. This type spreads in several ways. You can get it from sex with someone who's sick or by sharing a needle when using street drugs. The virus also can pass from a mother to her newborn child at birth or soon afterward.

Most adults with hepatitis B get better, but a small percentage can't shake the disease and become carriers, which means they can spread it to others even when their own symptoms disappear.



Contd.....

Hepatitis C. You get this type if you have contact with contaminated blood or needles used to inject illegal drugs or draw tattoos.

Sometimes you don't get any symptoms, or just mild ones. But in some cases hepatitis C leads to cirrhosis, a risky scarring of your liver.

Hepatitis D. Hepatitis D. happens only if you're already infected with hepatitis B. It tends to make that disease more severe. It's spread from mother to child and through sex.

Hepatitis E. Hepatitis E. mainly spreads in Asia, Mexico, India, and Africa. The few cases that show up in the U.S. are usually in people who return from a country where there are outbreaks of the disease.

Hepatitis E. It is newly found hepatitis virus. Which is found developed country.

Like hepatitis A, you usually get it by eating or drinking something that's been contaminated with the virus.



Hepatitis A:

- Hepatitis A is an inflammatory disease of the Liver caused by a virus.
- Hepatitis A viruses cause the disease termed hepatitis A; it is relatively uncommon since a vaccine became available.
- People at higher risk to be infected with hepatitis A virus include those who use illegal drugs, men who have sex with men, people who live with individuals who have the disease, and people who travel to developing countries.
- Although people with the disease usually recover, some may develop complications like liver failure.
- Some young infected individuals may have no symptoms. In other infected individuals, symptoms of hepatitis A may include flue-like symptoms such as tiredness, stomach discomfort, fever, decreased appetite, and diarrhoea; light-coloured stools; more specific symptoms include dark yellow urine, and jaundice (white of eyes and skin become yellowish).
- The cause of hepatitis A is **hepatitis A** virus; it can be transmitted to others by contaminated stools, foods prepared by an infected person, contaminated water, and close personal contact (for example, touching hands, sex) with an infected person, but not by sneezing, cough, hugging (without skin contact) or by being near an infected person.
- Hepatitis A is diagnosed by commonly available blood tests.



Symptoms of Hepatitis A:

- Hepatitis A is a type of liver infection caused by a virus termed hepatitis A (HAV). Symptoms, if they occur, start about 2 to 6 weeks after exposure to HAV. About 80% of adults have symptoms while children seldom show symptoms. Symptoms of hepatitis A may include the following:
- Nausea and/or vomiting
- Fever
- Loss of appetite
- Abdominal pain
- Dark urine
- Clay-colored stools
- Jaundice (yellowish color to skin and/or eyes)
- Joint pain

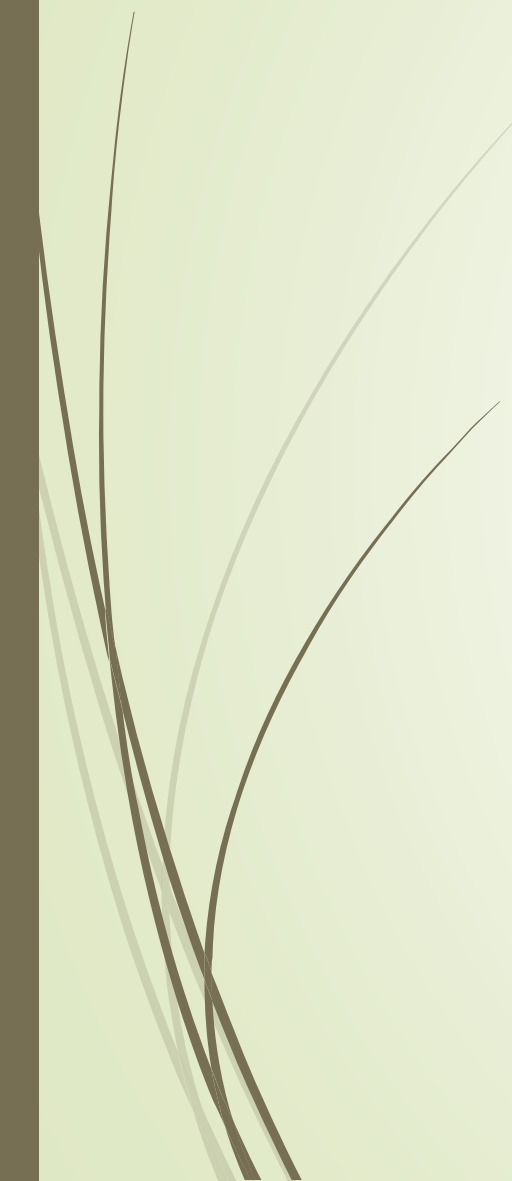


Treatment of Hepatitis:

- Hepatitis A resolves in most patients in a few weeks without treatment; a doctor may prescribe medications to reduce symptoms, while rest, drinking plenty of liquids and eating a healthy diet will also help recovery.
- **Hepatitis A vaccine** can help protect against the disease; two shots are required, but some protection begins even after the first shot; the shots do not protect individuals against other hepatitis-causing viruses (types B, C, and others).
- Hepatitis A immune globulin may protect some people if administered shortly after initial exposure to the virus; research is ongoing to produce other treatments.
- You can reduce the chance of infection with hepatitis A virus by good handwashing, drinking only bottled or clean water and using it for tooth brushing, making ice cubes, and for washing fruits and vegetables.
- A dose of hepatitis A vaccine or hepatitis immune globulin may prevent infection after contact with the virus.
- If you are infected, you can prevent or reduce the chance of spreading the virus to others by good handwashing and avoiding food preparation and serving food to others; you may not qualify to give blood.
- People with and recovering from hepatitis A should eat a balanced, healthy diet and avoid substances like alcohol that may cause increased liver damage.



Prevention of Hepatitis A:

- If you have hepatitis A, you can reduce your chance of spreading the infection by washing your hands with warm, soapy water after using the toilet and before fixing or eating food. While you are sick, avoid close contact with others, and don't prepare food or serve food to others. Also, tell your doctor, dentist, and other health care professionals that you have hepatitis A.
 - Talk with a blood donation centre before you donate blood. If you had hepatitis A when you were younger than 11, you may be able to donate blood. If you had hepatitis A when you were age 11 or older, you should not donate blood.
 - You are most contagious—able to spread the virus to others—during the 2 weeks before you have symptoms. You may be contagious for up to 3 weeks after you develop symptoms. Children are often contagious longer than adults.
 - You can reduce your chance of hepatitis A by washing your hands thoroughly with soap and warm water for 15 to 30 seconds, after using the toilet, after changing diapers, before and after handling or preparing food and When traveling in a developing country, drink bottled water. Use bottled water to brush your teeth, make ice cubes, and wash fruits and vegetables.
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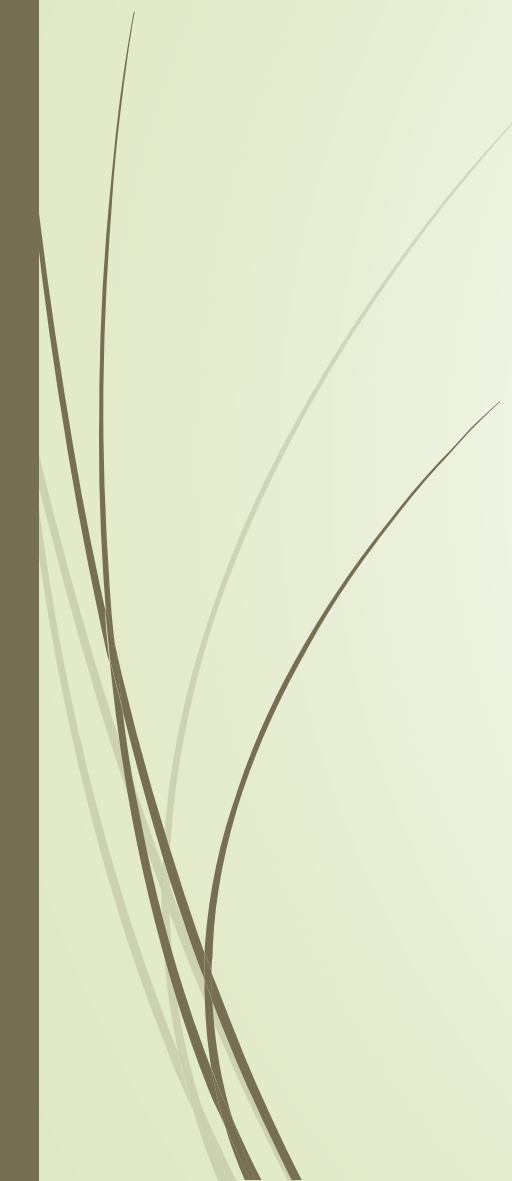


How to protect from Hepatitis A:

- ▶ You can protect yourself from hepatitis A by getting the hepatitis A vaccine. If you have not had the vaccine, you can take steps to reduce your chance of infection.
- ▶ If you have had hepatitis A in the past, you cannot get hepatitis A again. You can still get other types of viral hepatitis though.
- ▶ All children should receive the hepatitis A vaccine between 12 and 23 months of age. People who are more likely to be infected and people with chronic liver disease should also receive the vaccine.
- ▶ Doctors give the hepatitis A vaccine in two shots. You should get the second shot 6 to 12 months after the first shot. You need to get both shots to be fully protected against the virus.
- ▶ If you are traveling to a developing country where hepatitis A is common and you haven't received the hepatitis A vaccine, try to get both shots before you go. If you don't have time to get both shots, get the first shot as soon as you can. Most people gain some protection within 2 weeks of the first shot.



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- ▶ If you think you have come in contact with the hepatitis A virus, see your doctor right away. A dose of the hepatitis A vaccine or a medicine called hepatitis A immune globulin may protect you from getting the infection. Your doctor may recommend a vaccine dose or medicine if you live with, have had sex with, or have had close contact with someone who has hepatitis A or you shared illegal drugs with someone who had hepatitis A or you ate food or drank water possibly containing the hepatitis A virus
 - ▶ You must get the vaccine dose or medicine shortly after coming into contact with the virus to prevent infection.
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Contd....

- Viruses that primarily attack the liver are called hepatitis viruses. There are several types of hepatitis viruses including types A, B, C, D, E, and possibly G. Types A, B, and C are the most common.
- All hepatitis viruses can cause acute hepatitis.
- Viral hepatitis types B and C can cause chronic hepatitis.
- Symptoms of acute viral hepatitis include fatigue, flue like-symptoms, dark urine, light-coloured stools, fever, and jaundice; however, acute viral hepatitis may occur with minimal symptoms that go unrecognized. Rarely, acute viral hepatitis causes fulminant hepatic failure.
- The symptoms of chronic viral hepatitis often are mild and nonspecific, and the diagnosis of chronic hepatitis often is delayed.
- Chronic viral hepatitis often requires treatment in order to prevent progressive liver damage, cirrhosis , liver failure, and Liver cancer.
- Hepatitis infections can be prevented by avoiding exposure to viruses, and through injectable immunoglobulins, or by vaccine; however, vaccines are available for only hepatitis A and B.
- Those at risk for viral hepatitis B and C include workers in the health care profession, people with multiple sexual partners, intravenous drug abusers, and people with haemophilia . Blood transfusion is a rare cause of viral hepatitis.



Contd....

Hepatitis B (HBV)

- HBV hepatitis was at one time referred to as "serum hepatitis," because it was thought that the only way HBV could spread was through blood or serum (the liquid portion of blood) containing the virus. It is now known that HBV can spread by sexual contact, the transfer of blood or serum through shared needles in drug abusers, accidental needle sticks with needles contaminated with infected blood, blood transfusions, haemodialysis , and by infected mothers to their new borns. The infection also can be spread by tattooing, body piercing, and sharing razors and toothbrushes (if there is contamination with infected blood). About 5% to 10% of patients with HBV hepatitis develop chronic HBV infection (infection lasting at least six months and often years to decades) and can infect others as long as they remain infected. Patients with chronic HBV infection also are at risk of developing cirrhosis, liver failure, and liver cancer.



Contd....

Hepatitis C (HCV)

- HCV hepatitis was previously referred to as "non-A, non-B hepatitis," because the causative virus had not been identified, but it was known to be neither HAV nor HBV. HCV usually is spread by shared needles among drug abusers, blood transfusion, haemodialysis, and needle sticks. Approximately 75%-90% of transfusion-associated hepatitis is caused by HCV. Transmission of the virus by sexual contact has been reported, but is considered rare. An estimated 75% to 85% of patients with acute HCV infection develop chronic infection. Patients with chronic HCV infection can continue to infect others. Patients with chronic HCV infection are at risk for developing cirrhosis, liver failure, and liver cancer.



Contd....

Types D, E, and G Hepatitis

- There also are viral hepatitis types D, E, and G. The most important of these at present is the hepatitis D virus (HDV), also known as the delta virus or agent. It is a small virus that requires concomitant infection with HBV to survive. HDV cannot survive on its own because it requires a protein that the HBV makes (the envelope protein, also called surface antigen) to enable it to infect liver cells. The ways in which HDV is spread are by shared needles among drug abusers, contaminated blood, and by sexual contact; essentially the same ways as HBV.
- Individuals who already have chronic HBV infection can acquire HDV infection at the same time as they acquire the HBV infection, or at a later time. Those with chronic hepatitis due to HBV and HDV develop cirrhosis (severe liver scarring) rapidly. Moreover, the combination of HDV and HBV virus infection is very difficult to treat.



Contd....

Hepatitis E virus (HEV) is similar to HAV in terms of disease, and mainly occurs in Asia where it is transmitted by contaminated water.

Hepatitis G virus (HGV, also termed GBV-C) was recently discovered and resembles HCV, but more closely, the flavi viruses. The virus and its effects are under investigation, and its role in causing disease in humans is unclear.

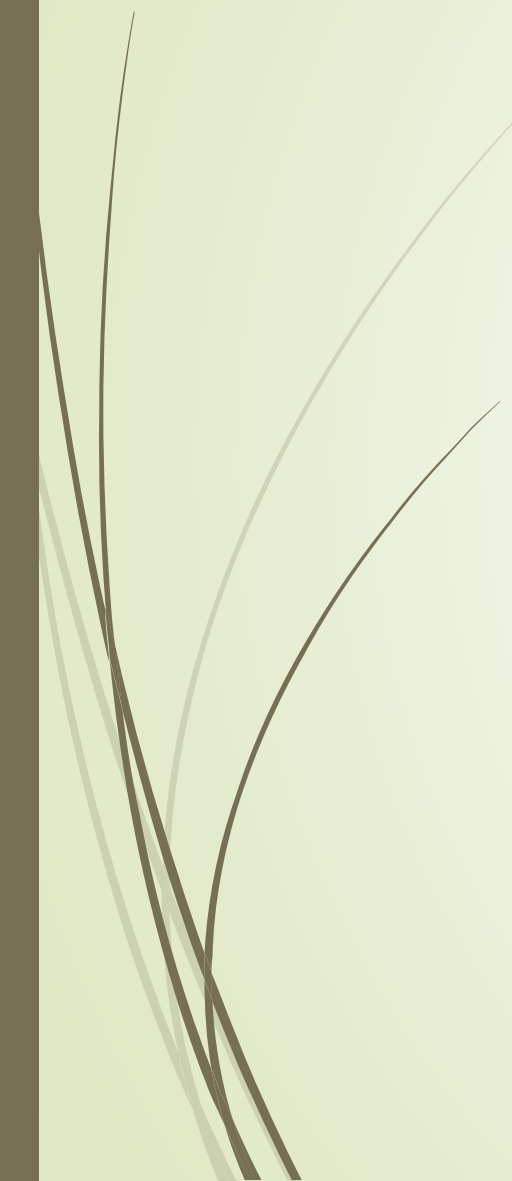
The period of time between exposure to hepatitis and the onset of the illness is called the incubation period. The incubation period varies depending on the specific hepatitis virus. Hepatitis A virus has an incubation period of about 15 to 45 days; Hepatitis B virus from 45 to 160 days, and Hepatitis C virus from about 2 weeks to 6 months.

Many patients infected with HAV, HBV, and HCV have few or no symptoms of illness. For those who do develop symptoms of viral hepatitis, the most common are flu- like symptoms including:



Non communicable diseases:

A non-communicable disease is a disease that is not transmissible directly from one person to another. There are many non communicable diseases like Parkinson's disease, autoimmune diseases, most heart diseases, most cancers, diabetes, chronic kidney disease, osteoarthritis, osteoporosis, Alzheimer's disease, cataracts, and others. Here we have to study only three **Heart Disease, Cancer and Diabetes**.





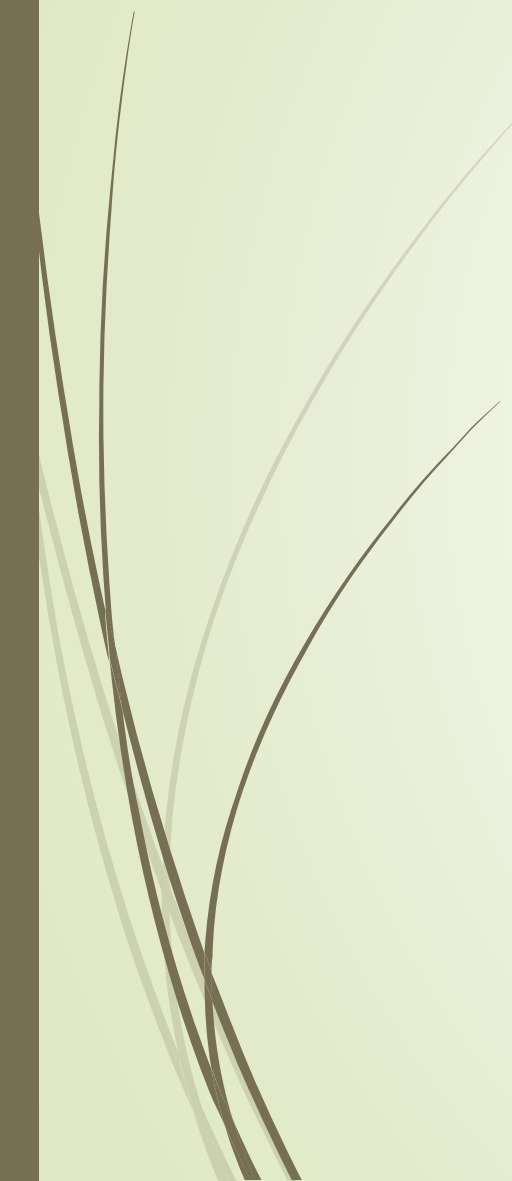
Heart Disease, Cancer, Diabetes

Heart Disease: Heart is a most important organ in human body, which supply pure blood in different part of body through artery and collect impure blood from different part of body through vein. Heart continuous function without rest. It contract and relax that is called heart rate 72 beats per minute in healthy adult person.

Heart disease describes a range of conditions that affect your heart. Heart conditions that include diseased vessels, structural problems and blood clots.



Types of Heart Diseases:

- **1. Coronary heart disease:** Coronary heart disease (CHD), or coronary artery disease, develops when the coronary arteries become too narrow. The coronary arteries are the blood vessels that supply oxygen and blood to the heart. CHD tends to develop when cholesterol builds up on the artery walls, creating plaques.
 - **2. Hypertension (High Blood Pressure) :** A condition in which the force of the blood against the artery walls is too high. Usually hypertension is defined as blood pressure above 140/90, and is considered severe if the pressure is above 180/120. High blood pressure often has no symptoms. Over time, if untreated, it can cause health conditions, such as heart disease and stroke. Eating a healthier diet with less salt, exercising regularly and taking medication can help lower blood pressure.
 - **3. Cardiac arrest:** Cardiac arrest is a sudden loss of blood flow resulting from the failure of the heart to pump effectively. Signs include loss of consciousness and abnormal or absent breathing. Some individuals may experience chest pain, shortness of breath, or nausea before cardiac arrest.
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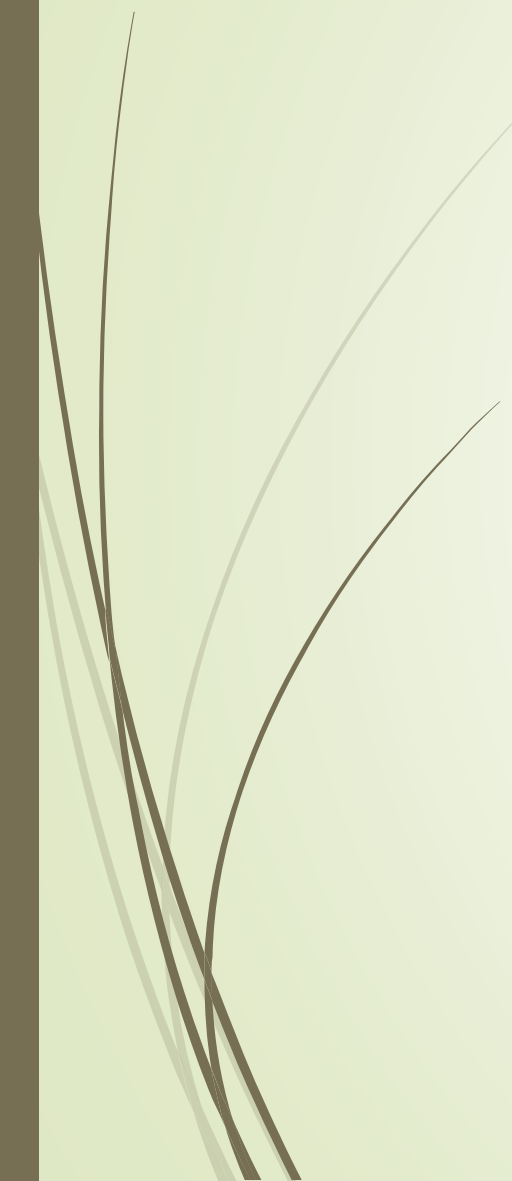


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- **4. Heart failure:** Heart failure sometimes known as congestive heart failure, occurs when your heart muscle doesn't pump blood as well as it should. Certain conditions, such as narrowed arteries in your heart (coronary artery disease) or high blood pressure, gradually leave your heart too weak or stiff to fill and pump efficiently.
- **5. Arrhythmia:** An arrhythmia is a problem with the rate or rhythm of the heartbeat. During an arrhythmia, the heart can beat too fast, too slowly, or with an irregular rhythm. When a heart beats too fast, the condition is called tachycardia. When a heart beats too slowly, the condition is called bradycardia.
- **6. Peripheral artery disease:** Peripheral artery disease or peripheral arterial disease is a common circulatory problem in which narrowed arteries reduce blood flow to your limbs. When you develop peripheral artery disease (PAD), your extremities — usually your legs — don't receive enough blood flow to keep up with demand.



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- **7. Stroke:** A stroke occurs when the blood supply to part of your brain is interrupted or reduced, preventing brain tissue from getting oxygen and nutrients. Brain cells begin to die in minutes. A stroke is a medical emergency, and prompt treatment is crucial. Early action can reduce brain damage and other complications.
 - **9. Congenital heart defects:** Congenital heart defects, problems with the structure of the heart, are the most common type of birth defect.
- 



Treatment of Heart Diseases:

- Treatments vary widely and can include lifestyle changes, medication, surgery, stents, pacemakers and ablation.
- 1. In general treatment of heart diseases **Lifestyle changes**. These include eating a low-fat and low-sodium diet, getting at least 30 minutes of moderate **exercise** on most days of the week, quitting **smoking**, and limiting alcohol intake.
- 2. Medications.
- 3. Surgery
- 4. Pacemakers
- 5. surgery
- 6. Stents

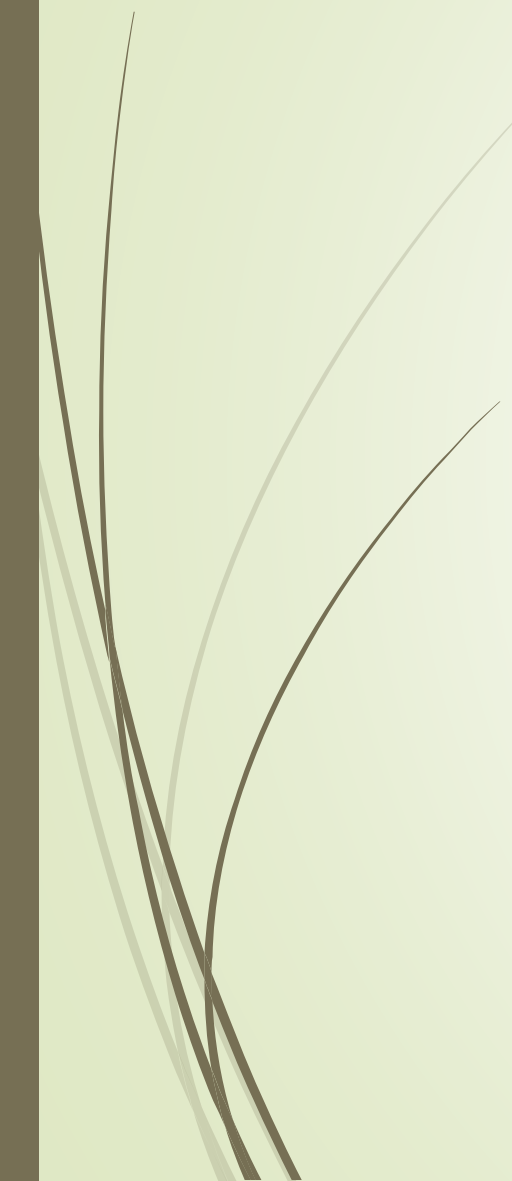


Prevention of Heart Diseases:

- To prevent or Control Heart diseases there are many things you have to do. To reduce your chances of getting heart disease generally you have follow these things:
- Control your blood pressure.
- Keep your cholesterol and triglyceride levels under control.
- Stay at a healthy weight.
- Eat a healthy diet.
- Get regular exercise.
- No alcohol or Limit alcohol.
- Don't smoke.
- Manage stress.



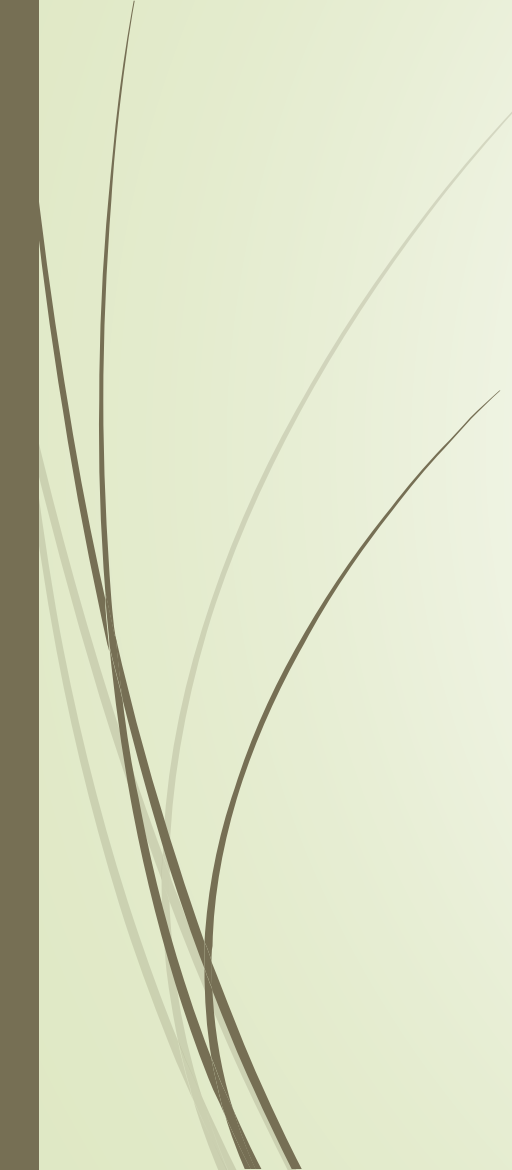
Cancer



Cancer: A disease in which abnormal cells divide uncontrollably and destroy body tissue. Cancer is the name given to a collection of related diseases. In all types of cancer, some of the body's cells begin to divide without stopping and spread into surrounding tissues. Cancer can start almost anywhere in the human body, which is made up of trillions of cells.



Types of Cancer:

- **1. Breast cancer:** Breast cancer is cancer that forms in the cells of the breasts. After skin cancer, breast cancer is the most common cancer diagnosed in women in the United States. Breast cancer can occur in both men and women, but it's far more common in women.
 - **2. Prostate cancer:** Prostate cancer is a form of cancer that develops in the prostate gland. It is the second-leading cause of cancer deaths for men.
 - **3. Basal cell carcinoma:** Basal cell carcinoma is a type of skin cancer that most often develops on areas of skin exposed to the sun. This photograph shows a basal cell carcinoma that affects the skin on the lower eyelid. Basal cell carcinoma is a type of skin cancer.
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- **4. Skin cancer(Melanoma):** Most moles, brown spots and growths on the skin are harmless – but not always. Melanoma occurs when the pigment-producing cells that give colour to the skin become cancerous. Symptoms might include a new, unusual growth or a change in an existing mole. Melanomas can occur anywhere on the body.
- **5. Colon cancer:** Colon cancer is sometimes called colorectal cancer, which is a term that combines colon cancer and rectal cancer, which begins in the rectum. A cancer of the colon or rectum, located at the digestive tract's lower end. Early cases can begin as non-cancerous polyps. These often have no symptoms but can be detected by screening. Colorectal cancer symptoms depend on the size and location of the cancer. Some commonly experienced symptoms include changes in bowel habits, changes in stool consistency, blood in the stool and abdominal discomfort.
- **6. Lung cancer:** Lung cancer is a type of cancer that begins in the lungs. Two major types of lung cancer are non-small cell lung cancer and small cell lung cancer. Causes of lung cancer include smoking, second-hand smoke, exposure to certain toxins and family history.

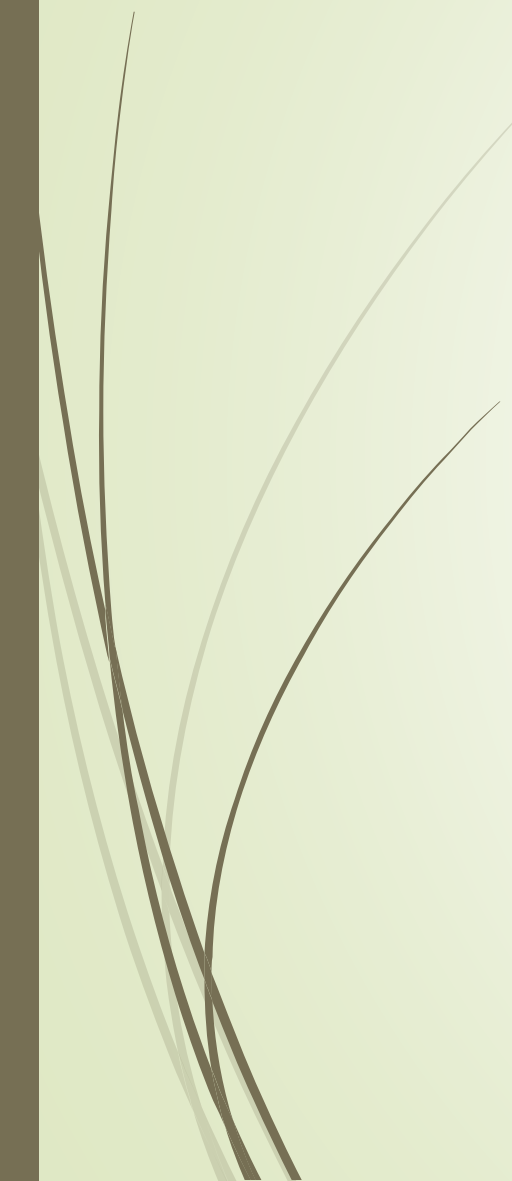


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- **7. Leukaemia:** Leukaemia is a blood cancer caused by a rise in the number of white blood cells in your body. Those white blood cells crowd out the red blood cells and platelets that your body needs to be healthy. The extra white blood cells don't work right Symptoms include a cough (often with blood), chest pain, wheezing and weight loss. These symptoms often don't appear until the cancer is advanced.
- **8. Lymphoma:** Lymphoma is cancer that begins in infection-fighting cells of the immune system, called lymphocytes. These cells are in the lymph nodes, spleen, thymus, bone marrow, and other parts of the body. When you have lymphoma, lymphocytes change and grow out of control.



Treatment of Cancers:

- Surgery.
 - Chemotherapy.
 - Radiation Therapy.
 - Targeted Therapy.
 - Immunotherapy.
 - Stem Cell or Bone Marrow Transplant.
 - Hormone Therapy.
- 



Prevention of Cancer:

Seven Steps to Prevent or reduce the risk of Cancer.

- Don't use tobacco.
- Protect your skin from the sun.
- Eat a healthy diet.
- Maintain a healthy weight and be physically active.
- Practice safe sex and avoid risky behaviors.
- Get immunized (HPV & Hepatitis vaccines)



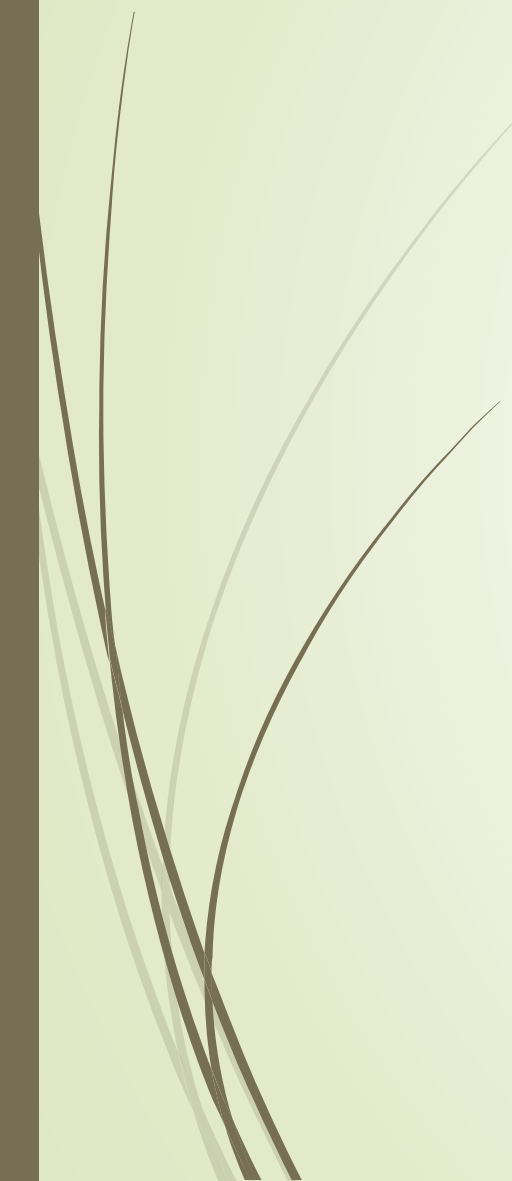
Diabetes

Diabetes:

A group of diseases that result in too much sugar in the blood (high blood glucose). Diabetes also called Diabetes mellitus, is a metabolic disease that causes high blood sugar. The hormone insulin moves sugar from the blood into your cells to be stored or used for energy. With diabetes, your body either doesn't make enough insulin or can't effectively use the insulin it does make.



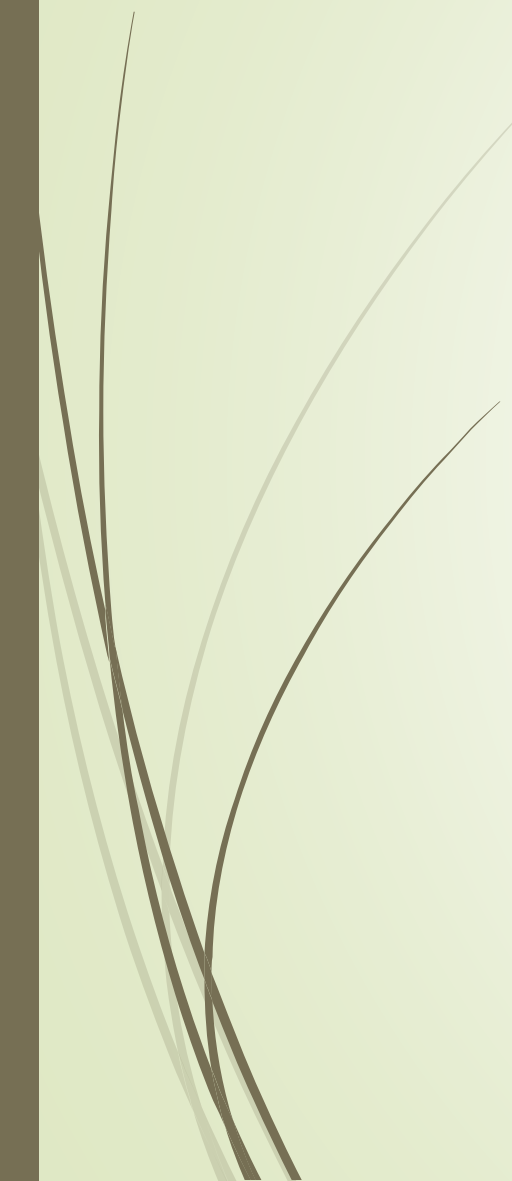
Types of Diabetes:

- ▶ **1. Type 2 diabetes:** A chronic condition that affects the way the body processes blood sugar (glucose). With type 2 diabetes, the body either doesn't produce enough insulin, or it resists insulin. Symptoms include increased thirst, frequent urination, hunger, fatigue and blurred vision. In some cases, there may be no symptoms.
 - ▶ **2. Type 1 diabetes:** A chronic condition in which the pancreas produces little or no insulin. It typically appears in adolescence. Symptoms include increased thirst, frequent urination, hunger, fatigue and blurred vision.
 - ▶ **3. Prediabetes:** A condition in which blood sugar is high, but not high enough to be type 2 diabetes. Without intervention, it's likely to become type 2 diabetes within 10 years. Many people with prediabetes have no symptoms. Progression from prediabetes to type 2 diabetes isn't inevitable. With lifestyle changes, weight loss and medication, it's possible to bring a blood sugar level back to normal.
 - ▶ **4. Gestational diabetes:** A form of high blood sugar affecting pregnant women. Those who develop gestational diabetes are at higher risk of developing type 2 diabetes later in life. In most cases, there are no symptoms. A blood sugar test during pregnancy is used for diagnosis.
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Treatment of Diabetes:

Treatment of Diabetes: Controlling blood sugar through diet, oral medication or insulin is the main treatment. Regular screening for complications is also required.

- 1. Type 2 Diabetes treatment include diet, exercise, medication and insulin therapy.
 - 2. Type 1 Diabetes treatment aim to maintaining normal blood sugar level through regular monitoring, insulin therapy, diet and exercise.
 - 3. Prediabetes treatment, with lifestyle changes, weight loss and medication, it's possible to bring a blood sugar level back to normal.
 - 4. Gestational Diabetes treatment strategies include daily blood sugar monitoring, exercise and monitoring the baby. If blood sugar is too high, medication is required.
- 



Prevention of Diabetes:

These are the ways to prevent, control or avoid getting diabetes.

- Cut Sugar and Refined Carbs From Your Diet.
- Work Out Regularly.
- Drink Water as Your Primary Beverage.
- Lose Weight If You're Overweight or Obese.
- Quit Smoking.
- Follow a Very-Low-Carb Diet.
- Watch Portion Sizes.
- Avoid Sedentary Behaviours.

Source of information Google & www.