

## **BCG**

Bacillus Calmette-Guérin (BCG) is the live attenuated vaccine form of *Mycobacterium bovis* used to prevent tuberculosis and other mycobacterial infections. The vaccine was developed by Calmette and Guérin and was first administered to human beings in 1921. BCG is the only vaccine against tuberculosis. It is the most widely administered vaccine and usually a part of the routine newborn immunization schedule. BCG vaccine also offers protection against non-tuberculous mycobacterial infections like leprosy and Buruli ulcer. It is also used in the treatment of superficial carcinoma of the bladder.

Age : Birth

Disease : Tuberculosis

Dose : Only Dose

## **OPV**

Oral poliovirus vaccines (OPV) are the predominant vaccine used in the fight to eradicate polio. There are different types of oral poliovirus vaccine, which may contain one, a combination of two, or all three different serotypes of attenuated vaccine. Each has their own advantages and disadvantages over the others.

The attenuated poliovirus(es) contained in OPV are able to replicate effectively in the intestine, but around 10,000 times less able to enter the central nervous system than the wild virus. This enables individuals to mount an immune response against the virus. Virtually all countries which have eradicated polio used OPV to interrupt person to person transmission of the virus.

Advantages:

OPVs are all inexpensive (US \$0.12-\$0.18 for countries procuring through UNICEF in 2016).

OPVs are safe and effective and offer long lasting protection against the serotype(s) which they target. OPV stimulates good mucosal immunity, which is why it is so effective at interrupting transmission of the virus.

OPVs are administered orally and do not require health professionals or sterile needle syringes. As such, OPVs are easy to administer in mass vaccination campaigns.

For several weeks after vaccination the vaccine virus replicates in the intestine, is excreted and can be spread to others in close contact. This means that in areas with poor hygiene and sanitation, immunization with OPV can result in 'passive' immunization of people who have not been vaccinated.

Disadvantages:

OPV is extremely safe and effective. However, in extremely rare cases (at a rate of approximately 2 to 4 events per 1 million births [1]) the live attenuated vaccine-virus in OPV

can cause paralysis. In some cases, it is believed that this may be triggered by an immunodeficiency. The extremely low risk of vaccine-associated paralytic poliomyelitis (VAPP) is well accepted by most public health programmes.

Very rarely, when there is insufficient coverage in a community the vaccine-virus may be able to circulate, mutate and, over the course of 12 to 18 months, reacquire neurovirulence. This is known as a circulating vaccine-derived poliovirus.

Age : Birth

Disease : Polio

Dose : 1st Dose

## **Hep B**

The hepatitis B vaccine is used to prevent hepatitis B. It's usually provided in three doses.

The first dose can be taken on a date you choose. The second dose must be taken 1 month later. The third and final dose must be taken 6 months after the first dose.

Some people may need two or four doses of this vaccine.

There is also a newer hepatitis B vaccine that's offered in two doses.

Who should get the HBV vaccine?

The Centres for Disease Control and Prevention (CDC) Trusted Source recommends that all children and adults up to age 59 should receive the hepatitis B vaccine.

Infants should get their first hepatitis B vaccine within 24 hours of birth and complete their doses by age 6 to 18 months.

All unvaccinated children and adults through age 59 should receive the vaccine. Also, unvaccinated adults over the age 60 who are at risk of hepatitis B should get the vaccine.

Adults over age 60 who are not at risk of hepatitis B may also choose to get the shot.

Several types of the HBV vaccine are also safe to administer to pregnant women.

Risk factors Trusted Source for hepatitis B include : people who have had more than one sex partner in the last 6 months, men who have sex with men, people seeking treatment for a sexually transmitted infection, people whose partners or household members have hepatitis B, people who inject drugs, people who live or work in care facilities, people who are on dialysis, travellers to countries where hepatitis B is common, people with chronic liver disease, HIV, or hepatitis C, people who are in jail or prison

People who have diabetes should talk with a healthcare professional about their risk for contracting hepatitis B.

Who should not get the hepatitis B vaccine?

Hepatitis B is a safe vaccine that does not contain a live virus.

However, there are some circumstances in which doctors advise against getting the HBV vaccine.

You should not receive the hepatitis B vaccine if : you've had a serious allergic reaction to a previous dose of the hepatitis B vaccine, you have a history of hypersensitivity to yeast or any other HBV vaccine components

How effective is the vaccine?

Research from 2016 showed that the HBV vaccine results in long-term defense against the virus. Studies indicated protection for at least 30 years among healthy vaccinated individuals who started the hepatitis B vaccination before they were 6 months old.

Another 2021 study, Trusted Source that involved surveying the health records of more than 64,000 Americans found that the vaccine effectively immunized people against hepatitis B and reduced cancer-related deaths.

Hepatitis B vaccine side effects:

The hepatitis B vaccine is considered a very safe and effective vaccine. It's made with an inactivated (dead) virus, so most types of the vaccine are even safe for pregnant people.

The hepatitis B vaccine may cause some mild side effects. The most common symptom is redness, swelling, or soreness where the injection was given. Some people also experience headache or fever. These effects usually last a day or two Trusted Source.

Rarely, some people have a serious and potentially life-threatening allergic reaction to the vaccine. symptoms after vaccination includes: Hives, swelling in your face and throat, dizziness, weakness, difficulty breathing, rapid heartbeat

## **IPV**

Inactivated polio vaccine (IPV) is the only polio vaccine that has been given in the United States since 2000. IPV is given by shot in the leg or arm, depending on the patient's age. Oral polio vaccine (OPV) is not used in the United States but is used in some other countries.

Two types of vaccines protect against polio, or poliomyelitis:

### **1)Inactivated poliovirus vaccine (IPV)**

IPV is the only polio vaccine that has been used in the United States since 2000.

It is given by shot in the leg or arm, depending on the patient's age.

For more information about IPV, see Vaccine Composition, Dosage, and Administration.

### **2)Oral poliovirus vaccine (OPV)**

This vaccine is no longer licensed or available in the United States.

It is still used in many parts of the world.

Children receive doses of the vaccine by drops in the mouth.

## **Hib**

Haemophilus influenzae type b (Hib) is a bacterium that can cause serious illness and death in babies and children younger than 5 years old. The Centers for Disease Control and Prevention (CDC) recommends Hib vaccination for all children younger than 5 years old in the United States. The vaccine is highly effective in preventing Hib disease, including meningitis (inflammation of the lining of the brain and spinal cord). The vaccine is usually given in multiple shots at the following ages: 2 months, 4 months, 6 months (if needed; depends on brand), and 12 through 15 months. The Food and Drug Administration (FDA) has licensed 5 Hib vaccines for use in the United States. Three of the vaccines protect against Hib disease only, while 2 vaccines include protection against other diseases.

The Hib vaccine is not recommended for babies younger than 6 weeks old and people who have had a life-threatening allergic reaction or have a severe allergy to any part of the vaccine. If you have any questions about Hib vaccines, please consult your doctor.

## **Pneumococcal**

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The Hib vaccine is not recommended for babies younger than 6 weeks old and people who have had a life-threatening allergic reaction or have a severe allergy to any part of the vaccine. If you have any questions about Hib vaccines, please consult your doctor.

## **MMR**

The MMR vaccine is a vaccine that protects against measles, mumps, and rubella. The Centers for Disease Control and Prevention (CDC) recommends that children receive two doses of the MMR vaccine, with the first dose given between 12 and 15 months of age and

the second dose given between 4 and 6 years of age. Adults who have not been vaccinated or have not had the diseases should also receive the vaccine.

The MMR vaccine is highly effective at preventing measles, mumps, and rubella, and the complications caused by these diseases . The vaccine is safe and has been used for many years in the United States.

The MMR vaccine is not recommended for people who have had a life-threatening allergic reaction or have a severe allergy to any part of the vaccine. If you have any questions about the MMR vaccine, please consult your doctor.

### **Typhoid conjugate vaccine**

Typhoid conjugate vaccine is a vaccine that protects against typhoid fever caused by *Salmonella typhi*. The vaccine is highly effective and can be administered in a single 0.5 mL intramuscular dose to infants, children, adolescents, and adults aged  $\geq 6$  months to  $\leq 45$  years. The vaccine is manufactured using *Citrobacter freundii* sensu lato 3056 (Vi) and is conjugated to CRM197 as a carrier protein. The conjugation of Vi polysaccharide antigen to carrier protein transforms the antigen into a T-cell dependent antigen, capable of inducing an immunological memory and an adequate immune response even in infants and younger children less than 2 years. The vaccine meets requirements of I.P. and WHO.

The vaccine is not recommended for people who have had a life-threatening allergic reaction or have a severe allergy to any part of the vaccine. The vaccine is also contraindicated for pregnant and lactating women, and in case of fever and severe infection. If you have any questions about the Typhoid conjugate vaccine, please consult your doctor.

### **Hep A1**

Hepatitis A vaccine is a vaccine that prevents hepatitis A, a serious liver disease caused by the hepatitis A virus (HAV) . The vaccine is highly effective and is recommended for all children aged 12 through 23 months, and for adults who have not been vaccinated or have not had the disease. The vaccine is given in two doses, with the second dose given at least 6 months after the first dose .

The vaccine is safe and has been used for many years in the United States <sup>1</sup>. Side effects are usually mild and go away on their own.

The Hepatitis A vaccine is not recommended for people who have had a life-threatening allergic reaction or have a severe allergy to any part of the vaccine. If you have any questions about the Hepatitis A vaccine, please consult your doctor.

## **DISEASES**

### **TUBERCULOSIS(TB)**

Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*, primarily affecting the lungs but potentially impacting other organs. Spread through the air when an infected person coughs or sneezes, TB presents symptoms such as a persistent cough, chest pain, weight loss, fatigue, and fever. Diagnosis involves a combination of medical history, physical examination, chest X-rays, and laboratory tests. Treatment requires a prolonged course of antibiotics, and completion of the entire regimen is crucial to prevent drug-resistant strains. Prevention efforts include the Bacillus Calmette-Guérin (BCG) vaccine and the prompt identification and treatment of infected individuals. Drug-resistant TB poses a significant challenge, and TB's global impact remains substantial, with ongoing efforts to control and eliminate the disease. TB-HIV co-infection is a notable concern, and a comprehensive approach involves addressing both conditions.

### **POLIO**

Polio, or poliomyelitis, is a highly contagious viral disease caused by the poliovirus. It primarily targets the nervous system and can lead to paralysis, particularly in the legs. Spread through the fecal-oral route, commonly via contaminated water or food, poliovirus infections are often asymptomatic or result in mild flu-like symptoms. However, in a small percentage of cases, the virus attacks the nervous system, potentially causing severe paralysis. Vaccination has played a pivotal role in combating polio, with vaccines like the inactivated polio vaccine (IPV) and oral polio vaccine (OPV) contributing to global eradication efforts. The Global Polio Eradication Initiative (GPEI) has coordinated international endeavors to eliminate polio, resulting in significant progress and the near-eradication of the disease in many regions. Challenges, such as vaccine access issues and community resistance, persist, but ongoing surveillance and vaccination campaigns are crucial for maintaining progress and ultimately achieving a polio-free world.

### **HEPATITIS B**

Hepatitis B, a viral infection affecting the liver, poses a significant global health threat. Transmitted through contact with infected blood or bodily fluids, it can lead to both acute and chronic diseases. While some individuals may remain asymptomatic, others may experience symptoms such as fatigue, jaundice, abdominal pain, nausea, and vomiting. Chronic Hepatitis B infections can result in severe liver damage, including cirrhosis and liver cancer. Prevention is a cornerstone in the fight against Hepatitis B, and vaccination plays a pivotal role, with routine immunization recommended for children and at-risk adults. Safe

injection practices, practicing safe sex, and avoiding the sharing of personal items are additional preventive measures. Screening and early diagnosis are essential for managing the infection and preventing complications. Antiviral medications exist for the treatment of chronic Hepatitis B, tailored to factors like the extent of liver damage and viral load. Public health strategies focus on raising awareness, expanding vaccination efforts, and improving access to testing and treatment to address the global impact of Hepatitis B effectively.

## **DIPHTHERIA**

Diphtheria, caused by *Corynebacterium diphtheriae*, is a bacterial infection primarily affecting the respiratory system, marked by the formation of a thick grayish coating in the throat and nasal passages. Highly contagious, it spreads through respiratory droplets or direct contact, and the produced toxin can lead to severe complications affecting the heart, kidneys, and nerves. Early symptoms mimic a common cold, progressing to respiratory distress and difficulty swallowing. Vaccination with the diphtheria, tetanus, and pertussis (DTP) vaccine is a crucial preventive measure, with booster doses recommended throughout life. Prompt administration of antitoxin and antibiotics is essential for treatment, along with supportive care. While global vaccination efforts have significantly reduced diphtheria incidence, it persists in regions with low immunization coverage. Prevention strategies encompass vaccination programs, case isolation, and contact tracing. Monitoring antimicrobial resistance is critical for effective management. Diphtheria remains a public health concern, underscoring the ongoing importance of comprehensive preventive measures and timely interventions.

## **WHOOPING COUGH**

Whooping cough, or pertussis, is a highly contagious respiratory infection caused by *Bordetella pertussis* bacteria. Characterized by severe coughing fits and a distinctive "whooping" sound during breath intake, it poses a particular threat to infants and young children. Transmission occurs through respiratory droplets, making it easily spread from person to person. Early symptoms resemble a common cold but escalate to intense coughing fits. Complications, especially in infants, can include pneumonia and seizures. Vaccination, primarily through the diphtheria, tetanus, and pertussis (DTP/Tdap) vaccines, is crucial for prevention, with booster doses recommended for adolescents and adults. Antibiotics can reduce symptoms and transmission if administered early. High vaccination coverage contributes to herd immunity, protecting those vulnerable to severe outcomes. Despite vaccination efforts, periodic resurgences highlight the importance of ongoing awareness and preventive measures, including respiratory hygiene and staying home when ill. Vigilance in diagnosis, treatment, and public health strategies remains essential in managing and reducing the impact of whooping cough.

## **TETANUS**

Tetanus, a severe bacterial infection caused by *Clostridium tetani*, is characterized by muscle stiffness and spasms, with symptoms often initiating in the jaw and neck muscles, a condition known as lockjaw. Unlike contagious diseases, tetanus is contracted through exposure to the bacterium present in soil, dust, or animal feces, typically entering the body through cuts or wounds. Early signs include muscle stiffness and difficulty swallowing, progressing to widespread muscle spasms. Puncture wounds and insufficient wound care elevate the risk, emphasizing the importance of proper immunization with the tetanus toxoid vaccine. Booster doses, commonly administered in combination with diphtheria and pertussis vaccines (Tdap), are recommended every 10 years for adults to maintain immunity. Treatment involves wound care, tetanus immune globulin (TIG) administration, and supportive care. Tetanus is more prevalent in regions with limited healthcare access, and global initiatives aim to eliminate maternal and neonatal tetanus through increased vaccination coverage and improved maternal healthcare practices. Tetanus underscores the significance of preventive measures, vaccination adherence, and ongoing global health efforts to mitigate the impact of this potentially life-threatening infection.

## **Haemophilus influenzae type b**

*Haemophilus influenzae* type b (Hib) is a bacterium that causes a life-threatening infection that can lead to serious illness, especially in children.

Conditions such as meningitis (inflammation of the membranes covering the brain), epiglottitis (inflammation of the flap and the top of the windpipe) and pneumonia can develop very quickly and may require urgent medical attention.

The disease caused by Hib is spread mainly through coughing or sneezing, or contact with secretions from the nose and throat of an infected person.

Despite its name, Hib is a bacterium and is not a form of influenza (flu), which is caused by a virus.

Before the introduction of Hib immunisation in 1993, Hib was a common cause of life-threatening infection in children under five.

Routine immunisation has been highly effective in reducing the incidence of this disease in Australia. Children under five years of age and people at increased risk of developing Hib infection should still be immunised.

Seek urgent medical attention if you suspect your child has symptoms including:

severe headache, stiff neck, convulsions (fits) or seizures, severe drowsiness, difficulty waking up, loss of consciousness, difficulty with breathing.



If your child is not immunised and contracts Hib, they could develop:

meningitis– an infection of the membrane covering the brain (signs include fever, stiff neck, drowsiness, irritability and refusal of food)

epiglottitis – inflammation of the flap at the top of the windpipe (epiglottis), which can block a child's breathing (signs include severe breathing difficulties, fever, restlessness and irritability)

pneumonia – lung inflammation (symptoms include fever, cough, chest pains and breathing problems, such as shortness of breath)

septic arthritis – joint infection (symptoms include joint pain, swelling and reduced mobility of the joint)

cellulitis – infection of the tissue under the skin, usually on the face.

These complications can develop quickly and, if left untreated, your child could die in a short period of time.

Hib bacteria live in the nose and throat of most healthy people without causing illness.

There are several types of *Haemophilus influenzae* bacteria and infection with the type b (Hib) bacterium can cause a range of conditions in vulnerable people, some of which are medical emergencies.

Disease caused by Hib is spread mainly through person-to-person contact with infected droplets (coughing or sneezing) or secretions from an infected person's nose and throat.

The usual time between contact with the bacteria and the development of the illness is around two to four days. The person with Hib is infectious for as long as the bacteria stays in the nose or throat. Generally 24 to 48 hours of appropriate antibiotic treatment is required to clear the infection.

If your child has a Hib infection, they should be kept away from childcare or school until a course of appropriate antibiotics is completed and your doctor has confirmed that they are no longer infectious.

In some circumstances, people who live with a person with Hib infection may require preventative antibiotics. The Department of Health will guide healthcare professionals if this is the case.

## **Rotavirus**

Rotavirus is a very contagious virus that causes diarrhea. Before the development of a vaccine, most children had been infected with the virus at least once by age 5.

Although rotavirus infections are unpleasant, you can usually treat this infection at home with extra fluids to prevent dehydration. Occasionally, severe dehydration requires receiving fluids through a vein (intravenously) in the hospital.

Good hygiene, such as washing your hands regularly, is important. But vaccination is the best way to prevent rotavirus infection.

A rotavirus infection usually starts within two days of exposure to the virus. Early symptoms are a fever and vomiting, followed by three to seven days of watery diarrhea. The infection can cause abdominal pain as well.

In healthy adults, a rotavirus infection may cause only mild signs and symptoms or none at all. Rotavirus is present in an infected person's stool two days before symptoms appear and for up to 10 days after symptoms lessen. The virus spreads easily through hand-to-mouth contact throughout this time — even if the infected person doesn't have symptoms.

If you have rotavirus and you don't wash your hands after using the toilet — or your child has rotavirus and you don't wash your hands after changing your child's diaper or helping your child use the toilet — the virus can spread to anything you touch, including food, toys and utensils. If another person touches your unwashed hands or a contaminated object and then touches his or her mouth, an infection may follow. The virus can remain infectious on surfaces that haven't been disinfected for weeks or months.

It's possible to be infected with rotavirus more than once, even if you've been vaccinated. However, repeat infections are typically less severe.

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## **Pneumonia**

Pneumonia is an infection that inflames the air sacs in one or both lungs. The air sacs may fill with fluid or pus (purulent material), causing cough with phlegm or pus, fever, chills, and difficulty breathing. A variety of organisms, including bacteria, viruses and fungi, can cause

pneumonia. Pneumonia can range in seriousness from mild to life-threatening. It is most serious for infants and young children, people older than age 65, and people with health problems or weakened immune systems. The signs and symptoms of pneumonia vary from mild to severe, depending on factors such as the type of germ causing the infection, and your age and overall health. Mild signs and symptoms often are similar to those of a cold or flu, but they last longer.

Signs and symptoms of pneumonia may include: Chest pain when you breathe or cough, Confusion or changes in mental awareness (in adults age 65 and older), Cough, which may produce phlegm, Fatigue, Fever, sweating and shaking chills, Lower than normal body temperature (in adults older than age 65 and people with weak immune systems), Nausea, vomiting or diarrhea, Shortness of breath

Newborns and infants may not show any sign of the infection. Or they may vomit, have a fever and cough, appear restless or tired and without energy, or have difficulty breathing and eating.

To help prevent pneumonia:

Get vaccinated. Vaccines are available to prevent some types of pneumonia and the flu. Talk with your doctor about getting these shots. The vaccination guidelines have changed over time so make sure to review your vaccination status with your doctor even if you recall previously receiving a pneumonia vaccine.

Make sure children get vaccinated. Doctors recommend a different pneumonia vaccine for children younger than age 2 and for children ages 2 to 5 years who are at particular risk of pneumococcal disease. Children who attend a group child care center should also get the vaccine. Doctors also recommend flu shots for children older than 6 months.

Practice good hygiene. To protect yourself against respiratory infections that sometimes lead to pneumonia, wash your hands regularly or use an alcohol-based hand sanitizer.

Don't smoke. Smoking damages your lungs' natural defenses against respiratory infections.

Keep your immune system strong. Get enough sleep, exercise regularly and eat a healthy diet.

## **Meningitis**

Meningitis is an infection and inflammation of the fluid and membranes surrounding the brain and spinal cord. These membranes are called meninges. The inflammation from meningitis typically triggers symptoms such as headache, fever and a stiff neck. Most cases of meningitis in the United States are caused by a viral infection. But bacteria, parasites and fungi also can cause it. Some cases of meningitis improve without treatment in a few weeks. Others can cause death and require emergency antibiotic treatment.

Seek immediate medical care if you suspect that you or someone in your family has meningitis. Early treatment of bacterial meningitis can prevent serious complications.

Early meningitis symptoms may be similar to the flu. Symptoms may develop over several hours or over a few days.

Possible symptoms in anyone older than the age of 2 years include: Sudden high fever, Stiff neck, Severe headache, Nausea or vomiting, Confusion or trouble concentrating, Seizures, Sleepiness or trouble waking, Sensitivity to light, No appetite or thirst, Skin rash in some cases, such as in meningococcal meningitis.

Signs in newborns

Newborns and infants may show these signs: High fever, Constant crying, Being very sleepy or irritable, Trouble waking from sleep, Being inactive or sluggish, Not waking to eat, Poor feeding, Vomiting, A bulge in the soft spot on top of the baby's head, Stiffness in the body and neck.

These steps can help prevent meningitis:

Wash your hands. Careful hand-washing helps prevent the spread of germs. Teach children to wash their hands often, especially before eating and after using the toilet, spending time in a crowded public place or petting animals. Show them how to thoroughly wash and rinse their hands.

Practice good hygiene. Don't share drinks, foods, straws, eating utensils, lip balms or toothbrushes with anyone else. Teach children and teens to avoid sharing these items too.

Stay healthy. Maintain your immune system by getting enough rest, exercising regularly, and eating a healthy diet with plenty of fresh fruits, vegetables and whole grains.

Cover your mouth. When you need to cough or sneeze, be sure to cover your mouth and nose.

If you're pregnant, take care with food. Reduce your risk of a listeria infection by cooking meat, including hot dogs and deli meat, to 165 degrees Fahrenheit (74 degrees Celsius). Avoid cheeses made from unpasteurized milk. Choose cheeses that are clearly labeled as being made with pasteurized milk.

## **Sepsis**

Sepsis is a serious condition in which the body responds improperly to an infection. The infection-fighting processes turn on the body, causing the organs to work poorly. Sepsis may progress to septic shock. This is a dramatic drop in blood pressure that can damage the lungs, kidneys, liver and other organs. When the damage is severe, it can lead to death.

Early treatment of sepsis improves chances for survival,

Symptoms of sepsis:

Symptoms of sepsis may include: Change in mental status, Fast, shallow breathing, Sweating for no clear reason, Feeling lightheaded, Shivering, Symptoms specific to the type of infection, such as painful urination from a urinary tract infection or worsening cough from pneumonia.

Any type of infection can lead to sepsis. This includes bacterial, viral or fungal infections. Those that more commonly cause sepsis include infections of: Lungs, such as pneumonia, Kidney, bladder and other parts of the urinary system, Digestive system, Bloodstream, Catheter sites, Wounds or burns.

## **Measles**

Measles is a highly contagious viral disease that can cause serious complications and even death, especially in children. The symptoms of measles usually appear 10-14 days after exposure to the virus and include fever, cough, runny nose, inflamed eyes, and a rash all over the body . Measles can cause complications such as ear infections, pneumonia, encephalitis, and blindness .The virus that causes measles is spread through the air when an infected person breathes, coughs, or sneezes. The best way to prevent measles is to get vaccinated with two doses of the measles vaccine . Measles vaccination averted 56 million deaths between 2000 and 2021 .

There is no specific treatment for measles, but supportive care can help relieve symptoms and prevent complications. This may include rest, fluids, and medication to reduce fever . If you or someone you know has been exposed to measles, it is important to contact a healthcare provider immediately to discuss vaccination and other preventive measures .

## **Mumps**

Mumps is a viral infection that affects the salivary glands, causing swelling in one or both of these glands. The symptoms of mumps include : Swelling in one or both parotid glands, leading to puffed-out cheeks, Pain in the swollen area, Fever, Headache, Muscle ache, Loss of appetite, Weakness and/or fatigue, Pain during chewing or swallowing .

Mumps is caused by a viral infection of the parotid gland, one of the salivary glands. The virus spreads by person-to-person contact through Saliva, Droplets released during sneezing or coughing, Nasal secretions, Sharing utensils with an infected person, Touching contaminated surfaces .

Complications from mumps are rare, but serious if not treated. They include : Swelling and inflammation of the organs, including : Testicles (orchitis), Pancreas (pancreatitis), Ovaries (oophoritis), Breasts (mastitis), Brain (encephalitis), Membrane around the brain and spinal cord (meningitis), Hearing loss, Miscarriage during pregnancy . Getting a mumps vaccination is the best way to prevent it. Avoid contact with infected persons, do not share utensils, cups, or water bottles with infected persons, and wash your hands regularly .

There is no specific treatment for mumps, but supportive care can help relieve symptoms and prevent complications. This may include rest, fluids, and medication to reduce fever . If you or someone you know has been exposed to mumps, it is important to contact a healthcare provider immediately to discuss vaccination and other preventive measures .

## **Rubella**

Rubella, also known as German measles, is a contagious viral infection caused by the rubella virus. The symptoms of rubella include a rash that usually starts on the face and moves down the rest of your body, low fever, cough, sore throat, runny nose, headache, pink eye, joint pain, generally feeling unwell (malaise), and swollen lymph nodes . Rubella can cause serious illness in newborns of people who had rubella while pregnant, leading to hearing and vision loss, heart defects, and other serious conditions .

Rubella is spread through direct contact with the saliva or mucus of an infected person, through air by respiratory droplets (from coughing or sneezing), or from pregnant woman to unborn baby . The best way to prevent rubella is to get vaccinated with two doses of the MMR (measles, mumps, and rubella) vaccine . Two doses of the vaccine are considered enough to provide lifelong immunity against rubella .

There is no specific treatment for rubella, but supportive care can help relieve symptoms and prevent complications. This may include rest, fluids, and medication to reduce fever . Pregnant women may be treated with antibodies called hyperimmune globulin that can fight off the virus .

## **Typhoid**

Typhoid is a bacterial infection caused by the bacterium *Salmonella typhi*. It spreads through contaminated food and water that are contaminated with infected faecal matter. Symptoms of typhoid include high fever, headache, stomach pain, constipation or diarrhoea, and a rash . Typhoid can be fatal if left untreated .

The best way to prevent typhoid is to avoid street food, drink filtered water only, maintain hygiene, increase fluid intake, always wash your hands, and get vaccinated if planning to visit typhoid-prone areas . The only treatment for typhoid is antibiotics. If typhoid fever is diagnosed early, the infection is likely to be mild and can usually be treated at home with a 7- to 14-day course of antibiotic tablets. More severe typhoid fever usually requires admission to the hospital so antibiotic injections can be given .

If you or someone you know is exhibiting symptoms of typhoid, seek medical attention immediately.

## **Hepatitis a**

Hepatitis A is a viral infection that causes inflammation of the liver. It is very contagious and transmitted through food or water containing the virus. Symptoms of hepatitis A include flu-like symptoms (fever, fatigue, body aches), abdominal pain (especially in the right upper quadrant), light-coloured stool, dark urine, loss of appetite, unexplained weight loss, jaundice (yellowing of skin or eyes) . Children under the age of 6 typically show no symptoms when they contract the virus. Older children, teens, and adults usually develop mild symptoms .

People develop a hepatitis A infection after contracting HAV. This virus is typically transmitted by ingesting food or liquid contaminated with faecal matter that contains the virus. Once transmitted, the virus spreads through the bloodstream to the liver, where it

causes inflammation and swelling. In addition to transmission from eating food or drinking water containing HAV, the virus can also be spread by close personal contact with someone who already has it .

The best way to avoid getting hepatitis A is by getting the hepatitis A vaccine. This vaccine is given in a series of two injections, 6 to 12 months apart. If you're traveling to a country where hepatitis A transmission is more common, get your vaccination at least 2 weeks before traveling. It usually takes 2 weeks after the first injection for your body to start building immunity to hepatitis A . Other preventive measures include avoiding direct contact with an infected person, avoiding sexual contact with the infected person, washing your hands regularly, especially after using the toilet and before cooking or eating food, and not letting an infected person prepare food as the infection can spread easily .

There is no specific treatment for hepatitis A. Your body will clear the hepatitis A virus on its own. In most cases of hepatitis, A, the liver heals within six months with no lasting damage. Hepatitis A treatment usually focuses on keeping comfortable and controlling symptoms. This may include rest, fluids, and medication to reduce fever .

If you or someone you know is exhibiting symptoms of hepatitis A, seek medical attention immediately.