



# QUESTIONS

# Q & A

FOR PARENTS ANSWERS

## BCG VACCINE

ACVIP : 2020 - 2021

### What is Tuberculosis?

- ✦ Tuberculosis (TB) occurs most commonly in children less than 5 years. While TB involving the lungs is the predominant form of TB in children, TB involving other organs (extra pulmonary TB) is also common. Spread of the TB germs through the blood to other vital organs e.g. brain, lungs, can be life-threatening.
- ✦ India accounts for 26% of TB cases in the world. TB of the brain, which is the most dangerous form of childhood TB, has the highest incidence in children <5 years of age.
- ✦ BCG vaccine is very effective in preventing the serious forms of TB in children.

### What is the BCG vaccine, who should receive it and what is its schedule?

BCG stands for (Bacille Calmette Guerin vaccine), a vaccine made from weakened TB germs.

- ✦ It is given to all newborns (with very few exceptions) on the left upper arm within the layers of the skin (intra-dermal).
- ✦ The vaccine should to be given to newborn babies at discharge from the hospital or within 2 weeks after birth. If missed in the neonatal period, it can be given up to 5 years of age.
- ✦ There is no need for a second dose .

### What are the series of changes that occur following BCG vaccination?

- ✦ After vaccination, a series of changes occur.
- ✦ The injected site usually shows no visible change for several days. Subsequently, a small, elevated spot may appear at the site of the injection, which turns into a blister, which sometimes oozes fluid before becoming a crusty scab, followed by formation of a small scar at the site of the vaccination. The ulcer at vaccination site may persist for a few weeks before formation of the final scar.
- ✦ The entire process may take 6 weeks to 3 months.
- ✦ No treatment is required for this condition.
- ✦ The area should be left uncovered.

### How safe is the BCG vaccine?

- ✦ BCG is a safe vaccine. Common side effects include prolonged pus formation at site of vaccination and delayed healing.
- ✦ Rarely, a swelling may occur in the left armpit which is an enlargement of the gland due to BCG vaccination. Usually, it last for a few months and disappears without any treatment.
- ✦ Very occasionally, the swelling may become soft, in which case the pus may need to be removed.

### Who should not receive the BCG vaccine?

- ✦ In children with weakened immunity, because the germs contained in the vaccine may spread all over the body, a condition which may be dangerous.
- ✦ Symptomatic Infants, born to HIV positive mothers
- ✦ Mothers treated with drugs in pregnancy, which weaken the immune system
- ✦ Family history of unexplained deaths in the first year of life, till the infant is investigated for any diseases causing weakened immune system.

**For more information, please contact your doctor.**





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**POLIO VACCINES**

ACVIP : 2020 - 2021

### What is Polio?

- ✦ Polio is a very serious and a highly infectious viral disease, that can cause paralysis of the limbs or other body parts. It is caused by any of three poliovirus serotypes (types 1, 2 or 3).
- ✦ It primarily affects children under five years of age.

The last reported case of wild polio in India was in West Bengal on 13 January 2011.

However, two neighboring countries, Pakistan and Afghanistan, are still reporting cases of Polio. Hence continued polio immunization is necessary to maintain high vaccination coverage in the community to protect against this deadly disease.

### Which are the vaccines available against Polio and what are the schedules?

There are two types of vaccines:

- 1. Inactivated (Injectable) Polio Vaccine (IPV) –IPV** is given by injection and contains all the three virus serotypes PV1, PV2 and PV3. It is administered at 6 – 10 – 14 weeks with boosters at 15-18 months and at 4-5 years. IPV is often administered as a combination vaccine with DPT, Hib and Hepatitis B. The Indian Academy of Pediatrics recommends an all-IPV based schedule, with OPV given only at birth.

In the Universal Immunization Program (UIP) by Govt. of India, two doses of IPV are given at 6 and 14 weeks, within the layers of the skin (intradermally), mentioned in the card as fIPV, along with five doses of OPV to be given at birth, 6,10,14 weeks and at 15-18 months.

- 2. Oral Polio vaccine (OPV) –given orally as drops** and available as a bivalent formulation, containing serotypes 1 and 3.

Monovalent (containing only 1 type) OPVs are also available but not used routinely. They are reserved by Govt. for handling outbreak situations.

OPV is administered as 2 drops directly into the mouth. In the schedule of the Govt of India (UIP), it is recommended as a dose soon after birth and three more doses at 6, 10 and 14 weeks of age and a booster at 15-18 months. It is also used in supplementary immunization activity (Pulse Polio days).

All IPV/OPV immunized children should receive OPV on all “Pulse Polio” days till five years of age.

While IPV is the preferred vaccine, in situations wherein IPV is not available or feasible, the child should be offered three doses of OPV at 6-10-14 weeks. In such cases, the child should be referred for two fractional doses of IPV at a Government facility at 6 and 14 weeks.

### Are these vaccines safe?

OPV is a safe vaccine. Very rarely, it might cause paralysis, a condition known as Vaccine-associated paralytic polio (VAPP) either in the vaccinated or in close contacts. The vaccine virus may revert to a disease-causing state and spread through the environment. This is known as Vaccine-derived polioviruses (VDPVs).

IPV is considered very safe, whether given alone or in combination with other vaccines. Minor adverse events are transient and include local redness (0.5%–1%), swelling (3%–11%) and pain (14%–29%)

### Who should receive this vaccine?

All infants and children must receive this vaccine.

### Who should not receive the vaccines?

- ✦ OPV should not be given to children with weakened immune systems caused by diseases (incl. HIV) or medications (prolonged high dose steroids/immunosuppressive therapies) and to individuals who had a severe allergic reaction to a previous dose of the vaccine like anaphylaxis or a known, severe allergy to any vaccine components.

**For more information, please contact your doctor.**





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## DPT VACCINES

ACVIP : 2020 - 2021

### What is Diphtheria, Pertussis and Tetanus?

- ❖ **DIPHTHERIA** is usually transmitted by the airborne route. It presents with fever, throat pain and swellings in the neck. Severe cases may progress and result in breathing problems. Some days after the infection, it can cause paralysis, and heart failure. India has the maximum number of reported Diphtheria cases in the world.
- ❖ **PERTUSSIS**, also known as Whooping cough, is an airborne disease. It results in cough lasting for 4-6 weeks. Severe cough spells can result in breathing difficulty and difficulty in eating and drinking. It can occur in all age groups, with the maximum damage occurring in very young infants. It can cause pneumonia, fits, brain damage, or death.
- ❖ **TETANUS** is caused by contaminated wounds or can occur in the newborn following unsafe delivery practices. It causes painful spasm of muscles and inability to swallow, giving it the popular name of “lockjaw”.
- ❖ **DPT** vaccine protects the child from 3 disease: diphtheria, whooping cough (pertussis), and tetanus.

### Which are the available vaccines?

These vaccines are available as combinations, DPT (Triple antigen), DPT/Hib (Quadrivalent), DPT/HBV/Hib (Pentavalent) and DPT/HBV/Hib/IPV (Hexavalent). Some vaccines for use in children above 7 years of age and adults, contain reduced dose of Diphtheria and Pertussis components, with full dose of Tetanus. These are Tdap and Td vaccines, respectively.

### What are the types of vaccines against Pertussis?

- ❖ There are two types of vaccines against Pertussis: whole cell P (wP) and the acellular P (aP).
- ❖ The wP vaccine is the older vaccine. It is made of killed B. pertussis germs, which cause Pertussis. It includes all the components of the B.pertussis. It has been replaced by aP vaccines in the developed countries. However, worldwide, wP vaccines are the most widely used Pertussis vaccines.
- ❖ The aP vaccine is a purified form of Pertussis vaccine and consists of only those components that are believed to be important for protection against Pertussis.

### What is the Schedule of DPT vaccines?

- ❖ 3 doses are administered in the 1<sup>st</sup> year at 6-10-14 weeks of age, 1<sup>st</sup> booster in the 2<sup>nd</sup> years at 16-18 months and a 2<sup>nd</sup> booster at 4-6 years. They are administered as age appropriate combination vaccines with Hepatitis B, Hib, and IPV.
- ❖ Adolescents should also receive one dose of Tdap vaccine at 10-12 years of age.
- ❖ Td is recommended every 10 years thereafter.
- ❖ Pregnant women should receive 1 dose of Tdap (Td vaccine as a second alternative), between 27-36 weeks of pregnancy, during every pregnancy.
- ❖ Td vaccine is also used for tetanus prophylaxis after skin breaching injuries/trauma.

### What are the differences between wP and aP vaccines?

- ❖ wP vaccines have been shown to have a longer duration of protection, they reduce spread of the disease to others and induce a superior long-term protection against Pertussis, as compared to aP vaccines.
- ❖ Generally, wP vaccines cause more fever, pain and swelling at the site of vaccination, as compared to aP vaccines.
- ❖ Fever, redness, pain and swelling at the site of the injection, drowsiness and refusal of feeds are common side effects. These resolve within 48 hours.

### **What are the side effects of DPT vaccines?**

- ✦ Serious side effects include fever  $>40^{\circ}\text{C}$ , fits and less responsiveness (Hyporesponsive Hypotensive Episodes).
- ✦ These side effects are greatly reduced with the aP vaccines

### **When should I be concerned about the side effects?**

If your child has high fever ( $>40^{\circ}\text{C}$ ), fits, less responsiveness and lethargy or the common side effects lasting for more than 72 hours, consult your doctor

### **Who should receive this vaccine?**

All infants and children should receive this vaccine

### **Who should not receive the DPT vaccines?**

- ✦ Any child who has developed severe allergies following the previous dose of the vaccine or has known severe allergies against any vaccine component.
- ✦ Any child who has developed multiple fits and altered consciousness after a previous dose, such children should preferably receive the aP vaccines

### **What is the Indian Academy of Pediatrics (IAP) recommendations?**

The IAP recommends either of the Pertussis vaccines for use in children. While both types of Pertussis vaccines give similar protection against proven Pertussis in the first 2-3 years of life, the wP vaccines induce significantly superior long-term protection.

**For more information, please contact your doctor.**





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## HEPATITIS B VACCINE

### What is Hepatitis B Infection and disease?

- ✦ Hepatitis B virus causes carrier state without any symptoms, acute jaundice (infection of liver), chronic progressive liver damage and cancer of the liver. In India, 1.6% to 4% of the population carry this virus in their blood.
- ✦ This virus has many ways of spreading from one to another:
  - ✦ From the infected mother to the newborn. This is the most common mode of spread and without appropriate preventive measures, a good number of infected infants go on to develop liver disease and liver cancers. This is called “Vertical transmission” and is eminently preventable with timely vaccination, beginning in the newborn period.
  - ✦ From infected family members or close contacts by sharing of articles like toothbrushes and razors
  - ✦ By sexual spread from an infected partner.

By using Hepatitis B vaccine appropriately, Hepatitis B infection can be prevented very effectively.

### What is the schedule of the Hepatitis B vaccine?

- ✦ The 1<sup>st</sup> dose is administered within 24 hours of birth as a single component vaccine.
- ✦ The 2<sup>nd</sup> and subsequent doses are administered at 6-10-14 weeks in combination with DPT/Hib/IPV.
- ✦ For older children and adults, the vaccine is administered in a schedule of 0-1 month –6 months.
- ✦ There is no need for booster doses of this vaccine as the initial 3-4 doses confer almost life-long protection.

### What is the schedule for babies who are born to mothers who are infected with the Hepatitis B virus?

For babies born to mothers who are positive for the Hepatitis B virus in their blood, it is essential that the newborn receive a special injection known as the Hepatitis B Immunoglobulin (HBIG) as soon as possible after birth along with the regular schedule of the vaccine as mentioned above. This schedule is ~ 95% effective in preventing the transmission of the virus to the newborn.

### Is it a safe vaccine?

Yes, except for some reactions at the site of vaccination and low-grade fever, the vaccine is safe.

### Who should receive this vaccine?

All infants and children should receive this vaccine.

### Who should not receive this vaccine?

Children who had a severe allergic reaction like anaphylaxis, after a previous vaccine dose, or have any known severe, life-threatening allergies to any vaccine component.

**For more information, please contact your doctor.**





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## HIB VACCINE

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### What diseases are caused by Haemophilus Influenza type b ?

- ✦ Haemophilus influenzae type b can cause mild infections such as ear infections or severe infections, such as pneumonia, infections of the bloodstream and meningitis, which, may result in brain damage and deafness.
- ✦ Children under 5 years of age are usually involved, but older children and adults, with certain medical conditions may also be affected.
- ✦ Before the introduction of this vaccine in the national immunization schedule, Hib was the commonest cause of meningitis.
- ✦ Hib vaccine can prevent infections caused by Haemophilus influenzae type b.

### What is the schedule of this vaccine?

- ✦ This vaccine is administered in 3 doses in the 1<sup>st</sup> year of life at 6-10-14 weeks and a booster dose is administered at 16-18 months.
- ✦ Hib vaccine is usually administered in combination with DPT, Hepatitis B Vaccine and Inactivated Polio Vaccine.

### How safe is this vaccine?

This is a safe vaccine with some fever, pain, redness and swelling rarely reported at the site of the vaccination.

### Who should receive this vaccine?

All infants should receive this vaccine.

### Who should not receive this vaccine?

Any infant who has developed a severe allergic reaction to a previous dose of the vaccine or has known allergy to any component of the vaccine.

**For more information, please contact your doctor.**





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## PNEUMOCOCCAL VACCINES

### What are the diseases caused by the Pneumococcus?

- ✦ The pneumococcal vaccine protects your child from potentially serious, and even life-threatening infections caused by pneumococcus bacteria, which include (a) pneumococcal meningitis (an infection of the tissue covering the brain and spinal cord) and (b) pneumonia (lung infection). While pneumonia is a serious condition, meningitis can cause lifelong disability, or death. The Pneumococcus is also a common cause of ear infections.
- ✦ Children younger than 5 years and the elderly more than 65 years, are among those most at risk for the disease. Children with weak immune systems are at highest risk of infection and complications.
- ✦ The disease spreads when an infected person coughs or sneezes. Some children may carry the bacteria in their nose and throats (carriers) and spread pneumococcal disease, without suffering from the disease.
- ✦ India has a very high burden of pneumococcal diseases.

### What are the symptoms of pneumococcal disease?

- ✦ The symptoms depend on the part of the body it affects.
  - Pneumococcal pneumonia (lung infection): Fever with chills, cough, rapid breathing or difficulty breathing, chest pain
  - Pneumococcal meningitis (infection of the covering of the brain and spinal cord): High fever, headache, fits, stiff neck, vomiting, are some of the symptoms of this dangerous condition.
  - Blood infection (bacteremia and sepsis) from pneumococcal disease can present with high fever and chills.

### Which are different types of Pneumococcal vaccines available in India and

There are 4 types of vaccines available.

- a. Prevenar 13 -PCV (Pneumococcal Conjugate Vaccine) 13: contains 13 varieties (serotypes) of the pneumococcus
- b. Synflorix -PCV 10: contains 10 varieties of the pneumococcus
- c. Pneumosil-PCV 10: contains 10 varieties of the pneumococcus (2 varieties are different from those present in Synflorix)
- d. Pneumococcal polysaccharide vaccine (PPSV23): contains 23 types of the pneumococcus  
The PCVs are preferred for the initial immunization at all ages.

### What is the schedule?

- ✦ For children below the age of 6 months: 3 doses at 6-10-14 weeks of age and a booster at 12 to 15 months of age
- ✦ If your child has missed these vaccines, your doctor will advise you the age-appropriate schedule.
- ✦ Routine use of PCV13/PCV10 above the age of 5 years is not recommended.
- ✦ Children more than 5 years of age, with conditions that render them at high-risk for Pneumococcal diseases, need the pneumococcal vaccines beyond 5 years of age.
- ✦ PPSV23 is recommended for:
  - a. All adults 65 years or older,
  - b. Anyone 2 years or older with certain medical conditions that can lead to an increased risk for pneumococcal disease
  - c. PPSV23 cannot be used in children below 2 years of age.

### **Is it a safe vaccine?**

Yes. The pneumococcal vaccines are safe. When side effects do occur, they are usually mild and transient and include the following: Redness, swelling, or soreness where the shot was given, fever and rarely fussiness, sleepiness, loss of appetite.

### **Who should receive this vaccine?**

All infants and children (till 5 years of age) should receive this vaccine.

### **Who should not receive the vaccines?**

- ✦ Anyone who has had a severe allergic reaction after a previous dose of PCV, or to any vaccine containing diphtheria toxoid (for example, DTaP), or has any severe, life-threatening allergies to vaccine components.

*This vaccine does not prevent all pneumococcal disease. It prevents pneumococcal disease caused only by pneumococcus bacterial types present in the vaccine. The vaccines protect against > 70% of the disease-causing pneumococci, in India.*

### **Is PCV 13 recommended in adults/elderly?**

Yes. PCV 13 is licensed for use for those >50 years of age. The schedule is to administer PCV 13 first followed by PPSV 23, 6 to 12 months later. For individuals with high-risk factors for pneumococcal diseases, the PPSV 23 can be administered 8 weeks after PCV 13.

**For more information, please contact your doctor.**







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## ROTA VIRUS VACCINE

### What is Rotavirus diarrhoea?

- ✦ Rotavirus is responsible for the more severe forms of diarrhoea, especially in infants and very young children. Almost one-third to half of all diarrhea hospitalizations in India, is caused by the rotavirus.
- ✦ Diarrhoea, vomiting, and fever can cause a loss of body fluids. This leads to dehydration, which can be very dangerous, especially for small babies, and young children.
- ✦ The disease spreads by the feco-oral route, putting contaminated fingers in mouth, by touching contaminated surfaces.
- ✦ Good hygiene like handwashing and cleanliness are important, but may not control the spread of the disease. Vaccination is the best tool for its prevention.

### Which are the rotavirus vaccines available in India and what are the schedules?

- ✦ 4 brands of rotavirus vaccines are available in India.
- ✦ All the brands are administered in a 3-dose schedule at 6-10-14 weeks except 1 brand which is administered in 2 doses by mouth at 6-10 weeks (the 2 doses are given at least 4 weeks apart).
- ✦ The first dose must be administered before 15 weeks of age and the last dose must be administered by 8 months of age.
- ✦ Breast feeding can be given before and after rotavirus vaccination

### Are the vaccines safe?

Yes. Mild, short lasting diarrhea or vomiting can happen after rotavirus vaccine.

Very, very rarely, the rotavirus vaccine may cause a type of bowel blockage, known as Intussusception. This may present as excessive, incessant crying and blood in stools. If your child develops any such problems after the vaccination, please contact your doctor immediately. The risk of intussusception is extremely low in Indian studies.

### Who should receive this vaccine?

All infants should receive this vaccine.

### Who should not receive the Rotavirus vaccines?

- ✦ Any infant who has had an allergic reaction after a previous dose of rotavirus vaccine, or has any severe, life threatening allergies to any vaccine component
- ✦ Any infant with a weakened immune system, including a condition known as severe combined immunodeficiency (SCID), should not receive the vaccine
- ✦ Any infant with a previous episode of intussusception, should not receive the vaccine.

**For more information, please contact your doctor.**





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FOR PARENTS ANSWERS

ACVIP : 2020 - 2021

## INFLUENZA (FLU) VACCINES

### What is Influenza?

- ✦ Influenza is a viral respiratory infection, which occurs globally and spreads from person to person. In India, influenza spreads throughout the year with peaks in the monsoon season and winter.
- ✦ The risk of flu complications is greatest in children less than 5 years of age, those with weak immune system and long-standing disorders of the heart, lungs, liver, kidneys and diabetes. Children play an important role in spreading the infection to others in the community.
- ✦ Children usually present with cough, cold, fever, chills, muscle pains, headaches. The illness usually lasts for 5-7 days.
- ✦ Flu can result in complications such as pneumonia, bronchitis, sinus infections and ear infections.
- ✦ Vaccination is the most effective way to prevent infection and severe outcomes.

### Which are the vaccines available against the flu?

1. Live, weakened vaccine, which is administered into the nose. This vaccine cannot be used in those < 2 years of age, in pregnancy and in persons with weakened immune systems.
2. Vaccine made from killed germs.

Each dose of the vaccine contains 4 different strains of the Influenza virus. The composition of vaccine may change twice, every year, as the Influenza virus periodically undergoes changes in its structure.

### What is the schedule of the Influenza vaccines?

- ✦ 6 months to 8 years of age: 2 doses of 0.5 ml (15ug), at an interval of at least 4 weeks, when given for the first time (unprimed) and subsequently one dose annually.
- ✦ >8 years of age: 1 dose of 0.5ml (15ug) by intramuscular injection, annually.
- ✦ Vaccination should start at least 2 to 4 weeks before influenza season.

### Is it a safe vaccine?

Generally, it is a safe vaccine. Soreness, redness, and swelling at the site of the injection may be seen after the vaccination. Fever, muscle aches, and headache can happen after influenza vaccine.

### Who should receive this vaccine?

All children between 6 months and 5 years should receive this vaccine every year.

Children who are at high risk for complications of Influenza, should receive the annual dose even beyond the age of 5 years. Your doctor will guide you regarding the need for this vaccine beyond the age of 5 years.

### Who should not receive the vaccine?

- ✦ Any child who had a severe allergic reaction after a previous dose of influenza vaccine, or has any severe, life-threatening allergies to any vaccine component.
- ✦ Any person who had a nervous system disorder called Guillain Barré Syndrome.
- ✦ Children with severe egg allergy should receive the vaccine in a setting with facilities for handling emergencies.
- ✦ If your child has mild egg allergy (only rashes), the vaccine can be administered, following which the child should remain in the clinic for 30 minutes after vaccination.

**For more information, please contact your doctor.**





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**TYPHOID VACCINE**

ACVIP : 2020 - 2021

### What is Typhoid?

- ✦ Typhoid is a potentially serious illness which is spread through contaminated food and water. India accounts for 30%-40% of all Typhoid cases in the world. Typhoid occurs with equal frequency in pre-school children and infants. In India, the incidence of Typhoid in the first year of life, is very high.
- ✦ The germ causing Typhoid is becoming increasingly resistant to the commonly used antibiotics, making Typhoid treatment complicated and expensive.
- ✦ Typhoid generally presents with fever, stomach pain, loose stools, cough. If undetected and untreated in the first week, Typhoid may need hospitalization for effective treatment.
- ✦ The vaccine is effective in preventing Typhoid disease.

### Which are the vaccines available against Typhoid?

2 types of vaccines against Typhoid are available:

1. Typhoid polysaccharide vaccine
2. Typhoid Conjugate Vaccine (TCV)

The TCV is the preferred vaccine.

### What is the schedule of TCV?

- ✦ A single dose is administered between 6-9 months of age. The vaccine is licensed for use, till 45 years of age.
- ✦ As of now, boosters are not recommended.

### How safe is the TCV?

Side effects of the vaccine include fever, pain and swelling at the site of the injection. Generally, it is a safe vaccine.

### Who should receive this vaccine?

All infants after the age of 6 months and children should receive this vaccine. Children who had Typhoid in the past, should also receive this vaccine.

### Who should not receive the vaccine?

Any child who has had a severe allergic reaction to a previous dose of any Typhoid vaccine or has known severe allergy to any of the constituents of the vaccine, should not receive the vaccine.

**For more information, please contact your doctor.**





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## MMR VACCINE

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### Why should my child receive the MMR/MR vaccine?

**Measles** presents as generalised rash, cough, and high-grade fever. It may predispose a child to pneumonia, ear infection or tuberculosis.

**Mumps** causes salivary gland enlargement and fever. Its complications include swelling of the brain and spinal cord and it's covering, deafness or painful swelling of the testes.

**Rubella** presents as fever, sore throat, joint pains, and rash. If Rubella occurs in a pregnant woman, for the first time, she may have a miscarriage, or the child born may have serious congenital abnormalities.

MMR vaccine protects your child against above three illnesses.

### Which are the vaccines available against M-M-R and what is the schedule?

MMR Vaccine is a combination vaccine which protects against Measles, Mumps and Rubella diseases.

MR is a combination vaccine which protects against Measles and Rubella diseases. This vaccine is predominantly utilized in the government sector.

MMR vaccine is given as three doses. The first dose is given at nine months of age, the second is given at 15 months and the third is given at four to six years.

MR vaccine (Measles and Rubella) is offered in the govt vaccination schedule, in a 2-dose schedule at 9 months and 18-24 months.

The MMR vaccine is also available in a combination with the chicken pox vaccine – MMRV.

### How safe are the MMR/MR vaccines?

MMR vaccine is a safe vaccine. Soreness at the site of injection, generalised rash, fever and swelling of the glands in the neck may happen. Serious side effects are rare. As with any vaccine there is a very remote chance of a serious allergic reactions.

### Who should receive this vaccine?

All infants and children should receive this vaccine.

### Who should not receive the vaccine?

- ✦ Individuals with a history of serious allergic reactions to a previous dose of the vaccine or known severe allergic reactions to any component of the vaccine.
- ✦ Children and adults with a weakened immune system or if any family member has a history of hereditary immune system diseases.
- ✦ Pregnant women
- ✦ Children and adults who have received blood transfusion or blood products recently
- ✦ Children and adults who certain vaccines in the preceding 4 weeks

**For more information, please contact your doctor.**





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## HEPATITIS A VACCINES

### What are the diseases caused by Hepatitis A ?

- ✦ Hepatitis A virus causes infection of the liver, which may cause jaundice. An individual can get this infection through water or contaminated food or by close contact with a person infected with Hepatitis A.
- ✦ Majority of children below 5 years of age will not have any symptoms when infected with this virus.
- ✦ Older children may have mild symptoms like weakness, loss of appetite, fever, nausea, vomiting, pain in abdomen, dark yellow color urine and jaundice (yellowish discoloration of eyes, and skin).
- ✦ Rarely, hepatitis A infection can lead to liver failure and death. Older children and adults have more severe disease.
- ✦ Till few years back, more than 90% of children acquired Hepatitis A infection by 10 years of age. With improvements in hygiene and sanitation, children become more susceptible to infections at a later age, when the infection causes more severe disease, with some rare complications.
- ✦ Apart from maintaining good hygiene and sanitation, vaccination of susceptible children and adults is the most effective way to prevent this disease.

### What are the vaccines available against Hepatitis A and the schedules?

- ✦ Two types of vaccines are available:
  1. Inactivated (killed) vaccine
  2. Live vaccine, which consists of the weakened Hepatitis A virus..
- ✦ Minimum age of administration of this vaccine is 12 months.
- ✦ The inactivated vaccine is administered in a two-dose schedule with the second dose administered at least 6 months after the first dose.
- ✦ The live, weakened vaccine, is administered as a single dose after the age of 12 months.

### Is it a safe vaccine?

Adverse reactions are minor and may include local pain and swelling and low grade fever.

### Who should receive this vaccine?

All children > 12 months of age should receive this vaccine.

### Who should not receive this vaccine?

Any child who has had a life-threatening allergic reaction after a previous dose of hepatitis A vaccine, or has a severe allergy to any component of this vaccine. The live, weakened vaccine should not be given to persons with weak immune system.

**For more information, please contact your doctor.**





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## VARICELLA (CHICKENPOX) VACCINE

### Why should my child receive Varicella (Chicken pox) Vaccine?

Varicella is a highly contagious disease, which in absence of vaccination, is likely to affect almost all persons. Generally, chickenpox is mild and does not require any treatment but it may be of a serious nature in neonates, very young infants, pregnant women, and people with decreased immunity. rarely, hospitalization may be required. When it occurs in pregnancy, it may lead to serious developmental abnormalities in the newborn.

Children with chicken pox usually present with rashes, some of which appear as red dots, some as red bumps, some with clear fluid and some with scabs. The illness may last for 5-10 days. Rarely, it may be complicated by skin infections, pneumonia, and inflammation of the various parts of brain and/or spinal cord. Later in life, herpes zoster may also develop following chickenpox.

Varicella vaccine can prevent chickenpox and also reduce the chances of developing herpes zoster in future.

Varicella vaccine can also reduce the chances of developing varicella if given within 72 hour of exposure to a case of varicella. *Please consult your doctor as soon as your child gets exposed to a person with chickenpox.*

### Which are the chicken pox vaccines available and what is the schedule?

Many brands of the vaccine are available. They may vary in the quantity of the weakened virus. Generally, all the brands are equipotent.

Children need 2 doses of varicella vaccine for adequate protection. The dosage schedule is as follows:

- ✦ Dose 1 at age 15 months.
- ✦ Dose 2: 3-6 months after dose 1.
- ✦ For those >12 years, 2 doses are administered at an interval not less than 4 weeks.
- ✦ It is advisable that all persons have 2 doses of the vaccine.

Despite giving full schedule (2 doses) of the varicella vaccine, varicella may occur in 1% of children, but the disease is generally very mild.

### Is it a safe vaccine?

Varicella is a safe vaccine. Pain, redness, or swelling may occur in occasional cases. Few persons may also develop a rash which is milder in nature as compared to the disease. If this happens, the varicella vaccine virus could spread to an unprotected person. Anyone who gets a rash should stay away from people with a weakened immune system and infants until the rash goes away.

### Who should receive this vaccine?

All infants and children, who have not had documented varicella, should receive this vaccine.

### Who should not receive the Chickenpox vaccine?

- ✦ Severe allergic reaction after a previous dose of varicella vaccine, known allergy to any vaccine component
- ✦ During Pregnancy
- ✦ Has a weakened immune system due to drugs or disease
- ✦ Has a parent, brother, or sister with a history of hereditary or congenital problems with their immunity. The vaccine should be withheld till the prospective vaccinee has been investigated to rule out any disorders of immunity.
- ✦ Is taking salicylates (such as aspirin).

Vaccination should be postponed in those who:

- ✦ Have recently had a blood transfusion or received other blood products.
- ✦ Received certain other vaccines in the past 4 weeks

**For more information, please contact your doctor.**





QUESTIONS

# Q & A

FOR PARENTS ANSWERS

## Tdap VACCINE

ACVIP : 2020 - 2021

### Why should my child receive the Tdap vaccine?

- ✦ Your child must have received D-T-P containing vaccines at 6, 10, 14 weeks and boosters at 16-18 months and 4-6 years. However, the protection conferred by this vaccine starts reducing after the last dose at 4-6 years. Cases of Pertussis (whooping cough) and diphtheria are increasing among adolescents and young adults. Hence, there is a need for a booster dose of the D-T-P vaccine at 10-12 years.
- ✦ Since full dose DPT cannot be given after the age of 7 years (because of risk of more side effects), we can only give a vaccine that contains reduced dose pertussis and diphtheria components along with full dose tetanus, i.e., Tdap vaccine.

### Which are the vaccines available, and what is their schedule?

- ✦ Tdap should be used only for children 7 years and older, adolescents, and adults.
- ✦ One dose of Tdap should be given at the age of 10 to 12 years. People who did not get Tdap at that age should get it as soon as possible.
- ✦ Tdap is especially important for anyone having close contact with a baby younger than 12 months of age.
- ✦ Pregnant women should get a dose of Tdap during every pregnancy between 27 and 36 weeks of pregnancy to protect the newborn from pertussis. Infants are most at risk for severe, life-threatening complications from pertussis.
- ✦ A similar vaccine, called Td, protects from tetanus and diphtheria, but not pertussis. A Td booster should be given every 10 years.
- ✦ Tdap may be given at the same time as other vaccines.

### 3. How safe is this vaccine?

The vaccine is safe. Pain, redness, or swelling at the site of administration, mild fever, headache, may be experienced after receiving this vaccine.

### When should your child not receive this vaccine?

- If your child has had any severe allergic reaction after a previous dose of any D-T-P vaccine or has a known allergy to any component of the vaccine.
- If your child has had a coma, decreased level of consciousness, or prolonged fits within 7 days after a previous dose of any pertussis vaccine (DTP, DTaP, or Tdap)

The national immunization schedule (NIS) of the Government of India provides Td in place of Tdap at the age of 10-12 years to all children. The NIS also recommends Td vaccine during pregnancy.

**For more information, please contact your doctor.**





## HUMAN PAPILLOMA VIRUS VACCINES (HPV VACCINE)

What are the diseases caused by the Human Papilloma Virus (HPV)?

- ❖ Almost all cervical cancers are caused by the Human Papilloma Virus (HPV). HPV viruses are also responsible for vaginal, vulvar, anal, oral, throat and penile cancers.
- ❖ India alone accounts for one-quarter of the worldwide burden of cervical cancers.
- ❖ HPV infections are so common that nearly all sexually active men and women will get at least one type of HPV at some time in their lives. Most HPV infections go away by themselves within two years. Around 5% of them progress to a state of persistent infection, which can cause cancer.
- ❖ Cervical cancer is often detected late due to lack of any significant symptoms in the early stages of the disease.
- ❖ Of the more than 100 HPV types known, 13 types may cause cervical cancer or are associated with other cancers of the anus, penis, vulva, vagina and throat. Out of them, type 16 and 18 are the most common ones.

In countries where the HPV vaccines are used in the national immunization programs, a significant reduction of diseases caused by HPV has been recorded within a few years of use.

**Which are the vaccines available against the HPV and what is the schedule?**

1. Bivalent (HPV2): this vaccine contains HPV types 16 and 18
2. Quadrivalent (HPV4): this vaccine contains HPV types 6, 11, 16 and 18
3. Nonavalent (HPV9): this vaccine contains HPV types 6, 11, 16, 18, 31, 33, 45, 52 and 58. This vaccine is expected to broaden the protection against cervical cancer by ~15%.

In India, the Bivalent vaccine (HPV2) and the Quadrivalent HPV vaccine (HPV 4) is expected to prevent ~ 83% of cervical cancers, whereas the Nonavalent vaccine (HPV 9) is expected to prevent ~ 98% of cervical cancers.

All the 3 vaccines are very effective in preventing cervical cancers caused by the types contained in the vaccine.

**Schedule:**

- ❖ Girls 9 through 14 years: Two doses to be administered at an interval of 6 months, 0–6 months.
- ❖ Girls 15 years and older: Three doses recommended in the schedule 0–1–6 months for Cervarix and 0–2–6 months for Gardasil.
- ❖ In immunocompromised individuals of any age: Three doses recommended in the schedule 0–1–6 months for Cervarix and 0–2–6 months for the Gardasil.
- ❖ HPV9 is licensed in a 3-dose schedule of 0-2-6 months in females 9-26 years of age and males 9-15 years of age. The ideal age for starting the vaccine is 9-10 years.

HPV vaccines can be given at the same time as the Tdap vaccine.

**Why is it essential to start the schedule at 9-10 years and not later?**

1. Young adolescents mount a superior immune response compared to older individuals.
2. Prevention of disease is better if started earlier
3. Only 2 doses are necessary in this age group versus 3 doses beyond 15 years of age.

There is no recommendation for any booster doses.

**Are the HPV vaccines safe?**

- ❖ These vaccines are generally safe. Mild to moderate local side effects are pain, swelling or redness at the vaccine site.



- ✦ Some adolescents may have giddiness or fainting sensation after the shot. It can be minimized by giving the vaccine in a lying down or reclining position. All the patients should be monitored for at least 20 minutes for any immediate side effects. This adverse effect is not HPV vaccine specific, but can happen after any vaccine, in this age group.

#### **Who should receive this vaccine?**

All girls (>9 years) and adolescent girls should receive this vaccine. Catch-up vaccination may be offered to older women. This vaccine is licensed for use till 45 years.

Vaccination of males will offer some protection against other HPV related cancers penis, anus and oropharynx (mouth and throat). In India, only the HPV 9 vaccine is licensed in males.

#### **Who should not receive the HPV vaccine?**

1. History of severe allergic reaction (anaphylaxis) after the first dose of the vaccine or known, severe allergies to any component of the vaccine
2. Pregnancy
3. People who are moderately or severely ill should usually wait until they recover, before getting HPV vaccine.

**For more information, please contact your doctor.**





# QUESTIONS

# Q & A

FOR PARENTS ANSWERS

ACVIP : 2020 - 2021

## JAPANESE ENCEPHALITIS VACCINES

### What is Japanese Encephalitis (JE) ?

- ✦ Japanese encephalitis (JE) is a viral infection which is spread by bites of an infected mosquito. It does not spread from person to person.
- ✦ Generally, most infected people do not have any illness. About 1 in 200 infected persons may develop symptoms, which may include fever, headache, fits and loss of consciousness (caused by swelling of the brain).
- ✦ Almost 25% of people with brain involvement may die and about half are left with residual neurological deficits.

### Which are the vaccines available against Japanese encephalitis and what is their schedule?

3 vaccines are available in India:

- 1) SA 14-14-2 vaccine: This is made from live, weakened virus. This vaccine is available only in the national immunization schedule of the Government of India. It is administered in a 2-dose schedule at 9 months and 16-24 months, to children 9 months of age onwards.
- 2) JEEV™: This is made from the dead virus. It is administered in a 2-dose schedule to children 1 year of age onwards. The second dose is given at least 4 weeks after the first dose.
- 3) JENVAC™: This is made from the dead virus. It is administered in a 2-dose schedule to children 1 year of age onwards. The second dose is given at least 4 weeks after the first dose.

At present, there is no recommendation for booster doses.

### Who should receive the JE vaccine?

- ✦ All children above the age of 9 months, residing in districts declared as endemic, by the Govt of India. In certain hyperendemic districts, the vaccine is also being given to adults. The vaccine is recommended for all the children residing in both, rural and urban areas in the endemic districts.
- ✦ This vaccine may be offered to travelers to endemic areas, during the transmission season (monsoon) and for travelers intending to stay for long periods, in endemic areas.
- ✦ It is also recommended for short term (less than a month) travelers, who will visit rural areas and have an increased risk for mosquito bites, or are not sure of their travel plans.

*Please ask your doctor regarding the need of JE vaccines for your child.*

### How safe are the JE vaccines?

The vaccines are safe. Common reactions include pain, tenderness, redness, or swelling at the site of the vaccination. Fever, headache, muscle aches, flu-like illness can occur.

### Who should not receive the vaccine?

The vaccines should not be given to children who have had an allergic reaction after a previous dose of JE vaccine, or has any known, severe, life-threatening allergies to any vaccine component.

**For more information, please contact your doctor.**





QUESTIONS

# Q & A

FOR PARENTS ANSWERS

## RABIES VACCINE

ACVIP : 2020 - 2021

### What is Rabies?

Rabies is a disease that is transmitted to humans by bites of affected animals (mammals). It almost always results in death of the affected individual.

### Which animal bites can cause Rabies and require anti-Rabies vaccines?

Rabies can be transmitted to humans by mammalian bites. Over 90% are caused by dog bites, followed by cat bites and bites by monkeys, horses, cows and other large mammals. Domestic rodent (rat) bites and bites by small mammals (e.g. rabbits, squirrels) usually do not cause Rabies and do not warrant rabies vaccination. Any bites by known or unknown animals in the wild can cause Rabies. In India, exposure to bats have not been reported to cause Rabies.

### What steps are essential, at home, for wound management, following an exposure to an animal?

1. Clean the wound under running tap water, with soap, for at least 15 minutes.
2. After wound washing, apply ointment that can kill viruses e.g. Povidone Iodine
3. The wound should not be covered with any bandage, unless profusely bleeding

Consult your doctor for vaccination advice as soon as possible.

### What types of exposure need anti-Rabies vaccine?

1. Touching or feeding animals, animal licks on intact skin (no exposure): no vaccines
2. Nibbling of uncovered skin, minor scratches or abrasions without bleeding (exposure): only anti-Rabies vaccine
3. Single or multiple bites or scratches (with blood oozing), contamination of mucous membrane or broken skin with saliva from animal licks: anti-Rabies vaccine and the Rabies immunoglobulin / monoclonal antibody preparations, which is injected at the site of the bite (exposure).

### What is the schedule for the anti-Rabies vaccine?

- ✦ For those who have never received any anti-Rabies vaccine in the past [Post-exposure prophylaxis (PEP)], the schedule consists of 4 doses on day 0-3-7-14 to 28 days, day 0 is the day the 1<sup>st</sup> dose of the vaccine is administered.
- ✦ For those who have received the full schedule of PEP, anytime in the past and if the exposure has occurred more than 3 months after the completion of the schedule, 2 doses on days 0-3 is recommended. If the re-exposure has occurred within 3 months, vaccine is not necessary.
- ✦ In the Govt. sector, anti-Rabies vaccine is administered within the layers of the skin (intradermal) in a different schedule. This is also equally effective.

### Are the anti-Rabies vaccines safe?

The anti-Rabies vaccines presently in use have been shown to be safe and well tolerated. Minor and transient erythema, pain and/or swelling may occur at the site of injection.

### Is it correct to just observe the biting dog or cat for 10 days without starting treatment justified?

No. In a country like India, where rabies is prevalent in a large population of dogs and cats, it is necessary to start treatment and keep the biting dog/cat under observation for 10 days.

### Can you receive the vaccine before exposure and what is the schedule?

- ✦ Yes. The vaccine can be given before exposure: pre-exposure prophylaxis (PrEP), in select groups e.g. people at high risk of exposure to rabies, such as veterinarians, animal handlers, rabies laboratory workers and rabies biologics production workers. The Indian Academy of Pediatrics also recommends PrEP to children at high risk of rabies exposure e.g residents in boarding schools, children with pets at home.

✦ The schedule is 2 doses on 0-7 days.

**Should my child receive the vaccine if bitten by a vaccinated, pet dog?**

Vaccinated animals may also transmit Rabies, if the vaccination of the animal was ineffective due to any reason. A history of rabies vaccination in an animal is not always a guarantee that the biting animal is not rabid. Animal vaccine failures may occur because of improper administration, improper storage with a consequent sub-optimal immune response of the vaccine or poor health status of the animal. Hence, the category of bite, should be the decisive factor, in deciding the treatment schedule.

**Who should not receive the anti-rabies vaccine?**

Anti-rabies vaccine is a necessity after exposure to mammalian bites. Everyone should receive it, young and old, ill and healthy and pregnant women as well.

**For more information, please contact your doctor.**





QUESTIONS

# Q & A

FOR PARENTS ANSWERS

ACVIP : 2020 - 2021

## MENINGOCOCCAL VACCINES

### What is Meningococcal disease ?

- ❖ Meningococcal infections can cause meningitis (infection of the lining of the brain and spinal cord) and infections of the blood. It is a devastating illness, which progresses very rapidly. Unless diagnosed and treated on time, the illness can lead to death, and disability in some survivors
- ❖ In India, the disease usually involves young children.
- ❖ Four types of meningococci cause disease, A, C, Y W-135, of which the Type A is most common in India. It is a devastating illness, which progresses very rapidly.
- ❖ Meningococcal infections have a low incidence in India, except for periodic outbreaks, described in North India.

### What are the types of Meningococcal vaccines available in India?

There are 2 kinds of vaccine available in India.

- Meningococcal Conjugate Vaccine (MCV4): contains A, C, Y W-135
- Meningococcal Polysaccharide Vaccine (MPSV4)

When indicated, the Meningococcal Conjugate Vaccine (MCV4) is preferred.

### How safe is this vaccine?

Meningococcal vaccines are quite safe. Mild problems like pain, redness at the injection site and mild fever do occur amongst few patients. Severe allergic reactions are very rare.

### Who should receive this vaccine and what is the schedule?

- ❖ In India, the vaccine is recommended only for children with certain medical conditions that affect the immune system, making it weak in tackling certain infections e.g. children with HIV, absent or non-functioning spleen, deficiency of certain proteins required for proper functioning of the immune system and children on drugs that suppress the immune system.
- ❖ People working in laboratories and exposed to samples containing meningococci.
- ❖ Children and adults traveling to certain parts of Africa also need to take this vaccine.
- ❖ Young adults traveling to USA for further studies and pilgrims undertaking the Hajj pilgrimage, may also need this vaccine.

Since these vaccines are not used routinely, your doctor will advise you about this vaccine and the schedule to be followed, for your child.

### Who should not receive this vaccine?

A person who has ever had a severe allergic reaction (e.g., anaphylaxis) after a previous dose or a person who has a severe allergy to any vaccine component

**For more information, please contact your doctor.**





QUESTIONS

Q & A

FOR PARENTS ANSWERS

ACVIP : 2020 - 2021

## CHOLERA VACCINES

### What is Cholera?

- ✦ Cholera is an acute illness, which is spread through contaminated food or water. It causes severe diarrhea and vomiting and if not treated properly, it can lead to severe dehydration and even death.
- ✦ Cholera is usually seen during the aftermath natural calamities or when there is a congregation of large numbers of persons for religious festivals and other functions.

### Which are the vaccines against Cholera, who should receive it and what is the schedule?

- ✦ Only one anti-cholera vaccine is marketed in India. It is made from killed cholera germs.
- ✦ It is administered orally, for children > 1 year of age, in a 2-dose schedule administered 2 weeks apart.
- ✦ It is given to residents of highly endemic areas and in areas where there is risk of an outbreak such as during pilgrimages like Kumbh Mela, etc.
- ✦ Where there is continued risk of V. cholerae infection, revaccination is recommended after 3 years.

### Is it a safe vaccine?

This is a very safe vaccine with practically no reported side effects.

### Who should not receive this vaccine?

Children who had serious allergic reactions to a previous dose of the vaccine or known severe allergic reactions to any component of the vaccine, should not receive this vaccine.

**For more information, please contact your doctor.**





QUESTIONS

# Q & A

FOR PARENTS ANSWERS

ACVIP : 2020 - 2021

## YELLOW FEVER VACCINE

### What is Yellow Fever (YF)?

- ✦ Yellow fever is a serious viral infection found in certain parts of Africa and South America. It spreads through the bites of infected mosquitoes.
- ✦ Yellow fever can present with fever, jaundice and bleeding from multiple body sites.
- ✦ It is a dangerous illness with 20-50% of serious cases resulting in death.
- ✦ Yellow fever cases have not been reported from India.

### Which are the YF vaccines available and what is the schedule?

- ✦ YF vaccine is made from live, weakened virus.
- ✦ YF vaccine is administered subcutaneously as a single dose for those between 9 months and 60 years. The vaccine results in more side effects if administered to those above 60 years of age.
- ✦ YF vaccine should not be administered to pregnant women and mothers who are breast feeding their infants.
- ✦ A single dose results in lifelong protection.

### Who needs to take the Yellow Fever vaccine?

- ✦ This vaccine is necessary for people travelling to Yellow fever endemic countries. The list of Yellow fever endemic countries is periodically updated by the World Health Organization (WHO) and should be checked on the WHO website at least 2 weeks before the travel date.
- ✦ It is also required for people living in YF endemic countries and laboratory persons working in laboratories wherein fluids from suspected YF patients is handled.

### Where can I get the YF vaccine?

YF vaccine is given only at designated vaccination centers. After vaccination the details are to be entered on the "International Certificate of Vaccination or Prophylaxis" (yellow card) and signed by the authorities at the vaccination center. This certificate becomes valid 10 days after vaccination and is valid throughout life. No boosters are necessary.

### What is the importance of the "International Certificate of Vaccination or Prophylaxis"?

This valid card is necessary for entry to YF endemic countries. Failure to produce a valid certificate will result in refusal of entry into the YF endemic country or quarantine for a period upto 2 weeks.

### Who should not get this vaccine?

- ✦ Infants younger than 6 months of age
- ✦ Those with severe (life-threatening) allergy to eggs, chicken proteins and gelatin.
- ✦ This vaccine is avoided in pregnant women and mothers who are breast feeding their infants.
- ✦ This vaccine is avoided in people with weakened immune systems e.g. people with cancers or on drugs which suppress the immune system.

**For more information, please contact your doctor.**





QUESTIONS

Q & A

FOR PARENTS ANSWERS

ZOSTER VACCINES

ACVIP : 2020 - 2021

### What is Herpes Zoster (HZ)?

- ❖ Herpes Zoster (HZ) or Shingles usually presents as painful skin rash with vesicles occurring in groups. This rash usually appears on one side of the face or body, generally does not cross the midline and lasts for 2 to 4 wks. Its main symptom is pain, which can be quite severe. Other symptoms can include fever, headache and burning sensation of rashes.
- ❖ The most common complication of shingles is prolonged and recurrent pain, occurring at the site of rash, even after the rash clears up. This is called postherpetic neuralgia (PHN) and can last for months or years. The pain from PHN can be severe and debilitating.
- ❖ Zoster is caused by the Varicella Zoster Virus (VZV), the same virus that causes chickenpox. Only someone who had chickenpox can develop zoster. The virus remains dormant in the body and many years later, when immunity is low due to old age or disease, can present as zoster.
- ❖ Zoster is far more common in people 50 yrs. of age and older. It is also more common in people whose immunity has declined.

### Which are the vaccines available against HZ and who should receive the vaccine?

2 vaccines are available against HZ.

1. Live, attenuated zoster vaccine (LZV): This vaccine is recommended in individuals 50 years of age and older as a single dose of 0.65 ml given subcutaneously.
2. Recombinant vaccine (RZV). This vaccine is recommended in individuals 50 years of age and older in a 2-dose schedule at 0 and 2-6 months (2<sup>nd</sup> dose given 2-6 months after the 1<sup>st</sup> dose). RZV is the preferred vaccine. However, LZV may be preferred for persons allergic to recombinant shingles vaccine or prefers live shingles vaccine, or if recombinant shingles vaccine is not available.

The RZV vaccine can be administered to individuals who have had HZ in the past and who have received the LZV in the past.

There is no maximum age for getting the RZV.

These vaccines are presently not available in India.

### How safe are these vaccines?

Redness, soreness, swelling, or itching at the site of the injection and headache can happen after live shingles vaccine. Headache may occur in some. Rarely, the live vaccine can cause herpes-like rashes.

### Who should receive this vaccine?

All adults age 50 years and older, irrespective of previous HZ infection or receipt of LZV.

### Who should not receive this vaccine?

This vaccine should not be given to those who had a severe allergic reaction after a previous dose of RZV/LZV or to any component of the vaccine or, currently have shingles. LZV should not be administered to individuals with weak immune systems.

**For more information, please contact your doctor.**

