Cancer Vaccination Center In Pune

PrecisionPlus Superspeciality Hospital is the Best Cancer Vaccination Center in Pune. **Dr. Lalit Banswal**, a cancer specialist is highly experienced & qualified to help to guide you with the cancer vaccination.

What is Cancer Vacciantion?

Vaccines are medicines that help to fight disease. Cancer vaccines are a form of immunotherapy. It helps the immune system to know what cancer cells look like so that it can identify and destroy them. Vaccines are proven effective in controlling diseases caused by viruses and bacteria.

They instruct the immune system to discover and destroy harmful germs and cells. To prevent common illnesses, we can receive many vaccines throughout our life. There are also vaccines for cancer. Some vaccines prevent cancer and some treat cancer.

Clinical Trials of Vaccine:

Before a vaccine is licensed it must go through several phases of clinical trials. Before the clinical trial starts, it goes through a pre-clinical assessment. In a pre-clinical assessment, the target antigen is identified, and the vaccine safety and effectiveness are tested in laboratory and animal models.

Phases of Clinical Trial:

1) Phase-I :
In phase, I, normally dozens of participants are recruited. Phase I trial takes at least 1 year to complete. In this phase, the level and safety of the vaccine dose are tested. Phase I candidates who complete the trial do not enter the phase II clinical trial.
2) Phase-II:
In phase II, hundreds of participants are recruited. It may take 2 years to complete the trial. In this clinical trial, the immunogenicity and safety of the vaccine are tested. It is ensured that the vaccine produces both humoral and cellular antibody responses against the targeted antigen. Some Candidates who have satisfactory results in Phase II enter the phase III clinical trial.
3) Phase-III:

In phase III, thousands of participants are recruited. It may take a few years to complete the trial. In this clinical trial, the safety and effectiveness of the vaccine are tested. To determine if the vaccine is effective to protect against the virus or disease, the virus must be circulating during the trial

After Clinical Trials are done, regulatory bodies collect the data and assess the safety and effectiveness of the vaccine, before the vaccine is licensed. It takes approximately 10 years for the whole process to complete, from vaccine development to licensing.

Clinical Trials of Vaccines for Cancer:

Clinical trials are very important to know more about cancer prevention & cancer treatment vaccines. Researchers are testing vaccines for different types of cancer, which include:

1. Cervical cancer: The FDA approved HPV vaccines that prevent cervical cancer. Research continues on vaccines that aid to treat each stage of cervical cancer.

2. Brain tumors: Many of the studies include children and teens that are testing treatment vaccines aimed at certain molecules on the surface of brain tumor cells. Some focus on newly found brain cancer and the rest focus on cancer that has come back or recurred.

3. Bladder cancer. Researchers are testing how well a vaccine created from a virus altered with the HER2 antigen works. These antigens or molecules stay and live on the surface of some bladder cancer tumors. The virus can assist to teach the immune system to locate and destroy these tumor cells. Researchers want to know whether standard bladder cancer treatment or standard treatment works better with a vaccine.

4. Breast cancer: Many studies are testing treatment vaccines for breast cancer, to be given alone or with other treatments. Some researchers are working to get vaccines that prevent breast cancer.

5. Leukemia: Treatment vaccines for various kinds of leukemia, such as acute myeloid leukemia (AML) and chronic lymphocytic leukemia (CLL) being examined. Some of them are to help other treatments, such as a bone marrow/stem cell transplant, work better. Other vaccines help the immune system destroy cancer which is made from a person's cancer cells and other cells.

6. Kidney cancer: Many cancer vaccines to treat kidney cancer are being tested by researchers. They are also testing vaccines to prevent kidney cancer in its latest stages from coming back.

7. Colorectal cancer. Treatment vaccines are being made by researchers that tell the body to attack cells with antigens that may cause colorectal cancer. These antigens include MUC1, guanylyl cyclase C, carcinoembryonic antigen (CEA), and NY-ESO-1.

8. Lung cancer. Lung cancer treatment vaccines target antigens in clinical trials.

9. Prostate cancer. Doctors can Sipuleucel-T is a vaccine that is used to treat people with prostate cancer that has spread. Now studies are examining to notice if the vaccine can help people with prostate cancer at earlier stages.

10. Pancreatic cancer: Researchers are working on many treatment vaccines developed to promote the immune system's response to pancreatic cancer cells. The vaccine can be given as the singular treatment or along with another treatment.

11. Myeloma. Many clinical trials are examining the vaccines for people with multiple myeloma who are near remission. This means doctors can no longer see cancer in the body with no symptoms. Researchers are also testing vaccines in people who need to have an autologous bone marrow transplant.

12. Melanoma. Researchers are testing many melanoma vaccines that can be given alone or with other treatments. Destroyed melanoma cells and antigens in the vaccines help the immune system to destroy other melanoma cells in the body.

Treatments and Vaccines:

Vaccines called antigens help to boost the immune system so that the body can naturally fight the disease. These are injected before the person is infected by any virus or bacteria. Cancer cells appear almost similar to normal cells and the tumor in every individual is different so it is complicated to develop such vaccines to prevent or treat cancer-related diseases.

For effective treatment more advanced technology and treatment are necessary. Currently, there are a few vaccines that are used to prevent and treat cancerous diseases. Visit PrecisionPlus Superspeciality Hospital, **the best cancer treatment center in Pune** to know more about available vaccines.

1) Preventive vaccines – Any preventive vaccines help to prevent infections that can cause cancer in the future. Neck and head cancer is caused by hepatitis B and the human papillomavirus (HPV). In the last few years, many vaccines are developed to prevent cancer caused by HPV and HBV.

Some vaccines are- Cervarix, HBC, HEPLISAV, Gardasil, Gardasil-9

2) Personalised vaccines – Vaccines that are developed from the own cells of cancer patients are called personalized neoantigen vaccines. This vaccine treatment is given in such a way that immune cells automatically destroy the cancer cells. Currently, the phase II and Phase III trials of these vaccines are yet to be complete.

3) Therapeutic vaccines

Doctors are now able to identify the targets in the tumors, which are produced by prostatic acid phosphatase (PAP) and it is useful to differentiate normal cells and cancer cells.

Some vaccines are- Sipuleucel-T and Bacillus Calmette-Guerin (BCG).

Vaccines that treat cancer:

Vaccines are a type of cancer treatment called immunotherapy, that treats existing cancer which is called a therapeutic or treatment vaccine. Immunotherapy work to boost the body's immune system to fight cancer. It is given to patients already having cancer.

Different treatment vaccines work in different ways. They can:

- Keep cancer from coming back
- Stop a tumor from growing or spreading
- Destroy any cancer cells still there in the body after treatment is done

Challenges of treatment vaccines:

Treatment vaccines making to work is a challenge because:

- **Cancer cells suppress the immune system.** Researchers are utilizing adjuvants in vaccines to push to fix this problem. A substance named adjuvant is added to a vaccine to enhance the body's immune response.
- **Cancer cells start from a person's healthy cells.** The immune system may ignore the cancer cells instead of finding and fighting them as cancer cells may not look harmful to the immune system.
- **Larger or advanced tumors are difficult to get rid of utilizing only a vaccine.** Doctors often give a cancer vaccine along with other treatments as larger or advanced tumors are difficult to get rid of.
- **Sick or older people can have weak immune systems.** After receiving a vaccine their bodies may not be able to produce a strong immune response, which limits how well a vaccine works. Some cancer treatments may also weaken the immune system of a person, which limits how well the body can respond to a vaccine.

Vaccines that prevent cancer:

Some vaccines can prevent healthy people from getting certain cancers caused by viruses. For the vaccine to work it is required to get a vaccine before a person gets infected.

To prevent cancer 2 types of vaccines are approved by the U.S. Food and Drug Administration (FDA):

1. HPV vaccine. This vaccine protects against the human papollomavirus (HPV). This virus can cause some types of cancer if this virus stays in the body for a longer time. HPV vaccine which is approved by FDA to prevent:

- Cervical, vulvar and vaginal cancers
- Anal cancers
- Genital warts

HPV can also cause other cancers such as oral cancer for which the FDA has not approved the vaccine.
2. Hepatitis B vaccine. Hepatitis B virus can cause liver cancer and this virus is protected by the Hepatitis B vaccine.

Side effects of cancer vaccine:

As many cancer treatment vaccines are new. So there might be chances of side effects we don't yet know about.
The side effects that we know about are similar to other vaccines used for infectious diseases. These may include:

- redness, swelling, itching, or mild pain where you had the vaccine injection
- flu-like symptoms like feeling sick
- a high temperature for the next few days

visit PrecisionPlus Superspeciality Hospital, **the Best Cancer Vaccination Center in Pune** to more about the individual side effects of each cancer vaccine.

Why are Vaccines so important?

In the past few years, vaccinations in India have saved more than a billion lives and prevented countless people to suffer from a wide range of illnesses and disabilities. Vaccination is important to protect yourself and to protect those around you. To prevent diseases vaccines are one of the best ways. Meet **Dr. Lalit Banswal**, **the best Cancer Vaccination Specialist in Pune** to know more.

What Dr. Lalit Banswal says?

Your health is always our top priority. Vaccination has the potential to reduce the occurrence of cancer. Cancer vaccination helps in reducing healthcare expenses and related anxieties. Given all these benefits, **Dr. Lalit Banswal** at PrecisionPlus Superspeciality Hospital which is the **best Cancer Treatment Center in Pune**, strongly recommends cancer vaccines.