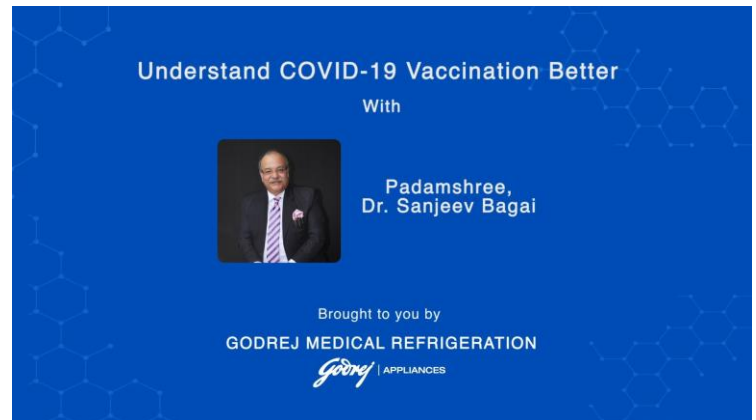


**Got questions around the on-going Covid vaccinations? Godrej Vaccine Refrigeration team brings you all the answers from Padma Shree Presidential Awardee and Dr B. C. Roy Presidential Awardee, Doctor Sanjeev Bagai.**

**16<sup>th</sup> March, 2021:** As people across the country undergo covid-19 vaccinations, this National Vaccination Day, Godrej Appliances, a business of Godrej & Boyce, the flagship company of the Godrej Group, collaborated with Padma Shree Presidential Awardee and Dr B. C. Roy Presidential Awardee, Doctor Sanjeev Bagai, Chairman of Nephron Clinic. Together they will address some of the lingering questions around Covid-19 vaccination, in the minds of people. Here are some excerpts -



### **Workings of a Vaccine**

Vaccines are agents which induce immunity by producing antibodies in the body. On exposure to an antigen (an outside protein or virus or bacteria), the body hosts an immune response with your battery of antibodies, which are your warriors now ready to fight the infection. The immunity is developed over a period of days, weeks or even months.

Different levels of vaccines are given at different time frames to induce different levels of immunity. Some vaccines require booster dosages, while others are given annually and then there are those given as a single shot which provides protection for life. Some of the common vaccines that are given at birth are BCG, oral polio vaccine, diphtheria, tetanus, measles, hepatitis A, hepatitis B. Now the new entrant is Covid-19 vaccine.

### **Fast-paced introduction of Covid vaccine**

Normally, it takes between 10 to 15 years for a drug manufacturer to get a vaccine through a decade-long process of various phases of trials and approvals from monitoring agencies to roll out. With the pandemic, there was global, par excellence, and unprecedented collaboration among various international organizations such as GAVI and WHO, which monitor these programs so that the vaccines are rolled out at a faster pace to fight against the deadly virus. Keeping in mind the urgency, this time, monitoring agencies provided a quick turnaround on the approvals, without compromising the safety and the ethics of the trials.

### **The technology behind the vaccine**

Now across the world, there are many covid-19 vaccines which have been rolled out. Many of the covid-19 vaccines are mRNA-based. This technology has been utilized during MERS and SARS epidemic in 2006, 2010 and again in 2012, and was even tried during the Ebola epidemic. The other vaccines which are vector-based vaccines use an older platform and a time-tested technology. This is also known as an adeno vector-based technology, in which the manufactured virus piggybacks on the adenovirus and enters the body to enhance the immunity in quicker time.

### **The need for a robust Cold Chain**

Right from the time a vaccine is being prepared, it is done under strict proportions at a particular temperature in the vaccine manufacturing unit. For a tropical country like India wherein the ambient temperature can go as high as 45 degrees, the entire cold chain has to be robust to maintain the required temperatures. There are some

vaccines which require 2 to 4 degrees, some require 4 to 8 degrees. There are some mRNA vaccines, which require - 70 to - 90 degrees cold storage. And then once the vaccine comes out from the icebox or from the cold storage it remains active for X amount of days. Now, the requirement is in terms of mass storage of not hundreds or thousands, but millions of doses, that need containers which can maintain the temperature. Till now, this has never happened in India. This is a compliment to the Indian industry, which has come to help the medical core to maintain the temperature as there is no point in giving a vaccine that becomes inactive or ineffective.

The government has involved the private sector in a huge manner because, there is no divided between the government and the private in such unprecedented times. And the private sectors have come in with all the knowledge and expertise, very often through philanthropic means, to help transport these vaccines, maintain the temperature, not only in metros or tier I and tier II cities, but outside because the vaccine has to go to the last mile.

### **Herd Immunity – a necessity**

Herd immunity is a critical threshold in which a community develops immunity, which is either through natural infection or induced through vaccine as an active immunity in which the community stops transmitting the infection. It is like breaking the chain of transmission and requires between 60% to 70% of the entire country's population to be vaccinated, which is monumental! The quicker the vaccines reach humans all over the world, the sooner and easier it would be to get a grip on this pandemic. India is looking at vaccinating approximately 30 Cr. people in the next few months before summer ends.

In terms of reaching this level of immunity, it is to be kept in mind that the viruses also mutate, which is a normal evolution phenomenon of the virus to survive – making the virus more transmissible, its infectivity increases, and it becomes resistant to the neutralizing antibodies. This is another key reason why the vaccination program needs to be quick and time bound.

### **Covid-19 Vaccine Dosage**

Most of the vaccines so far, including those being rolled in the Indian diaspora, require two doses. The timing of the dose varies. The 2nd dose or the booster starts inducing cells which are critical in long term immunity. The mRNA vaccines are also given between a gap of three to four weeks i.e., 28 to 30 days. With 2 dosage mechanism, data maintenance of the patients is crucial.

Many pharma companies are now coming up with an intranasal vaccine, which is single-dose and will eliminate most of the issues of the injectable part. A single dosage helps in better compliance and elevates the ease and convenience of administration.

### **Vaccine Hesitancy & Vaccine Safety**

There has been no case report as such to indicate questions around the safety of the vaccine. This vaccine doesn't cause any multi-organ involvement. The vaccine doesn't cause any impotency or any brain or heart or spinal damage! The side effects have been even smaller than the influenza shots. It is safe in terms of efficacy. The on-ground effectiveness of a vaccine dips down for a variety of environmental and administrable logistic reasons. Any vaccine with more than 50-60% efficacy has been proven to work very well on the field.

Vaccine hesitancy is a cocktail of ignorance and arrogance and has to be eliminated with strong public messaging. Crores of health care workers have come up first to get vaccinated. We need to spread the message. Everyone needs to be a transmitter of good knowledge and scientific facts. Every doctor should be a vaccine ambassador. With proper awareness, vaccine hesitancy can be eliminated. Vaccine hesitancy is the worst thing you can do to your country and to the globe. No one is safe till everyone is safe. Therefore, we need to spread the message as quickly as possible to as large a number of people as possible and with maximum safety, India needs to be immunized.

## **Word of Caution**

As any human being gets a vaccine, in the Indian diaspora, say dose one on day zero, after 13 – 14 days, the B cells i.e., the antibodies start building, although don't reach a protective level as yet. It takes at least two to three weeks for the antibodies then to continue to build, to reach a protective level. The second dose or the booster is given, which fires the immunity further, to give not only B cells, but it starts inducing the T cells, which are critical in long term immunity.

A natural infection gives an antibody protection for maximum up to three months and T- cells up to eight months, but that's poor immunity for long term. **Vaccines provide more robust, long-lasting and accurate immunity. After vaccine administration, one continues to build antibodies for many months maybe even up to a year. This is why, one would advise to continue wearing a mask, maintaining proper sanitization, even if vaccinated to break the transmission chain.**

## **Pandemic's impact on health care**

The pandemic has been a frontal attack on humanity. It highlighted the chronic underfunding of public health infrastructure worldwide, which will now get a huge impetus. Not only affordable, accessible and accredited healthcare, but preventative, predictive, personal healthcare and focus on primary healthcare will be the norm. Lastly, most important is the role of technology especially leveraging advances in digital technology, artificial intelligence, logistics, medical supply chains etc. in the healthcare space.

Issued in public interest by Godrej Medical Refrigeration of Godrej Appliances, Godrej & Boyce. Godrej & Boyce, the flagship company of the Godrej Group, has been committed to serving the country especially in the trying pandemic times, through its efforts across its offerings – be it through medical components - Hospital Bed Actuators and Electro-magnetic valves for ventilators, or through disinfectant devices aimed at keeping the population safer at home, or setting up socially distant offices to keep people safe at work; and is proud to serve the country with Made in India medical refrigerators and freezers, at a time when they are most needed.

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**About Godrej & Boyce:** Godrej & Boyce ('G&B'), a Godrej Group company, was founded in 1897, and has contributed to India's journey of self-reliance through manufacturing. G&B patented the world's first springless lock and since then, has diversified into 14 businesses across various sectors from Security, Furniture, Appliances, Aerospace to Infrastructure and Defence. Godrej is one of India's most trusted brands serving over 1.1bn customers worldwide daily.

**About Godrej Appliances:** Godrej Appliances, a business unit of Godrej & Boyce, is one of the leading Home Appliances players in India. Godrej & Boyce was the first Indian Company in 1958 to manufacture Refrigerators and since then Godrej Appliances has expanded its portfolio across many other categories like Washing Machines, Air Conditioners, Microwave Ovens, futuristic Thermo-electric cooling solutions, Air Coolers, Deep Freezers, highly specialized Medical Refrigerators and more recently, UVC Technology-Based Disinfecting devices and Dishwashers, all powered by the driving philosophy of 'Things made thoughtfully'.

This thought extends from human-centric design to planet centric design. Environment is a core value at Godrej. Both manufacturing units of Godrej Appliances became the first in the country to win the coveted Platinum Plus Green Co certification for their pioneering green manufacturing practices.

The brand takes pride in not just its carefully designed products and environment-friendly technologies, but also best in class after-sales service delivered through over 680 service centers and more than 4500 SmartBuddy service experts spread all over the country.

To learn more visit : <https://www.godrej.com/godrej-appliances>



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