



# DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY  
Tuesday 20201124

## Vaccine

### US prepares for first COVID-19 shots as another vaccine candidate emerges (The Tribune: 20201124)

<https://www.tribuneindia.com/news/health/us-prepares-for-first-covid-19-shots-as-another-vaccine-candidate-emerges-174706>

Healthcare workers and other high-risk people could start getting shots within a day or two of regulatory consent next month, says head of the US campaign to rapidly deploy a vaccine

US prepares for first COVID-19 shots as another vaccine candidate emerges  
Photo for representational purpose only.

US officials prepared to begin inoculating Americans against the novel coronavirus by mid-December as another global drug company on Monday announced promising trial results toward a vaccine, providing hope as the pace of infections accelerated.

The head of the US campaign to rapidly deploy a vaccine said on Sunday that US healthcare workers and other high-risk people could start getting shots within a day or two of regulatory consent next month.

US approval for distributing a vaccine produced by Pfizer Inc and German partner BioNTech could come as soon as December 11, Dr Moncef Slaoui, chief scientific adviser for "Operation Warp Speed", told television news shows.

"Within 24 hours from the approval, the vaccine will be moving and located in the areas where each state will have told us where they want the vaccine doses," Slaoui told NBC's "Meet the Press".

"So I would expect, maybe on Day 2 after approval on the 11th or 12th of December, hopefully the first people will be immunized across the United States," he said on CNN's "State of the Union".

Pfizer says its vaccine was 95% effective against infection from the highly contagious respiratory virus.

Other pharmaceutical companies progressing toward a vaccine include Moderna Inc, which is expected to seek separate approval later in December.

The latest breakthrough came on Monday as British company AstraZeneca said its vaccine could be 90% effective without any serious side effects, giving the world another important tool against the pandemic and one that is potentially cheaper to make, easier to distribute and faster to scale up than those of rivals.

The vaccine was 90% effective in preventing COVID-19 when administered in two different doses a month apart, late-stage trials showed.

The British drugmaker said it would have as many as 200 million doses by the end of 2020 and 700 million doses could be ready globally as soon as the end of the first quarter of 2021.

In the United States, the first people to receive the Pfizer vaccine would likely include doctors, nurses and front-line emergency medical personnel, as well as those at the highest risk of severe illness and death from the virus, Slaoui said.

With many Americans traveling and potentially increasing their risk ahead of the Thanksgiving holiday on Thursday, the United States has surpassed 12 million infections and the death toll has climbed to more than 255,000 since the pandemic began.

Coronavirus hospitalisations have surged nearly 50% over the past two weeks as the pace of new infections quickened.

The crisis has prompted state and local government leaders nationwide to reimpose restrictions on social and economic life.

Nevada's Governor, diagnosed with COVID-19 himself earlier this month, said on Sunday he was tightening coronavirus restrictions on casinos, restaurants and bars, while imposing a broader statewide mandate for face coverings over the next three weeks.

"Whether you believe in the science of COVID or not, the reality is this - COVID is filling up our hospital beds, and that threatens all Nevadans," Democratic Governor Steve Sisolak, 66, said as he announced a new "statewide pause". Reuters

## **COVID vaccines next month**

### **UK aims to roll out COVID vaccines next month (The Tribune: 20201124)**

<https://www.tribuneindia.com/news/health/uk-aims-to-roll-out-covid-vaccines-next-month-174666>

Bulk of the vaccine rollout programme will be in January, February and March, says Health  
UK aims to roll out COVID vaccines next month

Photo for representational purpose only. Reuters file

Britain will seek to start administering a COVID-19 vaccine before Christmas with the bulk of the rollout at the start of the New Year, with life getting back to normal after Easter, Health Minister Matt Hancock said on Monday.

"We hope to be able to start vaccinating next month," Hancock told BBC TV after AstraZeneca announced its vaccine could be up to 90% effective.

"The bulk of the vaccine rollout programme will be in January, February, and March. And we hope that sometime after Easter things will be able to start to get back to normal." Reuters

## **Stress**

### **Our thinking pattern is responsible for creating our destiny (The Tribune: 20201124)**

<https://www.tribuneindia.com/news/health/our-thinking-pattern-is-responsible-for-creating-our-destiny-173528>

Our thinking pattern is responsible for creating our destiny

Miracles happen all the time. We just have to allow them to happen. Miracles occur when we start relating to the power of our sub-conscious mind.

It is our thinking pattern that is responsible for creating our destiny. Habitual thinking combined with visualisation is responsible for creating the pattern, which impacts our sub-conscious in such a way that life turns to magic.

Let the power work

This is a power that will guide us towards freedom, happiness and peace. It will save us from confusion, melancholia and depressive thoughts.

What truly controls our progress on this planet is our fear. It is our biggest reality. We are constantly living in fear. It is only the power of the sub-conscious which can drive this fear away, and make us strong. We need to come out of it to walk towards liberty and freedom.

Trust the infinite healing power

There is an infinite healing power in the sub-conscious mind. We need to understand that the power that created the body to function also has the capacity to heal it, as the power understands the workings of the human mind.

Effective power

There is a scientific way of tapping the hidden reservoir. The sub-conscious of a person is in sync with his thoughts.

Role of desire

We all want joy, peace of mind, security and happiness. The mind works back and forth on problems. It is important to know how the mind works so that we can convert all the negative thoughts into positive thoughts.

Change our world

Let's replace mental images. All the beliefs instilled in our childhood can manifest anytime. They are hidden in our sub-conscious.

Our belief matters

If we fear a certain concept and keep repeating the mental imagery constantly, we will surely create fear. Our fear is a movement of our own mind that creates what we expect and what we believe.

Repetition creates reality

If we will keep repeating a thought again and again, it becomes our second nature. The sub-conscious accepts it and integrates it. We need to enrich our sub-conscious to bring abundance to our life.

Say no to victimhood

Most people are unaware of their power. We should use our power to bring about a radical change. First we need to recognise our power and then we can use it to our advantage.

Create miracles

Miracles are the ways to show us that we are spiritual beings with unlimited potential and capable of creating our own magic. We need to allow the beauty of existence to show up.

## **Covid antibodies**

### **Covid antibodies detected up to 3 months after infection (The Tribune: 20201124)**

<https://www.tribuneindia.com/news/health/covid-antibodies-detected-up-to-3-months-after-infection-173648>

Study shows that IgG antibody levels are maintained for at least three months after the infection

Researchers have revealed that the vast majority of individuals have detectable antibodies up to three months post contracting the SARS-CoV-2 virus, the virus that causes Covid-19.

The study, published in the Journal of Infectious Diseases, shows that IgA and IgM antibodies to SARS-CoV-2 decay quickly, while IgG antibody levels are maintained for at least three months after infection.

In this new study, researchers measured three main types of antibodies (IgM, IgG and IgA) directed against the receptor-binding domain (RBD) of the SARS-CoV-2 Spike protein, which allows it to infect human cells.

The results show that, one month after the initial seroprevalence assessment conducted at the beginning of April 2020, the percentage of participants with evidence of previous or current infection had increased to 15 per cent and that around 60 per cent of the new infections detected were asymptomatic.

"In one month, we found 25 new infections among the participants, which is quite high, considering that the peak of the pandemic had passed and the population had been confined for more than one month," said study author Alberto Garcia-Basteiro from the Barcelona Institute for Global Health (ISGlobal) in Spain.

Of the 82 seropositive participants detected at month one, 66 were followed up for an additional two months.

By month three, most (78 per cent) had no longer detectable levels of IgM, some (24.5 per cent) had no longer detectable IgA, but the majority (97 per cent) maintained detectable levels of IgG.

In fact, IgG levels in some of the participants increased as compared to the first analysis.

Symptomatic cases had higher levels of IgA but no differences in the speed at which antibodies declined were observed between asymptomatic and symptomatic infections.

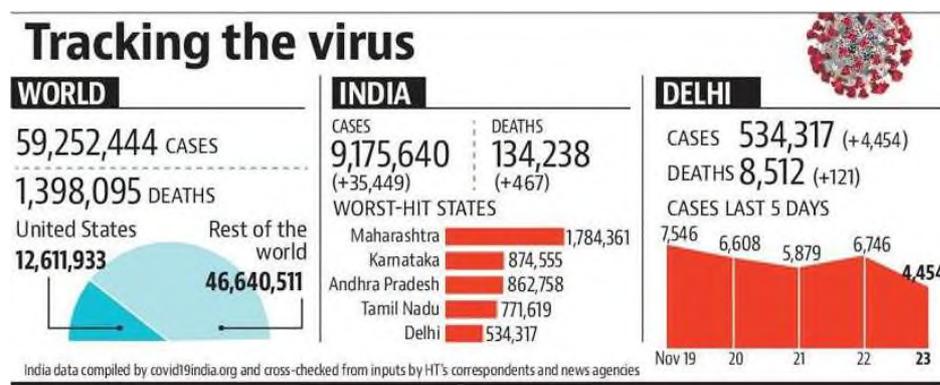
Overall, IgG1 levels were higher, although high IgG2 levels correlated with a longer duration of symptoms.

"Our findings confirm that IgM and IgA antibodies rapidly decline within the first month or two after infection, which should be kept in mind when performing seroprevalence studies or interpreting serological results," the authors wrote. — IANS

## Oxford shot up to 90% successful

Boost for India as Oxford shot up to 90% successful (Hindustan Times: 20201124)

<https://epaper.hindustantimes.com/Home/ArticleView>



## Decoding the results

**Group A**  
2,741 people

**90% Efficacy**

Dose: Half dose in first shot, full boost dose 1 month later

**Group A**  
8,895 people

**62% Efficacy**

Dose: Full dose in first shot, full boost dose 1 month later

**Overall weighted average**  
70.4% Efficacy

- No hospitalisation or severe case in any of vaccinated people who developed illness
- No serious safety event found, vaccine well tolerated

**How it compares to others**  
95% Pfizer-BioNTech and Moderna

**Key benefits of Oxford vaccine**

**Cold chain need:** Oxford vaccine can be stored at refrigerator temperatures, compared to the -70°C needed for the Pfizer vaccine

**Lower cost:** This shot will cost \$4-5 per dose, compared to \$25-37 for the Moderna vaccine

SII has an agreement with AstraZeneca to make the vaccine in India. It will make 50% of the vaccines for the local market

### WHAT NEXT

- 1** AstraZeneca to apply for emergency use approval in UK and with WHO
- 2** Filing in India likely after approval is secured in UK
- 3** SII expects 100 million doses to be ready for India by January

The University of Oxford and pharma major AstraZeneca on Monday said their coronavirus vaccine was up to 90% effective in late-stage clinical trials, announcing what may be the most crucial development for India to realistically begin expecting by the end of the year the first shots to prevent Covid-19 infections.

Known as AZD1222, the vaccine has long been the best hope for India — it is cheaper to make, easier to store and distribute, faster to scale up than its two rivals that have shown promise till now, and its principal manufacturer is Pune-based Serum Institute of India (SII), which has committed to reserving half of what it produces for India.

On Monday, the inventors of the inoculation announced that their clinical trials showed it worked in both the doses they were testing. When people got two shots of equal strength, it was 62% effective, but when the initial dose was halved, the efficacy rose to 90%. The weighted average of the two was 70.4%.

“These findings show that we have an effective vaccine that will save many lives. Excitingly, we’ve found that one of our dosing regimens may be around 90% effective and if this dosing regimen is used, more people could be vaccinated with planned vaccine supply,” said Andrew Pollard, director of the Oxford Vaccine Group and chief investigator of the Oxford Vaccine Trial.

“The announcement today takes us another step closer to the time when we can use vaccines to bring an end to the devastation caused by Sars-CoV-2,” added his colleague, Sarah Gilbert, professor of Vaccinology at the University of Oxford.

The difference in performance of the vaccine when initial dose was halved was not immediately explained. “I think all of us expected that the two high doses would be the best response,” said Pollard. “We think that by giving a smaller first dose, that we’re priming the immune system differently. We’re setting it up better to respond.” Gilbert said the better result with a smaller initial dose could be because this better “mimics what happens in a real infection”. One of the objectives of Phase 3 tests is to determine the right dosage.

The makers of the vaccine will now approach regulators with the full data from the trial to seek an emergency use licence, which will allow for it to be given to people who need it at the earliest: health care workers at the frontlines of the pandemic and people vulnerable to serious illness.

SII’s CEO said at the Hindustan Times Leadership Summit last week that his company would do the same as soon as the UK permissions came through. He reiterated his position to two TV channels on Monday, and said that at this rate the vaccine should be available for emergency use by the end of the year, and to the general public by around March 2021.

In early June, Oxford-AstraZeneca announced a deal with SII to produce a billion doses of the vaccine for low- and middle-income countries (LMIC), which now makes this vaccine the only one yet that appears to be affordable as well as effective for billions of people who live in these countries. “This means we have a vaccine for the world,” Pollard added during a press conference in London.

The Pfizer-BioNTech and Moderna vaccines, which showed efficacy of about 95% each, are significantly more expensive than the Oxford vaccine and require much more stringent transportation and storage norms because they remain effective in much lower temperatures.

The June deal also represented a leap of faith that now appears to have paid off for SII. Poonawalla said at the HT Leadership Summit that the company invested in retooling and stockpiling millions of doses even before it had proven effective. “I felt it was my moral responsibility to take the decision then because if I didn’t, countless lives would be lost next year,” he said, expecting the gamble to pay off, which it now appears to have.

SII has produced around 40 million doses as of now and the company will be able to supply 100 million doses by January, Poonawalla said. The latest news was “certainly better than what we expected it to be”, he told two TV channels on Monday.

He also reiterated cost estimates he first made during HTLS last week: The vaccine will be priced around \$3-4 (₹250-₹300) per dose for the Indian government. “In the private market, it

will be priced around ₹1,000 after taking into account commissions to distributors,” he told the TV channels.

It is not clear whether the government will allow direct sales of vaccines since it has taken over all aspects related to procurement in India. Individual state government too are not allowed to source these, according to Union government orders.

This was the third consecutive Monday this month for vaccine makers to announce that their shots had shown to work in initial findings from their trials. The first was by American drugmaker Pfizer and German partner BioNTech, who on November 9 said their shot was 94.5% effective in reducing Covid-19 infections. On November 16, another American company, Moderna, released similar results.

Both of these work on a new platform and cost close to 10 times more than AZD1222. The Pfizer-BioNTech vaccine requires temperatures as low as -70°C to store. The Oxford vaccine, in contrast, “can be easily administered in existing health care systems, stored at fridge temperature (2-8 °C) and distributed using existing logistics,” the university said in a statement.

Authorities in India said they will wait till any of the vaccine candidates are granted an approval in regions where they have applied. “As for following up on the progress made on vaccine research, the government is continuously in talks with the parties involved. However, the actual procurement process will begin the day any of these vaccines gets regulatory approvals. So far, none of these vaccines has secured emergency use authorization (EUA) so there is no question yet of vaccine procurement,” said Rajesh Bhushan, Union health secretary.

The subject expert committee at India’s Central Drugs Standard Control Organisation (CDSCO) will also be looking at the basis on which approvals are granted to vaccines in other countries.

Experts said that while it is important to fast-track approvals during a pandemic, it is not advisable to cut corners as far as safety data is concerned.

“Regulators need to scrupulously examine data when submitted — in India as well as other countries. Safety data as well as efficacy data are both important. Science should not be stampeded but regulation can move into the fast track while following all the traffic rules,” said Dr K Srinath Reddy, founder, Public Health Foundation of India and a member of the National Task Force on Covid-19 management.

Experts treating patients say 70% efficacy itself is good since most vaccines against respiratory illnesses do not have more than 50-60% effectiveness.

“Seventy per cent is quite decent, but our concern should be more towards the safety of the vaccine candidate. It should be safe as efficacy for influenza vaccine is also about 50%,” said Dr GC Khilnani, former head, pulmonary medicine department, New Delhi’s All India Institute of Medical Sciences.

## **Covid-19: What you need to know today (Hindustan Times: 20201124)**

<https://epaper.hindustantimes.com/Home/ArticleView>

On Monday, Nature carried a report which shows that we are slowly but surely figuring out the origin of the Sars-CoV-2 virus which causes the coronavirus disease (Covid-19). The report is about two related findings about the virus that came, not from the field, but the freezer. There have been many significant stories about the virus over the past 11 months, so this is something.

First, according to Nature, in two Shamel's horseshoe bats captured in Cambodia in 2010, and stored in a freezer in a laboratory, scientists came across a coronavirus that seems to be related to Sars-CoV-2. Coronaviruses are family of RNA viruses (coronaviridae) that are known to cause diseases in humans, other mammals, and birds. Some of these are harmless – some common colds are caused by coronaviruses. But some, as we have discovered, can be dangerous. Severe Acute Respiratory Syndrome (Sars), Middle East Respiratory System (Mers), and Covid-19 are all severe diseases caused by coronaviruses. Mers, for instance, killed around a third of the people it infected (866 out of 2,519), but most experts admit that this is perhaps an overestimate. Many cases of Mers may have been mild, even undetected, causing nothing more than a minor illness, or nothing at all. Nature reports that the virus found in the Cambodian lab is being sequenced.

Second, the journal reports that a Japanese lab found a virus that shares 81% of its genome with Sars-CoV-2 in frozen samples of a Japanese horseshow bat captured in 2013. That isn't much. There is a 99% similarity within a species. But travel further up the chain (to, say genus), and the divergence widens. For instance, humans and chimpanzees are from the same family (and also sub-family), Hominidae (and Homininae), and our genome is 96% similar to a chimpanzee's. In general, scientists believe that a genomic similarity in excess of 95% can help them link two species on an evolutionary time-frame. The advantages of doing this with Sars-CoV-2 are clear – it can shed light on the provenance of the virus, even find out whether there was an intermediary in its transmission from bats to humans.

Interestingly, the Nature report says that the two findings, in Cambodia and Japan, may well mean that “as yet undiscovered Sars-CoV-2 relatives could be stored in lab freezers”, quoting Aaron Irving, a researcher at Zhejiang University in Hangzhou, China.

The report came on a day when a third vaccine candidate, AstraZeneca/Oxford's, published interim results showing a 90% efficacy of the vaccine when administered as a half dose followed by a full one, and a 62% efficacy when administered as two full doses. The overall efficacy was 70.4%, which would have been considered high in any other context but the current one – the study's results are being released in the wake of results released by Pfizer/BioNTech and Moderna that show a 95% efficacy of their own vaccine candidates. The AstraZeneca/Oxford vaccine is a vector vaccine, using a virus that causes cold in chimpanzees to transport a piece of genetic material from the spike protein of the Sars-CoV-2 virus to provoke an immune reaction from the body. The vaccine requires ordinary refrigeration, which means it will be easier to transport than Pfizer's. And a 70% success rate isn't bad, most flu vaccines have a success rate of around 50%.

The good news for India is that Serum Institute of India (SII), the world's largest vaccine-maker, has an agreement with AstraZeneca to make the vaccine in India (and, in fact, took a risk that the vaccine would be successful to get a head start). The company has said 50% of the vaccines it makes will be for the local market. This means that if UK regulators approve the vaccine for use, Indian regulators may follow suit. If all of this does happen, the first doses of the vaccine may be available in India before the end of the year.

## **Covid treatments**

### **As vaccine trials end, where do Covid treatments stand? Hindustan Times: 20201124)**

<https://epaper.hindustantimes.com/Home/ArticleView>

Vaccine developers have been racing against time to find a shot that offers immunity against the coronavirus disease (Covid-19). Parallely, major treatment protocols are being revised following results from several global trials that cleared the air on which Covid-19 therapies work better than others.

Most Covid-19 treatments fall under three broad categories, antivirals that prevent the virus from multiplying, immune-modulators that regulate the immune response, and combinations using multiple mechanisms of action.

#### Antiviral remdesivir

The antiviral remdesivir was suspended from the World Health Organization prequalification list that developing countries use as a benchmark for procurement. The suspension followed the health agency's guidance on Friday against the use of remdesivir in hospitalized patients, regardless of disease severity, after an international guidelines development group found no evidence that the drug improves survival rates, reduces the need for mechanical ventilation, or boosts recovery and other patient outcomes. The group, however, recognized that more research was needed, and supported continued enrolment in trials evaluating remdesivir.

“The guidelines group of WHO is separate from Solidarity Trial group as it reviews all evidence, including the WHO trial. They have concluded that there is no evidence of benefit from (remdesivir) in any group of hospitalised patients and that available evidence is inadequate if there is a benefit in non-hospitalised patients,” said Dr K Srinath Reddy, president, Public Health Foundation of India.

#### Aspirin and other anticoagulants

On the upside, the ubiquitous painkiller and blood-thinning drug aspirin was added to the UK's Randomised Evaluation of COVID-19 Therapy (RECOVERY) trial in early November. “Clotting is a big problem [in Covid-19]. Aspirin is a widely available, cheap drug which, if it

were to work, would be a huge boost,” Peter Horby, the chair of the RECOVERY trial and professor of emerging infectious diseases and global health at the University of Oxford, told joint inquiry committees from the House of Commons in the UK.

“We’re [also] seeing better use of anticoagulants — heparin and others — to prevent clotting, and one would anticipate that the introduction of dexamethasone has also had an impact. That would be something that would reduce fatality rates,” said Horby.

#### Monoclonal antibodies

The US Food and Drug Administration this month issued an emergency use authorisation for the investigational monoclonal antibody therapy bamlanivimab for the treatment of mild-to-moderate Covid-19 in adult and paediatric patients who are 12 years of age and older weighing at least 40 kg who are at high risk for progressing to severe disease and/or hospitalization. Bamlanivimab is not authorized for patients who are hospitalized or need oxygen therapy as it may worsen clinical outcomes.

Monoclonal antibodies are laboratory-made proteins that mimic the immune system’s ability to fight harmful antigens, such as viruses and bacteria. Bamlanivimab is directed against the spike protein of Sars-CoV-2, the virus that causes Covid-19, and works by stopping the virus from entering human cells.

Monoclonal antibodies are approved for Covid-19 treatment in India.

#### Anti-parasitic ivermectin

Studies have shown the affordable and widely available drug ivermectin used to treat parasitic infections has antiviral action against the Sars-CoV-2. The use of ivermectin in doses ranging from 200 to 1200 mcg/kg body weight, for a duration of three to seven days, is showing promise in symptomatic relief and viral load reduction.

Two studies of ivermectin alone or in combination with doxycycline, found ivermectin-doxycycline combination therapy had a better success of symptomatic relief, shortened recovery duration, reduced adverse effects, and superior patient compliance compared to the hydroxychloroquine-azithromycin combination in mild to moderate cases of Covid-19 disease.

In India, ivermectin is part of at least five ongoing trials, according to Clinical Trials Registry India, and its benefits are under review.

## **UNICEF**

**UNICEF working with over 350 partners to deliver Covid-19 vaccines (New Kerala: 20201124)**

<https://www.newkerala.com/news/2020/203859.htm>

The UN Children's Fund (UNICEF) is working with more than 350 partners, including major airlines, shipping lines and logistics associations from around the world, to deliver Covid-19 vaccines to over 92 countries, as soon as doses become available, the agency said on Monday.

Etleva Kadilli, director of UNICEF Supply Division, highlighted the importance of the partnership to ensure capacity for the massive undertaking, the Xinhua news agency reported.

"As work continues to develop Covid-19 vaccines, UNICEF is stepping up efforts with airlines, freight operators, shipping lines and other logistics associations to deliver life-saving vaccines as quickly and safely as possible," she said.

"This invaluable collaboration will go a long way to ensure that enough transport capacity is in place for this historic and mammoth operation. We need all hands on deck as we get ready to deliver Covid-19 vaccine doses, syringes and more personal protective equipment to protect front line workers around the globe," the UNICEF official added.

To kick-start preparations, UNICEF along with the Pan American Health Organization (PAHO) and the International Air Transport Association (IATA) briefed major global airlines last week on the expected capacity requirements and discussed ways to transport close to 2 billion doses of Covid-19 vaccine doses next year. This is in addition to the 1 billion syringes that need to be transported by sea-freight.

In the coming weeks, UNICEF is also assessing existing transport capacity to identify gaps and future requirements, said the agency.

"The procurement, delivery and distribution of Covid-19 vaccines is anticipated to be the largest and fastest such operation ever undertaken," it added.

UNICEF is leading efforts to procure and deliver vaccines from manufacturers that have agreements with the COVAX Facility. In collaboration with PAHO, UNICEF will coordinate the purchase and delivery for 92 low- and lower middle-income economies as quickly and securely as possible.

The efforts build on UNICEF's longstanding efforts with the logistics industry to transport supplies around the world despite restrictions related to the pandemic. Since January, it has delivered over 190 million U.S. dollars worth of Covid-19 supplies such as masks, gowns, oxygen concentrators and diagnostic test kits to support countries as they respond to the pandemic.

As the largest single purchaser of vaccines in the world, UNICEF normally procures more than 2 billion doses of vaccines annually for routine immunisation and outbreak response on behalf of nearly 100 countries.

This unparalleled expertise includes the coordination of thousands of shipments with various cold chain requirements, making the UN agency an expert in supply chain management of temperature-controlled products, which is especially needed during this historic undertaking.

## **Hormone leptin**

### **Early weight gain in children linked to ability to produce hormone leptin (New Kerala: 20201124)**

<https://www.newkerala.com/news/2020/203784.htm>

Young children of African ancestry are more at risk of developing obesity if they possess a genetic variant that reduces their ability to produce the hormone leptin.

Leptin may play a stronger role in weight control in children, than adults.

Adults with the variant do not have the same risk, suggesting that leptin plays a role in the development of obesity at a young age but the obesity does not continue into adulthood.

This is one of the findings made in an international study by scientists at the University of Copenhagen, University of Exeter, Icahn School of Medicine at Mount Sinai, and others, who investigated the role of genetics in controlling leptin levels.

"Our findings suggest that young children might be particularly sensitive to the effect of leptin in controlling their body weight," says Associate Professor Tuomas Kilpelainen from the Novo Nordisk Foundation Center for Basic Metabolic Research (CBMR) at the University of Copenhagen.

Understanding variation in leptin levels through genetics

It has long been established that the hormone leptin is released by the body's fat tissue and tells the brain how much fat is stored on the body - the more body fat a person has, the higher the levels of leptin. The brain uses this information to regulate a person's appetite and food intake.

Leptin levels vary between individuals, however, and around 10 to 20 per cent of individuals with obesity have the same leptin levels as individuals with normal weight. This variation raises questions about the role leptin plays in regulating weight.

In the research, published in *Diabetes*, the scientists screened the genome of more than 55,000 people for genetic variants that affect leptin levels. They identified five new genetic variants that play a role in regulating leptin levels.

One of the variations, Vel94Met, which reduces the amount of leptin that the body produces, is only found in individuals of African ancestry. Young people with this variation are more at risk of developing obesity, though this is not true of adults with the variation, who tend to be of similar weight as other adults.

This finding supports the theory that people become less sensitive to leptin with age. Administering leptin to obese adults has proven ineffective at controlling their weight.

"This new knowledge on the impact of leptin in the weight control of young people now needs to be followed up with further studies to uncover the molecular mechanisms that underlie this age-dependent relationship between leptin and BMI," says Associate Professor Tuomas Kilpelainen.

## **Parkinson's disease**

### **AI based eye exam may lead to early Parkinson's disease diagnosis (New Kerala: 20201124)**

<https://www.newkerala.com/news/2020/203670.htm>

A simple eye examination combined with powerful artificial intelligence (AI) machine learning technology could provide early detection of Parkinson's disease, say researchers.

Parkinson's disease is a progressive disorder of the central nervous system that affects millions of people worldwide.

Diagnosis is typically based on symptoms like tremors, muscle stiffness and impaired balance -- an approach that has significant limitations.

"The issue with that method is that patients usually develop symptoms only after prolonged progression with significant injury to dopamine brain neurons," said study lead author Maximillian Diaz from the University of Florida in the US.

"This means that we are diagnosing patients late in the disease process," Diaz added.

In the new study, the research team deployed a type of AI called support vector machine (SVM) learning that has been around since 1989.

Using pictures of the back of the eye from both patients with Parkinson's disease and control participants, they trained the SVM to detect signs on the images suggestive of disease.

The results indicated that the machine learning networks can classify Parkinson's disease based on retina vasculature, with the key features being smaller blood vessels.

The proposed methods further support the idea that changes in brain physiology can be observed in the eye.

"The single most important finding of this study was that a brain disease was diagnosed with a basic picture of the eye," Diaz said.

"This is very different from traditional approaches where to find a problem with the brain you look at different brain images," Diaz added.

The research team noted that those traditional imaging approaches with MRI, CT and nuclear medicine techniques can be very costly.

In contrast, the new approach uses basic photography with equipment commonly available in eye clinics to get an image.

The images can even be captured by a smartphone with a special lens.

"The approach may also have applications in identifying other diseases that affect the structure of the brain, such as Alzheimer's disease and multiple sclerosis," Diaz noted.

## **Newborns**

### **Experts suggest care of COVID+ mothers and their newborns (New Kerala: 20201124)**

<https://www.newkerala.com/news/2020/203480.htm>

Many COVID-19 positive pregnant women experience mild symptoms of cold or flu. However, pregnant women who are older, overweight or have pre-existing medical conditions like hypertension and diabetes seem to develop severe diseases.

The primary reason considered for the transmission of SARS-COV-2 to neonates is through respiratory droplets during the postnatal period when they are exposed to their mothers or caregivers with COVID infection, according to Dr Sakshi Goel Chakraborty, Consultant Obstetrics and Gynecology, Madhukar Rainbow Children's Hospital, Delhi.

There is no conclusive evidence to prove that the virus could be transferred from a COVID-19 positive mother to her foetus or baby after the delivery. Dr Goel further added "For babies born to women with COVID 19, the overall outcomes are positive. According to a study, only 2-5 per cent of infants get infected through COVID-19 positive mothers."

According to Dr Sakshi Goel Chakraborty, "COVID-19 positive mothers should be taught to practise skin-to-skin/kangaroo mother care with good respiratory hygiene. This helps to establish exclusive breastfeeding and helps the baby to develop faster and healthier. Mothers should take care of their personal hygiene as well, like washing hands before touching the baby. All the surfaces touched by the mother should be cleaned. Also, one should always wear a medical mask, while physically contacting with the baby."

Though the virus has not been detected in breast milk of COVID positive mothers and there is no evidence of virus transmitting through it, therefore, there is a lower risk of babies getting infected with the virus.

Best way to keep the baby safe in the ongoing pandemic is to practise social distancing as it will limit the risk of infection to newborn. Babies should only live with the family members who are asymptomatic. If any family member has symptoms or is suspected of COVID then he or she should be isolated from the baby. Only take the baby out in the case of major need like check-ups as it will help in preventing the infection to a large extent.

Said Dr Sakshi Goel Chakraborty, "As per the latest guidelines issued by WHO, a COVID positive mother should do the following things Hands should be cleaned using soap and water especially before and after touching the baby. All the surfaces which have been touched by the mother should be cleaned using a sanitizer at regular intervals. A mother who has been coughing and must breastfeed should clean her chest with soap and water. There is no need to clean it every time before feeding but at regular intervals."

### **Oxford Vaccine (Hindustan Times: 20201124)**

[https://epaper.livehindustan.com/imageview\\_470694\\_85484132\\_4\\_1\\_24-11-2020\\_0\\_i\\_1\\_sf.html](https://epaper.livehindustan.com/imageview_470694_85484132_4_1_24-11-2020_0_i_1_sf.html)

# उम्मीद : देश में बन रहा ऑक्सफोर्ड का टीका कोवीशील्ड 70% असरदार

लंदन | एजेसियां

कोरोना वायरस से जंग में एक अच्छी खबर। भारत में बन रहा ऑक्सफोर्ड का टीका 'कोवीशील्ड' 70.4 फीसदी तक असरदार पाया गया है। अभी तक किसी भी वालंटियर पर इसका कोई दुष्प्रभाव देखने को नहीं मिला। पुणे का सीरम इंस्टीट्यूट ऑफ इंडिया इस वैक्सीन की लाखों डोज तैयार कर रहा है।

ऑक्सफोर्ड यूनिवर्सिटी ने सोमवार को तीसरे चरण के अंतरिम नतीजे जारी किए। बताया कि पहली डोज दिए जाने पर टीका 90 फीसदी तक प्रभावी पाया गया जबकि दूसरे महीने में दूसरी डोज देने पर 62% तक असर देखा गया। यानी अगर इसकी पर्याप्त खुराक दी जाए

## किस माह में कौन सा टीका आएगा

**फाइजर** : इस साल अंत तक पांच करोड़ खुराक दुनिया को मुहैया कराने का दावा

**मॉडर्ना** : दिसंबर अंत तक लाने का दावा था लेकिन अब अप्रैल तक आने की उम्मीद

**एस्ट्राजेनेका** : उत्पादन शुरू, तीन से चार महीनों में इस्तेमाल के लिए मंजूरी संभव

**कोवैक्सीन** : भारत में बन रही यह वैक्सीन अगले साल अप्रैल तक आने की उम्मीद

**500**

रुपये में भारत में टीका मिलने की उम्मीद

**03**

करोड़ डोज 2021 अंत तक मिलेगी

दुनिया भर में कम लागत पर इस टीके की आपूर्ति करने के हम बहुत करीब पहुंच चुके हैं।  
अदार पूनावाला, सीरम इंस्टीट्यूट

तो यह 90% तक भी प्रभावी हो सकता है। पर्याप्त खुराक यानी अगर एक महीने के अंतराल में एक पूरी डोज के बाद आधी डोज दी जाए तो यह 90% तक प्रभावी होगा। ऑक्सफोर्ड टीका समूह के

निदेशक प्रोफेसर एंड्रयू पोलार्ड ने कहा, ये निष्कर्ष दिखाते हैं कि हमारे पास एक प्रभावी टीका है जो दुनिया में काफी लोगों की जान बचा सकेगा।

➤ कब मिल जाएगा टीका पेज 15

**Heart Diseases (Hindustan Times: 20201124)**

[https://epaper.livehindustan.com/imageview\\_470697\\_85723006\\_4\\_1\\_24-11-2020\\_4\\_i\\_1\\_sf.html](https://epaper.livehindustan.com/imageview_470697_85723006_4_1_24-11-2020_4_i_1_sf.html)

# सर्दी बढ़ते ही अस्पतालों में 20% दिल के मरीज बढ़े

सर्दी शुरू होते ही अस्पतालों में दिल से जुड़ी बीमारी के मरीजों की संख्या में 20 फीसदी तक इजाफा हुआ है। हार्ट फेल, हार्ट अटैक से लेकर सीने में दर्द की शिकायत सामने आ रही है। डॉक्टरों के अनुसार ऐसे मरीज अधिक सावधानी बरतें। खासतौर पर जिन्हें उच्च रक्तचाप और मधुमेह है।

## एहतियात की जरूरत

शालीमार बाग स्थित फोर्टिस अस्पताल के इंटरवेंशनल कार्डियोलॉजी विभाग के निदेशक डॉ. नित्यानंद त्रिपाठी ने बताया कि सर्दी शुरू होते ही अस्पताल में 15-20 फीसदी मरीज हार्ट अटैक के बढ़े हैं। हार्ट फेल होने वालों की संख्या 25 फीसदी है। इस बार सर्दी जल्दी आने से पिछले साल की तुलना में मरीजों का यह फीसदी ज्यादा है। जिनको पहले अटैक आ चुका है और ब्लॉकेज की समस्या है, उन्हें अधिक एहतियात की आवश्यकता है। सर्दी में दिल के पंप करने की क्षमता कम हो जाती है, जिससे रक्त का प्रवाह प्रभावित होता है और हार्ट फेल हो जाता है।



## डॉक्टर की सलाह लें

डॉक्टर ने बताया कि उच्च रक्तचाप और मधुमेह से पीड़ित लोगों को ज्यादा सावधानी बरतने की जरूरत है। रक्तचाप इस मौसम में बढ़ता है। अपने डॉक्टर की सलाह पर नियमित तौर पर जांच और दवाओं का सेवन जरूर करें। वरना थोड़ी सी लापरवाही से जान तक जा सकती है।

## बढ़ता प्रदूषण भी बड़ी वजह

सर गंगाराम अस्पताल के कार्डियोलॉजी विभाग के वरिष्ठ डॉक्टर अश्विनी मेहता ने बताया कि हार्ट अटैक आने के अलग-अलग कारण हैं। इसमें रक्तचाप का बढ़ना, तापमान में बदलाव और बढ़ता प्रदूषण मुख्य वजह है। इस