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# COVID-19 PREVENTION

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# WHO's main objectives for COVID-19

**1) suppress transmission**

2) provide optimized care for all patients; and save lives

3) minimize the impact of the epidemic on

health systems, social services

and economic activity.

# PRIMARY PREVENTION

**1-HEALTH EDUCATION**

**2-IMMUNIZATION**

**3-CHEMOPROPHYLAXIS**

# VACCINATION

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**COVID-19 vaccine types in development**  
**Candidates in Clinical Phases I-III**

**1-Whole virus**

**2-Protein subunit**

**3- NUCLEIC ACID**

**4-Viral vector**

# A guide of the current COVID-19 vaccines.

## SIZING UP THE SHOTS

### The Oxford University-AstraZeneca



**TECHNOLOGY:** Viral Vector (Genetically modified virus)  
When injected, the vaccine instructs human cells to produce the SARS-CoV-2 spike protein — the immune system's main target in coronaviruses.  
**EFFICACY:** 62-90%  
**PROCESS:** Passed all three trials  
**MAJOR BUYERS:** EU (400 million doses), US (300 million doses), UK (100 million doses)  
**THAILAND:** 26 million doses  
**PRICE:** US\$ 4 per dose  
**DOSED REQUIRED:** 2

### Pfizer-BioNTech



**TECHNOLOGY:** mRNA  
The new mRNA technology tricks the body into making the viral protein itself which, in turn, triggers an immune response  
**EFFICACY:** 95%  
**PROCESS:** Passed all three trials  
**MAJOR BUYERS:** EU countries (200 million doses), US (100 million doses)  
**PRICE:** US\$20 per dose  
**DOSED REQUIRED:** 2

### Sinovac



**TECHNOLOGY:** Inactivated vaccine  
Using the dead Covid-19 virus itself to trigger an immune response  
**EFFICACY:** 50-70% (varies in tested countries)  
**PROCESS:** Phase 3 trials  
**MAJOR BUYERS:** Indonesia (40 million doses), Philippines (25 million doses)  
**THAILAND:** 2 million doses  
**PRICE:** US\$5 per dose  
**DOSED REQUIRED:** 2

### Sputnik V (by Russia's Gamaleya Institute)



**TECHNOLOGY:** Adenoviral vector-based platform  
The technology delivers the genetic instructions for SARS-CoV-2 antigens directly into patients' cells, triggering an immune response  
**EFFICACY:** 91.4%  
**PROCESS:** Phase 3 trials ongoing  
**MAJOR BUYERS:** Brazil (10 million doses), Argentina (10 million doses) Bolivia (2.6 million doses), India (contracted to locally produce 100 million doses)  
**PRICE:** US\$10 per dose  
**DOSED REQUIRED:** 2

### Moderna



**TECHNOLOGY:** mRNA  
A new type of vaccine which uses messenger RNA, which contains instructions for human cells to make proteins that mimic part of the coronavirus, to trigger an immune response.  
**EFFICACY:** 95%  
**PROCESS:** Passed all three trials  
**MAJOR BUYERS:** EU (160 million doses), US (100 million doses), Canada (40 million doses)  
**PRICE:** US\$33 per dose  
**DOSED REQUIRED:** 2

### Johnson & Johnson



**TECHNOLOGY:** Uses a cold virus to deliver genetic material from the coronavirus into the body to prompt an immune response.  
**EFFICACY:** Expected to be released by the end of January  
**PROCESS:** Phase 3 clinical trials ongoing  
**MAJOR BUYERS:** EU (160 million doses), US (100 million doses), Canada (40 million doses)  
**PRICE:** Estimated US\$10 per dose  
**DOSED REQUIRED:** 1

# questions

The development of vaccines in a very short time necessarily implies that is not yet possible to know their long-term efficacy and possible side effects.

**What are the long-term  
side effects of the  
COVID-19 vaccines?**

one thing is critical for people to understand

**The vaccines may  
cause side effects.**

## Side effects of COVID-19 vaccines

Like all medicines, vaccines can cause side effects. Most of these are mild to moderate and short-term. Not everyone gets side effects.

# Duration of protection

Even with two full doses,  
is still unknown. More  
study is needed.

# COVID-19 Vaccine

**Safety, Side Effects,  
Efficacy**

**Vaccine Adverse  
Event Reporting  
System (VAERS).**

# VAERS

Only through accurate reporting  
and follow-up of both disease  
and adverse vaccine effects can  
the changing balance  
of the benefits and risks of  
vaccination be properly assessed.

# Sputnik V

The first COVID-19 vaccine registered in Russia and the world. **Russia's Sputnik V is 92 percent effective, based on data from the first 16,000 trial participants who have received **both shots of the two-dose vaccine.****

# SPUTNIK-V VACCINE



**What are the possible side effects of a COVID-19 vaccine?**

# Sputnik V vaccine

Only 1 per cent of Argentinian citizens,  
who received the Russia-developed Sputnik  
against the coronavirus, has shown a  
mild adverse reaction to the shot.

317 patients reported fever and  
headaches of the total 32,013.

# Medications and equipment

Vaccination providers should have appropriate **medications and equipment**—such as epinephrine, antihistamines, stethoscopes, blood pressure cuffs, and timing devices to check your pulse  
—at all COVID-19 vaccination sites.

**VACCINATED PATIENTS likely  
be monitored for 15  
minutes after getting  
a COVID-19 vaccine to watch  
for any reaction .**

**COVID -eniccav -can cause  
mild side effects after the  
first or second dose**

**Most side effects happen  
within the first three days  
after vaccination and  
typically last only  
one to two days .**

# Common side effects

On the arm :

- Pain

- Swelling

# SYSTEMIC

- Fever
- Chills
- Tiredness
- Headache

# Most common side effects

- Chills
- Tiredness
- Headache

## Mexico doctor develops reaction to Pfizer vaccine

A physician in Mexico, who received the Pfizer vaccine against the coronavirus, was admitted to an intensive care unit with seizures, breathing difficulties and possible encephalomyelitis.

# Pfizer

The 32-year-old doctor who received the Pfizer COVID-19 vaccine was admitted to the intensive care unit ... after developing rashes, convulsions, muscle weakness and breathing difficulties within half an hour after vaccination.

- Pain, redness or swelling where the shot was given
- Fever
- Fatigue
- Headache
- Muscle pain
- Chills
- Joint pain
- Nausea and vomiting
- Feeling unwell
- Swollen lymph nodes

# Common side effects

- tenderness, swelling and/or redness at the injection site
- headache
- muscle ache
- feeling tired
- fever (temperature above 37.8°C).

# interchangeable

mRNA COVID vaccine products are not interchangeable. Their ingredients are different. Every effort should be made to determine which vaccine product a patient received for the first dose, and the same product should be used for both doses.

Can patients who have already had COVID get the vaccine?

Yes; it's safe and likely efficacious after COVID, but current evidence does suggest that reinfection is uncommon in the 90 days after initial infection. Patients don't need any testing before getting vaccinated.

Should patients who currently have COVID be vaccinated?

It is best to wait until they have recovered and are out of quarantine. Patients who received COVID monoclonal antibody or convalescent serum should wait at least 90 days so that this COVID treatment won't interfere with vaccine

**immune response**

# Vaccines

Currently, all children  
should be protected  
against 16 diseases



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تاکنون 26 کشور به کمپین واکسیناسیون با اسپوتنیک  
وی پیوسته اند

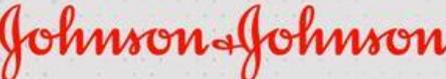
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## Sputnik V

SPUTNIK V IS ALREADY APPROVED IN 26 COUNTRIES



# UK COVID-19 VACCINES

Company	Doses ordered	Cost per dose	How effective	Storage temp
 UNIVERSITY OF OXFORD AstraZeneca 	100m	£3	62-90%	Fridge
 BIONTECH	40m	£15	95%	-70c
	17m	£28	92%	-20c
	60m	£12	86-89%	Fridge
	30m	£7	66%	Fridge



# اَتَمَّاس دَعَا وَ خُدا نَگَهَدار

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