International Chamber of Shipping
Shaping the Future of Shipping

Coronavirus (COVID-19) Vaccination for Seafarers and Shipping Companies: A Practical Guide

Your Questions Answered

In collaboration with

IMHA

INTERTANKO

International Transport Workers' Federation

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Background

As of August 2021, there have been over 200 million cases and more than four million COVID-19 deaths recorded worldwide. To date, 61% of the world's population has received at least one dose of a COVID-19 vaccine and half is fully vaccinated. Over 10 billion vaccine doses have been administered globally, and 30 million are now administered each day. However, there is a large discrepancy between countries.

COVID-19 is spread primarily through droplets. A person with COVID-19 coughs or sneezes, spreading droplets into the air and onto objects and surfaces in close proximity. Other people breathe in the droplets or touch the objects or surfaces and then touch their eyes, nose or mouth.

All COVID-19 vaccines on the World Health Organization's Emergency Use Listing reduce the severity of symptoms or prevent symptoms completely in a vaccinated person. Vaccinated people are also less likely to be infected if they are a near contact of someone with confirmed COVID-19. Vaccinated people can carry the virus and spread it to others although they are likely to carry less virus and be infectious to others for a shorter period. Physical distancing, washing hands with soap and water or the use of hand sanitiser, good respiratory hygiene, and use of a mask remain the main methods to prevent spread of COVID-19 and seafarers should continue these practices once vaccinated. Local regulations may also advise additional measures to be taken.

Fully vaccinated people may be exempted from, or subject to, more relaxed quarantine restrictions and testing requirements for travel and if they are a near contact of a confirmed case. This varies country to country and local regulations must be followed.

What is COVID-19?

COVID-19 is an illness caused by the new coronavirus, SARS-CoV-2. First reported in China at the end of 2019, it has now spread to 222 countries and territories. Subsequently, a number of variants of the virus have emerged and may continue to do so. In the huge majority of people, COVID-19 is not a severe disease, and no hospital treatment is necessary. Some of those infected require oxygen and hospital care and a smaller proportion need intensive care. While people over 60 years of age and/or those with underlying medical conditions are at higher risk of developing serious illness and requiring additional care, severe illness can develop in people of any age, especially if they are not vaccinated.

What is a vaccine and how does it work?

Vaccination is a safe, simple and effective way to protect people from a disease before actual exposure to it. Vaccines stimulate the immune system to produce antibodies and other cells that fight disease, just as if a person was exposed to the disease itself. When a vaccine is given, the immune system responds by:

- Recognising the germ (bacteria or virus) as foreign and identifying it;
- Producing antibodies. These are proteins produced naturally by the immune system to fight disease; and
- Remembering the disease and how to fight it. If the body sees the same germ again, it can recognise it and fight it quickly to stop the illness.

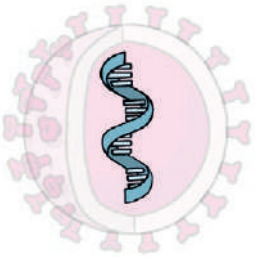
Vaccines only contain killed or weakened germs (bacteria or viruses), or material that mimics the germ. Therefore, a vaccine cannot cause the disease itself. However, it is not uncommon to have a mild reaction after a vaccine as the body responds to the introduction of something recognised as foreign.

Most vaccines, including the different COVID-19 vaccines, are given as an injection. Some require just one injection, others need two for initial protection. Evidence now suggests that further booster doses are needed after some months in order to maintain the highest level of protection.

COVID-19 vaccines

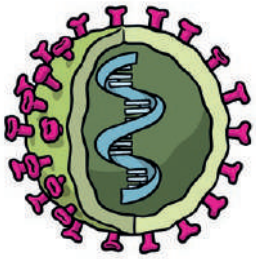
COVID-19 vaccines target the spike protein, the part of the virus that allows it to bind to and then enter human cells. Currently over 100 vaccines are in clinical trials and many more are in the pre-clinical stages.

Different types of COVID-19 vaccines



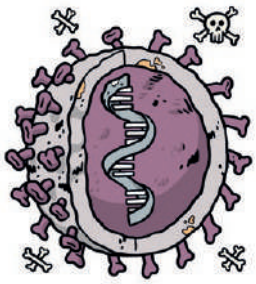
Nucleic acid (mRNA or DNA): Pfizer BioNTech; Moderna, ZyCoV-D

These contain genetic material from the virus that instructs human cells to make the spike protein. Once made, the viral genetic material is destroyed. The body then recognises the protein produced as foreign and stimulates an immune response. This type of vaccine is safe and does not affect the person's genes in any way. It is easy to develop and the technology has been used in cancer patients for many years.



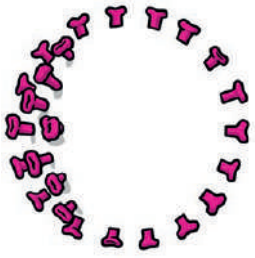
Viral Vector: Oxford/AstraZeneca; Sputnik V/Gamaleya; Johnson & Johnson; CanSinoBIO

These contain a safe version of a live virus that does not cause harm, with genetic material from the COVID-19 virus inserted. Hence the first virus becomes a viral vector. Once inside the cells, the genetic material carried gives cells instructions to make a protein, usually the spike protein, unique to the COVID-19 virus. Using these instructions, the cells make copies of the protein that are recognised as foreign and stimulate an immune response. This technology has been successfully used in the Ebola vaccine and gene therapy.



Inactivated or weakened virus: BBIBP-CorV/Sinopharm; CoronaVac; Covaxin

These vaccines use a form of the virus that has been inactivated or weakened by heat or chemicals so it does not cause disease, but is recognised by the body as foreign and stimulates an immune response. Many existing vaccines are similarly produced and are very safe, but it is difficult to increase production of this vaccine type.



Protein subunit: EpiVacCorona

These include small pieces of virus protein, not the whole virus. The most common protein included is the spike protein or a key component of it. Once introduced to the body it is recognised as foreign and stimulates an immune response.

Source: World Health Organization (WHO)

Of these examples, many are authorised for use in different countries. They are reported to be more than 50% – and often over 90% – efficient in preventing disease in those vaccinated, depending on the variants present in a region. However, in some cases, efficacy data is not yet published or peer reviewed. The authors of this document recommend the use of vaccines on the WHO's Emergency Use Listing. The WHO Status of COVID-19 vaccines within the WHO EUL/PQ evaluation process provides the latest information on vaccine approval and can be found here:
www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines

Given that seafarers will be required to show evidence of vaccinations given, it is advised that seafarers utilise WHO listed vaccines.

Information on the availability of vaccines in individual countries can be found in the United Nations (UN) COVAX programme which is being updated daily. The programme is available from the online **Vaccine Market Dashboard** and outlines:

- Vaccines currently available;
- Who and which countries have agreements in place; and
- Quantities purchased.

Why vaccinate seafarers?

Seafarers are required by the nature of their job to travel across the world to locations which have different levels of COVID-19 infections.

COVID-19 vaccines reduce the risk of:

- Catching the virus if you are a close contact of a confirmed case. If you don't catch it you can't spread it and therefore the vaccine also means that person has a reduced risk of spreading it to others;
- Severe illness;
- Hospital care; and
- Death.

Fully vaccinated people may also be exempted from, or subject to, more relaxed quarantine restrictions and testing requirements for travel and if they are a near contact of a confirmed case. This varies country to country and local regulations must be followed.

Vaccinations - key points to remember

Fact	Once vaccinated	Not vaccinated
Risk of illness	Reduced	High
Symptoms	Milder	Worse
Protection	After 12–28 days of the first dose depending on vaccine. Protection likely against all known variants.	Limited to antibodies from a previous infection, that are likely only effective against that specific variant
Further protection	Enhanced after the second dose and booster doses	
Wearing a mask and physical distancing	Yes, continue to follow health and safety guidelines to protect yourselves and others	Yes, continue to follow health and safety guidelines to protect yourselves and others

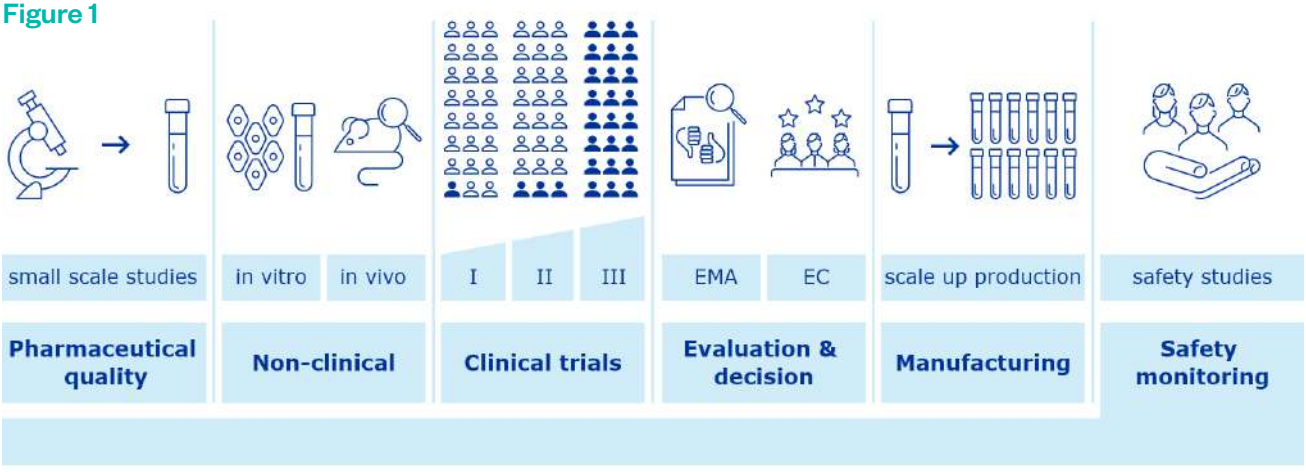
Key questions

1. Are vaccines safe?

All vaccines must undergo many phases of trials, first in a laboratory and then in human volunteers, before approval for use in the wider population. Appropriate national, regional or international authorities review and analyse the trial results (see question 10 for more detail on the phases of a clinical trial).

The authorities review the vaccine components, their quality, safety and effectiveness. When national and regional authorities are satisfied that the vaccine is both effective at preventing disease in humans and safe to administer to people, it is authorised for use in the country or region. The World Health Organization (WHO) comprehensively evaluates available evidence and regularly updates its vaccine position papers. The process to develop and monitor vaccines is described in Figure 1 below.

Figure 1



Source: European Medicines Agency (EMA)

2. Who can have the COVID-19 vaccines?

Everyone over the age of 16 years should be encouraged to have the vaccine including:

People who have been diagnosed with COVID-19 following testing	Even if you have already had COVID-19, you should be vaccinated when it is offered to you. The protection that someone gains from having COVID-19 will vary greatly from person to person and is likely to only be against that specific variant. The immunity people get from being vaccinated after having a natural infection is likely very strong and is effective against all known variants. Getting vaccinated even if you have had COVID-19 means you are more likely to be protected for longer.
Seafarers wishing to have children	COVID-19 vaccines do not affect fertility in men or women, nor cause problems for a woman to become pregnant.
Breastfeeding women	Breastfeeding women should be vaccinated. The COVID-19 vaccines currently approved do not contain live virus and therefore pose no risk to the baby. In fact, antibodies may pass from the mother to the baby offering some protection.
Pregnant women	Pregnant women are at higher risk of severe disease, and COVID-19 is associated with an increased risk of preterm birth. Evidence about the safety and effectiveness of COVID-19 vaccination during pregnancy has been growing. The data suggests that the benefits of receiving a COVID-19 vaccine outweigh any known or potential risks of vaccination during pregnancy and all pregnant seafarers are encouraged to get a vaccine.

Vaccination in the following groups should be discussed with a healthcare professional and a decision taken on an individual basis:

People with allergies to any component of the vaccine	Although there have been few severe allergic (anaphylactic) reactions to the vaccine, those with allergies to any vaccine component should not be vaccinated until reviewed by an appropriate doctor. Others with a history of allergy, anaphylaxis or severe asthma should undergo a risk assessment and if vaccinated, be monitored closely for the recommended period of time.

3. How can I get the vaccine?

Currently COVID-19 vaccines can only be accessed through national, government-run vaccination programmes. The industry is reviewing ways for seafarers to obtain authorised vaccines in the near term.

4. Where can I get the vaccine?

The International Christian Maritime Association (ICMA) has compiled an information list of available vaccination sites for seafarers around the world which can be found here: **https://icma.as/vaccines**

5. How soon does protection start after having the vaccine?

Protection starts to develop approximately 12 days after the injection is given. This may be longer depending upon the type of vaccine given. Seafarers should discuss this with their vaccine provider.

6. How long does immunity last and how often will I need a vaccine?

Ongoing studies to establish how long a person is immune to the COVID-19 virus after full vaccination with different vaccines will determine how often a vaccine is required. Current evidence suggests that a booster dose after some months is beneficial to maintain the highest level of protection. Booster programmes vary from country to country and local recommendations should be followed.

7. Are there any side effects of the COVID-19 vaccine?

Side effects of the COVID-19 vaccines are reported to be mild and short lived, lasting up to 48 hours. Serious side effects are reported to be extremely rare. Side effects can occur after the first or second dose. Local reactions such as pain, redness and swelling are not uncommon, particularly in those under 55 years. Up to 50% may suffer headache, fever or fatigue. These side effects respond well to Paracetamol and usually settle within two days. If symptoms persist, the seafarer should approach the officer responsible for medical care who should then contact Telemedical Advisory Services (TMAS).

Side effects that are more serious have been reported and further investigation is ongoing into how often and which groups may be affected. Seafarers should discuss any concerns with their health care provider.

8. Do I need to observe all rules, quarantine and travel restrictions after being vaccinated?

You currently need to observe all national, regional and local quarantine rules and travel restrictions. These may vary depending on vaccination status. Restrictions may change, allowing for easier travel and reduced quarantine and testing requirements as more people are vaccinated.

9. Can I still have the virus and pass it to others once I have had the vaccine?

Yes, you can still get the virus and have a positive result from a PCR or antigen test, even when vaccinated. However, you are far less likely to be seriously ill and require hospital treatment. You can also pass the virus to others, although this is less likely than without vaccination and you are likely to be infectious for a shorter period of time. If the virus is passed to unvaccinated people, they may develop serious illness. Unless a substantial proportion of the people are vaccinated, it is essential that everybody, vaccinated or not, follows the local guidelines for physical distancing, washing hands with soap and water or the use of hand sanitiser, good respiratory hygiene and the use of masks where appropriate.

10. Is the vaccine effective against the new variants of the virus?

Manufacturers and governments are constantly investigating whether the different vaccines are effective against the identified virus variants. So far laboratory trials and clinical data indicate that the vaccines currently authorised are effective against all known variants in a fully vaccinated person.

11. Can the vaccine give me a positive PCR or rapid antigen test?

No, none of the vaccines currently authorised cause a positive test on a PCR or rapid antigen test that is used to see if you have an infection. However, because the COVID-19 vaccine prompts an immune response, it may be possible to test positive in an antibody (serology) test that measures COVID-19 immunity in an individual.

12. What is the process of clinical trials?

Clinical trials typically involve several thousand healthy volunteers and usually last for many years. Trials are bound by strict regulations, can often take many years to complete, and involves three main phases:

Phase I
Small groups (approximately 20-50 people) receive the vaccine. This phase will assess the safety, side effects, appropriate dosage, method of administration and composition of the vaccine. If successful it will proceed to Phase II.

Phase II
Vaccine is usually given to several hundred people with the same characteristics (e.g. age, sex) as people to whom the vaccine will be given. After successful Phase II trials the vaccine will proceed to Phase III.

Phase III
Vaccine is usually given to thousands of people to help ensure it is safe and effective for broader use.

Studies may also take place after a vaccine is introduced. These studies enable scientists to monitor efficacy and safety among an even larger number of people, over a longer time frame.

13. How have the COVID-19 vaccines been produced so quickly?

The US Centre for Disease Control (CDC), World Health Organization (WHO) and European Medicines Agency (EMA) clearly state that the safety requirements for their approved COVID-19 vaccines are as rigorous as for any other vaccines and there has been no change in their standards.

The timelines have been significantly improved by:

- Prioritising development and production of COVID-19 vaccines by pharmaceutical companies;
- Fast track procedures by regulatory bodies;
- Production of the vaccine before trials are completed;
- Mobilising more people simultaneously to analyse the results from earlier studies more quickly and to outline the next steps regarding resources, funding and regulatory strategy;
- Combining clinical trial phases or conducting some studies in parallel where safe to do so; and
- Building on existing technology that has already been used safely in other vaccines and medicines.

14. Is it important to know what type of vaccine I have been given?

Yes it is important. It is currently unclear whether the authorities in different countries will accept all vaccines available today or in the near future to permit entry within their borders so it is advised for seafarers to check the type of vaccination they have been given is recognised by the country concerned. It is always recommended that information about the vaccine is obtained and hard or electronic copies to certify proof of vaccination and where vaccination took place are obtained and are kept safely together with the seafarers' travel documents. Where possible, proof of vaccination should be recorded in the national language and with an English translation. Seafarers will be required to show evidence of vaccinations given, it is advised that they utilise WHO listed vaccines.

The suggested vaccine card in Appendix A can be printed off and given to the seafarer if no other documentation is available. The seafarer should ask the vaccinator to complete this in full to ensure that all of the necessary information is collected and can be provided when the seafarer seeks a further vaccine dose or when required by authorities.

15. What should I do if I am offered a different type of vaccine to one I have had before?

Preferably you should complete a course of one specific vaccine, but this is not always possible. Initial studies show that it is generally safe and effective to mix vaccines, but this may not be accepted in all countries. A number of different WHO approved vaccines may be used for booster doses where applicable. This may be a different vaccine to the original course given. Seafarers are advised to discuss the type of vaccine with their vaccine provider but overall, it is better to take the vaccine being offered than to refuse vaccination.

16. Will consuming food affect the efficacy of the vaccination?

No, vaccinations are not affected by having food before or after the injection is administered.

17. Do the vaccines contain animal products?

The WHO has stated that listed COVID-19 vaccines do not contain animal products of any kind and that the vaccines are permissible according to Sharia Law.

This vaccination leaflet has been written specifically for seafarers. ICS has also produced a supporting document, the *Coronavirus (COVID-19) Roadmap for Vaccination of International Seafarers*, which has been written for shipping companies (their agents and representatives, including crew agencies), maritime administrations and national health authorities, in liaison with other authorities (such as local customs, immigration, border control, seaport and civil aviation) and seafarers. The *Roadmap for Vaccination of International Seafarers* can be used during the planning and roll-out stages of the vaccination programme and can be downloaded from the ICS website here:
www.ics-shipping.org/publication/coronavirus-covid-19-roadmap-for-vaccination-of-international-seafarers/

Further reading

www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines

www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html

www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/coronavirus-disease-covid-19/treatments-vaccines/vaccines-covid-19/covid-19-vaccines-key-facts

www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html

The information contained in this Guide is continuously being reviewed and updated, but is correct at the time of publication.

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