Q&A

QUESTIONS AND ANSWERS
ABOUT COVID-19 AND VACCINES

Published: May 2021

CONFINDUSTRIA BERGAMO

ISTITUTO DI RICERCHE FARMACOLOGICHE MARIO NEGRI · IRCCS

Organismo Paritetico Provinciale per la sicurezza sul lavoro

Thank you to the Mario Negri Institute
and Prof. Giuseppe Remuzzi for their collaboration.

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Project carried out by Confindustria Bergamo, with the scientific collaboration of IMN Istituto Mario Negri.

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Covid-19

1 What is Covid-19?

Covid-19 is the disease caused by the SARS-CoV-2 coronavirus. COVI stands for COronaVIrus, D for disease, and 19 for the year in which it was first detected (2019). SARS-CoV-2 is also an acronym that stands for SARS "Severe Acute Respiratory Syndrome", CoV "CoronaVirus" and "2" to set it apart from the SARS virus mentioned earlier.

2 What are the symptoms of the disease?

The first symptoms of Covid-19, also common to influenza and other diseases, are: fever, cough, muscle and joint pain, weakness and diarrhoea. Another symptom is the loss of the senses of taste and smell (anosmia). Sometimes these manifestations appear in the phases preceding the outbreak of the infection, while at other times they may also be the only manifestations of Covid-19. In some cases, the disease may result in a rapid worsening of the patient's general health, with the onset of a high or very high fever, chills, persistent dry cough and, in more severe cases, respiratory failure. Covid-19 deficits can remain long-term, even after overcoming the infection.

3 When is a person contagious?

The period of infectiousness generally starts one or two days before the onset of the first symptoms, however mild. The period of infectiousness is estimated to last 7-12 days in moderate cases and on average up to two weeks in severe cases. The most reliable test to diagnose infection is a molecular test carried out on a specimen from the respiratory tract, taken through a so-called nasopharyngeal swab. The same method also establishes whether a person has recovered: recovery (and therefore the end of the period of infectiousness) must be confirmed by a negative swat test 14 days after the onset of symptoms. If, after 21 days, the test is still positive but the symptoms have disappeared for at least 7 days, the patient is regarded as having recovered and no longer contagious.

4 Are some people more at risk than others?

Covid-19 hits everyone indiscriminately. However, some people are more at risk than others. The elderly, for example, are at higher risk for severe illness from Covid-19. Moreover, the rate of hospitalisation increases over the age of 50. Existing conditions and chronic diseases, such as high blood pressure, diabetes, ischemic heart disease, atrial fibrillation, dementia, chronic renal failure, chronic obstructive pulmonary disease, and active tumours within the previous 5 years, further increase the risk of developing a severe form of Covid-19.

5 How does it spread?

The SARS-CoV-2 virus is transmitted predominantly by air, through the drops produced when we breath, speak or cough, and particularly the larger, heavier drops known as droplets. These droplets remain in the air for a short space of time and travel a short distance (usually no more than one metre and rarely more than two). This is why maintaining a physical distance and wearing face masks to block the droplets produced by the wearer reduce the risk of infection. In certain cases, the virus can also be transmitted through smaller, lighter droplets (aerosols) which remain in the air for longer. Sometimes, transmission can also occur through surfaces contaminated by droplets. Covid-19 spreads much more easily in closed, poorly ventilated, crowded spaces, and infection increases if an infected person has symptoms such as a cold or cough. This is because sneezing produces many more droplets which travel even further.

6 What precautions should be taken?

The first important precaution is social distancing: one metre during ordinary activities, such as taking public transport, and two during sports, when our rate and depth of breathing increases, thus releasing more particles of potentially infected saliva. Two metres is also the recommended distance during meals, when you are likely to remove your face mask for longer. The second important precaution is the use face masks. The third is to wash your hands frequently, as these are the part of the body that come most into contact with the mouth and nose, thereby transmitting the infection. In general, you should avoid staying in a closed, crowded, poorly ventilated environment for prolonged periods time.

7 Are face masks and social distancing really that important?

Yes, face masks and social distancing are, together with washing your hands, the only forms of prevention available to avoid infection and contain the spread of the virus. Clearly, it all depends on the context: if you are alone in the open air, you needn't wear a face mask.

Vaccines

8 Why is it important to be vaccinated?

There are currently no specific drugs for treating Covid-19. That is why prevention measures are so important, above all vaccination, which is currently the only strategy to deal with this pandemic. Our real hope lies in the effectiveness of the vaccines developed in record time against SARS-CoV-2.

9 Are the vaccines currently available effective?

The vaccines against Covid-19 aim to stimulate the immune system into producing antibodies against the spike protein of SARS-CoV-2, responsible for infecting our body. By binding to the virus, antibodies make our immune system recognise the antibody-virus complex and eliminate it. The vaccines available today are all indiscriminately effective in protecting us from a severe form of Covid-19, having passed the rigorous safety tests required for approval. Like all vaccines, including those for other diseases, they are not 100% effective: even if you are vaccinated, you may still get sick, but you are less likely to need hospitalisation.

10 What are the most common side effects? How soon do they manifest themselves?

Possible side effects are those typically occurring post-vaccination. Such side effects, due to the immune system responding to the injection of a foreign substance, are generally mild, and include pain and swelling at the injection site, tiredness, headache, muscle and joint pain, chills and fever. Sometimes redness and itching at the injection site also occur. Such side effects usually appear within 24 hours of getting the vaccine and typically disappear within 48-72 hours. At present, the most serious side effects observed (in less than 1% of cases) by comparing vaccinated people against a control group were swollen lymph nodes, a benign condition that goes away on its own, and facial hemiparesis. The pharmacovigilance system will continue to monitor every aspect of the vaccines and their safety, both during and after the vaccination campaign, with a view to promptly identifying any warning signs.

11 In the case of vaccines requiring a second dose, do the side effects already occur after the first dose?

It depends on the vaccine: data collected since the start of the vaccination campaign shows that side effects appear more frequently after the second dose of mRNA vaccines (Pfizer and Moderna) and after the first dose of viral vector vaccines (AstraZeneca and Johnson&Johnson).

12 What should I do if side effects occur?

Side effects occurring post-vaccination can be treated with commonly used drugs, such as paracetamol for a fever and anti-inflammatory medication for headaches and joint or muscle pain. However, if symptoms worsen it is advisable to contact your doctor.

13 Why are you required to provide information about your medical history before being vaccinated? What physical and psychological conditions are considered of particular interest?

Collecting a medical history pre-vaccination is useful and important to determine whether the person who is about to be vaccinated suffers from certain allergies or chronic diseases. Knowing about pre-existing allergies is important in order to keep the person monitored and act quickly in the event of a serious allergic (anaphylactic) reaction. Moreover, some chronic diseases and/or certain therapies may reduce the effectiveness of the vaccine (see questions 14 and 22).

14 Who are immunocompromised people and what should they do to be vaccinated?

Immunocompromised people are those receiving treatment with immunosuppressants due to a disease that targets the immune system or to an organ transplant. These people can absolutely be vaccinated. The only concern involves the use of Rituximab, a mono-clonal antibody used in the treatment of B-cell non-Hodgkin's lymphoma and B-cell leukaemia and in the treatment of certain autoimmune diseases. Individuals receiving Rituximab may be vaccinated provided the Covid-19 vaccine is administered at least 6 months after the last infusion, so that the effectiveness of the vaccination is not lost. This is because Rituximab destroys not only the auto-antibodies produced by the body, causing the disease, but also the antibodies produced to fight infections (e.g. the antibodies produced post-vaccination). The right time to be vaccinated may be determined by carrying out a lymphocyte count before vaccination: if the value is insufficient, it is better to wait until the body is ready to produce the Covid-19 antibodies.

15 What are the effects of the first dose and how long does it take for the vaccine to reach its maximum effectiveness?

Protection against Covid-19 begins 10-12 days after the first dose of the vaccine. Maximum effectiveness is usually be achieved 7-14 days after the second dose. No vaccine is 100% effective: some people who have been vaccinated may still get ill because the vaccine did not produce an effective immune response. To date, we have no reliable data on exactly how long the vaccines provide protection against Covid-19, because an observation period of just a few months is too short. Data on other types of coronavirus, however, suggest that protection should last for at least 9-12 months.

16 Do the vaccines work well against every Covid-19 variant?

In recent months, the pandemic has been further exacerbated by the circulation of multiple SARS-CoV-2 variants, characterised by lower susceptibility to the disease and lower vaccine-induced immunity. These variants are referred to by the name of the places where they were first detected: the most common are the UK, South Africa and Brazilian variants. Despite the lack of conclusive evidence, recent studies seem to show that the vaccines work well against the UK variant and also (RNA vaccines) against the South African variant. This is no data available to date for the other variants.

17 Should I have a swab test or a serology test before being vaccinated?

Absolutely not. Since the level of antibodies needed to protect against infection and the duration of protection have not yet been identified, having a serology test before being vaccinated is of little practical use. In Italy, as in other nations, the criterion adopted is the time that has elapsed since the previous infection. Read the next question for more details.

18 If someone has had Covid-19 or was asymptomatic, should they still be vaccinated? And if so, when?

According to the Italian Ministry of Health, people who contracted the Covid-19 infection 3 or more months before the vaccination should be vaccinated. However, if the infection occurred 3 to 6 months before the vaccination, one dose is sufficient. Those who contracted the disease more than 6 months before the vaccination should have both doses, even if the antibody titre is still high. Antibodies produced as a result of the disease may be sufficient to reduce the risk of infection, but vaccination can help to strengthen and prolong protection. In any case, it is advisable to ask your doctor's advice based on your medical history or to speak to the doctor at the vaccination centre.

19 Will I need to be vaccinated regularly?

Probably, but we are not yet in a position to answer this question conclusively. The data available is insufficient to determine exactly how long the vaccines provide protection against Covid-19, nor can we predict the impact of the current vaccination campaign on the evolution of the pandemic.

20 Can people with an unconfirmed allergy be vaccinated? And people with a confirmed allergy to streptomycin and penicillin?

People with a respiratory, food or antibiotic medication allergy can be vaccinated. Anyone who has had a severe allergic (anaphylactic) reaction in the past will remain under observation for longer (approximately 60 minutes) after the injection. In some cases, such as a history of severe allergies combined with uncontrolled asthma, vaccination in a protected environment such as a hospital may be advisable. Any allergy treatment should not be discontinued. Anyone who suspects they might have a severe allergic reaction to the excipients contained in the anti-Covid vaccines, i.e. PEG (polyethylene glycol) or Polysorbate 80, must not be vaccinated and should consult an allergist to see whether there are any alternative vaccines. The doctor at the vaccination service, to whom you should report any allergy, will provide the information required.

21 After you have been vaccinated, can you still be infectious?

Vaccination against Covid-19 does not make you infectious because it does not cause the disease. However, it should be noted that while scientific evidence seems to point to the fact that vaccination is effective in protecting against severe forms of Covid-19, it is not known whether it is equally effective in avoiding contracting the disease in a mild or asymptomatic form. For this reason, anyone who has been vaccinated should still follow all the anti-infection rules (social distancing, face masks, and washing your hands) as they could become asymptomatic and transmit Covid-19 unknowingly.

22 Can people receiving combination therapy or being treated for chronic illnesses be vaccinated?

To date, interaction with other drugs has not yet been studied. However, the medicines most commonly used are not thought to reduce the effectiveness of the vaccines or increase their side effects Immunosuppressants (e.g. corticosteroids, cyclosporine and some monoclonal antibodies), used following organ transplants or to treat autoimmune diseases, may reduce the response to vaccination (see question 14). In such cases, we advise asking your doctor whether you should consider temporarily not taking your immunosuppressant medications. Patients on anticoagulants may, as with any vaccine, experience bleeding or bruising caused by the intramuscular injection.

23 Should breastfeeding mothers be vaccinated?

Data on the safety of Covid-19 vaccines for breastfeeding mothers is currently limited. However, numerous healthcare institutes, such as America's Centers for Disease Control, the European Medicines Agency (EMA), the Italian Medicines Agency (AIFA), and the Istituto Superiore di Sanità (Italy's National Health Institute), believe that there is no contraindication to being vaccinated against SARS-CoV-2 while breastfeeding because the vaccines do not cause the disease and therefore cannot infect the baby. On the contrary, vaccinating the mother could also protect the baby.

24 Should expectant mothers be vaccinated?

There are currently no studies on the safety of Covid-19 vaccines for expectant mothers. Laboratory tests have not documented an increased risk of malformations or other risks to the development of the embryo or foetus. Data on expectant mothers who have chosen to be vaccinated is being collected in many countries and, for now, there have been no warning signs concerning possible risks. On the contrary, vaccinating the mother could also protect the baby. However, it is worth discussing whether or not to be vaccinated with a physician and gynaecologist, on the basis of individual risk factors and the benefits for mother and child.

In the future

25 When will we be able to stop wearing face masks?

It is hard to say. For now, it is extremely important to vaccinate all those at increased risk for severe illness from Covid-19. Gradually, Covid-19 restrictions will be eased, allowing our lives to return to “normal”.

Confindustria Bergamo

Confindustria Bergamo is a non-profit, free association of around 1,200 businesses and 80,000 people representing the industrial and services sectors of the Bergamo area.

It has three core values: Identity, Representation, and Services. The aim of Confindustria Bergamo is to support the economic growth of companies, to represent their views and values before the Institutions, to collaborate with other local stakeholders, and to provide an increasingly diversified range of services to its members.

Confindustria Bergamo operates in a predominantly industrial area focused on advanced manufacturing integrated with technological services and with a strong focus on internationalisation.

www.confindustriabergamo.it

The OPP Health and Safety Board

OPP is a Health and Safety Board established by Confindustria Bergamo and by the local CGIL and UIL trade union organisations.

Founded in 1996, the Board promotes health and safety in the workplace by training workers and creating synergies with other local stakeholders.

www.oppbergamo.it/home-opp/chi-siamo

The Mario Negri Institute

For 60 years, the Mario Negri Institute of Pharmacological Research has been contributing to the dissemination of scientific knowledge both through training and citizen awareness initiatives. Since the start of the health emergency, the Institute has been providing regular information and updates through its channels.

In addition to research on Covid-19, the Institute is also involved in studying kidney diseases, tumours, neurodegenerative diseases, heart diseases, public health, and rare diseases. The Institute finances its activities by means of self-sourced funds, allowing it to conduct its research activities independently.

www.marionegri.it/eng/home