



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

8 September 2021

COVID-19 vaccine safety update

COMIRNATY

BioNTech Manufacturing GmbH

The safety of Comirnaty is continuously monitored and safety updates are regularly provided to the public. This document outlines the outcomes from the assessment of emerging worldwide safety data carried out by EMA's [Pharmacovigilance Risk Assessment Committee](#) (PRAC) (see section 1). It also contains high-level information from the reporting of suspected adverse reactions, which PRAC takes into account in its assessments (see section 2).

This safety update follows the update of 11 August 2021.

Main outcomes from PRAC's latest safety assessment

No new updates to the product information are currently recommended.

The safety updates are published regularly at [COVID-19 vaccines: authorised](#). All published safety updates for Comirnaty are available at [Comirnaty: safety updates](#).

Since its marketing authorisation in the European Union (EU) on 21 December 2020 until 2 September 2021, almost 392 million doses of Comirnaty have been administered in the EU/EEA¹.



Almost 392 million
doses administered in EEA

1. Updates on safety assessments for Comirnaty

PRAC assessed new safety data, including the latest Monthly Summary Safety Report (MSSR)² from the marketing authorisation holder and data reported by patients and healthcare professionals to EudraVigilance (see section 2), during its meeting held 30 August to 2 September 2021.

No new updates to the product information are currently recommended.

Myocarditis and pericarditis

No further update to the Comirnaty product information at present

Myocarditis and pericarditis were added to the product information of Comirnaty in the side effects and warning sections, following the assessment by PRAC in July 2021³.

Myocarditis and pericarditis are inflammatory conditions of the heart.

PRAC has kept these conditions under close monitoring and in September 2021 concluded that so far there is no new information on which base to change the current recommendation regarding the second vaccination in people who experienced myocarditis or pericarditis after the first dose or any other aspects of these side effects.

Reminder: To help recovery and avoid complications, people must seek immediate medical attention and treatment if they experience breathlessness, a forceful heartbeat that may be irregular or (acute and persisting) chest pain, as these could be signs of myocarditis and pericarditis.

¹ The [European Centre for Disease Prevention and Control \(ECDC\)](#) collects these exposure data from EU Member States as well as from the additional countries of the European Economic Area (EEA) Norway, Iceland and Liechtenstein.

² Monthly Summary Safety Reports, also referred to as pandemic summary safety reports, will be compiled by the marketing authorisation holders to support timely and continuous benefit-risk evaluations for COVID-19 vaccines used during the pandemic. These reports complement the submission of [Periodic Safety Update Reports](#) (PSURs).

³ See [safety update for Comirnaty of 14 July 2021](#)

Multisystem inflammatory syndrome (MIS)

Assessment ongoing

PRAC is assessing whether there is a risk of multisystem inflammatory syndrome (MIS) with COVID-19 vaccines following a report of MIS with Comirnaty. The case occurred in a 17-year old male in Denmark who has since fully recovered⁴. Some cases of MIS after administering this or other COVID-19 vaccines were reported in adults and/or from outside EU/EEA. Reported cases concern suspected side effects, i.e. medical events that have been observed after vaccination, but which are not necessarily related to or caused by the vaccine.

MIS is a serious inflammatory condition affecting many parts of the body and symptoms can include tiredness, persistent severe fever, diarrhoea, vomiting, stomach pain, headache, chest pain and difficulty breathing. MIS is rare and its incidence rate before the COVID-19 pandemic estimated from 5 European countries was around 2 to 6 cases per 100,000 per year in children and adolescents below 20 years of age and less than 2 cases per 100,000 per year in adults aged 20 years or above [data from observational studies coordinated by EMA (see section 2)]⁵. MIS has also been reported following COVID-19 disease. The Danish patient, however, had no history of COVID-19.

As of 19 August 2021, one case was reported as MIS in a child after vaccination with Comirnaty in the EEA/EU (i.e. the case in Denmark described above) to EudraVigilance (for information on EudraVigilance, see section 2).

PRAC will now assess the available data on MIS to determine whether the condition can be caused by COVID-19 vaccines and recommend whether any changes to the product information are needed.

PRAC encourages all healthcare professionals to report any cases of MIS and other adverse events in people who have had these vaccines (for advice on reporting, see section 2).

At this stage, there is no change to the current EU recommendations for the use of COVID-19 vaccines.

EMA and national authorities will provide further updates as necessary⁶.

2. How safety is monitored

As for all COVID-19 vaccines, relevant new information emerging on Comirnaty is collected and promptly reviewed. This is in line with the

⁴ See [Statement from the Danish Medicines Agency of 26 August 2021](#)

⁵ See [European Network of Centres for Pharmacoepidemiology and Pharmacovigilance \(ENCePP\)](#)

⁶ See [Meeting Highlights from the Pharmacovigilance Risk Assessment Committee \(PRAC\) 30 August - 2 September 2021](#)

[pharmacovigilance plan for COVID-19 vaccines](#) of the EU regulatory network (comprising the regulatory bodies of the EU Member States, EMA and the European Commission).

Case reports of suspected side effects

Collecting reports of medical events and problems that occur following the use of a medicine, and therefore might be side effects, is one of the pillars of the EU safety monitoring system. Healthcare professionals and vaccinated individuals are encouraged to report to their national competent authorities all suspected side effects individuals may have experienced after receiving a vaccine even if it is unclear whether the vaccine was the cause. For more information on how to report, see [Reporting suspected side effects](#).

These spontaneous reports are collected in EudraVigilance, the EU database used for monitoring and analysing suspected side effects. Publicly available information can be accessed via [EudraVigilance – European database of suspected drug reaction reports](#) in all EU/EEA languages. Search for “COVID-19 mRNA Vaccine PFIZER-BIONTECH (Tozinameran)” to see all suspected side effect cases reported for Comirnaty.

As of 2 September 2021, a total of 302,517 cases of suspected side effects with Comirnaty were spontaneously reported to EudraVigilance from EU/EEA countries; 4,714 of these reported a fatal outcome^{7,8}. By the same date almost 392 million doses of Comirnaty had been given to people in the EU/EEA⁹.

These reports describe suspected side effects in individuals, i.e. medical events observed following the use of a vaccine. The fact that someone has had a medical issue or died after vaccination does not necessarily mean that this was caused by the vaccine. This may have been caused, for example, by health problems not related to the vaccination.

The EU regulatory network continuously monitors EudraVigilance to detect any new safety issues. EudraVigilance relies on individual healthcare professionals and patients to report their own experience. The monitoring detects unusual or unexpected patterns in the reports received for further investigation and risk assessment. EMA’s detailed assessments take into

⁷ These figures have been calculated excluding cases reported from Northern Ireland (EU reporting requirements for suspected adverse reactions to EudraVigilance apply to Northern Ireland in accordance with the Protocol on Ireland/Northern Ireland).

⁸ Source: EudraVigilance. These figures cannot be extracted directly from the public database of suspected adverse reactions, which groups information per type of side effects. As more than one suspected side effect may have been included in a single case report, the total number of side effects will never match the number of individual cases. Similarly, this public database does not provide the total number of cases reported with a fatal outcome.

⁹ The [European Centre for Disease Prevention and Control \(ECDC\)](#) collects these exposure data from EU Member States as well as from the additional countries of the European Economic Area (EEA) Norway, Iceland and Liechtenstein.

account all available data from all sources to draw a robust conclusion on the safety of the vaccine. These data include clinical trial results, reports of suspected side effects in EudraVigilance, epidemiological studies monitoring the safety of the vaccine, toxicological investigations and any other relevant information.

Planned and ongoing studies

The company that markets Comirnaty will continue to provide results from the main clinical trial, which is ongoing for up to two years. It will also conduct additional studies to monitor the safety and effectiveness of the vaccine as it is used in vaccination campaigns and other clinical practice. For the list of planned and ongoing safety studies for Comirnaty, see the [risk management plan](#).

A [paediatric investigation plan](#) (PIP) for Comirnaty is in place. This describes how the company collects data on the vaccine's efficacy and safety for its use in children.

In addition, EMA is coordinating [observational studies](#) in EU Member States looking at real-world data from clinical practice to monitor the safety and effectiveness of COVID-19 vaccines, including in pregnant women.

3. Other information for Comirnaty

Comirnaty is a vaccine that was authorised in the EU on 21 December 2020 to prevent COVID-19 when infected with the coronavirus SARS-CoV-2. COVID-19 is a potentially severe disease that may result in death. The initial marketing authorisation was for use in people aged 16 years and older; on 31 May 2021, the marketing authorisation was extended to use in individuals aged 12 years and older.

Comirnaty contains a molecule called mRNA, which the body uses to temporarily produce the SARS-CoV-2 spike protein. The mRNA is broken down shortly after vaccination. The spike protein does not cause COVID-19.

Before Comirnaty was granted an EU marketing authorisation, the efficacy and safety of the vaccine were assessed through pre-clinical studies and large clinical trials. More than 18,000 participants had been given the vaccine in clinical trials.

Like all medicines, this vaccine can cause side effects, although not everybody will experience them. The most common side effects known for Comirnaty are usually mild or moderate and get better within a few days after vaccination.

More information on how Comirnaty works and its use is available in all EU/EEA languages in the [medicine overview](#). This includes information on

use in pregnant and breastfeeding women and immunocompromised individuals.

The full [product information](#) with the summary of product characteristics and the package leaflet is also available in all EU/EEA languages.

European Medicines Agency

Official address Domenico Scarlattilaan 6 • 1083 HS Amsterdam • The Netherlands

Address for visits and deliveries Refer to www.ema.europa.eu/how-to-find-us

Send us a question Go to www.ema.europa.eu/contact

Telephone +31 (0)88 781 6000

