PROCEDURE

Smallpox/monkeypox vaccine (jynneos) - what you need to know

JYNNEOS is an injected vaccine used to help prevent smallpox and mpox.

PURPOSE
Prevent smallpox and mpox in people at increased exposure risk

PROCEDURE TYPE
Therapeutic; minimally invasive preventive injection

WHERE IT IS DONE
Outpatient clinic or public health vaccination site

ANAESTHESIA
None

HOW LONG IT TAKES
Seconds to one minute per injection

PREPARATION
No fasting; share allergies, health conditions, and exposure timing

RECOVERY
Same day; no routine driving restriction

MAIN RISKS
Injection-site reactions, fatigue, headache, severe allergic reaction

RESULTS
Strongest protection about two weeks after dose two

Overview

JYNNEOS is a vaccine that helps protect against smallpox and mpox, formerly called monkeypox. Both illnesses are caused by viruses from the orthopoxvirus family.

The vaccine contains a weakened form of vaccinia virus called modified vaccinia Ankara. This virus cannot reproduce in human cells in the usual way. The vaccine cannot give you smallpox or mpox, and you cannot spread its vaccine virus to other people.

JYNNEOS is usually given as a series of two injections, commonly four weeks apart. It is normally injected under the skin of the upper arm. In some public health settings, it may be injected between layers of the skin.

Vaccination lowers the chance of becoming ill and may reduce the severity of illness. It does

not provide complete protection, and it is not a treatment for mpox that has already developed.

Why the procedure is performed

You may be offered JYNNEOS because your work, sexual contacts, community exposure, or close contact with someone who has mpox places you at increased risk.

Vaccination may be given before a possible exposure. This is called pre-exposure vaccination. It may apply to certain laboratory workers and people who are more likely to encounter mpox through close or sexual contact.

It may also be given after a known or likely exposure. Vaccination works best when provided as soon as possible, ideally within four days. When given between 4 and 14 days after exposure, it may still reduce symptoms even if it does not prevent illness.

Smallpox no longer occurs naturally. Smallpox vaccination is generally limited to people with specific occupational risks or those covered by an emergency public health response.

Who should and should not have it

JYNNEOS may be appropriate if you meet current public health criteria for increased mpox exposure risk, have had close contact with someone who has mpox, or work with certain orthopoxviruses.

The approved age range and the way the vaccine is offered can differ by country. In the United States, JYNNEOS is approved for adults at high risk. Public health authorities may arrange vaccination for younger people after an exposure under specific authorization.

You should not receive another dose if you had a severe allergic reaction, such as anaphylaxis, to a previous dose or a vaccine ingredient.

Vaccination may need to be delayed if you have a moderate or severe short-term illness. A mild illness, such as a minor cold, does not always require a delay.

Tell the vaccination team if you:

Pregnancy, breastfeeding, eczema, or a weakened immune system do not automatically rule out JYNNEOS. Because the vaccine virus does not reproduce normally in the body, it is generally preferred over vaccines containing a virus that can replicate. Your exposure risk and personal circumstances still need to be considered.

- Have serious allergies, including allergies to vaccine ingredients
- Are pregnant, planning pregnancy, or breastfeeding
- Have a weakened immune system
- Have eczema or another significant skin condition
- Fainted during a previous injection
- Have already received a smallpox or mpox vaccine

How to prepare

Follow the treating facility's own instructions first, because its timing, check-in, and documentation requirements take priority.

You do not usually need to fast. Eat and drink normally unless the facility tells you otherwise. Take your regular medicines unless the clinician responsible for them has given different instructions.

Bring your vaccination record if you have one. Tell the team when a possible exposure occurred, since timing matters for vaccination after exposure.

Wear clothing that makes your upper arm easy to reach. If injections make you feel faint, tell the team before vaccination so you can receive it while seated or lying down.

What happens during the procedure

A healthcare professional will confirm your identity, check your eligibility, and ask about allergies and previous vaccine reactions. You will have an opportunity to ask questions before agreeing to vaccination.

The skin may be cleaned before the injection. JYNNEOS is usually injected into the fatty tissue beneath the skin of the upper arm. The injection itself takes only a few seconds.

Some public health programs may use an intradermal injection, which places vaccine between the skin's layers, usually on the forearm. This can cause a small raised bump. Ask why this method is being offered if it is different from what you expected.

No anaesthetic or sedation is needed. You may be asked to remain at the site briefly afterward, often for about 15 minutes, so staff can help if you feel faint or have an immediate reaction.

Most people need a second dose. The vaccination team will tell you when it is due.

Recovery and what to expect afterward

Pain, redness, swelling, itching, or a firm area where the vaccine was injected are common. An intradermal injection may leave redness, discoloration, or a small lump for several weeks. A cool compress may help with soreness.

You can eat and drink normally afterward. Stay well hydrated if you feel tired or develop a headache.

Normal daily activity is usually safe. You may prefer to avoid strenuous use of the injected arm if it is sore.

You can usually drive yourself home because the vaccine does not involve sedation. Do not drive if you feel faint or unwell.

Most people can return to work or school immediately. Fatigue, headache, muscle aches, nausea, or chills may make some people want a lighter schedule for a day or two.

Risks and possible complications

The most common effects occur around the injection site. These include pain, redness, swelling, itching, and firmness. General effects can include tiredness, headache, muscle pain, nausea, and chills.

Fainting can happen with injections. Sitting or lying down during vaccination can reduce the chance of an injury if you become light-headed.

A severe allergic reaction is possible with any vaccine, although it is uncommon. Vaccination sites have procedures and medicines available to treat this.

People with eczema may experience more noticeable local or general reactions. People with weakened immune systems can receive JYNNEOS, but their immune response may be lower.

JYNNEOS does not create the open vaccine sore associated with older smallpox vaccines. Its vaccine virus cannot spread to household members through contact with the injection site.

Results and follow up

There is no immediate test result. Your immune system builds protection over time, with the strongest expected response about two weeks after the second dose.

Protection is not complete. Continue following advice about avoiding close skin-to-skin contact with a person who has mpox or an unexplained rash. Vaccination after exposure does

not replace symptom monitoring.

Routine follow-up usually involves receiving the second dose and keeping a record of both vaccinations. If the second dose is late, contact the vaccination service. The series usually does not need to be restarted.

Routine boosters are not generally used solely for ongoing sexual exposure after a completed series. Some laboratory workers with continuing occupational exposure may be offered boosters under specialist guidance.

Alternatives

You can choose not to receive JYNNEOS. This avoids vaccine reactions but leaves you without its added protection against smallpox or mpox.

Reducing close skin-to-skin and sexual contact during an outbreak can lower mpox exposure risk. Avoiding shared bedding, towels, clothing, and personal items may also help. These steps require continued attention and may not prevent every exposure.

After a known exposure, symptom monitoring is important whether or not you are vaccinated. Monitoring alone avoids vaccine reactions but does not create immunity or lower risk in the same way.

Another smallpox vaccine, ACAM2000, may be considered for selected adults in specialized programs. It contains a vaccinia virus that can reproduce, produces an open vaccination sore, and can spread from that sore to other people. It also has more medical restrictions and a greater risk of serious complications, so JYNNEOS is generally preferred when suitable.

When to call your healthcare team

Contact the vaccination service during routine hours if injection-site pain or swelling is worsening rather than improving, side effects are interfering with daily life, or you are unsure when to receive the second dose.

After an mpox exposure, contact your healthcare team promptly if you develop a new rash, skin sores, swollen lymph nodes, fever, chills, or other concerning symptoms. Avoid close contact with others and call ahead before attending a clinic. These symptoms do not necessarily mean you have mpox, but they need assessment.

Seek urgent medical care for chest pain, significant shortness of breath, persistent fainting, or rapidly worsening symptoms.

Call emergency services for signs of a severe allergic reaction, including difficulty breathing, swelling of the face or throat, widespread hives, severe dizziness, or collapse.

Common questions

Will I be asleep for the vaccine?

No. JYNNEOS is a quick injection and does not require anaesthesia or sedation.

Can I drive myself home?

Usually, yes. The vaccine does not affect driving through sedation. Wait until you feel fully well if you become faint or light-headed.

How painful is it?

Most people feel a brief needle sting followed by mild arm soreness. Redness, itching, swelling, or firmness can be more noticeable after an intradermal injection.

When will I know it has worked?

There is no routine blood test to confirm protection. Your immune response develops after each dose and is expected to be strongest about two weeks after the second dose.

Can JYNNEOS give me mpox?

No. It does not contain the virus that causes mpox, and its vaccine virus cannot reproduce normally in human cells.

Do I still need the second dose if I had a strong reaction?

Common soreness, redness, or fatigue does not usually prevent a second dose. Contact the vaccination service before the next dose if your reaction was severe, required medical treatment, or may have been an allergic reaction.

Sources

- U.S. Food and Drug Administration. JYNNEOS: Smallpox and Monkeypox Vaccine, Live, Non-replicating - Prescribing Information
- Centers for Disease Control and Prevention. Mpox Vaccination Basics
- Centers for Disease Control and Prevention. Vaccine Considerations for Mpox in Specific Groups

- Centers for Disease Control and Prevention. JYNNEOS Vaccine Administration Considerations
- Advisory Committee on Immunization Practices. Use of JYNNEOS for Preexposure Vaccination of Persons Aged 18 Years and Older at Risk for Mpox During an Mpox Outbreak: United States, 2023 . Morbidity and Mortality Weekly Report, 2024