

## Vaccination for people with AIIRD

This is the lay version of the EULAR recommendations for vaccination in adults with autoimmune inflammatory rheumatic diseases (often shortened to AIIRD). The original publication can be downloaded from the EULAR website: [www.eular.org](http://www.eular.org).

Furer V, et al. 2019 Update of EULAR recommendations for vaccination in adult patients with autoimmune inflammatory rheumatic diseases. *Ann Rheum Dis* 2020 Jan;79(1):39-52

### Introduction

EULAR recommendations give advice to doctors, nurses and patients about the best way to treat and manage people with AIIRD. EULAR has updated its recommendations on vaccination in adults with AIIRD.

People with AIIRD are prone to infections because of the underlying autoimmune disease, as well as the use of medicines for AIIRD that work by suppressing the immune system. Preventing infections is important in the management of AIIRD. Vaccination can prevent infections, but people with AIIRD often avoid vaccinations because they are not aware how important they are, or because they have concerns about the efficacy and safety of vaccines.

Doctors, health professionals and patients worked together to develop these recommendations. Including patients in the team ensured that the patient point of view was integrated in the recommendations. The authors looked at the new evidence on the frequency of infections in people with AIIRD, and on the efficacy and safety of different vaccinations in these people. They discussed their expert opinion to achieve a level of agreement.

### What do we already know?

People with AIIRD have a higher risk of infections compared to healthy people. Vaccinations can protect people with AIIRD from infections. There are two types of vaccines: non-live, composed of a non-live bacteria or virus, and live-attenuated, composed of a weakened bacteria or virus. Before decisions about vaccinations are made, information should be collected about any previous vaccinations, reaction to vaccination, the history of a person's disease, and what medicines are being used.

### What do the recommendations say?

Overall, there are six overarching principles and nine recommendations. Each recommendation is based on available scientific evidence or expert opinion.

The overarching principles say that people with AIIRD should have their vaccination history and need for further vaccination reviewed yearly by their rheumatologist, and this should be discussed with them. A vaccination plan should be tailored for each person with AIIRD. Any decisions about vaccination should be based on a shared decision between the patient and doctor. Vaccination in people with AIIRD should be done when the underlying AIIRD is quiet or well controlled with treatment. Different drugs have a different impact on the response to vaccines. In general, vaccines should be given wherever possible before starting immunosuppressive treatment. It is particularly important to vaccinate before treatment with a medicine called rituximab. Non-live vaccines, such as those to protect against 'flu, pneumococcal disease, tetanus toxoid, hepatitis B virus, hepatitis A virus, and human papilloma virus (often shortened to HPV) vaccines can be given regardless of the type of treatment that a person is taking for their AIIRD. Live-attenuated vaccines, such as those to protect against herpes zoster or mumps-measles-rubella (the MMR vaccine), should be generally avoided in people taking immunosuppressive drugs, but in some cases they may be considered with caution.

The nine recommendations relate to particular vaccines, and to vaccination of household members of people with AIIRD.

Each recommendation is based on available scientific evidence and expert opinion. The more stars a recommendation has the stronger the evidence is.

One star (\*) means there is very limited or no scientific evidence, but significant expert opinion.

Two stars (\*\*) means it is a weak recommendation with some scientific evidence and significant expert opinion.

Three stars (\*\*\*) means it is a strong recommendation with quite a lot of scientific evidence and expert opinion.

Four stars (\*\*\*\*) means it is a strong recommendation supported with a lot of scientific evidence and expert opinion.

- **The flu vaccine should be strongly considered for most people with AIIRD.\*\*\***

People with AIIRD have a higher risk of getting influenza (often shortened to flu) and are more likely to have complications from the disease than healthy people. Many clinical studies have shown that the flu vaccine (a non-live vaccine) protects against flu in people with AIIRD, and is mostly safe. If you have AIIRD, your doctor will offer you an annual flu vaccination.

- **Vaccination against pneumococcal disease should be strongly considered for most people with AIIRD.\*\***

The risk of lung infection is particularly high for people with AIIRD. There are two non-live vaccines available that protect from lung infection caused by pneumococcal bacteria. Studies have shown that pneumococcal vaccines are effective and safe in people with AIIRD. Your doctor will discuss the best options for you.

- **People with AIIRD should receive tetanus vaccination the same as the general population.\*\*\* A different type of tetanus prevention might be needed for people taking rituximab or belimumab.\***

People with AIIRD should receive tetanus toxoid vaccination (a non-live vaccine) if they might have been exposed to tetanus. This is the same as for normal people in the general population in your country. The tetanus toxoid vaccine might not work as well as it should if you are taking drugs for your AIIRD called rituximab or belimumab. If you are taking one of these drugs, another form of tetanus protection (tetanus immunoglobulins) may be offered.

- **Hepatitis A and B vaccines should be given to people with AIIRD if they are at risk.\*\*\* In specific situations, booster or passive immunization is needed.\*\***

Vaccines against hepatitis A and B are non-live. They are offered to people at risk for this type of infection.

People with AIIRD travelling to or who live in countries where hepatitis A is common should receive hepatitis A vaccination. For full protection, the vaccine is given in two separate doses 6 months apart.

Hepatitis B vaccine should be given only to people at risk. You may be at risk of getting hepatitis B if you travel to or live in a country where hepatitis B is common. You are also at increased risk if you work in healthcare, if people you live with have the virus, or if you have sexual partners who have chronic hepatitis B infection. Intravenous drug users and men who have sex with men are also at increased risk of getting hepatitis B. If it is possible that you have been exposed to the hepatitis B

virus and have not been vaccinated, or if you did not have a good enough response to a hepatitis B vaccine, you may need to have a vaccine booster.

- Herpes zoster vaccination may be considered in people with AIIRD if they are at high risk.\*\***  
People with AIIRD are at high risk for herpes zoster infection. This is especially true if you have polymyositis, dermatomyositis or Lupus. A live-attenuated herpes zoster vaccine decreases the risk of infection. However, the use of the vaccine is limited in people who have a weakened immune system, or people taking certain drugs that suppress the immune system, such as biologics. Your doctor will discuss this vaccine with you. A new non-live zoster vaccine has been available in Europe since March 2018, although it is not yet known how well it works in people with AIIRD. The vaccine is recommended for adults over the age of 50. It is given as two doses 2 to 6 months apart.
- People with AIIRD should not usually have vaccination against yellow fever.\***  
The yellow fever vaccine is a live-attenuated vaccine. The vaccine is generally recommended for people traveling to or living in areas where the yellow fever virus is common, such as in Africa or South America. If you have AIIRD and are taking immunosuppressive drugs you should not get the yellow fever vaccination as there is a risk that it could cause you to develop yellow fever infection. If you have AIIRD and are travelling to a country where yellow fever is common, you might need to stop taking your immunosuppressive drugs for a while beforehand so that you can be safely vaccinated.
- People with AIIRD, especially those with Lupus, should receive vaccination against human papilloma virus the same as for the general population.\*\***  
People with AIIRD should receive the human papilloma vaccine (HPV) as is recommended for healthy people. Many studies report that women with systemic lupus erythematosus (also called SLE or Lupus) are at particular high risk for HPV infection. If you have Lupus you should consider getting the HPV vaccine.
- If you have AIIRD, the people you live with should be up to date on their vaccinations according to the normal guidelines in your country – except for the oral polio vaccine.\***  
Healthy people living with people with AIIRD should get their vaccinations according to normal national guidelines. The only exception is that the oral polio vaccine should not be given to people you live with if you have AIIRD, as there is a risk that you could get polio from being close by them.

If you are taking immunosuppressive drugs, you should avoid handling the diapers of infants who have been vaccinated against rotavirus in the last 4 weeks.

Contact with people who develop skin lesions after taking the varicella or zoster vaccines should also be avoided if you have AIIRD.

- If you took biologic drugs during the second half of your pregnancy, your baby should not receive any live-attenuated vaccines until they are more than 6 months old.\***  
Newborn babies of mothers treated with some types of biologic drugs called the tumor necrosis factor inhibitors (often shortened to TNF) during pregnancy might have a small amount of the drug in their system after they are born, and until they are 6 months old. This is the case for all TNF inhibitors, except a drug called certolizumab. If you took a TNF inhibitor after week 22 of your pregnancy, your baby should not receive a live-attenuated vaccine until they are older than 6 months. If you took a TNF inhibitor before week 22 of your pregnancy, your baby can have the normal vaccinations recommended for newborns in your country.

## Summary

Overall, the recommendations say that it is important for you and your doctor to work together to protect you from vaccine-preventable infections. If you have a rheumatic disease, these recommendations will guide you in the use of vaccination. If you have any questions or concerns about your disease or your medication, you should speak to your rheumatology team.