

## Immunization Strategies for Autoimmune and Rheumatic Disease Patients

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### ABOUT THE STUDY

Immunization is a critical preventive health measure that protects individuals from infectious diseases. However, for patients with autoimmune and rheumatic conditions, managing immunization requires nuanced strategies due to the unique challenges these patients face. Autoimmune and rheumatic diseases involve an overactive immune system that attacks healthy tissues or an immune system weakened by disease-modifying treatments. As such, it is need to understand the balance between providing effective protection against preventable infections and avoiding potential risks associated with immunizations in these vulnerable populations.

### Strategies for autoimmune and rheumatic disease patients

Patients with autoimmune disorders, such as systemic lupus erythematosus, rheumatoid arthritis, or Sjögren's syndrome, and those with rheumatic diseases, like ankylosing spondylitis and juvenile idiopathic arthritis, often have compromised immune responses due to the disease itself or the immunosuppressive treatments they receive. These treatments, which may include corticosteroids, methotrexate, biologics, and other immunosuppressive medications, can reduce the body's ability to respond effectively to vaccines. This makes it need for healthcare providers to tailor vaccination strategies that account for the potential impact of these factors.

The timing and type of immunizations play a pivotal role in ensuring safety and efficacy. Ideally, immunizations should be administered when patients are in remission or at least not experiencing active disease. During periods of active disease or when the immune system is significantly compromised, vaccines may be less effective and could increase the risk of side effects. It is important for healthcare professionals to evaluate the patient's disease status and current treatment plan to determine the best time for vaccination.

Live vaccines, such as those for Measles, Mumps, Rubella (MMR), and yellow fever, present a particular challenge for patients on immunosuppressive therapies. These vaccines contain weakened forms of the virus that can cause illness in

individuals with compromised immune systems. Therefore, patients receiving high doses of corticosteroids or potent immunosuppressive agents should generally avoid live vaccines. In contrast, inactivated vaccines, such as those for influenza, hepatitis, and pneumococcal diseases, do not pose the same risks and can be safely administered to most patients with autoimmune or rheumatic conditions. These vaccines can be less effective if a patient's immune system is significantly weakened, but they still provide a degree of protection.

Given the potential complications associated with live vaccines, healthcare providers must prioritize the use of inactivated vaccines and ensure that their patients are up-to-date on all recommended immunizations before starting or escalating immunosuppressive treatment. For patients who have already commenced immunosuppressive therapy, it is generally recommended to complete any live vaccinations at least four weeks prior to starting treatment. In cases where a patient's immunosuppressive regimen has been established, inactivated vaccines should be given during periods of stable disease, and booster doses may be necessary to maintain an adequate level of protection.

There is also the consideration of vaccine efficacy, which can be influenced by the type of immunosuppressive treatment. For instance, therapies that target B cells, such as rituximab, can significantly impair the production of antibodies and reduce the effectiveness of vaccines. In these cases, additional doses of certain vaccines may be needed to achieve adequate immune responses. Adjuvanted vaccines, which contain components that improve the immune response, may offer a more robust defense for patients on such treatments. For example, the adjuvanted influenza vaccine has been shown to provide better protection for patients with reduced immune function compared to the standard vaccine.

Monitoring and follow-up are need aspects of immunization strategies for autoimmune and rheumatic disease patients. Healthcare providers should assess vaccine response through serological testing to confirm the presence of protective antibodies after vaccination. This is especially important for patients with conditions that predispose them to reduced vaccine efficacy. If an adequate immune response is not achieved,

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revaccination or the administration of booster doses may be necessary. It is also important to monitor for adverse reactions, as patients with autoimmune conditions may be at an increased risk of experiencing reactions due to their underlying condition or treatment regimen.

The role of patient education cannot be overstated. Educating patients about the importance of vaccines and their potential benefits is important to ensure adherence to vaccination schedules. Patients should be informed about the timing and type of vaccines that are safe and effective for them, as well as the potential side effects to watch for. Clear communication can help dispel myths about vaccines and encourage patients to make informed decisions about their health.

Collaborative care involving rheumatologists, immunologists, and primary care physicians is needed for comprehensive immunization management. Rheumatologists play a vital role in assessing the patient's disease activity and treatment plan, which can influence vaccination timing and type. Immunologists can

help determine the patient's immune status and identify any specific needs for booster doses or additional vaccines. Primary care physicians, who are often responsible for routine vaccinations, must be informed about the patient's rheumatologic condition and treatment to ensure safe and effective vaccination.

Immunization strategies for patients with autoimmune and rheumatic diseases should prioritize prevention while minimizing potential risks. Inactivated vaccines should be administered based on the patient's disease activity and treatment regimen, while live vaccines are generally avoided in immunocompromised patients. Timing is critical, and patients should receive immunizations during periods of stable disease and remission. Monitoring vaccine responses through serological testing, along with regular follow-ups, ensures that protective levels are maintained. Educating patients and fostering collaboration among healthcare providers help optimize immunization outcomes for this vulnerable population.