

Influenza Vaccination Recommendations During Use of Select Immunosuppressants for Psoriasis

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PRACTICE POINTS

- Patients receiving methotrexate appear to benefit from suspending treatment for 2 weeks following influenza vaccination, as it maximizes the seroprotective response.
- Patients receiving tumor necrosis factor α inhibitors and low-dose IL-17 inhibitors have an unaltered humoral response to vaccination and attain protection equal to that of the general population.
- Patients treated with cyclosporine should be closely monitored for influenza symptoms even after vaccination, as approximately half of patients do not achieve a seroprotective response.
- Consider the increased risk for psoriatic flare during treatment suspension and the possibility of failed seroprotection, warranting close monitoring and clinical judgement tailored to each individual.

A 42-year-old woman with psoriasis presents for a checkup at the dermatology clinic. Her psoriasis has been fairly stable on methotrexate with no recent flares. She presents her concern of the coronavirus pandemic continuing into the flu season and mentions she would like to minimize her chances of having a respiratory illness. The influenza vaccine has just become available, and she inquires when she can get the vaccine and whether it will interfere with her treatment. What are your recommendations for the patient?

Psoriasis is an immune-mediated, inflammatory skin condition stemming from hyperproliferation of keratinocytes that classically involves erythematous skin plaques with overlying scale. Treatment options vary widely and include topical modalities, phototherapy, immunosuppressants, and biologic agents. Selection of treatment largely depends on the severity and extent of body surface area involvement; systemic therapy generally is indicated when the affected body surface area is greater than 5% to 10%. In patients on systemic therapy, increased susceptibility to infection is a priority concern for prescribing physicians. In the context of continuing immunosuppressive medications, vaccines that reduce susceptibility to infectious diseases can play an important role in reducing morbidity and mortality for these patients; however, an important consideration is that in patients with chronic conditions and frequent hospital visits, vaccines may be administered by various clinicians who may not be familiar with the management of immunosuppressive treatments. It is pivotal for prescribing dermatologists to provide appropriate vaccination instructions for the patient and any future clinicians to ensure vaccine efficacy in these patients.

The intramuscular influenza vaccine is a killed vaccine that is administered annually and has been shown to be safe for use in both immunocompetent and immunocompromised patients.^{1,2} Despite its safety, questions remain regarding the efficacy of vaccines while a patient is unable to mount a normal immune response and whether the treatment must be altered to maximize immunogenicity. The common systemic treatment options for psoriasis

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Influenza Vaccination Recommendations for Psoriasis Patients Undergoing Treatment

Treatment	Effect on Humoral Response	Influenza Vaccination Recommendations
Calcineurin inhibitors (cyclosporine)	Reduced humoral response with nonprotective titers in approximately 50% of patients regardless of booster administration	No need to alter therapy, but closely monitor for symptoms; administer vaccine irrespective of last dose ^{3,4}
IL-17 pathway inhibitors (secukinumab)	No substantial humoral response at low dose of 150 mg	No need to alter therapy for vaccination; administer vaccine irrespective of last dose ⁵⁻⁷
IL-23 and related cytokine inhibitors	Insufficient data	Insufficient data
Methotrexate	Reduced humoral response to vaccine	Administer vaccine irrespective of last dose; suspending treatment for 2 wk following vaccination has been shown to increase seroprotective titers by 10%–15% in patients ⁸⁻¹¹
Tumor necrosis factor α inhibitors (ie, etanercept, infliximab, adalimumab)	No substantial humoral response	No need to alter therapy for vaccination; administer vaccine irrespective of last dose ^{8,12-15}

and any recommendations that can be made regarding administration of the influenza vaccine in that context are outlined in the Table. Given the sparsity of clinical data measuring vaccine immunogenicity in patients with psoriasis, vaccine guidelines are drawn from patients with various conditions who are receiving the same dose of medication as indicated for psoriasis.

Immunosuppressants and biologics commonly are used in dermatology for the management of many conditions, including psoriasis. As flu season approaches in the setting of a global pandemic, it is critical to understand the effects of commonly used psoriasis medications on the influenza vaccine. Through a brief review of the latest data concerning their interactions, dermatologists will be able to provide appropriate recommendations that maximize a patient's immune response to the vaccine while minimizing adverse effects from holding medication.

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