

Vaccinations in Patients with LAM

Patients with LAM should maintain appropriate vaccinations. Live vaccines should be avoided in patients taking immunosuppressive agents, so vaccination recommendations below differ between LAM patients who are on mTOR inhibitors and those who are not.

For LAM patients who are **NOT** taking mTOR inhibitors, we recommend:

1. Annual influenza vaccination with the inactivated vaccine. Flumist (live attenuated influenza vaccine) is not recommended in LAM patients, because diffuse lung disease is a relative contraindication.
2. Vaccination against pneumococcus:
 - a. All patients should receive Prevnar, one dose in lifetime; ideally given before Pneumovax, but at least 1 year after Pneumovax.
 - b. All patients should receive Pneumovax, one dose every 5 years; given at least 2 months after Prevnar.
3. Shingles (H. Zoster) vaccination:
 - a. Shingles (H. Zoster) vaccination with recombinant zoster vaccine (RZV) is preferred over the live attenuated zoster vaccine (ZLV).
 - b. RZV is recommended for all LAM patients over the age of 50 years.
 - c. Requires a 2 dose administration series at zero, and 2-6 months
4. Hepatitis (A and B) vaccines: recommended for all patients.
5. Tetanus vaccine: recommended for all patients.

For LAM patients who **ARE** taking mTOR inhibitors, we recommend:

1. Annual influenza vaccination with the inactivated vaccine. Flumist (live attenuated influenza vaccine) should not be used in immunocompromised LAM patients taking mTOR inhibitors. .
2. Vaccination against pneumococcus:
 - a. All patients should receive Prevnar, one dose in lifetime; ideally given before Pneumovax, but at least 1 year after Pneumovax.
 - b. All patients should receive Pneumovax, one dose every 5 years; given at least 2 months after Prevnar.
3. Shingles (H. Zoster) vaccination with recombinant zoster vaccine (RZV) should be given to all LAM patients who are either currently taking, or about to start taking mTOR inhibitors, regardless of age.
4. Hepatitis (A and B) vaccines: recommended for all patients.
5. Tetanus vaccine: recommended for all patients.
6. Avoid other live virus vaccines:
 - a. Measles, mumps, rubella
 - b. Oral polio
 - c. Smallpox
 - d. Rotavirus
 - e. Yellow fever
 - f. Rabies

General comments

Inactivated or recombinant flu vaccines (i.e. the injectable types of flu vaccine that your physician will offer to you) should not be used in anyone with prior severe allergy without consulting an allergist, and should be used with caution in: patients with moderate or severe acute illness with or without fever, a history of Guillain-Barré syndrome within 6 weeks of

previous influenza vaccination, or people with egg allergy (hives only allergy can be mitigated with additional safety measures).

Minor illnesses (such as diarrhea, mild upper respiratory infection with or without low-grade fever, other low-grade febrile illness) are not contraindications to vaccination. Adults with egg allergy of any severity can receive inactivated vaccines with the same indications as those without egg allergy, since the new preparations contain much smaller quantities of egg products.

Contraindications to Pneumovax and Prevnar include severe prior allergic reaction, and moderate or severe acute illness. Patients with a documented true allergic reaction (rather than a history of egg allergy) to Prevnar or Pneumovax should seek the advice of an allergist.

Although inactivated and recombinant flu and pneumococcal vaccinations can result in soreness and low-grade fever and muscle aches, they cannot produce flu or pneumonia.

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