



POLICY STATEMENT

Recommendations for Vaccinations of Pediatric and Adult Patients

The American Academy of Ophthalmology (AAO) recommends timely vaccination of pediatric and adult patients. Vaccines are a standard of good medical care and practice.

Background

This policy highlights two vaccines that prevent diseases known to result in significant ophthalmologic morbidity, and one vaccine against a disease that causes annual epidemics, significant morbidity and mortality, as well as disruption of the medical system.

Vaccination against childhood diseases such as measles significantly reduces childhood morbidity and mortality. Recently, measles vaccination rates worldwide have fallen, leading to outbreaks around the world.¹ Global cases of measles increased 31% between 2016 and 2017 largely due to declining vaccination rates.² Measles outbreaks in the United States in the early part of 2019 resulted in the greatest annual number of cases since 1994.³ Although not a major cause of pediatric ophthalmic morbidity in the United States, measles is an important cause of blindness in the developing world⁴ and has been estimated to cause upwards of 60,000 cases of blindness a year globally.⁵ The Academy recommends that all eligible persons receive appropriate measles immunization, consistent with national and local guidelines.

The Academy also recommends persons over the age of 50 years receive the herpes zoster vaccine to reduce the risk of herpes zoster (HZ), including Herpes Zoster Ophthalmicus (HZO).⁶ The lowering of the recommended age from 60 to 50 years was in response to evidence that the rate of HZ and HZO goes up sharply after age 50.^{7,8,9} Most adults are familiar with shingles, but many are unaware of its painful and potentially blinding complications. Ophthalmologists can help emphasize the importance of the herpes zoster vaccine by highlighting the important potential for reducing the ocular risks of herpes zoster in addition to the substantial non-ocular benefits.

Patients 65 years and older constitute 70-90% of influenza related deaths and 50-70% of influenza-related hospitalizations.¹⁰ The potential spread of influenza between patients as well as among medical staff, and its subsequent impact on medical offices ability to provide care, underscores the importance of hand hygiene, symptomatic individuals wearing masks, and annual influenza vaccination of both providers and patients. Asking patients if they have received their influenza vaccines as part of front office patient intake creates the opportunity for ophthalmologists and their staff to reinforce the need for vaccinations and encourage compliance.

Recommendations

Measles, Mumps, and Rubella vaccination

Routine vaccination

- Children: 2-dose series at 12-15 months, and 4-6 years
- Dose 2 may be administered as early as 4 weeks after dose 1.
- Adults born in 1957 or later should receive at least 1 dose of MMR vaccine unless they have other acceptable evidence of immunity to these three diseases.
- Adults born before 1957 can be considered to have immunity to measles, rubella (except for women who could become pregnant), and mumps.
- Adults who might be at increased risk for exposure or transmission of measles, rubella, or mumps and who do not have evidence of immunity should receive special consideration for vaccination. Students attending colleges or other post-high school educational institutions, health-care personnel, and international travelers should receive 2 doses of MMR vaccine.

Catch-up vaccination

- Unvaccinated children and adolescents: 2 doses at least 4 weeks apart

Zoster vaccination

Routine vaccination

- Age 50 years or older: 2-dose series recombinant zoster vaccine (RZV) 2–6 months regardless of previous episode of herpes zoster or previously receipt of zoster vaccine live (ZVL) (administer RZV at least 2 months after ZVL).

Vaccination against zoster in persons with HZO

There are no specific recommendations from the CDC, but there is a consensus among cornea specialists that vaccination should be delayed until the eye is stable, and the patient should be monitored for a several months after vaccination, as there is a risk that recurrent inflammation may occur, as has been reported.¹¹

Influenza vaccination

Routine vaccination

- All persons age 6 months or older: One dose annually (note that the first time one receives flu vaccine and under age 8, two doses are administered)
- For additional guidance, see www.cdc.gov/flu/professionals/index.htm

References

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- ¹ Friedrich MJ. Measles Cases Rise Around the Globe. *Jama*. Jan 22 2019;321(3):238.
 - ² CDC. global measles report https://www.cdc.gov/mmwr/volumes/67/wr/mm6747a6.htm?s_cid=mm6747a6_w
 - ³ CDC. latest measles outbreak <https://www.cdc.gov/measles/cases-outbreaks.html>
 - ⁴ Koay CL, Patel DK, Tajunisah I, Subrayan V, Lansingh VC. A comparative analysis of avoidable causes of childhood blindness in Malaysia with low income, middle income and high income countries. *International ophthalmology*. Apr 2015;35(2):201-207.
 - ⁵ Semba RD, Bloem MW. Measles blindness. *Survey of ophthalmology*. Mar-Apr 2004;49(2):243-255
 - ⁶ AAO. zoster <https://www.aao.org/clinical-statement/recommendations-herpes-zoster-vaccine-patients-50->
 - ⁷ Chan AY, Conrady CD, Ding K, Dvorak JD, Stone DU. Factors associated with age of onset of herpes zoster ophthalmicus. *Cornea*. May 2015;34(5):535-540.
 - ⁸ Davies EC, Pavan-Langston D, Chodosh J. Herpes zoster ophthalmicus: declining age at presentation. *The British journal of ophthalmology*. Mar 2016;100(3):312-314.
 - ⁹ Yawn BP, Wollan PC, St Sauver JL, Butterfield LC. Herpes zoster eye complications: rates and trends. *Mayo Clinic proceedings*. Jun 2013;88(6):562-570.
 - ¹⁰ Kostova D, Reed C, Finelli L, et al. Influenza Illness and Hospitalizations Averted by Influenza Vaccination in the United States, 2005-2011. *PloS one*. 2013;8(6):e66312.
 - ¹¹ Lehmann A, Matoba A. Reactivation of Herpes Zoster Stromal Keratitis After HZ/su Adjuvanted Herpes Zoster Subunit Vaccine. *Ophthalmology*. 2018; 125:1682.