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ELDER CARE

A Resource for Interprofessional Providers

Immunizations for Older Adults

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Vaccines are among the most successful public health interventions, saving millions of lives and preventing millions of disabilities. While most vaccines are targeted at children and young adults, there are five recommended for routine use in adults aged 65 and older: influenza vaccine, two types of pneumococcal vaccine, herpes zoster vaccine, and a vaccine against tetanus and diphtheria. The latter includes the addition of pertussis protection in a vaccine (given one time) that combines tetanus toxoid, diphtheria toxoid, and acellular pertussis (Tdap). This issue of Elder Care will discuss these five vaccines.

Other vaccines are also available for older adults (Table 1), but will not be reviewed in this Elder Care. They include vaccines for older adults with particular health risks (e.g., vaccines against hepatitis A and B and meningococcus, and vaccines for individuals who travel outside of the US). Information on these and other vaccines is available from the Centers for Disease Control and Prevention (CDC).

Influenza Vaccine

While the highest rate of influenza infection is among children, the highest rate of serious illness and death usually occurs among older adults. Indeed, influenza causes an average of 36,000 deaths in the US each year, most of which occur in older adults. Thus, the CDC's Advisory Committee on Immunization Practices (ACIP) recommends that all older adults receive annual influenza vaccination.

There are six influenza vaccines available for older adults in the US. They include the 3-valent standard dose influenza vaccine (IIV3), 4-valent standard dose vaccine (IIV4), 3-valent high-dose vaccine (IIV3-HD), 4-valent cell-culture vaccine (cIIV4), 3-valent adjuvanted standard dose vaccine (IIV3-A), and 4-valent recombinant vaccine (RIV4).

The high-dose vaccine (IIV3-HD) and 3-valent adjuvanted standard dose vaccine (IIV3-A) are specifically licensed

only for adults aged 65 and older. The first contains a higher dose of antigen compared to the other influenza vaccines and the second contains an adjuvant to stimulate the immune system. The hope is that these will lead to a stronger immune response in older adults, which in turn will translate into less influenza-related morbidity and mortality. The Advisory Committee on Immunization Practices (ACIP) currently does not state a preference for which of the six vaccines should be given to older adults.

Note that a history of egg allergy is no longer an automatic contraindication to influenza vaccine. Individuals who have experienced urticaria (hives) following exposure to egg should still receive influenza vaccine. Those who have had other allergic reactions to eggs

Table 1. Vaccines Recommended for Older Adults	
Routine Vaccines (for all adults)	
Influenza	1 dose annually
Pneumococcal (PCV13)	1 dose (at age 65)
Pneumococcal (PPSV23)	1 dose (≥12 mo after PCV 13)
Tetanus, diphtheria, pertussis	Td every 10 years. (Substitute 1-time dose of Tdap for one Td booster)*
Zoster	2 doses at age 50
Vaccines for Special Situations based on medical, occupational, lifestyle, or other indications	
Hepatitis A	2 doses
Hepatitis B	3 doses, or two doses depending on the product
Measles, mumps, rubella	1-2 doses
Meningococcus	1 or more doses
Source: http://www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule.pdf	

TIPS ABOUT VACCINES FOR OLDER ADULTS

- Immunize all older adults annually against influenza.
- Do not automatically withhold influenza vaccine because of a history of egg allergy. Egg allergy, including urticaria, is no longer a contraindication to influenza vaccine. Those with egg-induced anaphylaxis should consult an allergist or use an egg-free influenza vaccine.
- For adults who have never received pneumococcal vaccine, give the PCV13 pneumococcal (Pneumovax) vaccine at age 65, followed at least 12 months later by the PPSV23 pneumococcal (Pneumovax) vaccine.
- Give two doses of the new shingles vaccine (Shingrix) at least 2 months apart.
- Administer diphtheria-tetanus vaccine to older adults every 10 years. One time, however, the booster should also contain acellular pertussis antigen (Tdap vaccine).

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should receive the vaccine but only from a clinician who is familiar with treatment of severe allergic reactions. For people with a history of anaphylaxis to eggs, there are now two influenza vaccines that are not prepared in eggs (cclIV4 and RIV4), but only RIV4 is considered egg-free.

Pneumococcal Vaccine

There are now two pneumococcal vaccines recommended for use in older adults - the older polysaccharide PPSV23 vaccine (Pneumovax) and the new conjugate PCV13 vaccine (Prevnar). Current recommendations are to administer PCV13 at age 65 followed at least 12 months later by PPSV23.

If an individual already received PPSV23 at or after age 65, PCV13 should be given, but not until at least one year has elapsed since PPSV23 was given. If an individual received PPSV23 before age 65 because of a high-risk condition, PCV13 should be given at age 65 (but at least one year after PPSV23), followed by another dose of PPSV23 at least 12 months after PCV13 and 5 years since the PPSV23.

Herpes Zoster Vaccine

In 2017, the US Food and Drug Administration approved a new vaccine against shingles (Herpes Zoster), an adjuvanted recombinant zoster vaccine (RZV), Shingrix. It is administered in 2 doses at least 2 months apart and provides much better and longer-acting protection than does the older live attenuated virus (ZVL) vaccine, Zostavax. The RZV is now recommended for all those age 50 and older (including those previously vaccinated with ZVL), and it is the preferred option for those wanting protection against shingles.

Td or Tdap Vaccines

All adults should receive a booster tetanus and diphtheria vaccine at least every 10 years, after a three-dose primary series (which is usually received as an infant or child). A new product that includes tetanus and diphtheria toxoid plus acellular pertussis antigen (Tdap) is available to provide adults with protection against pertussis in addition to tetanus and diphtheria. This vaccine not only provides pertussis protection for the adult, it also can prevent adults

from passing pertussis to an infant. ACIP now recommends that all adults receive a dose of Tdap as one of their next 10-year tetanus and diphtheria immunizations, if they have not already done so. However, if an older adult will be in close contact with a newborn infant, Tdap should be administered without waiting for the 10-year period.

Payment

The payment system for adult vaccines is confusing because, as shown in Table 2, some vaccines are covered through Medicare Part B (physician office charges), others are covered through Part D (drug coverage), and in special situations they are covered by both Parts B and D. This creates a problem for medical practices in that they may have difficulty arranging reimbursement through part D. As a result, some practices do not provide zoster vaccine or tetanus-diphtheria (or Tdap) for Medicare patients. Other locations at which to receive these vaccines include pharmacies, hospitals, and public health departments.

Vaccine	Part B	Part D
Influenza	✓	
Pneumococcal	✓	
Tetanus-Diphtheria		✓
Zoster		✓

Source: <http://www.gao.gov/sets/590/587009.pdf>

Family and Intergenerational Aspects of Vaccines

An often-overlooked benefit of vaccines is the protection afforded against intergenerational transmission of infection. For instance, influenza in children above the age of 4 years is usually not serious, but immunizing them against influenza can prevent transmission of the disease to grandparents who are at much higher risk of complications. Conversely, immunization of older adults against pertussis prevents them from infecting infants, who have much more severe reactions to this infection. Vaccines should thus be seen as both a personal and a family prevention strategy.

References and Resources

- CDC. Vaccine Information for Adults. <https://www.cdc.gov/vaccines/adults/rec-vac/index.html>
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