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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 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.

Four influenza vaccines are available for adults in the US. They include the 3-valent inactivated influenza vaccine (IIV3), 4-valent inactivated influenza vaccine (IIV4), 3-valent high-dose influenza vaccine (IIV3-HD), and 3-valent cell-culture inactivated influenza vaccine (ccIIV3). There is also a 4-valent live-attenuated influenza virus vaccine (LAIV) and a 4-valent ribosomal inactivated influenza

vaccine (RIIV), but neither of these two are approved for use in older adults.

The high-dose vaccine (IIV3-HD) is specifically licensed only for adults aged 65 and older. It contains a higher dose of antigen compared to the other influenza vaccines and the hope is that it will lead to a stronger immune response in older adults which, in turn, will translate into less morbidity and mortality. The ACIP currently does not state a preference for which vaccine should be given to older adults.

Note that a history of egg allergy is no longer an automatic contraindication to influenza vaccine. The ACIP now states that individuals who have experienced urticaria

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	1 dose (at age 60)
Vaccines for Special Situations (based on medical, occupational, lifestyle, or other indications)	
Hepatitis A	2 doses
Hepatitis B	3 doses
Measles, mumps, rubella	1-2 dose
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, using the standard intramuscular trivalent vaccine or the new high-dose trivalent vaccine specifically designed for older adults. Either is acceptable.
- 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.
- 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.
- Recommend a single dose of zoster vaccine, ideally at age 60.
- 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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following exposure to egg should still receive influenza vaccine, but only an inactivated product and only from a clinician familiar with treatment of severe allergic reactions. People who have a history of anaphylaxis to eggs should be evaluated by an allergist prior to receiving influenza vaccine.

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 till 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.

Herpes Zoster Vaccine

Herpes zoster vaccine (Zostavax) is recommended as a single dose for adults aged 60 and older to prevent shingles. The vaccine is actually licensed for those age 50 and above but ACIP recommends starting at age 60 due to lower incidence of disease at age 50, uncertainty about duration of protection (and resulting need for revaccination), and limited vaccine supply. Studies indicate that the vaccine is more effective if given at age 60 than if given at an older age.

Zoster vaccine contains a modified live virus and is contraindicated in those with immune deficiency. It can, however, be given to individuals who have had shingles; the optimal interval between singles and the vaccine is unknown.

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 can prevent an adult from passing pertussis to an infant. The ACIP now recommends that all adults receive a dose of Tdap as one of their every-10-year immunizations, if they have not already done so.

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 Parts B and D. This creates a problem for medical practices in that they may have difficulty arranging reimbursement through part D. As a

Table 2. Medicare Coverage for Older Adults' Vaccines

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

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

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.

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

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