Influenza (Flu) Vaccine

Brand names	Fluarix, FluLaval, Fluzone, Afluria, Fluvirin, Flucelvax and FluBlok
Who should get vaccinated?	• Everyone 6 months of age and older • Especially important for young children, adults 65 or older, pregnant women, long-term care residents, people with certain medical conditions
Who should not get vaccinated?	• This is a very small group of people. • People with severe, life-threatening allergies to ingredients like gelatin, some antibiotics and eggs. Patients should consult with their provider. • Some flu vaccines have specific age indications.
Why get vaccinated?	• Influenza can cause hospitalization and death • Even healthy people can get very sick and spread influenza • The single best way to protect against the flu is to get vaccinated each year.
When should the vaccine be given?	• As soon as the vaccine is available each year, preferably by October. • It needs to be repeated every year. • Vaccination should continue to be offered throughout the flu season (through January or later).
How does the vaccine work?	Dead flu virus in the vaccine causes the body to make antibodies. When people are exposed to the live virus, the antibodies reduce their chance of getting sick or spreading the flu. It takes 2 weeks for antibodies to develop.
How effective is the vaccine?	• Varies by season • Reduces risk of flu illness by 50-60%, but less effective in older people • "Herd immunity" is important
What types of vaccines are available?	• Trivalent—protects against 3 flu strains • Quadrivalent—protects against 4 flu strains • High dose for people 65 or older • Egg-free for people with egg allergies
Where is the vaccine given?	Doctor's offices, health departments, pharmacies, employers and schools
Vaccine side effects	• Usually minor, including injection site soreness, redness or swelling, low grade fever and body aches • Severe allergic reactions are rare.
Barriers to vaccination	• Fear of getting the flu—vaccines cannot cause the flu! • Fear of side effects—typically very minor • Patients feel they do not need the vaccine.
Medicare coverage	• Part B
Clinical Pearls	• There are no current recommendations of one vaccine over another. The most important thing is to get a flu vaccine every year. • Flu strains for the next year's vaccine are chosen many months in advance. • Can be given at the same time as zoster and pneumococcal vaccines

* Nasal mist and intradermal flu vaccines are not addressed in this table because they are not approved for adults 65 or older.

http://www.cdc.gov/flu/protect/keyfacts.htm

http://www.immunize.org/influenza/

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Zoster (Shingles) Vaccine

Brand name	Zostavax
Who should get vaccinated?	People 60 or older (Centers for Disease Control (CDC) recommendation)
Who should not get vaccinated?	• People with severe, life-threatening allergies to ingredients like gelatin or the antibiotic neomycin (Patients should consult with their provider) • People with weakened immune systems (HIV, cancer, steroid treatment) • Severe acute illness with fever • Pregnant women
Why get vaccinated?	• To prevent risk of shingles and post-herpetic neuralgia (PHN) • The Chickenpox virus lies dormant in nerves. This virus can reactivate and cause shingles. Shingles can damage nerves, causing PHN. • PHN can cause severe, long-lasting pain.
When should the vaccine be given?	One single lifetime dose at age 60 or older (CDC recommendation)
How does the vaccine work?	Live, weakened virus produces immunity in the body without causing illness.
How effective is the vaccine?	Reduces the risk of developing shingles by 51% and PHN by 67%
What types of vaccines are available?	Only Zostavax, a "live attenuated" vaccine
Where is the vaccine given?	• Doctor's offices—some do not stock the vaccine due to freezer storage, vaccine cost or billing issues • Pharmacies—most stock the vaccine, especially large chains
Vaccine side effects	• Usually minor, including injection site soreness, redness, swelling, itching or headache • Possible rash near injection site • Severe allergic reactions are rare
Barriers to vaccination	• Cost—may use Merck patient assistance program • Lack of perceived need—shingles is very painful and PHN can be lifelong and very difficult to treat
Medicare coverage	• Part D, copay or patient reimbursement may be required
Clinical Pearls	• Vaccinate whether the patient remembers having chicken pox or not. • People who have already had shingles can still be vaccinated. • Food and Drug administration (FDA) approval is age 50 or older, CDC recommendation is age 60 or older • Can be given at the same time as influenza and pneumococcal vaccines.

http://www.cdc.gov/vaccines/vpd-vac/shingles/default.htm

http://www.immunize.org/zoster/

http://www.merckhelps.com/ZOSTAVAX

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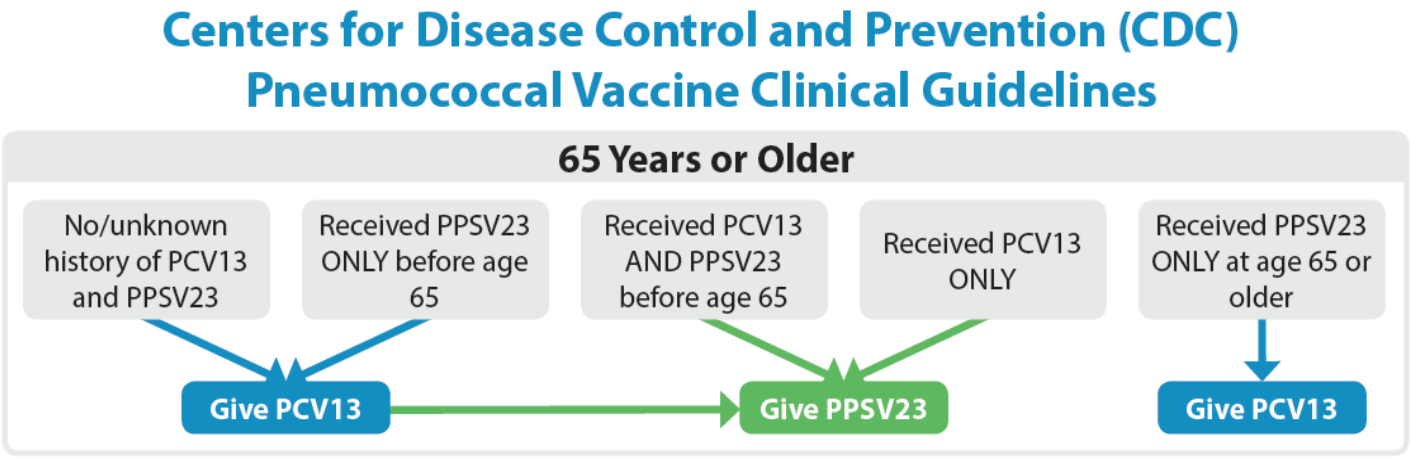
Pneumococcal Vaccines

Brand names	• Prevnar 13 (pneumococcal conjugate vaccine, PCV13) • Pneumovax 23 (pneumococcal polysaccharide vaccine, PPSV23)
Who should get vaccinated?	• PCV13—all adults 65 or older who have not previously received it • PPSV23—all adults 65 or older, at least 5 years after previous doses
Who should not get vaccinated?	• PCV13—People with severe, life-threatening allergies to diphtheria toxoid • Patients should consult with their provider. • PCV13 and PPSV23—People with severe, life-threatening allergies to vaccine components or moderate to severe acute illness. Patients should consult with their provider.
Why get vaccinated?	• Prevent pneumonia from *Streptococcus pneumoniae* bacteria • Prevent "invasive pneumococcal disease" (IPD)—blood infections ("septicemia") and brain infections ("meningitis") from *S. pneumoniae* • Infection with *S. pneumoniae* is a leading cause of serious illness in adults worldwide. Many strains are resistant to antibiotics. • More people die in the U.S. from pneumococcal disease each year than all other vaccine-preventable diseases combined.
When should the vaccine be given?	• Generally, give PCV13 then PPSV23 one year apart after age 65. See Figure 1 for details.
How does the vaccine work?	• PCV13—A piece of the dead *S. pneumoniae* bacteria linked ("conjugated") to diphtheria toxoid in the vaccine causes the body to develop immunity. • PPSV23—A piece of the dead *S. pneumoniae* ("polysaccharides") alone causes the body to develop immunity. • When people are exposed to the live bacteria, their chance of getting sick is reduced. PCV13 provides a stronger immune response.
How effective is the vaccine?	• PCV13—75% effective at preventing IPD and 45% effective at preventing pneumococcal pneumonia caused by the 13 strains in the vaccine. • PPSV23—50-85% effective in preventing IPD caused by the 23 types in the vaccine. Conflicting information in preventing pneumococcal pneumonia. • Both are less effective in older or immune compromised patients.
What types of vaccines are available?	• PCV13—pneumococcal conjugate vaccine • PPSV23—pneumococcal polysaccharide vaccine
Where is the vaccine given?	Doctor's offices, health departments and pharmacies

Vaccine side effects	• PCV13—pain, redness, and swelling at injection site, mild fever, fatigue, headache, chills or muscle pain • PPSV23—redness or pain at injection site. Fewer than 1 out of 100 people develop a fever, muscle aches or more severe local reactions.
Barriers to vaccination	• The perception that pneumococcal disease is not serious. Qsource's Pfizer project showed that most patients don't know that pneumococcal disease includes blood and brain infections. • Failure of providers to recommend the vaccines • Provider confusion about the vaccines
Medicare coverage	• Part B, must wait one year between vaccines
Pearls	• Give PCV13 first because it leads to a greater total immune response. • PCV13 never needs to be repeated in an adult. • Once either vaccine is given at age 65 or older, it doesn't need repeating. • A great way to prevent pneumonia is to get a flu vaccine! • Can be given at the same time as influenza and zoster vaccines

Figure 1



http://www.cdc.gov/vaccines/vpd-vac/pneumo/default.htm?s_cid=cs_797

http://www.immunize.org/pneumococcal-pcv/

http://www.immunize.org/pneumococcal-ppsv/

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