

## Immunization Guidelines for Adult Patients: An Annual Update and a Challenge

This issue includes the annual revision of the Adult Immunization Schedule (1) produced by the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) and approved by the American College of Physicians (ACP), the American Academy of Family Physicians, and the American College of Obstetricians and Gynecologists. Each year sees advances in disease prevention by vaccines. This year, the updates involve expansions of the recommendations for pneumococcal polysaccharide vaccine and influenza vaccine.

The recommendations are summarized in 2 tables—one lists vaccines recommended across the age spectra, and the other lists vaccines recommended for different medical and lifestyle indications (such as health care workers). The full texts of the recommendations for each vaccine are available at [www.cdc.gov/vaccines/pubs/ACIP-list.htm](http://www.cdc.gov/vaccines/pubs/ACIP-list.htm), and the full Adult Immunization Schedule is available at [www.cdc.gov/nip/recs/adult-schedule.htm](http://www.cdc.gov/nip/recs/adult-schedule.htm). New changes are discussed below.

### HERPES ZOSTER

New language states that a previous episode of shingles is not a contraindication to zoster vaccination. We lack good evidence about the interval between the last episode of shingles and immunization. Most experts recommend at least a 12-month interval.

### HUMAN PAPILLOMAVIRUS

Occupational exposure does not increase health workers' risk for human papillomavirus. They should receive vaccine only for a standard indication.

### PNEUMOCOCCAL POLYSACCHARIDE VACCINE

The recommendations for use of this vaccine have undergone many revisions, including the following.

#### Asthma

The pneumococcal polysaccharide vaccine (PPV23) is recommended for all persons age 65 years or older, as well as for younger persons who have certain underlying medical conditions. There has been uncertainty about whether to vaccinate patients 19 to 65 years of age who have asthma (particularly because asthma is an indication for influenza vaccine). The answer now is yes. The most compelling rationale is a recent nested case-control study demonstrating that adults with asthma experienced a significantly increased risk for invasive pneumococcal infection (such as bacteremia) than did adults of similar age without asthma.

The result suggests that asthma is an independent risk factor for serious pneumococcal infection (2).

Approximately 16 million adults in the United States have asthma (3). Notably, most asthmatic adults who develop invasive pneumococcal disease already have another condition for which PPV23 is recommended—but they often do not receive it. Making asthma an indication for pneumococcal vaccination will resolve previous ambiguity, be consistent with the influenza vaccine recommendations, and challenge us to identify and vaccinate these patients.

#### Smokers

The new guidelines also address cigarette smoking as an indication for pneumococcal vaccination. Population-based surveillance studies consistently report that approximately half of otherwise healthy adults younger than 65 years of age who develop invasive pneumococcal disease are smokers (4–6). The intensity of smoking (number of cigarettes smoked daily) and cumulative smoking exposure (pack-years of smoking) both progressively increase the risk for invasive pneumococcal disease (4).

Quitting smoking reduces the risk for pneumococcal infection. The longer the abstinence, the less the risk for invasive pneumococcal infection (4). Thus, smoking seems to be a strong independent risk factor in immunocompetent adults. Although many smokers have other risk factors that make them eligible for PPV23 (7), smoking status is easy to identify as an indication for vaccine, and current smokers should be vaccinated with PPV23. About one fifth of the U.S. adult population smokes cigarettes, so physicians face a considerable challenge to provide them with protection against invasive pneumococcal infection.

### INFLUENZA VACCINE

Currently, about 83% of the U.S. population is eligible for annual influenza immunization. Several new recommendations will increase the number of people who are eligible.

#### Children

The new recommendation is to vaccinate all children age 5 years through 18 years. This recommendation will be of particular interest to internists who care for adolescents.

#### Caregivers

Another new recommendation is to vaccinate all persons who live with or provide care for persons who are at increased risk for influenza-related complications. The rationale is to reduce transmission of the influenza virus from the family member or caregiver to the high-risk individual. Among the caregivers who should be vaccinated are health care workers. At last count, only 42% of health care professionals acknowledged having received influenza vaccine.

All health care providers have an ethical and professional responsibility to be vaccinated against influenza annually (8, 9).

As the medical community extends annual influenza protection to an ever greater proportion of the U.S. population, it becomes increasingly obvious that we cannot accomplish this large undertaking during the traditional “vaccination season,” which extends from late September through Thanksgiving. Because influenza infections peak most commonly in February, it is appropriate to extend the “vaccination season” into December and January and even beyond (10, 11). So keep vaccinating!

### THE CHALLENGE OF ADULT IMMUNIZATION

The delivery of vaccines to patients at risk is not only part of both patient safety and quality of care, but it is also the standard of clinical care. The Adult Immunization Initiative Physician Advisory Board to the American College of Physicians and the Infectious Diseases Society of America have released a joint statement on the importance of adult immunization (11). The statement has been endorsed by 17 other medical societies representing various practice areas, including many subspecialties of internal medicine. The statement proposes several standards:

1. All physicians should periodically conduct an immunization review with their adult patients. Its purpose is to educate patients about the benefits of vaccination and to assess whether the patient’s current vaccination status is concordant with recommended practice.

2. Physicians should provide recommended immunizations or refer patients to someone who will. Physicians who refer patients for vaccination should review their vaccination status and document it. Physicians who administer vaccines should document each administration of vaccine in the medical record, as well as vaccination in other settings, whether the patient declined to be vaccinated, and any contraindications to vaccination.

3. The ACIP and multiple subspecialty organizations recommend vaccination of physicians and their staff according to CDC recommendations, with particular attention to requiring annual influenza immunization.

The list of vaccines that adults should discuss with their physicians includes influenza; pneumococcal; tetanus, diphtheria, pertussis; hepatitis A; hepatitis B; measles, mumps, rubella; chickenpox (varicella); meningococcal; human papillomavirus; and shingles (zoster). Specific recommendations vary by age and other factors. We hope that publication of the annual Adult Immunization Schedule in this issue will prompt clinicians to redouble their efforts to improve their practices’ immunization rates. Doing so will prevent needless morbidity, mortality, and expense.

Gregory A. Poland, MD

Mayo Vaccine Research Group, Mayo Clinic College of Medicine  
Rochester, MN 55905

William Schaffner, MD

Vanderbilt University School of Medicine  
Nashville, TN 37232

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**Requests for Single Reprints:** Gregory A. Poland, MD, Department of Medicine, Mayo Vaccine Research Group and the Program in Translational Immunovirology and Biodefense, Mayo Clinic College of Medicine, Guggenheim 611C, 200 First Street SW, Rochester, MN 55905; e-mail, poland.gregory@mayo.edu.

Current author addresses are available at [www.annals.org](http://www.annals.org).

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**Current Author Addresses:** Dr. Poland: Department of Medicine, Mayo Vaccine Research Group and the Program in Translational Immunovirology and Biodefense, Mayo Clinic College of Medicine, Guggenheim 611C, 200 First Street SW, Rochester, MN 55905.

Dr. Schaffner: Department of Preventive Medicine, Vanderbilt University School of Medicine, Village at Vanderbilt, Suite 2600, 1500 21st Avenue South, Nashville, TN 37212.