

■ clinical contributions

# When Should Patients Receive the Pneumococcal Vaccination?

## *Case Example and Suggestions*

### Introduction

Pneumococcal disease is a major cause of mortality preventable by immunization, yet pneumococcal immunization is underutilized. Influenza and pneumococcal disease accounted for approximately 3400 deaths per year in the US senior population between 1990 and 1999.<sup>1</sup> In such cases, death results from pneumonia, meningitis, and bacteremia but can be prevented with a safe vaccine. Nonetheless, many people who could benefit from immunization have not yet received the vaccine.

### Case Description

A colleague asks your opinion about providing pneumococcal vaccine for a patient scheduled for discharge from the hospital. The patient, a 78-year-old African-American woman with hypertension and diabetes, was admitted for chest pain. The coronary artery disease that led to the admission has been stabilized such that she is ready for discharge home. In reviewing the patient's medical history, your colleague noted that the patient had not received two preventive care services: screening for colon cancer and pneumococcal vaccination. Your colleague wonders if the patient should receive the vaccine before she leaves the hospital. When asked whether she had been vaccinated, she said she did not know that she needed the vaccine.

### Recommendations

The Advisory Committee on Immunization Practices (ACIP) currently recommends that certain members of the population receive the pneumococcal immunization. This population subset includes all persons older than age 65 as well as people between ages 2 years and 64 years who have any of several chronic diseases: chronic cardiovascular disease, including congestive heart failure and cardiomyopathy; chronic pul-

monary disease, except asthma; diabetes mellitus; alcoholism; chronic liver disease, including cirrhosis; cerebrospinal fluid leakage; and persons who are immunocompromised.<sup>2</sup> People older than age 65 years who received their initial dose of vaccine before age 65 years should receive a second dose after five years have elapsed.<sup>2</sup> Patient recall is sufficient to determine the status of immunization.<sup>2</sup> Patients who do not recall receiving the vaccine should be immunized.<sup>2</sup> Serious side effects from repeated immunization in a short interval have not been reported.<sup>2</sup>

The *Healthy People 2000* goal of vaccinating 60% of people older than 65 years of age was met only in 2001.<sup>3</sup> According to a 2001 survey conducted in the United States, 67.1% of non-Hispanic whites, 39.4% of non-Hispanic blacks, and 41.6% of Hispanics residing in the United States were immunized.<sup>3</sup> Immunization rates were directly related to higher number of years of education, frequent visits to a personal physician, income level, and race/ethnicity.<sup>4</sup> The primary reason people offered for not being vaccinated was that they were not informed that they needed the vaccine.<sup>4</sup> The reason why prevalence of vaccination is lower among certain races is unclear but does not appear to be related to income, education, or number of medical visits.

Strategies should be devised and implemented to increase vaccination rates. In the Veterans Administration system, use of standing orders effectively increased immunization rates for influenza vaccine despite race or other social variables.<sup>4</sup> Coupling information about the pneumococcal vaccine with an influenza campaign would be similarly effective because both sets of information target the same groups of high-risk people: those older than 65 years of age and those with chronic medical conditions (except asthma).

A 1997 analysis of cost-effectiveness<sup>5</sup> showed that pneumococcal vaccine was more cost-effective with

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regard to Quality-Adjusted Life-Years Saved (QALYS) than other well-accepted prevention screening methods, such as those for colon cancer screening. Cost-effectiveness of pneumococcal immunization was clearly evident for all adults older than 65 years, regardless of comorbid conditions.<sup>5</sup> Cost-effectiveness of pneumococcal immunization was clearly evident in one subset of patients: non-Hispanic blacks aged 50 to 64 years.<sup>6</sup> This finding resulted from the higher prevalence of coincident chronic disease in blacks aged 50 to 64 years compared with the general population in the same age range.<sup>6</sup> Although vaccination for this group is not currently recommended, the finding of cost-effectiveness raises the question of whether immunization recommendations should be modified.

**... pneumococcal vaccine was more cost-effective with regard to Quality-Adjusted Life-Years Saved (QALYS) than other well-accepted prevention screening methods ...**

### Specific Treatment Recommendations

In the case described above, I would recommend vaccination of the patient at discharge from the hospital. Because she is already older than 65 years, she will not need a second dose in the future. Documentation of vaccination should be in-

cluded in the discharge note so that the outpatient medical records are updated for future reference. ❖

### References

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4. Zimmerman RK, Santibanez TA, Janosky JE, et al. What affects influenza vaccination rates among older patients? An analysis from inner-city, suburban, rural, and Veteran's Affairs practices. *Am J Med* 2003 Jan;114(1):31–8.
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6. Sisk JE, Whang W, Butler JC, Sneller VP, Whitney CG. Cost-effectiveness of vaccination against invasive pneumococcal disease among people 50 through 64 years of age: role of comorbid conditions and race. *Ann Intern Med* 2003 Jun 17;138(12):960–8.

## Twenty Drugs

The young physician starts life with twenty drugs for each disease, and the old physician ends life with one drug for twenty diseases.

—Sir William Osler, 1849–1919, physician, professor of medicine, and author