

AN EPIDEMIOLOGY PUBLICATION OF THE OREGON DEPARTMENT OF HUMAN SERVICES

OREGON'S ALLIANCE WORKING FOR ANTIBIOTIC RESISTANCE EDUCATION (AWARE)

THE DREADED avian influenza has certainly had more than its share of media attention this fall. But few of your patients are birds and not many are exposed to them. As cold and flu season brings patients demanding antibiotics for coughs and runny noses, a better use of your time might be to review recent guidelines for the management of respiratory tract infections, the latest trends in resistance, and ways to promote appropriate use of antibiotics.

NEW GUIDELINES

Sometime last spring, primary care providers should have received a copy of AWARE's new guidelines for managing respiratory infections. The award-winning* monograph features a new section on the management of community-acquired pneumonia, and the chapter on acute otitis media (AOM) has been substantially revised to reflect recently published consensus guidelines. If you threw it out when you first got it, you can still access it (and receive free CME or CE credits) at <http://oregon.gov/DHS/ph/antibiotics/pdfs/cme2.pdf>.

Until then, here are the highlights. The American Academy of Pediatrics and American Academy of Family Physicians now agree that not every episode of AOM requires antibiotic therapy, given that placebo-controlled trials over the past 30 years have consistently shown that most children do well without antibiotics, and do not have an increased risk of adverse sequelae.¹ Between 7 and 20 children must be treated with antibiotics for one child to benefit.

The guidelines describe the "observation option," deferring anti-

biotic therapy in favor of symptomatic management. The decision to observe or treat is based on the certainty of diagnosis, the child's age, and the severity of the child's illness (Table). Observation should

Criteria for Initial Antibacterial Therapy of Observation in Children with AOM

Age	Certain Diagnosis	Uncertain Diagnosis
<6 months	Antibacterial therapy	Antibacterial therapy
6 months - 2 years	Antibacterial therapy	Antibacterial therapy if severe* illness; observation option if non-severe illness
>2 years	Antibacterial therapy if severe* illness; observation option if non-severe illness	Observation option

*Severe illness is defined as moderate to severe otalgia or fever >39°

be used only when the child's caregiver can communicate with the clinician, and reevaluation is possible if necessary. The guidelines also stress treatment of pain when dealing with AOM: acetaminophen and ibuprofen relieve mild to moderate pain and last longer than topical agents such as benzocaine drops.

TRENDS IN RESISTANCE: GOOD NEWS AND MAYBE SOME BAD

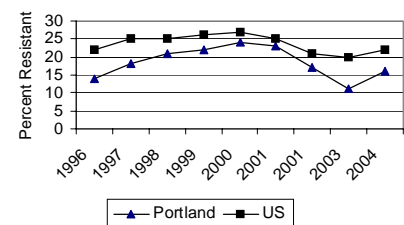
Streptococcus pneumoniae (pneumococcus) is a leading cause of pneumonia and meningitis in the United States and disproportionately affects the young and elderly. In 2000, a 7-valent pneumococcal conjugate vaccine (PCV7) was licensed in the United States for routine use in children aged <5 years. National surveillance data have documented statistically significant declines in the incidence of invasive pneumococcal disease (IPD), both in kids under five and in older children and adults.^{2,3} The vaccine is believed to lessen nasopharyngeal carriage and transmission of pneumococci to nonimmunized children and adults.^{2,3} Another lucky payoff

of the vaccine has been a decline in the incidence of penicillin-resistant pneumococcus (PRP). The 7 serotypes covered by the new vaccine were also the types most likely to be resistant to penicillin, and their

decline meant a reduction in the incidence of invasive PRP. In the first year of licensure in the US, the overall incidence of invasive PRP declined by 35%, from 6.3 cases/100,000 to 4.1 cases/100,000.⁴

Now for the concerning part. Here in Oregon, we have been collecting isolates from patients with IPD in Clackamas, Multnomah and Washington County. The figure shows the percentage of isolates resistant to penicillin in the Portland area and in the rest of the

Penicillin Resistance in *S. pneumoniae*, Portland Tricounty area and US, 1996-2004



country. The percentage of isolates that were penicillin-resistant rose from 14% to 24% between 1996 to 2000, and then declined thereafter, to a low of 11% in 2003. But, look:

*In April 2005 CDC presented Oregon AWARE with the "Award for Innovation in Appropriate Antibiotic Use Programs in the Community."



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what went wrong in 2004? Last year resistance crept up again.

So we still need to worry about resistant pneumococcus. It turns out that the non-PCV7 serotypes, formerly with very low levels of resistance, have now started acquiring resistance to penicillin as they become the dominant serotypes in circulation. CDC documented an 18% increase in the incidence of non-PCV7 serotypes from 1998-1999 to 2003 (16.6 cases to 19.6 cases/100,000) for children aged <5 years and a 13% increase among adults ≥ 65 years (from 27.4 cases to 30.8 cases/100,000).⁵ The effect of the PCV7 vaccine on antibiotic resistance may be short-lived.

WHAT YOU CAN DO

Keeping in mind that promoting appropriate antibiotic use begins at home, you might be prompted to ask, "What can I do to reduce antibiotic resistance in Oregon?"

First, make sure that you are up-to-date on the latest recommendations for treating respiratory tract infections, either by viewing them on the website or calling us for a copy. Or, if you would rather hear about them in person, sign up to attend one of our upcoming CME conferences at the Oregon Medical Association offices on either January 24 or February 10, 2006. In addition to the latest information on the appropriate use of antibiotics, Dr. Barry Egner of the Northwest Center for Physician-Patient

Free CME and CE

Written materials: Judicious Use of Antibiotics—A Guide for Oregon Clinicians has been accredited for 1.5 category 1 credits toward the AMA Physician's Recognition Award, 1.5 prescribed credits by the American Academy of Family Physicians, and 1.8 American Nurses Credentialing Centers contact hours.

Upcoming conferences at the Oregon Medical Association on January 24 and February 10: Negotiating with Patients about Antibiotics, has been accredited for 2 Category 1 credits toward the AMA Physician's Recognition Award, 2 Prescribed credits by the American Academy of Family Physicians, and 2.4 American Nurses Credentialing Centers contact hours.

To receive a hard copy of our guidelines or to find out more about the conferences, call Elizabeth Henderson at 971-673-1111 or view our website at <http://oregon.gov/DHS/ph/antibiotics/index.shtml>.

Communication, an expert on dealing with difficult patients, will offer insight on negotiating with patients who demand antibiotics. Details will be available on our website in December.

Second, educate your patients on the problem of antibiotic resistance using our brochures, fact sheets, posters, and children's activity kits in both Spanish and English. You can view them on-line at <http://oregon.gov/DHS/ph/antibiotics/pubs.shtml>, where you can either order them from us† or download them yourself for free.

Finally, get information about antibiotic resistance out to the public. If you are involved in any community organizations that might be interested in the topic, we encourage you to use our 30-minute Powerpoint presentation on the problem of antibiotic resistance geared towards lay audiences. To get the presentation or information about our materials and

CME activities, call Elizabeth Henderson at 971-673-1111.

REFERENCES

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3. Lexau CA, Lynfield R, Danila R, Pilishvili T, Facklam R, Farley MM, et al. Changing epidemiology of invasive pneumococcal disease among older adults in the era of pediatric pneumococcal conjugate vaccine. *JAMA* 2005;294:2043-2051.
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5. Hicks LA, Flannery BL, Beall BW, Pai R, Jackson DM, Lexau C, et al. Replacement pneumococcal disease: increase in non-vaccine type disease in the era of widespread pneumococcal conjugate vaccination (2005). Final program and abstract book of the 43rd Annual Meeting of IDSA. San Francisco, CA. Infectious Diseases Society of America.

† We charge a minimal fee to cover printing and shipping costs: \$5.00 for 50 brochures or activity kits, \$3.50 for 50 fact sheets, and \$5.00 for posters. Fees are waived for rural and safety net clinics, in-home child care providers, public schools and other publicly-funded organizations.