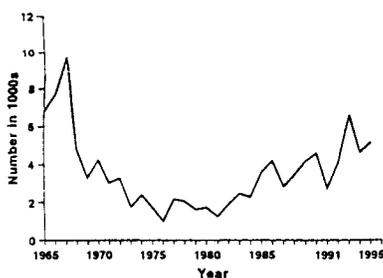


## PERTUSSIS: THE COUGH THAT WON'T GO AWAY

IT IS A COMMON misconception among physicians and the public that pertussis is solely a disease of children.<sup>1,2</sup> There is increasing evidence that adults play a role in the transmission of pertussis.<sup>3</sup> Studies have confirmed that *Bordetella pertussis* is associated with 12% to 26% of chronic (more than one week) cough in adults.<sup>4,5,6</sup> However, pertussis in adults is usually not considered or diagnosed. This lack of diagnosis results in unnecessary spread of the infection.<sup>4</sup>

Pertussis has an epidemic cycle, with inter-epidemic periods of 3 to 4 years. From 1977 to 1993 in the U.S., the number of cases reported in each successive peak year has increased (Figure).<sup>7</sup> The Idaho Division of Health is battling an outbreak of pertussis, with 437 cases reported to date in 1997. Twenty-seven percent of cases were  $\geq 20$  years old. The Washington Department of Health has reported a steady increase of cases from 140 in 1994 to an all-time high of 820 cases in 1996.

Reported cases of pertussis - U.S., 1965-1996



Consistent with theoretical projections, as vaccine coverage has increased, naturally circulating *B. pertussis* has decreased, and an age shift has occurred with an increase in the incidence in individuals  $\geq 15$  years of age. Between 1932 and 1945, prior to immunization programs, cases 15 years or older constituted only 3% of cases, compared to 14% of cases between 1989 and 1991.<sup>8</sup>

Pertussis cases reported to the Oregon Health Division between 1993 and 1996 are shown in Table 1. Although it is known that pertussis is underdiagnosed and underreported, reported cases in Oregon reflect the epidemiologic shifts seen throughout the U.S. Between 1993 and 1996, there has been a significant increase in the proportion of reported cases who are  $\geq 15$  years old (chi square for trend,  $P < 0.05$ ).

Table 1. Cases of pertussis reported to the Oregon Health Division, 1993-1996

	0-5 yrs n(%)	6-10 yrs n(%)	11-14 yrs n(%)	$\geq 15$ yrs n(%)	Total n
1996	35 (55)	10 (16)	06 (09)	13 (20)	64
1995	40 (60)	11 (16)	07 (10)	09 (13)	67
1994	62 (59)	23 (22)	10 (09)	10 (09)	106
1993	66 (62)	22 (21)	13 (12)	05 (05)	107

The increase in pertussis in both children and adults in recent years suggests the need for greater vigilance. The Oregon Health Division urges health-care practitioners to consider obtaining nasopharyngeal (NP) swabs for *B. pertussis* culture from any patient with a chronic cough and from any coughing patient who has been exposed to a confirmed case. The Oregon State Public Health Laboratory will attempt to isolate *B. pertussis* from NP swabs. Swabs should be placed in charcoal transport media and sent to the laboratory as soon as possible. Call OSPHL-General Microbiology at 503/229-5885, if you have questions or

would like to submit specimens.

All presumptive or confirmed cases of pertussis should be reported to your patients' local health department. In Oregon, a confirmed case is defined as a person with isolation of *B. pertussis* from a NP swab. A presumptive case has a characteristic cough illness following contact with a confirmed case. Presumptive cases warrant a NP swab and  $\geq 14$  days of antimicrobial therapy. Agents of choice are erythromycin and trimethoprim-sulfamethoxazole.

Antibiotic therapy may not result in clinical improvement, because of residual toxin. However, antibiotic therapy reduces spread of the disease to family members and close contacts. Regardless of vaccination status, family members and close contacts should get chemoprophylaxis.

Following licensure of two acellular pertussis (aP) vaccines for infants, the Advisory Committee on Immunization Practices (ACIP) now recommends use of aP vaccine as the preferred vaccine beginning at 2 months. The DTaP vaccine should be repeated at 4 months, 6 months, 15 to 18 months, and 4 to 6 years of age (see Table 2).

### REFERENCES

1. Wright SW, Edwards KM, Decker MD, Zeldin MH. 1995. Pertussis infection in adults with persistent cough. JAMA 1995; 273:1044-6.
2. Herwaldt LA. Pertussis and pertussis vaccine in adults. JAMA 1993;269:93-4.
3. Herwaldt LA. Pertussis in adults: what physicians need to know. Arch Int Med 1991;109:1510-2.

Table 2. Recommended childhood immunization schedule, United States, 1997

Vaccine	Birth	1 Mo.	2 Mos.	4 Mos.	6 Mos.	12 Mos.	15 Mos. *	18 Mos.	4-6 Years	11-12 Years	14-16 Years
Hepatitis B	Hep B-1	Hep B-2		Hep B-3				Hep B		Catch-Up*	
Diphtheria & tetanus toxoids & acellular pertussis		DTaP or DTP	DTaP or DTP	DTaP or DTP	DTaP or DTP		DTaP or DTP		DTaP or DTP	Td	
Haemophilus influenzae type b		Hib	Hib	Hib		Hib					
Poliovirus		Polio	Polio			Polio			Polio		
Measles-mumps-rubella						MMR			MMR or MMR		
Varicella virus						Var				Var	Catch-Up*

4. Nennig ME, Shinefield HR, Edwards KM, Black SB, Fireman BH. Prevalence and incidence of adult pertussis in an urban population. *JAMA* 1996;275:1672-4.
5. Mink CM, Cherry JD, Christenson P, et al... A search for *Bordetella pertussis* infection in university students. *Clin Infect Dis* 1992;14:464-71.
6. Robertson PW, Goldberg H, Jarvie BH, Smith DD, Whybin LR. *Bordetella pertussis* infection. *Med J Aust* 1987;147:522-5.
7. Centers for Disease Control and Prevention. Resurgence of pertussis—United States, 1993. *MMWR* 1993;42:952-3.
8. Mortimer EM. Pertussis vaccine. In: Plotkin SA, Mortimer EA, eds. *Vaccines*. 2nd ed. Philadelphia, PA: WB Saunders Co; 1994:91-135.

## About those Nosy Health Department Folks

SOME CLINICIANS are surprised when nurses or sanitarians from the local health department contact them for information about patients. Clinic staff sometimes refuse to release information to health department representatives, citing patient confidentiality. Medical professionals should understand that there is a big difference between confidentiality and secrecy. In a legal and ethical sense, the confidentiality of a patient's medical records is not breached when such information is divulged to health department representatives. Indeed, you have a legal responsibility to provide such information; and they have a legal right and in fact a duty to get it. That's right—state law *requires* health departments (local and/or state) to investigate cases of reportable diseases, and gives them authority to conduct "special studies" into causes of morbidity and mortality as they see fit.

So be nice the next time health department folks call. By all means establish the bona fides of callers, but

don't try to throw up roadblocks or stall. It just wastes time—yours as well as ours—and may prevent or delay necessary public health action. After all, that's why the people decided they wanted to have public health departments in the first place. And don't worry about being sued. Oregon law completely indemnifies you for releasing patient information to the health department. (It's only if you don't that you may be liable.)

As a courtesy, health department representatives always try to check with clinicians before contacting their patients. We think it's kind of tacky for us to be the first ones giving, say, lab results to your patients, and except in emergencies we will not do so. Because they don't know the reporting laws the way you do, some patients are surprised when the health department calls. It would be helpful if you would advise your patients with reportable conditions that someone from the health department will be in touch to ask some questions—and that this is for their good as well as for the good of their family and their community.

## FYI: NCVIA SNAFU

THE OREGON HEALTH DIVISION has received a question about the use of Vaccine Information Statements (VIS) and the relation of these statements to informed consent for immunizations.

The VIS, which are required by the National Childhood Vaccine Injury Act (NCVIA), provide information about vaccines, including the benefits, risks, and potential reactions associated with

the vaccines. All public and private providers who administer vaccines covered by the NCVIA must give the appropriate VIS to the patient, parent, or legal representative of the vaccine recipient, every time one of these vaccines is administered. This requirement applies regardless of the source of the vaccine, e.g., state-supplied or privately purchased. The vaccines currently covered under the NCVIA are those that contain diphtheria, tetanus, pertussis, measles, mumps, rubella, or polio antigens.

To comply with the NCVIA, all providers must document in each patient's permanent medical record that the appropriate VIS was given to the patient, parent, or legal representative of the vaccine recipient at the time of vaccination. In addition, the NCVIA requires all providers to record the date of administration, the manufacturer and lot number of the vaccine, and the provider's name and business address. Providers are no longer required by the Centers for Disease Control and Prevention to obtain a signature acknowledging receipt of the VIS.

Providing the VIS is a requirement of the NCVIA, a federal law, and is independent of Oregon state law requiring informed consent for medical procedures, such as immunizations. Therefore, providers should follow their standard practice for obtaining and documenting informed consent for immunizations, independent of the documentation required under the NCVIA.

Private providers can obtain camera-ready copies of the VIS from David Broyles, Immunization Program, Oregon Health Division, at 503/731-4020.