



Yakima Health District BULLETIN

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HPV Vaccine Approved by FDA and Recommended by ACIP

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The Advisory Committee on Immunization Practices (ACIP) has voted to recommend that a newly licensed vaccine designed to protect against human papillomavirus virus (HPV) be routinely given to girls when they are 11-12 years old. This vaccine was evaluated and approved in six months under FDA's priority review process--a process for products with potential to provide significant public health benefits. The ACIP also voted to recommend that the vaccine be included in the federally subsidized Vaccines for Children program. The ACIP's recommendations are under review by the U.S. Department of Health and Human Services prior to final approval. Thereafter, the Washington State Department of Health and its Vaccine Advisory Committee will consider analogous recommendations at the state level. Although the typical duration of the process from FDA approval until state funding and purchase of a new vaccine is typically about two years, this vaccine is likely to receive expedited consideration given its considerable public health benefits.

HPV is the most common sexually transmitted infection in the United States. The Centers for Disease Control and Prevention estimates that about 6.2 million Americans become infected with genital HPV each year and that over half of all sexually active men and women become infected at some time in their lives. Although cervical cytology screening and follow-up has led to a dramatic decline in cervical cancer in the United States over the past several decades, it still causes thousands of deaths worldwide and HPV related precancerous lesions and genital warts still cause need for medical management, consumption of health care resources, and psychological consequences that are not captured in morbidity and mortality figures.

Four studies of vaccine efficacy, one in the United States and three multinational, were conducted in 21,000 women. The results showed that in

Cervical Cancer			
	Cases	Deaths	Comment
Yakima County 2002	6	2	Washington State Cancer Registry; underreporting possible
Washington State 2002	45	205	
United States	3700	9700	CDC Estimates
World	470,000	233,000	

women who had not already been infected, the vaccine was nearly 100 percent effective in preventing precancerous cervical lesions, precancerous vaginal and vulvar lesions, and genital warts caused by infection with the HPV types 6, 11, 16, and 18. While the study period was not long enough for cervical cancer to develop, the prevention of these cervical precancerous lesions is believed highly likely to result in the prevention of those cancers. *The results also showed that the vaccine is only effective when given prior to infection.* Most adverse experiences in study participants who received the vaccine included mild or moderate local reactions, such as pain or tenderness at the site of injection. The manufacturer has an ongoing study to evaluate the safety and effectiveness of the vaccine in males.

According to the ACIP's recommendation, three doses of the new vaccine should be routinely given to girls when they are 11 or 12 years old. The advisory committee, however, noted that the vaccination series can be started as early as nine years old at the discretion of the physician or health care provider. The recommendation also includes girls and women 13-26 years old because they also will benefit from getting the vaccine.

The vaccine should be administered before onset of sexual activity (i.e., before women are exposed to the viruses), but females who are sexually active should still be vaccinated. The current cost of the vaccine is about \$300 for the full series. Cost-effectiveness modeling (not data) suggest that a combined program of vaccination among pre-adolescent girls with periodic screening of adult women (e.g., every 2-5 years) will be the most cost-effective approach to cervical cancer prevention.

For more information on HPV vaccine and cervical cancer prevention: <http://www.cdc.gov/nip/vaccine/hpv/default.htm>

JAMA. 2003 Aug 13;290(6):781-9.

J Natl Cancer Inst. 2004 Apr 21;96(8):604-15

For more information about local publicly funded cervical and breast cancer screening services, call YHD at 509-249-6512.

Pertussis

Clusters of pertussis cases continue to be reported in Yakima County, most recently in a child-care setting where two confirmed and several additional suspected cases have been found. Chemoprophylaxis had to be recommended for over sixty potentially exposed staff and attendees. Sporadic cases with no know source continue to occur as well.

To date 13 cases have been reported in 2006. See the Notifiable Conditions table for comparison with recent time periods.

Please consider the diagnosis of pertussis in any patient with persistent dry cough, regardless of immunization status, particularly if it is associated with paroxysms. In clinically compatible cases, empiric treatment is recommended prior to laboratory confirmation.

Acceptable regimens for patients >6 months of age include:

Azithromycin

10 mg/kg/d [500 mg maximum] on day 1, followed by 5 mg/kg/d [250 mg/d maximum] on days 2-5

Clarithromycin

15 mg/kg/d split into twice-daily dosing [500 mg maximum per dose] x 7 days

Trimethoprim/sulfamethoxazole for seven days is an inferior alternative for patients in whom macrolides are contraindicated or not tolerated. Comprehensive treatment tables addressing all ages can be found below or at:

www.yakimapublichealth.org

Household contacts, regardless of immunization status, should be offered chemoprophylaxis with a similar regimen. Laboratory confirmation is by detection with PCR and/or isolation in culture.

For complete guidelines on pertussis, go to:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm>

Please report suspected cases to YHD at 509-249-6541.

TABLE 4. Recommended antimicrobial treatment and postexposure prophylaxis for pertussis, by age group

Age group	Primary agents			Alternate agent*
	Azithromycin	Erythromycin	Clarithromycin	TMP-SMZ
<1 month	Recommended agent. 10 mg/kg per day in a single dose for 5 days (only limited safety data available.)	Not preferred. Erythromycin is associated with infantile hypertrophic pyloric stenosis. Use if azithromycin is unavailable; 40–50 mg/kg per day in 4 divided doses for 14 days	Not recommended (safety data unavailable)	Contraindicated for infants aged <2 months (risk for kernicterus)
1–5 months	10 mg/kg per day in a single dose for 5 days	40–50 mg/kg per day in 4 divided doses for 14 days	15 mg/kg per day in 2 divided doses for 7 days	Contraindicated at age <2 months. For infants aged ≥2 months, TMP 8 mg/kg per day, SMZ 40 mg/kg per day in 2 divided doses for 14 days
Infants (aged ≥6 months) and children	10 mg/kg in a single dose on day 1 then 5 mg/kg per day (maximum: 500 mg) on days 2–5	40–50 mg/kg per day (maximum: 2 g per day) in 4 divided doses for 14 days	15 mg/kg per day in 2 divided doses (maximum: 1 g per day) for 7 days	TMP 8 mg/kg per day, SMZ 40 mg/kg per day in 2 divided doses for 14 days
Adults	500 mg in a single dose on day 1 then 250 mg per day on days 2–5	2 g per day in 4 divided doses for 14 days	1 g per day in 2 divided doses for 7 days	TMP 320 mg per day, SMZ 1,600 mg per day in 2 divided doses for 14 days

* Trimethoprim sulfamethoxazole (TMP–SMZ) can be used as an alternative agent to macrolides in patients aged ≥2 months who are allergic to macrolides, who cannot tolerate macrolides, or who are infected with a rare macrolide-resistant strain of *Bordetella pertussis*.

Vibrio Parahaemolyticus

Since July 10, nearly four dozen Washington residents have become ill with *Vibrio parahaemolyticus*. Three cases have been reported in Yakima County. Almost all of these cases are associated with the consumption of commercial or recreationally harvested oysters from Washington. The Washington State Department of Health (DOH) has also received reports from several other states and provinces regarding infections that appear to be associated with consumption of shellfish harvested in the Pacific Northwest. DOH is investigating the outbreak. High levels of the naturally occurring organism can grow in saltwater areas during the summer months and infection usually occurs after eating raw or undercooked shellfish in affected waters. Shellfish currently on the market should be safe to eat, provided that they have been kept refrigerated or iced after purchase and are thoroughly cooked to 145°F.

V. parahaemolyticus infection is characterized by watery diarrhea with abdominal cramps, nausea, vomiting, fever and headache. Approximately 25% of cases have a dysentery-like syndrome with bloody or mucoid stools, peripheral leukocytosis, and high fever. Duration of illness ranges from 1-7 days. The incubation period is typically 12-24 hours. Treatment is supportive, with a focus on maintaining adequate hydration. In severe cases, therapy with fluoroquinolones, doxycycline, or third generation cephalosporins can be considered.

YHD is requesting that clinicians consider *V. parahaemolyticus* in patients with a compatible clinical syndrome and that they take a travel and food history, including history of eating raw or undercooked seafood-particularly shellfish. If possible, obtain details related to suspected shellfish consumption, including the location and dates of meals. Please obtain stool cultures from suspect cases and **specify on the microbiology lab request that *V. parahaemolyticus* culture is being requested** so that the lab can use the proper culture media. Cases of suspected or confirmed *V. parahaemolyticus* should be reported to YHD at 509-249-6541.

Varicella Immunization Requirement Reminder

Children in Washington are now required to be immunized against varicella before entering child care and school. The new requirement, which went into effect July 1, means children entering kindergarten and sixth grade must be vaccinated or able to document immunity (i.e., presence of antibodies or reliable history of chickenpox). Children from 19 months to kindergarten-age who attend licensed child care or preschool must also be vaccinated.

In recent years varicella outbreaks have continued to occur among vaccinated school children. During these outbreaks, between 11 and 17 percent of vaccinated children developed varicella. Pre-vaccine era attack rates among susceptibles in outbreak settings approached 90%. Varicella in vaccinated children is usually mild, but the children are contagious and can transmit the virus to others including their parents who are at higher risk of severe disease.

Although not included in this single-dose law nor funded by VFC at this time, the **ACIP recently recommended a routine second dose of varicella vaccine for children aged 4--6 years**. The additional dose is recommended in order to increase initial efficacy and prolong duration of immunity.

Mumps Immunity Re-defined

Through mid-July, over 5,000 cases of mumps have been reported nationwide, the highest number in a single year since 1991, when 4,264 cases were reported. These cases have been associated largely with linked outbreaks in the central United States among college students and their contacts. Only 13 cases were reported in the most recent week, so transmission appears to have been largely interrupted. No deaths have been reported.

To prevent mumps, the Advisory Committee on Immunization Practices (ACIP) already recommends a 2-dose MMR vaccination series for all children, with the first dose administered at ages 12--15 months and the second dose at ages 4--6 years. Two doses of MMR vaccine are recommended for school and college entry unless the student has other evidence of immunity. ***This recommendation has not changed.***

However, in the wake of these recent outbreaks, ACIP recently redefined evidence of immunity to mumps:

- 1 dose of a live mumps virus vaccine for preschool children and adults not at high risk;
- 2 doses for children in grades K--12 and adults at high risk (i.e., persons who work in health-care facilities, international travelers, and students at post-high school educational institutions). *Note: this recommendation has also been extended to children attending summer camps.*
- Health-care facilities should consider recommending 1 dose of MMR vaccine to unvaccinated health-care workers born before 1957 who do not have other evidence of mumps immunity
- Other criteria for evidence of immunity (i.e., birth before 1957, documentation of physician-diagnosed mumps, or laboratory evidence of immunity) are unchanged

Although 12% of exposed students in one setting from the recent outbreaks had received 1 dose of MMR vaccine and another 51% had received 2 doses of MMR vaccine, attack rates were only 2-4%; in comparison, pre-vaccine era attack rates were up to 50%. The difference corresponds to published efficacy reports of a single dose of mumps-containing vaccine of 75%--91%. High vaccination coverage with 2 doses of MMR vaccine, especially in school-aged populations in the United States, likely prevented thousands of additional cases of mumps in this outbreak.

For more information:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm55d518a1.htm>

<http://www.cdc.gov/nip/diseases/mumps/default.htm>

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<http://www.yakimapublichealth.org>

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Condition (includes confirmed and probable cases)	Cases			Total Cases by Year	
	Jan-June	Jan-June	Jan-June	Total Cases by Year	Total Cases by Year
	2006	2005	2004	2005	2004
Campylobacteriosis	116	40	53	115	99
Cryptosporidiosis	3	1	1	7	2
Enterohemorrhagic E. coli	2	1	1	3	3
Giardiasis	10	10	15	28	30
Salmonellosis	12	21	20	49	36
Shigellosis	17	5	4	25	7
Hepatitis A acute	1	1	2	3	2
Hepatitis B acute	3	1	2	1	3
Hepatitis B chronic	7	7	8	14	22
Hepatitis C acute	2	1	2	1	2
Hepatitis C chronic	108	115	110	214	219
Meningococcal	0	0	1	2	3
Pertussis	13	70	20	197	62
Tuberculosis	4	7	7	14	12
HIV New	1	0	2	14	12
HIV Deaths	0	1	1	2	1
HIV Cumulative Living	142	132	125	142	130
Chlamydia	552	496	509	973	1002
Genital Herpes—Initial	37	47	72	99	125
Gonorrhea	95	70	92	138	198
Primary and Secondary Syphilis	3	0	0	2	0

**Notifiable
Conditions
Summary
Jan-June,
2006**