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EPI-LOG

Communicable Disease and Epidemiology News
Published continuously since 1961
Edited by Sherry Lipsky, P.A.-C, M.P.H.

City of Seattle King County

Seattle-King County
Department of Public Health
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First Interstate Building
999 Third Avenue, Ste. 900
Seattle, WA 98104 - 4039

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IN THE FEBRUARY 1998 ISSUE: VOL 38, NO. 2

Health Care Workers

The Advisory Committee on Immunization Practice (ACIP) has published a new statement on "Immunization of Health Care Workers" (MMWR, Vol. 46, No. RR-18, December 26, 1997) which addresses the need for health care workers (HCWs) (including physicians, nurses, emergency medical personnel, dental professionals and students, medical and nursing students, laboratory technicians, hospital volunteers, and administrative staff) to be immunized because of their risk for exposure to vaccine-preventable diseases. Any medical facility which provides direct patient care (including private physicians' offices, nursing homes, schools, laboratories, hospitals, health departments, and first responders) is encouraged to formulate a comprehensive immunization policy for its HCWs.

Recommendations are grouped into three categories:

1. Active immunization strongly recommended for HCWs with special risks:

Hepatitis B: For those at risk for exposure to blood or body fluids. ***Influenza:*** For those who have contact with patients at high risk for influenza or its complications, who work in chronic care facilities, have high-risk medical conditions, or are aged ≥65 years. ***Measles***: For those born during or after 1957 who do not have documentation of having received two doses of live vaccine on or after the first birthday or a history of physician-diagnosed measles or serologic evidence of immunity. Vaccination should be considered for all HCWs who lack proof of immunity, including those born before 1957. ***Mumps***: HCWs believed to be susceptible can be vaccinated. Adults born before 1957 can be considered immune. ***Rubella***: For both men and women who do not have documentation of having received live vaccine on or after their first birthday or laboratory evidence of immunity. Adults born before 1957, except women who can become pregnant, can be considered immune. ***Varicella (Chickenpox)***: For those who do not have either a reliable history of varicella disease or serologic evidence of immunity.

2. Immunoprophylaxis may be indicated for HCWs in certain circumstances:

Tuberculosis (BCG): only for HCWs in areas where multi-drug resistant tuberculosis is prevalent, a strong likelihood of infection exists, and where comprehensive infection control precautions have failed to prevent TB transmission to HCWs.

Vaccines for ***hepatitis A, meningococcal disease, and typhoid fever:*** not routinely indicated for HCWs in the United States.

3. Immunizations recommended for all adults: ***Tetanus and diphtheria (Td) toxoids; pneumococcal vaccine*** for individuals at increased risk of pneumoccal disease and its complications due to underlying health conditions, and those ≥ 65 years of age who are healthy.

Specific recommendations for use of vaccines in immunocompromised HCWs depend upon the type of immunocompromising condition and the particular vaccine.

- Killed or inactivated vaccines do not present a danger to immunocompromised HCWs and generally should be administered as recommended for workers who are not immunocompromised.
- Additional vaccines, particularly bacterial polysaccharide vaccines (i.e., *Haemophilus influenzae* type b, pneumococcal, and meningococcal vaccines), are recommended for persons whose immune function is compromised by anatomic or functional asplenia and certain other conditions, although their response to the antigens is often not as good as for those with healthy immune systems.

The following recommendations apply to all HCWs infected with HIV:

- MMR vaccine is recommended for all asymptomatic HIV-infected HCWs who do not have evidence of severe immunosuppression. MMR may be considered for HIV-infected HCWs who are symptomatic but do not have evidence of severe immunosuppression. Measles vaccine is not recommended for HIV-infected persons with evidence of severe immunosuppression.
- Enhanced inactivated poliovirus vaccine is the only polio vaccine recommended for HIV-infected persons. Live oral poliovirus vaccine should not be administered to an immunocompromised person.
- Influenza and pneumococcal vaccines are indicated for all HIV-infected persons.

Additional recommendations include maintaining an *immunization record* for each HCW, implementing *catch-up vaccination programs* for HCWs who are already employed, policy provisions to ensure that newly-hired HCWs receive necessary vaccinations, and policies on *postexposure work restrictions* for HCWs who are not immune to certain vaccine-preventable diseases.

IG Shortage

The national distributor of immune globulin for intramuscular use has run out of the product and does not expect to obtain a supply for sale until the end of February. Shortages of immune globulin have occurred since the Gulf War. However, supplies became critically low when Centeon, the major producer of immune globulin for intramuscular use, upgraded its production process in December. During this time, the company produced no immune globulin. Although the production system is

now back in operation, the company has not yet obtained FDA approval for its release. For several years, the Centers for Disease Control and Prevention and FFF enterprises, the distributor of immune globulin, have limited the sale of this product to state and local health departments to assure that the product would be available for infectious disease exposures. In spite of their efforts, many health departments have depleted their supplies. In some cases, people who had been exposed to hepatitis A have not been able to access a supply of immune globulin.

The Seattle-King County Health Department (SKCDPH) has not yet faced this situation, as we have so far been successful at shifting our existing supplies to cover the need. If we run out of immune globulin, we will be offering tetanus immune globulin as an alternative treatment. However, the increased cost of this treatment is significant. The dosage of tetanus immune globulin indicated for hepatitis exposures is the same as for regular immune globulin (0.01 ml/lb of body weight). It should be administered within 14 days of the last exposure.

Hepatitis A & C

In a recent report from Italy (NEJM 1998;338(5):289-90), Vento and colleagues conducted a careful follow up study of chronic hepatitis B and hepatitis C patients over a seven year period. The most surprising finding was that, of 17 persons with chronic hepatitis C infection who acquired hepatitis A infection, seven (41%) developed fulminant hepatic failure and six of them died. None of the seven patients were positive for HIV, none had used hepatotoxic drugs, and none were alcoholic. The remaining 10 cases had uncomplicated courses. They also noted that, of 10 persons with chronic hepatitis B who acquired hepatitis A infection, only one had severe illness (a cirrhotic patient who developed cholestasis).

This observation flies against the prevailing wisdom, which was that hepatitis B was a risk factor for severe hepatitis A and therefore an indication for hepatitis A vaccination in susceptible persons. But, as Vento, et al. point out, the studies on which that recommendation was based did not document whether hepatitis C was also present. They suggest that the real risk factor for fulminant hepatitis with hepatitis A may be chronic hepatitis C, and that those with chronic hepatitis C should be vaccinated against hepatitis A.

Our first response to this report was skepticism, as the SKCDPH is conducting a prospective study of injection drug users in whom the rate of hepatitis C is approximately 85%. Hepatitis A is endemic in that population and we have not seen fulminant hepatitis. The Vento report has prompted us to reexamine that question prospectively. The SKCDPH data indicate that liver deaths do occur in that population (4/69 over the last four years), but we have not documented the specific cause; we intend to do that in the future.

Meanwhile, it does appear prudent to attempt to give hepatitis A vaccine to persons with chronic hepatitis C infection, or persons at high risk of hepatitis C infection, such as injection drug users. It would be cost beneficial to first serologically screen for hepatitis A antibody due to the high prevalence of past hepatitis A infection in such a group.

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Tuberculosis 296-4747
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Communicable Disease 296-4774
24-hr Report Line..... 296-4782
Disease Alert:
CD Hotline 296-4949
After hours 682-7321
http://www.metrokc.gov/health/

REPORTED CASES OF SELECTED DISEASES
SEATTLE-KING COUNTY 1998

	CASES REPORTED IN JANUARY		CASES REPORTED THROUGH JANUARY	
	1998	1997	1998	1997
VACCINE-PREVENTABLE DISEASES				
Mumps	0	0	0	0
Measles	0	0	0	0
Pertussis	20	31	20	31
Rubella	0	0	0	0
SEXUALLY TRANSMITTED DISEASES				
Syphilis	0	0	0	0
Gonorrhea	74	78	74	78
Chlamydial infections	254	261	254	261
Herpes, genital	54	54	54	54
Pelvic Inflammatory Disease	22	35	22	35
Syphilis, late	1	0	1	0
ENTERIC DISEASES				
Giardiasis	12	11	12	11
Salmonellosis	10	19	10	19
Shigellosis	5	7	5	7
Campylobacteriosis	18	30	18	30
E.coli O157:H7	1	1	1	1
HEPATITIS				
Hepatitis A	45	40	45	40
Hepatitis B	8	3	8	3
Hepatitis C/non-A, non-B	0	0	0	0
AIDS	26	15	26	15
TUBERCULOSIS	4	10	4	10
MENINGITIS/INVASIVE DISEASE				
Haemophilus influenzae	0	0	0	0
Meningococcal disease	4	5	4	5