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Department of Health Services
Public Health

THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County

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RECOMMENDED CHILDHOOD IMMUNIZATION SCHEDULE UNITED STATES, 2002

In January, the Advisory Committee on Immunization Practices (ACIP) for the Centers for Disease Control and Prevention (CDC), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP) released the "Recommended Childhood Immunization Schedule United States, 2002" (see page 5). This schedule specifies the recommended ages for routine administration of licensed childhood vaccines for children through age 18 years.

There are no major changes in the 2002 schedule as compared to the 2001 schedule regarding specific vaccines. However, there are format changes to the 2002 schedule that focus attention on specific categories, including "catch-up" vaccines for children who fall behind or start their immunizations late and the immunization needs of pre-adolescents (11 to 12 year-olds). The schedule's new format also highlights vaccines recommended for selected populations, including pneumococcal polysaccharide vaccine (PPV), hepatitis A vaccine, and influenza vaccine.

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UPDATE ON SHORTAGES OF ROUTINE CHILDHOOD VACCINES

Over the past several months, several regular suppliers of childhood vaccines for the U.S. market have experienced problems in providing enough vaccine to meet the current demand. This has resulted in backlogs in the filling of new as well as existing orders. Additionally, some of the manufacturers are beginning to prioritize deliveries in accordance with their assessments of provider need. The supply problems appear to be related to current insufficient production capacity and the significant time lag in expanding that capacity.

Following is a review of the childhood vaccines for which shortages are expected to continue well into 2002. Included are the most current recommendations from the Advisory Committee on Immunization Practices (ACIP) for use of the affected vaccines during the shortages.

PCV

Since the summer of 2001, the manufacturer of the heptavalent pneumococcal conjugate vaccine (PCV) has experienced difficulty in meeting the demand for this vaccine. Adequate supplies of the vaccine are not expected to be available until mid-2002. Interim guidelines on the use of PCV were first published in the September 14, 2001 issue of the MMWR [50(36);783-4]. Because the shortage has worsened, these interim guidelines were again modified by ACIP on December 7, 2001 and published in the December 21, 2001 issue of the MMWR [50(50);1140-2].

Current guidelines request all providers, regardless of their PCV supply, to give priority to vaccinating children under 5 years of age with medical conditions which increase their risk for pneumococcal disease. This high risk group includes: children with sickle cell disease and other hemoglobinopathies, anatomic or functional asplenia, chronic disease including chronic cardiac or pulmonary disease and diabetes mellitus, HIV infection, immunocompromising conditions, immunosuppressive chemotherapy or long-term systemic corticosteroid use, and those who have received a solid organ transplant. Children in the high risk group should receive all doses of PCV as dictated by their age in accordance with the original (unmodified) ACIP guidelines issued in the October 6, 2000 MMWR Recommendation and Report [49(RR-9)]. Healthy children under 24 months of age are the only other group recommended to receive PCV during the current shortage; however, some will receive a reduced number of doses in accordance with the updated recommendations (see Table 2, page 4). All U.S. providers are requested to implement either the "Moderate or

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Immunization Schedule (from page 1)

The changes in the schedule include the following:

Routine hepatitis B immunization for all infants before discharge from the newborn nursery is encouraged. AAP notes that a birth dose of hepatitis B vaccine for all infants helps to: a) safeguard against maternal hepatitis B testing errors and test reporting failures; b) protect neonates discharged to households in which hepatitis B chronic carriers other than the mother may reside; and c) enhance the completion of the childhood immunization series. The updated footnote on hepatitis B vaccine in the new schedule reviews use of the combination vaccine containing hepatitis B vaccine (see page 5). The Hib/Hepatitis B vaccine cannot be administered prior to 6 weeks of age. Monovalent hepatitis B vaccine must be used for the birth dose and for the second dose if administered prior to 6 weeks of age.

Annual influenza immunization is recommended for children aged ≥ 6 months with medical conditions that increase their risk for influenza complications (see Table 1, A, page 3). Annual influenza immunization for all children can be considered.

In addition to all children aged < 2 years, pneumococcal conjugate vaccine (PCV) is recommended for unimmunized children aged 24-59 months who have medical conditions that increase their risk for pneumococcal disease; it should be considered for other unimmunized children, especially those at moderate-risk (see Table 1, B). Children aged ≥ 2 years that have medical conditions or other factors that increase their risk for pneumococcal disease should also receive PPV (see Table 1, C).

Note that due to the nationwide shortage of PCV, the ACIP issued interim guidelines in December that recommend deferring some vaccine doses for low and moderate risk children until vaccine supplies are replenished. See the accompanying article on vaccine shortages (page 1) regarding these interim guidelines.

Also be aware that California's children are considered a "selected population" for routine hepatitis A vaccination (see Table 1, D). Hepatitis A vaccination is recommended for all California children due to high hepatitis A incidence rates within the State.

The Immunization Program Headquarters has a new location:

3530 Wilshire Blvd., Suite 700 • Los Angeles, CA 90010
Phone: (213) 351-7800 • Fax: (213) 351-2780

New numbers for the Perinatal Hepatitis B Prevention Unit:
Phone: (213) 351-7400 • Fax: (213) 351-2781

The Area Field Units can still be reached at:

East Area Field Unit
Whittier Health Center • 7643 S. Painter Ave., Room 101 • Whittier, CA 90602
Phone: 562-464-5324 • Fax: 562-693-3985

North Area Field Unit
12502 Van Nuys Blvd., Room 204 • Pacoima, CA 91331
Phone: 818-896-6255 • Fax: 818-686-1477

Southwest Area Field Unit
Ruth Temple Health Center • 3834 S. Western Ave., Room 245 • Los Angeles, CA 90062
Phone: 323-730-3530 • Fax: 323-730-3532

E-mail addresses for all Immunization Program staff remain the same.
If you have any questions, please call Blanca Medina at 213-351-7800.

Table 1: Vaccines recommended for selected populations of children based on ACIP recommendations*

A. INFLUENZA VACCINE

Persons aged ≥ 6 months that are at high-risk for influenza complications and therefore should be immunized include:

1. Persons with chronic disorders of the pulmonary or cardiovascular systems, including asthma.
2. Persons who have required regular medical care during the preceding year for chronic metabolic diseases, including diabetes mellitus, renal dysfunction, hemoglobinopathies, or immunosuppression, including immunosuppression caused by medications or by HIV.
3. Persons aged 6 months to 18 years who are on long-term aspirin therapy.
4. Women who will be in the second or third trimester of pregnancy during the influenza season.

Influenza vaccine is also recommended for persons who can transmit influenza to those at high-risk, including residents of chronic-care facilities that house persons of any age who have chronic medical conditions, health care workers and household members of high-risk persons.

B. PNEUMOCOCCAL CONJUGATE VACCINE (PCV)

Previously unimmunized children between 24 and 59 months who are at high-risk for pneumococcal disease and who should be immunized with PCV are:

1. Children who have sickle cell disease and other sickle cell hemoglobinopathies, congenital or acquired asplenia, or splenic dysfunction.
2. Children with human immunodeficiency virus.
3. Children with immunocompromising conditions, including congenital immunodeficiencies (B- [humoral] or T-lymphocyte deficiency; complement deficiencies, particularly c1, c2, c3, and c4 deficiency; and phagocytic disorders, excluding chronic granulomatous disease); renal failure and nephrotic syndrome; diseases associated with immunosuppressive therapy or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin's disease; or solid organ transplantation.
4. Children with other chronic illnesses, including chronic cardiac disease, particularly cyanotic congenital heart disease and cardiac failure; chronic pulmonary disease, excluding asthma unless on high dose corticosteroids therapy; cerebrospinal fluid leaks; diabetes mellitus.

Note that children (≥2 years) with conditions listed above should also receive pneumococcal polysaccharide vaccine (PPV). PPV should be given at least 2 months after the last dose of PCV.

Other children for whom PCV should be considered include:**

All children aged 24-59 months, with priority given to children with moderate-risk factors for pneumococcal disease, including children aged 24-35 months, children of Alaska Native or American Indian descent, children of African-American descent, and children who attend group day care centers.

C. PNEUMOCOCCAL POLYSACCHARIDE VACCINE (PPV)

Persons aged ≥ 2 years who are at increased risk for pneumococcal disease or its complications and should be immunized with PPV are:

1. Persons with chronic cardiovascular disease (e.g., congestive heart failure or cardiomyopathies), chronic pulmonary disease (e.g., COPD or emphysema, but not asthma), diabetes mellitus, alcoholism, chronic liver disease (cirrhosis), or CSF leaks.
2. Persons who have functional or anatomic asplenia (e.g., sickle cell disease, or splenectomy).
3. Persons living in environments or social settings in which the risk for invasive pneumococcal disease or its complications is increased (e.g., Alaskan Natives and certain American Indian populations).
4. Immunocompromised persons, including those with HIV infection, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, generalized malignancy, chronic renal failure, or nephrotic syndrome; those receiving immunosuppressive chemotherapy (including corticosteroids); and those who have received an organ or bone marrow transplant.

D. HEPATITIS A VACCINE

California is a selected state where hepatitis A vaccination is recommended for all children aged 2-18 years.

* Wording of risk groups vary depending on the time the ACIP statement was issued.

** During the current PCV shortage immunization of this group of children should be deferred.

Vaccines Shortage Update (from page 1)

Severe Shortage" schedule outlined in Table 2 below. *Providers receiving vaccines from the County of Los Angeles Department of Health Services Immunization Program (LACDHS-IP) and providers who participate in the State's Vaccines for Children Program will be implementing the "Moderate Shortage" schedule at this time for "Low to Moderate Risk Children."*

Providers should maintain a record of all infants and children for whom PCV was deferred so that such children can be recalled for age-appropriate immunizations when the supply problem has been resolved.

DTaP

Shortages of diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine have existed since late 2000. Although the two remaining manufacturers of the vaccine had been able to meet the needs of most providers over the past several months, some providers are currently beginning to run out of this vaccine. In such instances, providers can defer the first booster dose of DTaP (normally given around 15 -18 months) while concentrating on completing the "three dose" primary series for infants and children [MMWR, March 16, 2001 [50(10);189-190]. The booster dose normally given at 4 - 6 years of age to assure adequate immunity throughout the school years should be given, if at all possible. However, as approved by ACIP at its December 7, 2001 meeting, this booster (normally the second booster) can also be deferred in the most severe shortage situation. Once again, providers should maintain records of children who have had booster doses deferred so that children can be recalled for age-appropriate immunizations, in accordance with regular ACIP recommendations, when the vaccine shortages are resolved.

At this time, providers receiving vaccines from LACDHS-IP will not be required to defer any doses of DTaP as the quantity of this vaccine is sufficient to meet the current demand.

Td

Tetanus and diphtheria toxoids (Td) vaccine has been available in limited supply since November 2000 and is not expected to be available in sufficient amounts to meet the need for routine use until mid- to late-2002. Until that time, providers should continue to adhere to the ACIP guidelines which were published in the May 25, 2001 issue of the MMWR [50(20);418,427]. These guidelines require that:

1. All routine Td boosters in adolescents and adults be delayed until the supply problem is resolved.
2. Td use be restricted to persons in the following categories:
   a) persons traveling to a country where the risk for becoming infected with diphtheria is high,
   b) persons requiring tetanus vaccination for prophylaxis in wound management,
   c) persons over 7 years of age who have not completed a primary series of a diphtheria and tetanus toxoid containing vaccine, and
   d) pregnant women who have not been vaccinated with Td during the preceding 10 years.

The sole remaining producer of Td vaccine in the U.S. is limiting the supply of its vaccine to hospitals, emergency rooms, and some health departments.

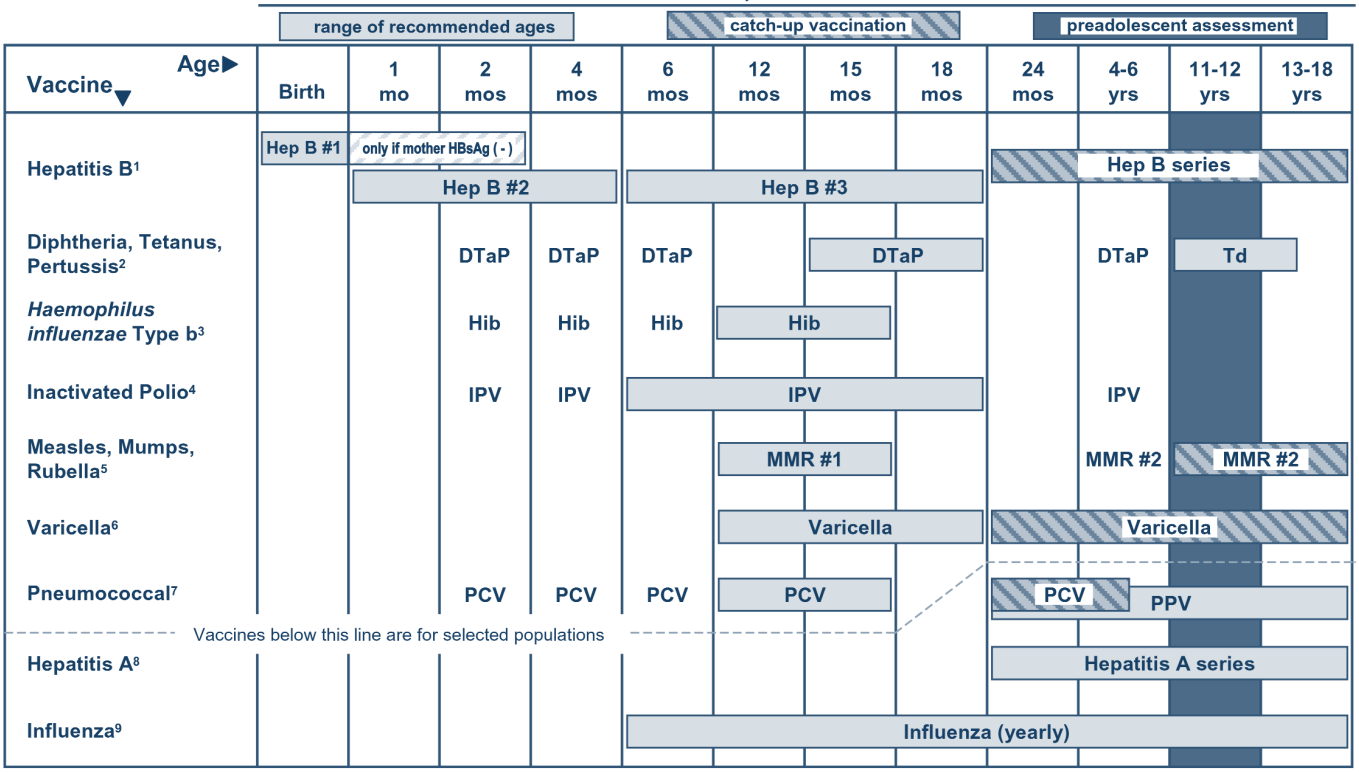
For questions regarding any of the above discussed vaccine shortages and related problems, please feel free to contact the County of Los Angeles Department of Health Services Immunization Program at (213) 351-7800.

Table 2:
Updated recommendations for pneumococcal conjugate vaccine (PCV) use during current moderate and severe shortages Advisory Committee on Immunization Practices, 2001

Age at first Vaccination	Standard Schedule for high-risk children	Low to Moderate Risk Children	
		Moderate Shortage	Severe Shortage
≤6 months	2, 4, 6, and 12-15 months	2, 4, 6 months (defer 4th dose)	2 doses at 2-month interval in 1st 6 months of life (defer 3rd and 4th doses)
7-11 months	2 doses at 2-month interval; also 12-15 month dose	2 doses at 2-month interval; also 12-15 month dose	2 doses at 2-month interval (defer 3rd dose)
12-23 months	2 doses at 2-month interval	2 doses at 2-month interval	1 dose (defer 2nd dose)
≥24 months	2 doses	Defer vaccination	Defer vaccination

CA Department of Health Services, Immunization Branch

Recommended Childhood Immunization Schedule
United States, 2002



This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2001, for children through age 18 years. Any dose not given at the recommended age should be given at any subsequent visit when indicated and feasible. ▨ Indicates age groups that warrant special effort to administer those vaccines not previously given. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations.

1. Hepatitis B vaccine (Hep B). All infants should receive the first dose of hepatitis B vaccine soon after birth and before hospital discharge; the first dose may also be given by age 2 months if the infant's mother is HBsAg-negative. Only monovalent hepatitis B vaccine can be used for the birth dose. Monovalent or combination vaccine containing Hep B may be used to complete the series; four doses of vaccine may be administered if combination vaccine is used. The second dose should be given at least 4 weeks after the first dose, except for Hib-containing vaccine which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 6 months.

Infants born to HBsAg-positive mothers should receive hepatitis B vaccine and 0.5 mL hepatitis B immune globulin (HBIG) within 12 hours of birth at separate sites. The second dose is recommended at age 1-2 months and the vaccination series should be completed (third or fourth dose) at age 6 months.

Infants born to mothers whose HBsAg status is unknown should receive the first dose of the hepatitis B vaccine series within 12 hours of birth. Maternal blood should be drawn at the time of delivery to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than age 1 week).

2. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP). The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose and the child is unlikely to return at age 15-18 months. **Tetanus and diphtheria toxoids (Td)** is recommended at age 11-12 years if at least 5 years have elapsed since the last dose of tetanus and diphtheria toxoid-containing vaccine. Subsequent routine Td boosters are recommended every 10 years.

3. *Haemophilus influenzae* type b (Hib) conjugate vaccine. Three Hib conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required. DTaP/Hib combination products should not be used for primary immunization in infants at ages 2, 4 or 6 months, but can be used as boosters following any Hib vaccine.

4. Inactivated polio vaccine (IPV). An all-IPV schedule is recommended for routine childhood polio vaccination in the United States. All children should receive four doses of IPV at ages 2 months, 4 months, 6-18 months, and 4-6 years.

5. Measles, mumps, and rubella vaccine (MMR). The second dose of MMR is recommended routinely at age 4-6 years but may be administered during any visit, provided at least 4 weeks have elapsed since the first dose and that both doses are administered beginning at or after age 12 months. Those who have not previously received the second dose should complete the schedule by the 11-12 year old visit.

6. Varicella vaccine. Varicella vaccine is recommended at any visit at or after age 12 months for susceptible children, i.e. those who lack a reliable history of chickenpox. Susceptible persons aged ≥ 13 years should receive two doses, given at least 4 weeks apart.

7. Pneumococcal vaccine. The heptavalent **pneumococcal conjugate vaccine (PCV)** is recommended for all children age 2-23 months. It is also recommended for certain children age 24-59 months. **Pneumococcal polysaccharide vaccine (PPV)** is recommended in addition to PCV for certain high-risk groups. See *MMWR* 2000;49(RR-9);1-35.

8. Hepatitis A vaccine. Hepatitis A vaccine is recommended for use in selected states and regions, and for certain high-risk groups; consult your local public health authority. See *MMWR* 1999;48(RR-12);1-37.

9. Influenza vaccine. Influenza vaccine is recommended annually for children age ≥ 6 months with certain risk factors (including but not limited to asthma, cardiac disease, sickle cell disease, HIV, diabetes; see *MMWR* 2001;50(RR-4);1-44), and can be administered to all others wishing to obtain immunity. Children aged ≤12 years should receive vaccine in a dosage appropriate for their age (0.25 mL if age 6-35 months or 0.5 mL if aged ≥ 3 years). Children aged ≤ 8 years who are receiving influenza vaccine for the first time should receive two doses separated by at least 4 weeks.

For additional information about vaccines, vaccine supply, and contraindications for immunization, please visit the National Immunization Program Website at www.cdc.gov/nip or call the National Immunization Hotline at 800-232-2522 (English) or 800-232-0233 (Spanish).

Approved by the Advisory Committee on Immunization Practices (www.cdc.gov/nip/acip), the American Academy of Pediatrics (www.aap.org), and the American Academy of Family Physicians (www.aafp.org).

Seroprevalence of Antibodies to Rat-borne Pathogens Among Skid Row Residents

Norway rats (*Rattus norvegicus*), which are prevalent in downtown Los Angeles, are well-known reservoirs and vectors for a variety of human diseases. A recent study of Norway rats conducted by the Department of Health Services' Vector Management Program found high seroprevalence rates for antibodies to hepatitis E virus (HEV), *Rickettsia typhi* (RT), and Seoul virus (SEOV) among rats caught in downtown L.A. In addition, bacterial *Bartonella elizabethae*-like isolates (BE) were cultured from the rat blood[1, 2] (Table 1). While this study provides strong evidence of multiple agents infecting Norway rats, the specific human health implications are unknown. For a better understanding of the potential human health impact of the diseases carried in these rats, the Acute Communicable Disease Control Unit (ACDC) recently conducted a blinded serologic study using banked serum from a sample of homeless individuals living in downtown Los Angeles for evidence of infection with rat-borne pathogens.

Clinicians who serve homeless populations should be aware of patient contact with rats and possible subsequent rat-borne infections.

Between June and August 2000, serum specimens obtained for other routine tests were collected from patients who visited a free clinic in downtown L.A. Most of these patients had been homeless at some point during the past year. Sera were tested for evidence of exposure to six possible pathogens – the four pathogens isolated in the rat seroprevalence study (BE, HEV, RT, and SEOV), as well as two additional human pathogens, *Bartonella quintana* (BQ) and *Bartonella henselae* (BH). The only patient information collected was age and gender.

The ratio of men to women in the study was 3:1 with a median age of 41 years (N=200). Among the six pathogens assessed by this study, antibodies to HEV were the most common (15%, Table 2). While HEV has caused outbreaks and epidemics in developing countries, HEV infection in the U.S. is almost entirely limited to individuals who have traveled to HEV-endemic countries. The primary mode of transmission for HEV is fecal-oral with contaminated drinking water being the most common documented route; person-to-person transmission appears to be uncommon. The clinical course of HEV is similar to hepatitis A; however, HEV is particularly lethal for women exposed during their third trimester of pregnancy. While high rates of HEV antibodies were also found in the rat seroprevalence study, human HEV transmission from Norway rats has not been proven; whether rats are a reservoir for this virus or merely represent a coincident zoonotic infection is unknown.

Antibodies were detected for all three *Bartonella* species tested, with BE being the most common among the samples tested (12.5%). It is not known how BE is transmitted to humans; studies suggest that Norway rats may be suitable reservoirs. A study done in Baltimore, Maryland, found intravenous (IV) drug users had a high seroprevalence rate (33%) to BE.[3] While the seroprevalence rate of our study was lower (12.5%), our serologic cutoff was more conservative (1:128); using the cutoff of the Baltimore study (1:64), the downtown L.A. seroprevalence would increase to 20%.

Neither BH nor BQ is known to be transmitted by Norway rats. BH, the agent of cat-scratch disease, is commonly transmitted through the scratch or bite of a cat and is more apt to cause pathology in children than adults. The BH seroprevalence found in this study (3.5%) is similar to that in non-indigent populations. BQ is transmitted through the bite of the human body louse (*Pediculus humanus*) and causes trench fever. Tests of sera from blood donors in other cities have found 0 to 2% of specimens to have antibodies toward BQ antigen, a rate much lower than found in our study assessing inner-city indigent people. Four specimens from our study had titers to BQ of 1:512, suggestive of ongoing or recent infection.

The rate of SEOV antibodies found in this study (0.5%) was higher than that found in a population with no known risk factors (0.25%)[4] as well as high-risk IV drug users (0.16%).[5] SEOV is a rodent-borne hantavirus transmitted via the urine or feces of the Norway rat, which can cause hemorrhagic fever with renal syndrome. None of the specimens tested positive for antibodies to RT, the agent which causes murine typhus and is transmitted by the bite of the rat flea or cat flea. RT is known to be endemic in Los Angeles County but maintains a more suburban cycle between opossums or cats and humans.[6, 7] The negative finding may have been due to the specific cycle of the rat flea; in contrast to the cat flea, which will readily bite humans, rat fleas will not bite

Continued on page 7

Rat-borne Pathogens (from page 6)

humans unless it cannot find a rat host. It is likely that downtown rat fleas had sufficient rats to feed on to avoid humans as an alternative host.

These data show that humans and Norway rats living in downtown Los Angeles may be infected with similar organisms. Clinicians who serve homeless populations should be aware of potential patient contact with rats and possible subsequent infection with these diseases.

However, this study was not able to assess several factors that may influence the rate of infection; most notably, risk factor information, such as the duration of homelessness, residence in an HEV-endemic country, the presence of symptoms or even direct exposure (e.g., being bitten by a rat), was not included in this study. Further studies incorporating risk factor information are needed to clarify whether exposure to rodents is associated with clinical illness in this population.

References:

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Table 1. Seroprevalence and culture-positive isolates of agents in Norway rats captured in downtown Los Angeles, 1996-1998

Agent	n	#	% positive
Hepatitis E Virus	130	98	73.1%
Bartonella elizabethae-like isolate	265	134	51.7%
Rickettsia typhi	270	67	25.7%
Seoul Virus	12	8	6.7%

Table 2. Seroprevalence of rat-borne infections among a population sampled from downtown Los Angeles (N=200)

Agent	#	% positive
Hepatitis E Virus	30	15.0%
*Bartonella elizabethae**	25	12.5%
Rickettsia typhi	0	—-
Seoul Virus	1	0.5%
*Bartonella quintana***	19	9.5%
*Bartonella henselae***	7	3.5%

* Cutoff = 1:128
** Cutoff = 1:64

Calendar

Epidemiology & Prevention of Vaccine-Preventable Diseases

This 4-part series - scheduled for Mar 14, 21, 28, & Apr 4, 2002 - has been cancelled. The next series will be in 2003. For updates on schedules, standard immunization practices, contraindications, vaccine-preventable diseases, and vaccine management and safety please refer to:

The CDC's 7th Edition of "Epidemiology and Prevention of Vaccine-Preventable Diseases" (The Pink Book), which will be available in March 2002.

For more information, call the Public Health Foundation at 877-252-1200 or visit http://bookstore.phf.org/prod171.htm

This Issue . . .

THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County

COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
Public Health

313 North Figueroa Street, Room 806
Los Angeles, California 90012

Selected Reportable Diseases (Cases) - November 2001

Disease	THIS PERIOD Nov. 2001	SAME PERIOD LAST YEAR Nov. 2000	YEAR TO DATE 2001	YEAR TO DATE 2000	YEAR END TOTALS 2000	YEAR END TOTALS 1999
AIDS	174	155	1,236	1,513	1,682	1,892
Amebiasis	15	8	117	96	106	142
Campylobacteriosis	88	95	1,000	1,191	1,299	1,100
Chlamydial Infections	2,386	2,477	30,652	28,763	30.947	27,586
Encephalitis	5	3	43	37	46	7
Gonorrhea	554	670	7,243	6,675	7,250	6,054
Hepatitis Type A	60	88	475	861	1,008	1,258
Hepatitis Type B, Acute	4	9	50	155	183	282
Hepatitis Type C, Acute	2	3	9	58	64	696
Measles	0	0	8	5	5	1
Meningitis, viral/aseptic	52	29	510	428	455	390
Meningococcal Infections	2	1	52	52	58	53
Mumps	0	1	5	40	41	22
Non-gonococcal Urethritis (NGU)	85	97	1.324	1,477	1,578	1,742
Pertussis	8	6	56	125	145	202
Rubella	0	0	1	3	5	0
Salmonellosis	133	66	825	1,039	1,092	1,027
Shigellosis	74	69	539	805	839	687
Syphilis, primary & secondary	9	11	165	124	129	84
Syphilis, early latent (<1 yr.)	14	9	191	184	248	334
Tuberculosis	80	105	816	819	1,065	1,170
Typhoid fever, Acute	3	0	24	24	25	16

Data provided by DHS' Public Health programs: Acute Communicable Diseases Control, Data Collection & Analysis, HIV/Epidemiology, Sexually Transmitted Diseases, and Tuberculosis Control.