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Epidemiologic Notes and Reports

Antibodies to a Retrovirus Etiologically Associated with Acquired Immunodeficiency Syndrome (AIDS) in Populations with Increased Incidences of the Syndrome

Evidence implicates a retrovirus as the etiologic agent of acquired immunodeficiency syndrome (AIDS). Two prototype isolates have been described. One was isolated from the lymph node cells of a homosexual man with unexplained generalized lymphadenopathy, a syndrome associated with AIDS, and was termed lymphadenopathy-associated virus (LAV) (*1*). A morphologically similar T-lymphotropic retrovirus (HTLV-III) was isolated from lymphocytes of 26 (36%) of 72 patients with AIDS and from 18 (86%) of 21 patients with conditions thought to be related to AIDS (*2*). The isolation of retroviruses antigenically identical to LAV from a blood donor-recipient pair, each of whom developed AIDS, provides further evidence that this virus is the etiologic agent of AIDS and may be transmitted through blood transfusion (*3*).

Although direct comparative results have not been published, HTLV-III and LAV are likely to be the same virus because: they have the same appearance by electron microscopy; they are both lymphotropic and cytopathic for OKT-4 cells; isolates from American AIDS patients, when compared, were immunologically indistinguishable from LAV (*3*); serologic tests of a large number of specimens from patients with AIDS or related conditions show similar results when either of the prototype viruses is used as antigen (*4*); and preliminary results suggest that LAV and HTLV-III are at least highly related based on competitive radioimmunoassay of their core proteins (*5*).

Three basic serologic procedures are currently described for detection of antibody to HTLV-III/LAV: an enzyme-linked immunosorbent assay (ELISA) to whole disrupted virus (*6-8*); a radioimmunoprecipitation assay (RIPA) to the presumed major core protein (called p25) of LAV (*9*); and assay of antibody to major viral antigens by the Western blot technique (*10, 11*). Sera from several high-risk populations are being tested by these techniques by the National Cancer Institute, the Institut Pasteur, and CDC, with the support of numerous collaborators. The objectives of these investigations are to determine the frequency of exposure to HTLV-III/LAV and to correlate seropositivity with current infection, clinical signs and symptoms, and prognosis.

Preliminary data suggest that serologic evidence of exposure to HTLV-III/LAV may be common in certain populations at increased risk for AIDS. Antibody to HTLV-III was detected by ELISA in sera from six (35%) of 17 American homosexual men without symptoms of AIDS (*6*). Sera from eight (18%) of 44 homosexual men without lymphadenopathy attending a venereal disease clinic in Paris had antibody detected by ELISA to LAV (*7*). Antibody prevalence to LAV (RIPA) has increased from 1% (1/100) in 1978 to 25% (12/48) in 1980 and 65% (140/215) in 1984 among samples of sera from homosexual men attending a sexually

AIDS – Continued

transmitted diseases clinic in San Francisco (*12*). Antibody prevalence among the above men tested in 1984 who had no symptoms or clinical signs of AIDS or related conditions was 55% (69/126) (*12*). In New York City, where the AIDS cases among intravenous (IV) drug users are concentrated, 87% (75/86) of recent heavy IV drug users without AIDS had antibody to LAV by ELISA, while over 58% (50/86) of the same group had antibody to LAV detected by RIPA (*13*). In contrast, fewer than 10% of 35 methadone patients from New York City had antibody to LAV detected by RIPA. All of these latter patients had been in treatment at least 3 years with greatly reduced IV drug usage (*14*). Seventy-two percent (18/25) of asymptomatic persons with hemophilia A in a home-care treatment program demonstrated antibody to LAV antigens utilizing the Western blot technique (*11*). All had used factor VIII concentrates from 1980 to 1982.

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Editorial Note: The high prevalence of antibody to HTLV-III/LAV among these groups and the increasing prevalence among homosexual men in San Francisco add further support to HTLV-III/LAV being the etiologic agent of AIDS. They further demonstrate that exposure to the virus is much more common than AIDS itself among populations with increased incidences of the disease. If AIDS follows the pattern of many other infectious diseases, host response to infection would be expected to range from subclinical to severe. Milder disease states for AIDS have been suspected, since the reported frequency of lymphadenopathy and immunologic abnormalities, conditions associated with AIDS, has also been high in these groups. These data, based on limited samples of high-risk groups, suggest the spectrum of response to infection with HTLV-III/LAV may be wide.

These serologic tests are sufficiently sensitive and specific to be of value in estimating the frequency of infection with HTLV-III/LAV in certain populations and for providing important information about the natural history of the disease in such groups. Less clear are the implications of a positive test result for an individual. For some, the result may be a false positive caused by infection with an antigenically related virus or nonspecific test factors. The determination of the frequency and cause of falsely positive tests is essential for proper interpretation of test results, but remains to be established, particularly in populations, such as blood donors who belong to no known AIDS risk groups, where the prevalence of true infection with HTLV-III/LAV is expected to be very low.

A positive test for most individuals in populations at greater risk of acquiring AIDS will probably mean that the individual has been infected at some time with HTLV-III/LAV. Whether the person is currently infected or immune is not known, based on the serologic test alone—HTLV-III/LAV has been isolated in both the presence and absence of antibody—but the frequency of virus in antibody-positive persons is yet to be determined. For seropositive individuals with mild or no signs of disease, including those in whom the virus can be demonstrated, the prognosis remains uncertain. The incubation period for the life-threatening manifestations of AIDS may range from 1 year to more than 4 years (*15*).

Carefully planned and executed studies will be required to resolve these issues, and to clarify remaining questions about the natural history of AIDS and risk factors for transmission of the virus.

AIDS — Continued

Until the usefulness of positive and negative serologic tests is fully established, all individuals in populations with increased incidences of AIDS, as well as those outside such groups with positive tests, should comply with the March 1983 Public Health Service recommendations for the prevention of AIDS to minimize the transmission of the syndrome (*16*). Abstention from IV drug usage and reduction of needle-sharing and other use of contaminated needles by IV drug users should also be effective in preventing transmission of the virus and of AIDS. There remains no evidence of transmission of AIDS through casual contact. Prevention measures should stress that transmission has been only through intimate sexual contact, sharing of contaminated needles, or, less frequently, through transfusion of blood or blood products.

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Epidemiologic Notes and Reports

Injuries at a Water Slide — Washington

On July 12, 1983, a new outdoor water slide consisting of two fiberglass tubes 4 feet in diameter and 360 feet in length opened in Washington State. Sliders climbed 55 vertical feet to the entrance, where they jumped into a current of water and rode it through either tube, negotiating two 360-degree turns and two 45-degree drops before exiting into a splash pool.

Injuries — Continued

From July 13 to August 31, 65 persons injured at this amusement ride sought medical care in local physicians' offices and emergency rooms and were reported to the County Emergency Medical Service. The slide operators reported that 178 patrons sought first aid at their facility, of whom 10 (6%) were transported to a hospital. The rate of injury recorded by the slide operators was 8.1 per 10,000 rides sold, and the rate of medically treated injuries was 3.0/10,000.

The 65 medically treated sliders ranged in age from 8 years to 45 years. Age was unknown in one case. About equal numbers were aged 5-14 years, 15-24 years, and 25 years or older (Table 1); 42 (65%) were female. Injuries included fractures, concussions, bruises and abrasions, and sprains and strains (Table 1). Most concussions, skull and spinal fractures, lacerations, and "other injuries" occurred among females, while most sprains, strains, and "other fractures" affected males. For all injuries except concussions, the majority of persons were aged 15 years or older. All fractures occurred among persons 15 years of age or older. Of the nine spinal fractures, eight were lumbar compression fractures and one was a fracture of the coccyx. The "other fractures" were of the ribs in one case and of the humerus in the other. The sprains and strains were primarily back injuries. Of the 18 lacerations, 12 (67%) required sutures.

TABLE 1. Distribution of 65 water slide injury cases, by type of injury and age and sex of victim — Washington, 1983

Type of injury	Sex	Age group (years) 5-14	15-24	>25	All ages
Spinal fracture	M	0	0	2	2
	F	0	4	3	7
	Both	0	4	5	9
Skull fracture	M	0	0	0	0
	F	0	0	1	1
	Both	0	0	1	1
Other fracture	M	0	0	2	2
	F	0	0	0	0
	Both	0	0	2	2
Concussion	M	4	1	0	5
	F	3	3	2	8
	Both	7	4	2	13
Bruise, abrasion	M	2	4	1	7
	F	2	4	1	7
	Both	4	8	2	14
Laceration	M	2	0	1	3
	F	3	4	4	11
	Both	5	4	5	14
Sprain, strain	M	1	1	2	4
	F	2	1	0	3
	Both	3	2	2	7
Other	M	0	0	0	0
	F	1	1	2	5*
	Both	1	1	2	5*
All injuries	M	9 (39%)	6 (26%)	8 (35%)	23 (100%)
	F	11 (26%)	17 (40%)	13 (31%)	42* (100%)
	Both	20 (31%)	23 (35%)	21 (32%)	65* (100%)

*Includes one person with age unknown.

Injuries – Continued

Interviews with 46 (71%) of the injured persons identified two primary locations at which injuries occurred—the 45-degree drops and the final outlets. Of the 46, 32 (70%) reported being injured while going over the drops or shortly thereafter, either by landing on the buttocks or lower back or by being knocked off balance and thrown against the sides of the tube; 11 (24%) were upended by the current at the outlet, striking their heads on the sharp-edged lip of the tube. The injuries occurred on the first or second ride in two-thirds of the 46 cases.

The slide operators instituted several changes to reduce the number of injuries, including removing a curve from one tube on July 23, requiring every slider to wear a helmet on the first two rides after August 1, rounding the edge of the outlet lip on August 12, and placing extra warning and instruction signs on August 31. Rates of injury declined during July and early August, but rose again in the latter half of August (Figure 1). Improvements in rates were not closely related in time to the specific corrective measures taken. No slide-related injuries were reported by medical-care sources after August 31.

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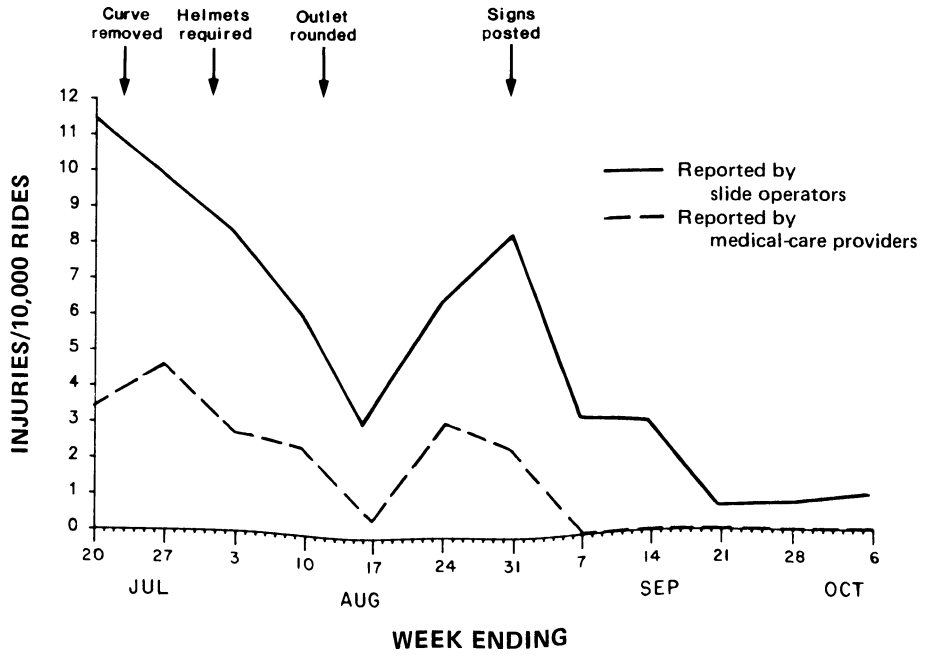
Editorial Note: Water slides are "recreational devices designed to provide a descending ride into a splash-down pool at the base of the slide . . . by providing a flowing water film" (*1*). An estimated 600 are in operation in the United States, and operators of large slides may sell an estimated 500,000 tickets per year (*2*). In 1983, according to the National Electronic Injury Surveillance System of the Consumer Products Safety Commission, water slides accounted for the largest single share, 30% (2,941 cases), of injuries that occurred at amusement rides

FIGURE 1. Rates of water slide injury, by week of slide operation — Washington, 1983



Injuries – Continued

and were treated in emergency rooms in the United States. Several water slide-associated fatalities have also been reported (*3*).

Guidelines based largely on theoretical, engineering considerations have been published for the structure and operation of water slides (*1*). There is yet no experience or empirical knowledge relating risks of injury to specific design features. The relative severity of the injuries reported in this investigation—fractures and cerebral concussions in 25 (38%) of 65 cases—suggests that excessive speed and loss of body control occurred during the ride. These factors and the association of injuries with two specific sections of the slide in 94% of cases interviewed suggest that design considerations were important in this episode. Whether the rates or severity of injury at this slide are unusually high cannot be determined without comparable studies at other sites.

There is no obvious explanation for the observed changes in injury rates over the summer. No alterations were made in the 45-degree drop sections of the course, and the curve that was removed was not determined in patient interviews to be a high-risk location. The use of helmets and the rounding of the outlet lip are likely to have reduced head injuries, lacerations,

(Continued on page 387)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	27th Week Ending			Cumulative, 27th Week Ending		
	July 7, 1984	July 9, 1983	Median 1979-1983	July 7, 1984	July 9, 1983	Median 1979-1983
Acquired Immunodeficiency Syndrome (AIDS)	89	N	N	2,049	N	N
Aseptic meningitis	130	215	206	2,225	2,615	2,295
Encephalitis: Primary (arthropod-borne & unspec.)	15	23	23	433	489	440
Post-infectious	5	-	2	54	53	53
Gonorrhea: Civilian	12,916	15,021	17,629	410,779	452,862	490,017
Military	357	495	656	10,435	12,374	14,187
Hepatitis: Type A	348	270	431	10,691	10,944	13,084
Type B	418	405	363	12,714	12,019	10,257
Non A, Non B	71	72	N	1,889	1,752	N
Unspecified	82	101	145	3,050	3,700	5,159
Legionellosis	10	3	N	287	354	N
Leprosy	3	5	7	118	131	102
Malaria	25	17	34	411	360	506
Measles: Total*	118	14	44	1,878	1,109	2,290
Indigenous	116	13	N	1,701	934	N
Imported	2	1	N	177	175	N
Meningococcal infections: Total	26	47	44	1,664	1,739	1,739
Civilian	26	47	44	1,660	1,723	1,723
Military	-	-	-	4	16	11
Mumps	39	39	51	1,944	2,113	3,928
Pertussis	37	47	35	1,014	984	602
Rubella (German measles)	4	18	52	437	685	1,746
Syphilis (Primary & Secondary): Civilian	418	488	471	14,304	16,628	15,376
Military	3	5	5	175	223	193
Toxic Shock syndrome	12	6	N	222	248	N
Tuberculosis	391	336	434	10,907	11,683	13,550
Tularemia	11	7	6	92	120	95
Typhoid fever	4	5	11	157	176	205
Typhus fever, tick-borne (RMSF)	41	53	53	323	408	434
Rabies, animal	76	98	105	2,609	3,402	3,402

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1984		Cum. 1984
Anthrax	1	Plague	11
Botulism: Foodborne	6	Poliomyelitis: Total	2
Infant	47	Paralytic	2
Other	3	Psittacosis (Calif. 2)	43
Brucellosis (Calif. 1)	50	Rabies, human	-
Cholera	-	Tetanus (Mo. 1, Ark. 1)	24
Congenital rubella syndrome	3	Trichinosis (Conn. 1)	40
Diphtheria	-	Typhus fever, flea-borne (endemic, murine)	9
Leptospirosis (Va. 1)	9		

*One of the 118 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 7, 1984 and July 9, 1983(27th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel-losis	Leprosy
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum. 1984	1984	Cum. 1984	Cum. 1984	Cum. 1984	Cum. 1983	1984	1984	1984	1984	1984	Cum. 1984
UNITED STATES	2,049	130	433	54	410,779	452,862	348	418	71	82	10	118
NEW ENGLAND	70	4	26	1	11,649	11,320	6	31	3	11	-	5
Maine	-	1	-	-	470	587	1	1	-	-	-	-
N.H.	1	-	4	-	327	339	1	2	-	-	-	-
Vt.	-	-	2	-	196	212	-	1	-	-	-	-
Mass.	37	3	13	-	4,443	4,924	3	15	2	11	-	4
R.I.	4	-	-	-	796	615	-	-	-	-	-	1
Conn.	28	-	7	1	5,417	4,643	1	12	1	-	-	-
MID ATLANTIC	921	17	57	5	56,512	57,663	28	76	8	5	2	22
Upstate N.Y.	81	7	20	4	8,555	8,917	6	18	4	-	-	2
N.Y. City	662	1	3	-	23,627	23,438	7	20	-	2	1	20
N.J.	136	8	18	-	9,738	10,995	10	27	2	3	1	-
Pa.	42	1	16	1	14,592	14,313	5	11	2	-	-	-
E.N. CENTRAL	97	12	93	13	55,145	64,287	78	37	5	9	2	6
Ohio	14	3	32	6	14,283	16,668	66	6	2	3	2	2
Ind.	16	2	19	-	6,579	6,804	1	4	2	5	-	-
Ill.	49	3	14	6	11,909	18,348	5	11	-	1	-	2
Mich	12	4	23	-	15,987	17,113	6	16	1	-	-	2
Wis.	6	-	5	1	6,387	5,354	-	-	-	-	-	-
W.N. CENTRAL	20	6	16	-	19,626	21,088	13	10	2	-	1	1
Minn.	5	3	6	-	2,883	2,999	3	1	-	-	-	-
Iowa	1	-	7	-	2,215	2,347	5	-	-	-	-	1
Mo.	9	1	1	-	9,452	10,293	2	4	2	-	1	-
N. Dak.	-	-	-	-	191	214	-	-	-	-	-	-
S. Dak.	-	-	-	-	510	594	2	1	-	-	-	-
Nebr.	2	-	1	-	1,302	1,244	1	2	-	-	-	-
Kans.	3	2	1	-	3,073	3,397	-	2	-	-	-	-
S. ATLANTIC	292	30	81	12	104,094	116,413	23	83	10	3	4	5
Del.	3	-	1	-	1,884	2,093	-	3	-	1	-	-
Md.	19	7	20	-	11,681	14,682	2	7	3	1	1	-
D.C.	38	-	-	-	7,515	7,883	-	7	-	-	-	1
Va.	17	4	19	5	9,745	10,049	1	4	-	-	-	3
W. Va.	4	1	5	-	1,230	1,222	-	2	-	-	-	-
N.C.	6	6	16	6	16,302	17,059	1	6	1	-	-	-
S.C.	6	-	2	-	10,031	10,986	-	8	-	-	-	-
Ga.	24	6	2	-	20,127	24,570	1	21	-	-	3	-
Fla.	175	6	16	1	25,579	27,869	18	25	6	1	-	1
E.S. CENTRAL	14	2	21	6	35,721	38,071	5	22	1	2	-	-
Ky.	7	1	3	-	4,297	4,441	-	1	-	1	-	-
Tenn.	3	-	5	1	14,772	15,738	3	14	1	1	-	-
Ala.	3	1	12	5	11,364	11,574	1	4	-	-	-	-
Miss.	1	-	1	-	5,288	6,318	1	3	-	-	-	-
W.S. CENTRAL	111	7	31	4	56,117	64,008	4	5	2	4	-	7
Ark.	-	-	-	2	4,751	4,891	-	2	1	1	-	-
La.	18	-	4	-	12,797	11,452	-	-	-	-	-	-
Okla.	4	7	9	1	6,112	7,588	4	3	1	3	-	-
Tex.	89	-	18	1	32,457	40,077	-	-	-	-	-	7
MOUNTAIN	26	12	16	6	13,144	13,880	33	16	4	6	1	7
Mont.	-	1	-	-	563	608	-	-	1	-	-	-
Idaho	-	-	-	-	648	615	-	1	-	-	-	-
Wyo.	1	-	-	-	389	365	2	-	-	-	-	-
Colo.	15	6	7	-	3,808	3,969	12	5	-	3	-	-
N. Mex.	-	-	-	-	1,479	1,654	2	-	1	-	1	-
Ariz.	6	1	3	3	3,527	3,832	4	6	1	3	-	5
Utah	1	3	6	3	643	686	13	-	1	-	-	1
Nev.	3	1	-	-	2,087	2,151	-	4	-	-	-	1
PACIFIC	498	40	92	7	58,771	66,132	158	138	36	42	-	65
Wash.	24	-	3	-	4,063	4,985	1	3	2	1	-	3
Oreg.	3	-	-	-	3,471	3,424	18	6	3	1	-	1
Calif.	467	40	87	7	48,820	54,709	139	129	31	40	-	46
Alaska	-	-	-	-	1,452	1,643	-	-	-	-	-	-
Hawaii	4	-	2	-	965	1,371	-	-	-	-	-	15
Guam	-	U	-	-	95	90	U	U	U	U	U	-
P.R.	33	8	-	1	1,792	1,501	4	20	-	10	-	1
V.I.	-	-	-	-	203	147	-	1	-	-	-	-
Pac. Trust Terr.	-	U	-	-	-	-	U	U	U	U	U	-

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 7, 1984 and July 9, 1983 (27th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	1984	Cum. 1984	Cum. 1983
UNITED STATES	411	116	1,701	2	177	1,109	1,664	39	1,944	37	1,014	984	4	437	685
NEW ENGLAND	28	-	96	-	9	15	100	1	60	1	18	37	-	28	9
Maine	-	-	-	-	-	-	1	-	16	-	-	4	-	1	-
N.H.	-	-	33	-	3	3	6	-	13	-	4	6	-	-	2
Vt.	2	-	2	-	3	-	23	-	3	1	12	7	-	-	3
Mass.	15	-	51	-	-	4	35	-	14	-	1	16	-	27	4
R.I.	4	-	-	-	-	-	9	1	5	-	1	4	-	-	-
Conn.	7	-	10	-	3	8	26	-	9	-	-	-	-	-	-
MID ATLANTIC	65	4	90	1	21	77	278	5	227	15	89	241	-	141	123
Upstate N.Y.	18	1	17	-	7	6	101	1	51	1	52	75	-	97	20
N.Y. City	15	3	69	1 §	8	41	45	-	12	-	3	36	-	32	86
N.J.	18	-	4	-	2	27	57	1	126	-	5	15	-	11	3
Pa.	14	-	-	-	4	3	75	3	38	14	29	115	-	1	14
E.N. CENTRAL	30	14	563	-	66	611	261	20	811	3	267	242	2	67	107
Ohio	7	-	2	-	5	78	91	19	414	-	49	71	-	2	1
Ind.	-	-	2	-	1	391	36	-	40	3	179	20	-	2	22
Ill.	6	-	159	-	1	136	53	1	155	-	15	106	2	38	44
Mich.	6	14	391	-	54	5	51	-	152	-	12	12	-	18	14
Wis.	11	-	9	-	5	1	30	-	50	-	12	33	-	7	26
W.N. CENTRAL	12	-	2	-	3	1	107	-	79	2	79	63	-	27	30
Minn.	2	-	-	-	3	1	21	-	3	1	9	22	-	2	6
Iowa	1	-	-	-	-	-	18	-	17	-	3	5	-	-	-
Mo.	6	-	2	-	-	-	30	-	7	-	12	11	-	-	-
N. Dak.	1	-	-	-	-	-	1	-	1	-	-	1	-	3	-
S. Dak.	-	-	-	-	-	-	7	-	-	1	5	3	-	-	-
Nebr.	1	-	-	-	-	-	8	-	3	-	2	-	-	-	-
Kans.	1	-	-	-	-	-	22	-	48	-	48	21	-	22	24
S. ATLANTIC	74	-	10	-	17	177	352	1	135	1	74	137	-	20	81
Del.	3	-	-	-	-	-	3	-	2	-	2	2	-	-	-
Md.	18	-	4	-	5	5	29	-	27	-	4	18	-	1	1
D.C.	1	-	-	-	5	-	5	-	-	-	-	-	-	-	-
Va.	19	-	1	-	1	22	41	-	12	-	9	41	-	-	1
W. Va.	1	-	-	-	-	-	5	-	27	-	7	5	-	-	-
N.C.	5	-	-	-	-	-	49	-	15	-	17	12	-	-	9
S.C.	1	-	-	-	-	4	34	-	2	-	1	11	-	-	1
Ga.	6	-	-	-	-	8	71	-	17	1	5	29	-	2	11
Fla.	20	-	5	-	6	138	115	1	33	-	29	19	-	17	58
E.S. CENTRAL	3	-	1	-	2	6	94	-	37	-	6	8	-	7	10
Ky.	-	-	1	-	-	1	35	-	8	-	1	3	-	3	9
Tenn.	-	-	-	-	2	-	24	-	12	-	2	2	-	-	-
Ala.	3	-	-	-	-	5	24	-	5	-	-	1	-	1	1
Miss.	-	-	-	-	-	-	11	-	12	-	3	2	-	3	-
W.S. CENTRAL	34	-	362	-	22	70	183	-	105	2	231	122	-	13	88
Ark.	-	-	-	-	-	10	26	-	5	-	11	7	-	3	-
La.	5	-	-	-	-	25	35	-	-	-	3	2	-	-	9
Okla.	5	-	-	-	7	1	23	N	N	2	206	90	-	-	-
Tex.	24	-	362	-	15	34	99	-	100	-	11	23	-	10	79
MOUNTAIN	16	-	91	-	10	3	56	-	191	2	73	92	-	11	25
Mont.	1	-	-	-	-	-	1	-	4	-	17	1	-	-	3
Idaho	2	-	-	-	-	-	5	-	8	-	3	3	-	1	8
Wyo.	-	-	-	-	-	-	2	-	1	-	3	4	-	2	2
Colo.	1	-	-	-	-	2	19	-	13	-	25	61	-	2	-
N. Mex.	1	-	68	-	8	-	7	N	N	-	5	6	-	-	-
Ariz.	8	-	-	-	-	1	14	-	159	2	13	9	-	-	6
Utah	3	-	23	-	2	-	5	-	5	-	5	8	-	6	5
Nev.	-	-	-	-	-	-	3	-	1	-	2	-	-	-	1
PACIFIC	149	98	486	1	27	149	233	12	299	11	177	42	2	123	212
Wash.	4	-	107	-	-	4	32	-	32	2	32	6	-	1	8
Oreg.	8	-	-	-	-	7	37	N	N	-	11	6	-	-	12
Calif.	134	-	244	1 †	24	137	155	11	249	8	65	30	2	118	192
Alaska	-	-	-	-	-	-	8	-	4	-	-	-	-	1	-
Hawaii	3	98	135	-	3	1	1	1	14	1	69	-	-	3	-
Guam	1	U	83	U	2	2	1	U	5	U	-	-	U	2	-
P.R.	2	-	-	-	-	81	3	1	91	-	-	8	1	6	3
V.I.	-	-	-	-	-	5	-	-	3	-	-	-	-	-	1
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 7, 1984 and July 9, 1983 (27th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1984	Cum. 1983	1984	Cum. 1984	Cum. 1983	Cum. 1984	Cum. 1984	Cum. 1984	Cum. 1984
UNITED STATES	14,304	16,628	12	10,907	11,683	92	157	323	2,609
NEW ENGLAND	286	370	-	297	325	2	7	1	20
Maine	2	10	-	14	19	-	-	-	10
N.H.	7	16	-	22	24	-	-	-	3
Vt.	1	1	-	3	4	-	-	-	-
Mass.	168	227	-	156	172	2	5	1	5
R.I.	10	13	-	25	28	-	-	-	-
Conn.	98	103	-	77	78	-	2	-	2
MID ATLANTIC	1,939	2,112	-	1,991	2,074	-	23	3	163
Upstate N.Y.	131	173	-	337	326	-	9	2	14
N.Y. City	1,207	1,251	-	796	852	-	6	1	-
N.J.	358	408	-	436	440	-	4	-	4
Pa.	243	280	-	422	456	-	4	-	145
E.N. CENTRAL	629	923	1	1,441	1,479	1	22	13	112
Ohio	129	238	1	278	242	-	4	11	11
Ind.	74	73	-	159	138	-	2	-	12
Ill.	177	458	-	603	652	1	8	-	46
Mich.	208	113	-	311	369	-	2	2	11
Wis.	41	41	-	90	78	-	6	-	32
W.N. CENTRAL	215	205	1	317	382	25	6	25	434
Minn.	65	85	1	58	76	-	2	-	42
Iowa	10	9	-	34	37	-	-	-	82
Mo.	107	72	-	153	199	16	3	4	35
N. Dak.	5	1	-	8	3	-	-	-	87
S. Dak.	2	9	-	9	28	9	-	3	116
Nebr.	10	11	-	16	11	-	-	2	31
Kans.	16	18	-	39	28	-	1	16	41
S. ATLANTIC	4,255	4,342	-	2,311	2,316	4	17	147	764
Del.	16	19	-	29	20	-	-	-	3
Md.	259	276	-	259	174	-	-	11	438
D.C.	166	186	-	84	86	-	6	-	-
Va.	218	307	-	234	230	-	4	23	132
W. Va.	10	15	-	75	75	-	-	5	22
N.C.	428	404	-	340	323	1	1	55	10
S.C.	385	272	-	280	220	-	1	37	26
Ga.	721	815	-	316	425	3	1	15	85
Fla.	2,052	2,048	-	694	763	-	4	1	48
E.S. CENTRAL	952	1,146	-	995	1,094	1	5	33	129
Ky.	55	67	-	232	270	-	2	5	32
Tenn.	265	322	-	321	328	1	2	18	55
Ala.	300	471	-	300	276	-	1	6	42
Miss.	332	286	-	142	220	-	-	4	-
W.S. CENTRAL	3,447	4,364	1	1,239	1,431	39	9	96	559
Ark.	89	103	-	128	156	25	-	15	61
La.	627	919	-	157	238	3	1	1	23
Okla.	119	115	1	127	126	11	2	61	68
Tex.	2,612	3,227	-	827	911	-	6	19	407
MOUNTAIN	331	363	1	272	333	15	10	3	113
Mont.	2	5	-	14	34	-	1	3	59
Idaho	14	6	1	15	17	4	-	-	-
Wyo.	3	7	-	-	8	-	-	-	-
Colo.	75	80	-	25	33	5	2	-	19
N. Mex.	44	111	-	55	69	1	3	-	9
Ariz.	131	88	-	129	134	2	3	-	21
Utah	10	12	-	18	23	2	-	-	-
Nev.	52	54	-	16	15	1	1	-	5
PACIFIC	2,250	2,803	8	2,044	2,249	5	58	2	315
Wash.	72	101	-	107	112	-	1	-	1
Oreg.	70	55	-	80	95	2	1	1	1
Calif.	2,065	2,604	8	1,711	1,874	3	52	-	307
Alaska	3	7	-	33	33	-	1	1	6
Hawaii	40	36	-	113	135	-	3	-	-
Guam	-	-	U	5	4	-	-	-	-
P.R.	437	598	-	217	263	-	3	-	34
V.I.	7	10	-	2	1	-	3	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending July 7, 1984 (27th Week Ending)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	615	405	138	38	9	25	37
Boston, Mass.	175	99	53	12	4	7	14
Bridgeport, Conn.	44	32	7	3	2	-	1
Cambridge, Mass.	17	15	2	-	-	-	2
Fall River, Mass.	22	15	4	2	-	1	-
Hartford, Conn.	59	39	11	5	2	2	4
Lowell, Mass.	22	13	7	2	-	-	1
Lynn, Mass.	17	11	5	1	-	-	-
New Bedford, Mass.	18	14	4	-	-	-	1
New Haven, Conn.	46	24	14	2	1	5	2
Providence, R.I.	58	41	11	2	-	4	2
Somerville, Mass.	7	6	1	-	-	-	1
Springfield, Mass.	40	29	2	4	-	5	2
Waterbury, Conn.	28	22	4	2	-	-	2
Worcester, Mass.	62	45	13	3	-	1	5
MID. ATLANTIC	2,197	1,441	480	155	58	61	88
Albany, N.Y.	53	33	13	1	4	2	-
Allentown, Pa.	16	13	3	-	-	-	-
Buffalo, N.Y.	97	66	20	3	5	3	6
Camden, N.J.	32	19	9	2	-	2	1
Elizabeth, N.J.	16	12	2	1	1	-	-
Erie, Pa.†	33	27	4	1	-	1	1
Jersey City, N.J.	51	35	8	4	1	3	1
N.Y. City, N.Y.	1,259	815	272	116	29	27	48
Newark, N.J.	53	25	14	1	6	5	5
Paterson, N.J.	20	12	3	3	-	2	1
Philadelphia, Pa.†	201	133	50	10	3	5	9
Pittsburgh, Pa.†	52	33	13	2	2	2	-
Reading, Pa.	28	23	4	1	-	-	1
Rochester, N.Y.	108	75	21	4	5	3	9
Schenectady, N.Y.	21	16	5	-	-	-	-
Scranton, Pa.†	32	21	9	-	1	1	1
Syracuse, N.Y.	43	24	13	3	1	2	1
Trenton, N.J.	29	17	8	2	-	2	1
Utica, N.Y.	23	20	3	-	-	-	1
Yonkers, N.Y.	30	22	6	1	-	1	2
E.N. CENTRAL	1,774	1,123	408	127	60	56	43
Akron, Ohio	43	25	10	4	2	2	-
Canton, Ohio	28	22	4	-	1	1	2
Chicago, Ill	390	234	101	34	15	6	8
Cincinnati, Ohio	97	62	23	5	2	5	6
Cleveland, Ohio	121	68	38	8	5	2	1
Columbus, Ohio	131	81	30	9	4	7	3
Dayton, Ohio	104	66	29	7	-	2	1
Detroit, Mich.	221	125	53	25	7	11	4
Evansville, Ind.	40	27	8	2	1	2	1
Fort Wayne, Ind.	38	23	8	3	2	2	1
Gary, Ind.	10	8	2	-	-	-	-
Grand Rapids, Mich.	30	23	5	-	-	2	1
Indianapolis, Ind.	105	74	19	7	2	3	2
Madison, Wis.	34	22	8	2	1	1	2
Milwaukee, Wis.	106	82	19	3	2	-	1
Peoria, Ill.	44	22	12	3	5	2	4
Rockford, Ill.	40	28	9	3	-	-	2
South Bend, Ind.	34	21	7	3	1	2	-
Toledo, Ohio	108	76	14	6	8	4	3
Youngstown, Ohio	50	34	9	3	2	2	1
W.N. CENTRAL	660	434	134	43	26	23	25
Des Moines, Iowa	73	47	21	-	3	2	5
Duluth, Minn.	31	19	8	2	-	2	2
Kansas City, Kans.	28	16	6	3	3	-	1
Kansas City, Mo.	129	88	25	10	2	4	7
Lincoln, Nebr.	33	23	8	2	-	-	-
Minneapolis, Minn.	38	26	6	3	2	1	-
Omaha, Nebr.	63	36	15	4	5	3	3
St. Louis, Mo.	132	85	26	7	6	8	3
St. Paul, Minn.	55	38	4	8	3	2	1
Wichita, Kans.	78	56	15	4	2	1	3
S. ATLANTIC	1,061	629	272	87	35	38	43
Atlanta, Ga.	122	66	40	9	3	4	3
Baltimore, Md.	175	102	45	14	5	9	6
Charlotte, N.C.	49	27	11	5	5	1	3
Jacksonville, Fla.	110	68	22	12	5	3	4
Miami, Fla.	89	43	25	9	6	6	1
Norfolk, Va.	52	27	17	1	2	5	2
Richmond, Va.	59	30	20	4	-	5	3
Savannah, Ga.	40	21	9	6	3	1	4
St. Petersburg, Fla.	79	67	10	2	-	-	6
Tampa, Fla.	37	25	9	1	1	1	4
Washington, D.C.	202	122	53	22	2	3	6
Wilmington, Del.	47	31	11	2	3	-	1
E.S. CENTRAL	616	383	150	36	25	22	31
Birmingham, Ala.	96	60	25	7	3	1	1
Chattanooga, Tenn.	50	35	10	1	1	3	3
Knoxville, Tenn.	56	37	10	2	2	5	-
Louisville, Ky.	103	54	35	3	6	5	5
Memphis, Tenn.	136	95	26	6	5	4	10
Mobile, Ala.	51	26	16	3	4	2	4
Montgomery, Ala.	26	18	5	2	-	1	1
Nashville, Tenn.	98	58	23	12	4	1	7
W.S. CENTRAL	934	550	229	92	38	25	41
Austin, Tex.	34	21	10	1	2	-	3
Baton Rouge, La.	40	23	11	2	3	1	-
Corpus Christi, Tex.	35	28	2	4	1	-	5
Dallas, Tex.	136	71	37	17	8	3	3
El Paso, Tex.	29	16	9	-	2	2	1
Fort Worth, Tex.	79	48	20	10	-	1	3
Houston, Tex.	190	102	49	25	10	4	6
Little Rock, Ark.	50	30	12	5	2	1	2
New Orleans, La.	88	49	21	10	2	6	-
San Antonio, Tex.	124	77	31	10	4	2	9
Shreveport, La.	44	23	12	5	1	3	1
Tulsa, Okla.	85	62	15	3	3	2	8
MOUNTAIN	595	362	137	51	23	22	10
Albuquerque, N.Mex.	69	37	16	12	4	-	1
Colo. Springs, Colo.	33	25	5	2	1	-	2
Denver, Colo.	117	70	29	7	1	10	2
Las Vegas, Nev.	75	45	22	4	4	-	-
Ogden, Utah	21	10	5	3	1	2	-
Phoenix, Ariz.	135	76	32	14	8	5	-
Pueblo, Colo.	18	10	3	4	1	-	-
Salt Lake City, Utah	44	32	5	3	1	3	1
Tucson, Ariz.	83	57	20	2	2	2	4
PACIFIC	1,464	933	324	95	66	44	57
Berkeley, Calif.	13	8	3	1	-	1	1
Fresno, Calif.	70	41	19	2	3	5	5
Glendale, Calif.	24	19	3	2	-	-	1
Honolulu, Hawaii	50	22	16	5	4	3	2
Long Beach, Calif.	87	59	19	2	2	5	2
Los Angeles, Calif.	336	211	77	18	19	10	6
Oakland, Calif.	65	45	11	6	3	-	6
Pasadena, Calif.	22	15	5	2	-	-	-
Portland, Oreg.	95	67	19	6	2	1	5
Sacramento, Calif.	130	74	36	11	8	1	3
San Diego, Calif.	100	57	25	7	6	5	6
San Francisco, Calif.	124	90	21	4	2	6	2
San Jose, Calif.	145	92	29	14	8	2	10
Seattle, Wash.	106	61	28	11	4	2	4
Spokane, Wash.	50	35	7	3	3	2	4
Tacoma, Wash.	47	37	6	1	2	1	-
TOTAL	9,916††	6,260	2,272	724	340	316	375

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

Injuries — Continued

and abrasions, and the proportion of "repeaters" in the slider population, who had already successfully avoided injury and would be somewhat familiar with the course, may have increased substantially during the season. These protective considerations could have caused the early decline, but they were still applicable when rates rose again in late August.

Whether the larger number of cases among females indicates a higher injury rate for that sex is uncertain. Studies of swimming pool and other aquatic injuries have found higher risks among males (*4*) attributed to greater risk-taking behavior by males (*5*). The prominence of older persons among fracture victims suggests that larger body size and/or mass may be significant risk factors for severe injury. To minimize risk, it may be necessary to make special considerations for sliders of greater size, weight, and age in the design and/or admission guidelines for water slide rides.

References

1. Department of Health and Human Services. Suggested health and safety guidelines for recreational water slide flumes. Atlanta, Georgia: Centers for Disease Control, 1981.
2. Weiner RI. Large water slide safety problems and implications, past—present—future. Paper presented at American Water Slide Association meeting, Kansas City, Mo., Nov. 21, 1982.
3. National Injury Information Clearinghouse, U.S. Consumer Product Safety Commission, Washington, D.C., 1982. Unpublished data.
4. CDC. Aquatic deaths and injuries—United States. MMWR 1982;31:417-9.
5. Davis HF, et al. The 1990 objectives for the nation for injury prevention: a progress review. Public Health Reports 1984;99:9-24.

International Notes

Salmonellosis Associated with Cheese Consumption — Canada

Several hundred cases of salmonellosis caused by *Salmonella typhimurium* phage type 10 have been reported from Prince Edward Island, Newfoundland, New Brunswick, and Ontario, Canada, in recent months. These cases have been traced to eating cheese produced by Amalgamated Dairies, Ltd. (ADL) of Summerside, Prince Edward Island. Several different types of cheese, including colby, cheddar, mozzarella, and farmer's cheese, may have been contaminated. The cheeses, which were sold under many different labels, have been recalled in Canada. The brands packaged by ADL that have been recalled are Tyne Valley, Clover Cream, and ADL. In addition, mild and medium cheddar cheese bearing the registration number 1413 (Canada Packers Inc., Toronto, Canada) of the brand names Maple Leaf, Calbeck, Co-op., I.G.A., N & D, and Western Family have been recalled. Mild cheddar cheese bearing the registration number 1557 (Winchester Cheese, Inc., Winchester, Canada) of the brand names J. M. Schneider, Loblaws (including No Name and No Frills), Dutch Boy, Super Value, Quick Save, Dairy Pride, Zehrs, and Sunspun have also been recalled.

To date, CDC is not aware of any distribution of the cheeses in the United States, but it is possible that U.S. citizens have been infected by eating cheese in Canada or by bringing cheese back to the United States. Consumers are advised to discard the product or to return it to the place of purchase.

Reported by Health Protection Br, Health and Welfare, Canada; Emergency and Epidemiology Operations Br, U.S. Food and Drug Administration; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: CDC's Enteric Diseases Branch, Center for Infectious Diseases, (404) 329-3753, would appreciate reports of any cases or outbreaks of salmonellosis in U.S. citizens associated with eating these cheeses. Reports should go through state and local health departments.

Current Trends

Enterovirus Surveillance — United States, 1984

Reports received from state virology laboratories for enterovirus isolates identified through May 1984 show echovirus 9 (38 isolates) to be the most commonly reported type of nonpolio enteroviruses thus far this year. The three next most common types are echovirus 7 (20 isolates), echovirus 30 (15 isolates), and coxsackievirus A9 (13 isolates). Coxsackievirus B5, the most common enterovirus type isolated in 1983, is being identified less frequently so far this year (seven isolates reported). One hundred eleven (73.5%) of 151 nonpolio enteroviruses identified in 1984 have been reported from the South Atlantic, West South Central, and Pacific regions.

Reported by Respective State Virology Laboratory Directors; Respiratory and Enterovirus Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: A retrospective study of CDC's enterovirus surveillance data from 1970 to 1982 showed that southern and coastal regions in the United States report enterovirus isolates significantly earlier than the rest of the nation and that an enterovirus type isolated four or more times from these regions during March, April, and May is likely to be among the 10 most commonly reported types for the remainder of the year. Reports from March, April, and May received to date suggest that echoviruses 7 and 9 and coxsackieviruses A9, B4, and B5 will be common isolates this year (Table 2). Echovirus 30 was frequently isolated only in January and February.

TABLE 2. Nonpolio enteroviruses—selected regions and United States, March-May 1984

	Region			
Virus type	South Atlantic	West South Central	Pacific	United States
Echo 9	2	36	0	38
Echo 7	1	2	9	12
Echo 30	1	0	2	3
Cox A9	0	4	1	7
Cox B4	0	4	0	4
Cox B5	3	1	0	4

Imported Malaria among Travelers — United States

From 1973 through 1983, 2,575 cases of malaria were reported among U.S. citizens who were infected while traveling abroad. This was 33% of all imported cases reported during this period—the majority occurring among foreign nationals. Of the cases among U.S. citizens, 849 (33%) had been infected with *Plasmodium falciparum.* During this period, the number of *P. falciparum* infections among U.S. travelers rose almost sevenfold from 21 cases in 1973 to 139 in 1983. The increase has been especially marked among U.S. travelers who visited east Africa: in 1973-1974 only nine cases occurred among such travelers, compared with 88 cases in 1982-1983 (a nearly 10-fold increase). Infections with *P. falciparum* malaria in non-

Malaria – Continued

immune individuals can be extremely serious and potentially fatal: 31 deaths from malaria occurred among the 849 patients with *P. falciparum* infections, for a case-fatality ratio of 4%.

In 1982-1983, more than half of all *P. falciparum* cases in the United States were imported from five countries: Kenya (61 cases), Haiti (26), Tanzania (19), Nigeria (15), and Ghana (10); 167 (68%) of the 247 *P. falciparum* infections among U.S. travelers were acquired in Africa. Attack rates for certain years can be estimated for Kenya, Ghana, and Haiti based on the number of U.S. travelers to those countries as provided by the World Tourism Organization in Madrid. The estimated number of malaria infections in U.S. travelers to Kenya increased from 21.2 per 100,000 travelers in 1977 to 83.3/100,000 in 1982; for Ghana, the estimated number of malaria infections was 104.4/100,000 U.S. visitors in 1977-1978; for Haiti, the number was 19.2/100,000 in 1982.

Importation of malaria is not only a problem in the United States. For instance, the number of imported cases of malaria into Great Britain increased from 100 in 1970 to 1,471 in 1982. Between 1970 and 1980, 88% of the *P. falciparum* infections reported in Great Britain originated in Africa (*1*).

Travelers who acquire malaria generally do not take appropriate chemoprophylaxis. For example, only 8% of the U.S. travelers who acquired *P. falciparum* malaria in west Africa or Haiti between 1981 and 1983 had histories of having taken chloroquine chemoprophylaxis during their travels. Reduced efficacy of chemoprophylaxis may also factor in the increased importation of malaria from certain areas, especially east Africa: the percentage of patients who reportedly had used chloroquine as chemoprophylaxis while traveling in east Africa increased from 22% in 1977 to 76% in 1983. This trend has been reviewed recently by CDC and has necessitated changes in recommendations for chemoprophylaxis for U.S. travelers to defined areas of east Africa (*2*).

Reported by Malaria Br, Div of Parasitic Diseases, Center for Infectious Diseases, CDC.

Editorial Note: The risk of malaria to travelers can be reduced through adequate use of effective chemoprophylactic drugs. This requires that travelers to malarious countries be adequately informed about malaria risks and malaria chemoprophylaxis and that they be motivated to adhere to recommendations. Information about health risks and chemoprophylaxis is provided through official publications from CDC (*3,4*) and the World Health Organization (*5*). Little is known, however, about traveler awareness of the risk in malarious areas, about the advice, if any, they receive about chemoprophylaxis and from which sources, and whether some categories of travelers (e.g., missionaries, Peace Corps volunteers) may be better informed than other groups (e.g., tourists, business travelers). Because of the large number of U.S. international travelers and the great diversity in the U.S. travel industry, efficient dissemination of information to help protect the health of the traveling public is difficult.

In increasing areas of the world, chloroquine can no longer be considered an effective drug to prevent *P. falciparum* malaria. Chloroquine-resistant *P. falciparum* is known to exist in the following countries: Bolivia, Burma, Burundi, Colombia, Comoros, Ecuador, French Guyana, Kampuchea, Kenya, Laos, Madagascar, Malaysia, Papua New Guinea, Rwanda, Solomon Islands, Surinam, Tanzania, Thailand, Uganda, Vanuatu, Venezuela, Vietnam, and in parts of Bangladesh, Brazil, China, India, Malawi, Mozambique, Panama, Peru, the Philippines, Sudan, Zaire, and Zambia. Weekly use of the combination drug, pyrimethamine-sulfadoxine (Fansidar®), in addition to weekly use of chloroquine, is recommended by CDC for travelers to these areas (*5*).

An update of CDC's recommendations (*2*) regarding chemoprophylaxis will be published soon as an *MMWR* Supplement, "Prevention of Malaria in Travelers, 1984."

Malaria – Continued

References

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4. CDC. Health information for international travel, 1983. Atlanta, Georgia: Centers for Disease Control, 1983; HHS publication no. (CDC) 83-8280.
5. World Health Organization. Vaccination certificate requirements for international travel and health advice to travellers. Geneva, Switzerland: World Health Organization, 1983.

Notice to Readers

Availability of CDC-NIH Biosafety Manual

The CDC-National Institutes of Health (NIH) publication, *Biosafety in Microbiological and Biomedical Laboratories* is now available. The publication describes standard and special microbiologic practices, safety equipment, and facilities that constitute biosafety levels 1-4, which are recommended when working with infectious disease agents in various laboratory settings, e.g., clinical, public health, research, or industry. These recommendations are advisory; as such, they are intended to provide a voluntary guide or code of practice, as well as a goal for upgrading current operations and practices. This publication may also be of use in the construction of new microbiologic or biomedical laboratory facilities or in the renovation of existing facilities.

Laboratory activities with infectious agents are categorized into one of four "Biosafety Levels," depending on the assessed infection risks of laboratory personnel conducting manipulations of infectious materials or cultures typical of those performed in microbiology laboratories.

Agent summary statements, citing published or documented cases of laboratory-associated infections, known and potential laboratory hazards, and recommended precautions, are provided for a variety of indigenous and exotic agents that are known or high-potential infection risks.

The appendices describe biologic safety cabinets and their performance characteristics, immunoprophylaxis, requirements for importation and interstate shipment of human pathogens and related materials and provide a list of animal pathogens whose importation, possession, or use is restricted by the U.S. Department of Agriculture.

The manual is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 0170230016-1, Price: $4.00, and the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, Stock No. PB84-206879, Price: $13.00 paper, $4.50 microfiche.

The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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