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Epidemiologic Notes and Reports

Oral Viral Lesion (Hairy Leukoplakia) Associated with Acquired Immunodeficiency Syndrome

From October 1981 to June 1985, 13 (11%) of 123 patients with hairy leukoplakia (HL) seen in San Francisco, California, were additionally diagnosed as having acquired immunodeficiency syndrome (AIDS). Eighty (73%) of the 110 patients who did not have AIDS at the time of HL diagnosis were followed (*1*). Twenty of these developed AIDS within 1-33 months (mean 7.5 months) of HL diagnosis. Seventy-nine serum specimens from the 123 patients with HL were tested for antibody to human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) by indirect immunofluorescence (*2*). Of these, 78 (99%) were positive. The one negative result was also negative by Western blot test. All cases met the CDC case definition for AIDS.

Oral viral "hairy" leukoplakia of the tongue appears as raised white areas of thickening on the tongue, usually on the lateral border. The lesions may not respond to traditional antifungal therapy and appear to have unusual virologic features. *Candida* has been reported on the surface of the HL lesions. A number of viruses, including papilloma, herpes, and Epstein-Barr, have been identified by electron microscopy in biopsies obtained from the HL lesions. HL was first identified in San Francisco in 1981. The lesion has also been reported in patients examined in Los Angeles, California; Baltimore, Maryland; Ann Arbor, Michigan; Paris, France; Copenhagen, Denmark; and London, England.

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Editorial Note: HL may be of diagnostic value as an early indicator of HTLV-III/LAV infections, especially when observed in combination with other clinical findings. Approximately 95% of patients with AIDS and AIDS-related complex are reported to have cervical lymphadenopathy and other head and neck manifestations of disease, which may be detected by dentists or others undertaking oral or facial examination (*3*).

Health-care providers, including dental personnel, are in a unique position to identify clinical oral symptoms and their potential association with AIDS. Kaposi's sarcoma (KS), candidiasis, recurrent herpetic infections, and papillomas are oral manifestations that have been associated with AIDS. Unresolved candidiasis may be one of the earliest signs of AIDS in persons in groups at risk of acquiring AIDS. Oral KS is virtually pathognomonic of AIDS in males aged

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25-44 years. Squamous cell carcinomas, non-Hodgkins lymphomas, and malignant melanomas have also been reported to occur in the oral cavity in association with AIDS.

While careful histories and physical examinations alone will not identify persons with AIDS or related symptoms, oral findings, including this newly reported oral lesion, are important diagnostic tools for health-care providers in early identification and treatment of AIDS.

References

1. Greenspan D, Greenspan JS, Conant M, Peterson V, Silverman S Jr, DeSouza Y. Oral "hairy" leucoplakia in male homosexuals: evidence of association with both papillomavirus and a herpes-group virus. Lancet 1984;ii:831-4.
2. Levy JA, Hoffman AD, Kramer SM, Landis JA, Shimabukuro JM, Oshiro LS. Isolation of lymphocytopathic retroviruses from San Francisco patients with AIDS. Science 1984;225:840-2.
3. Hardie J. A 1985 update on AIDS. Journal of the Canadian Dental Association 1985;51:499-503.

Tetanus in a Child with Improper Medical Exemption from Immunization — Florida

In June 1984, a 12-year-old male was brought to a Florida emergency room for an inflamed splinter wound on the foot. The injury had occurred 14 days previously and had been treated with herbal remedies. The child was given tetanus toxoid and intramuscular penicillin and was sent home. Later that day, he developed neck stiffness, interscapular pain, and spasms. He returned to the emergency room, where generalized stiffness and difficulty opening the jaw were noted. A small splinter was removed from his foot, and some pus was expressed. He was admitted to an intensive-care unit, placed on high-dose penicillin, and given 7,000 units of tetanus immune globulin (TIG) over a 5-day period. Diazepam was begun to control increasingly frequent muscle spasms lasting 1-2 minutes. Episodic periods of tachycardia, hypertension, and diaphoresis occurred. Respiratory function remained stable, and on the ninth day of hospitalization, the child was transferred to the pediatric ward. He recovered and was discharged on day 12 of hospitalization.

Investigation revealed that the child had received a dose of oral polio vaccine at about 18 months of age but had received no other immunizations. In the school record was a form granting him permanent medical exemption to all vaccines. The form, signed by a health-care provider, gave the reason for exemption as "due to recent medical literature." The provider later stated that the literature referred to "cytotoxic allergies secondary to immunization," but cited no specific references. Review of immunization records in the child's school revealed two other children with similar exemptions granted by this same provider.

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Editorial Note: This case illustrates several important points: (1) a thorough attempt should be made to determine the tetanus immunization status of persons with wounds treated in emergency rooms; (2) appropriate antitetanus wound prophylaxis should reflect the patient's immunization status and type of wound (*1*); (3) even with a school immunization law in place,

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proper immunization of a school-aged child cannot be assumed; and (4) granting of medical exemptions should not be given indiscriminately.

A recent study of antitetanus prophylaxis in emergency rooms found that 23% of patients with wounds were treated incorrectly (6% undertreated, 17% overtreated). Moreover, only 27% of patients at highest risk of acquiring tetanus, i.e., those with contaminated puncture wounds or other serious wounds and/or fewer than three previous doses of tetanus toxoid, received appropriate prophylaxis against tetanus (*2*). In this particular instance, little could have been done to prevent tetanus at the time the patient presented to the emergency room because so much time had elapsed since the wound occurred. A summary guide to tetanus prophylaxis in routine wound management is presented in Table 1.

Tetanus toxoid is generally well tolerated, even in individuals with histories of presumed adverse reactions to tetanus toxoid. In one study, 94 of 95 persons giving histories of anaphylactic symptoms following a previous tetanus toxoid dose were nonreactive following intradermal testing and tolerated a further tetanus toxoid challenge without a reaction (*3*). Booster doses are routinely recommended every 10 years. More frequent boosters are not indicated and may result in an increased occurrence and severity of adverse reactions, particularly the Arthus-type hypersensitivity reaction (*4*).

Adults are less likely than children to be adequately immunized or adequately protected against tetanus and diphtheria (*5-7*). The routine use of tetanus and diphtheria toxoids (Td) in all medical settings is, therefore, recommended; emergency room visits by adults may be the best opportunity to boost immunity to both tetanus and diphtheria.

At least four doses of a tetanus toxoid-containing preparation are required for entering kindergarten in Florida. Exemptions from immunization in Florida are allowed for religious or medical reasons but only a very small proportion (0.1%) of Florida schoolchildren have such exemptions. To maintain the current high levels of immunization in the school system and to avoid incidents such as the one described here, medical exemptions should be carefully evaluated. For example, a contraindication (e.g., immune deficiency) to live virus vaccines does not mean inactivated vaccines are necessarily contraindicated as well. Blanket medical exemptions for all vaccines are rarely indicated.

TABLE 1. Summary guide to tetanus prophylaxis in routine wound management — United States, 1985

History of adsorbed tetanus toxoid (doses)	Clean, minor wounds		All other wounds*	
	Td†	TIG	Td†	TIG
Unknown or < three	Yes	No	Yes	Yes
≥ three§	No¶	No	No**	No

*Such as, but not limited to, wounds contaminated with dirt, feces, soil, and saliva, puncture wounds, avulsions, and wounds resulting from missiles, crushing, burns, and frostbite.

†For children under 7 years old, DTP (DT, if pertussis vaccine is contraindicated) is preferred to tetanus toxoid alone. For persons 7 years old and older, Td is preferred to tetanus toxoid alone.

§If only three doses of fluid toxoid have been received, a fourth dose of toxoid, preferably an adsorbed toxoid, should be given.

¶Yes, if more than 10 years since last dose.

**Yes, if more than 5 years since last dose. (More frequent boosters are not needed and can accentuate side effects.)

Tetanus — Continued

References

1. ACIP. Diphtheria, tetanus, pertussis: guidelines for vaccine prophylaxis and other preventive measures. MMWR 1985;34:405-14, 419-26.
2. Brand DA, Acampora D, Gottlieb LD, Glancy KE, Frazier WH. Adequacy of antitetanus prophylaxis in six hospital emergency rooms. N Engl J Med 1983;309:636-40.
3. Jacobs RL, Lowe RS, Lanier BQ. Adverse reactions to tetanus toxoid. JAMA 1982;247:40-2.
4. Edsall G, Elliot MW, Peebles TC, et al. Excessive use of tetanus toxoid boosters. JAMA 1967;202: 111-3.
5. Mullooly JP. Tetanus immunization of adult members of an HMO. Am J Public Health 1984;74: 841-2.
6. Ruben FL, Nagel J, Firemen P. Antitoxin responses in the elderly to tetanus-diphtheria (TD) immunization. Am J Epidemiol 1978;108:145-9.
7. Crossley K, Irvine P, Warren JB, Lee BK, Mead K. Tetanus and diphtheria immunity in urban Minnesota adults. JAMA 1979;242:2298-3000.

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

Disease	36th Week Ending			Cumulative, 36th Week Ending		
	Sept. 7, 1985	Sept. 8, 1984	Median 1980-1984	Sept. 7, 1985	Sept. 8, 1984	Median 1980-1984
Acquired Immunodeficiency Syndrome (AIDS)	143	65	N	5,302	2,772	N
Aseptic meningitis	390	328	349	5,125	4,734	5,307
Encephalitis: Primary (arthropod-borne & unspec.)	33	31	66	694	700	893
Post-infectious	3	2	2	93	87	67
Gonorrhea: Civilian	14,993	15,540	17,665	570,386	567,666	655,787
Military	254	514	514	12,584	14,899	18,608
Hepatitis: Type A	459	412	421	14,982	14,295	15,348
Type B	560	560	410	17,617	17,458	14,718
Non A, Non B	73	61	N	2,802	2,593	N
Unspecified	106	85	138	3,905	3,367	5,890
Legionellosis	9	25	N	393	437	N
Leprosy	3	3	2	254	154	154
Malaria	29	38	35	688	643	750
Measles: Total*	31	62	20	2,399	2,306	2,306
Indigenous	21	56	N	2,001	2,043	N
Imported	10	6	N	398	263	N
Meningococcal infections: Total	37	29	32	1,730	2,027	2,027
Civilian	37	29	32	1,727	2,023	2,023
Military	-	-	-	3	4	12
Mumps	23	17	25	2,175	2,200	3,212
Pertussis	106	140	51	1,736	1,532	1,107
Rubella (German measles)	2	18	18	539	545	1,748
Syphilis (Primary & Secondary): Civilian	331	438	505	17,370	19,147	20,900
Military	-	2	7	103	227	257
Toxic Shock syndrome	7	10	N	255	340	N
Tuberculosis	346	334	419	14,606	14,454	17,329
Tularemia	5	6	8	109	224	181
Typhoid fever	13	13	9	237	231	284
Typhus fever, tick-borne (RMSF)	27	27	33	493	662	920
Rabies, animal	99	143	132	3,593	3,734	4,451

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1985		Cum. 1985
Anthrax	-	Leptospirosis (Hawaii 2)	25
Botulism: Foodborne	34	Plague	11
Infant (Calif. 1)	39	Poliomyelitis: Total	3
Other	1	Paralytic	3
Brucellosis (Iowa 1, Tex. 1)	92	Psittacosis (Wash. 1)	80
Cholera	3	Rabies, human	-
Congenital rubella syndrome	-	Tetanus (S.C. 1, Fla. 1)	43
Congenital syphilis, ages < 1 year	111	Trichinosis	48
Diphtheria	1	Typhus fever, flea-borne (endemic, murine) (Tex. 2)	17

*Four of the 31 reported cases for this week were 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 September 7, 1985 and September 8, 1984 (36th 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. 1985	1985	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1984	1985	1985	1985	1985	1985	Cum. 1985
UNITED STATES	5,302	390	694	93	570,386	567,666	459	560	73	106	9	254
NEW ENGLAND	186	24	21	-	15,810	15,689	13	18	2	9	-	6
Maine	7	1	-	-	775	672	-	1	-	-	-	-
N.H.	-	4	5	-	405	471	-	-	-	-	-	-
Vt.	1	3	-	-	223	261	1	-	1	-	-	-
Mass.	111	6	15	-	6,083	6,483	6	12	1	9	-	6
R.I.	9	8	-	-	1,260	1,070	-	1	-	-	-	-
Conn.	58	2	1	-	7,064	6,732	6	4	-	-	-	-
MID ATLANTIC	2,092	97	100	11	85,980	76,838	43	49	9	6	-	23
Upstate N.Y.	245	22	31	4	11,659	11,658	21	8	2	2	-	1
N.Y. City	1,419	7	11	-	42,583	31,764	2	-	-	-	-	22
N.J.	303	53	24	-	13,119	13,026	4	23	4	4	-	-
Pa.	125	15	34	7	18,619	20,390	16	18	3	-	-	-
E.N. CENTRAL	232	80	158	18	80,231	78,415	18	43	3	1	2	21
Ohio	43	39	64	4	20,388	20,199	11	30	1	-	2	3
Ind.	18	20	28	2	8,679	8,564	3	5	-	-	-	-
Ill.	113	-	14	7	20,923	17,822	-	-	-	-	-	16
Mich.	40	21	36	-	22,357	23,056	4	8	2	1	-	2
Wis.	18	-	16	5	7,884	8,774	-	-	-	-	-	-
W.N. CENTRAL	58	9	46	3	28,227	27,865	12	11	4	1	3	1
Minn.	16	2	21	1	4,168	4,188	-	2	1	-	-	-
Iowa	8	2	15	-	2,997	3,045	2	-	1	-	2	-
Mo.	25	4	-	-	13,599	13,437	1	5	2	-	1	1
N. Dak.	-	-	-	1	186	261	-	-	-	-	-	-
S. Dak.	-	-	-	-	527	649	5	1	-	-	-	-
Nebr.	2	1	5	-	2,482	1,965	2	3	-	1	-	-
Kans.	7	-	5	1	4,268	4,320	2	-	-	-	-	-
S. ATLANTIC	791	76	83	33	125,275	144,446	43	130	19	16	3	6
Del.	10	1	4	-	2,894	2,638	1	-	1	-	1	-
Md.	100	17	17	1	20,188	16,562	1	15	4	-	-	1
D.C.	107	-	-	-	10,508	10,366	-	2	-	-	-	-
Va.	61	24	19	4	13,126	13,735	4	15	1	3	-	-
W. Va.	5	1	19	-	1,821	1,772	1	1	-	-	-	-
N.C.	39	10	21	-	24,332	23,355	1	17	3	2	2	2
S.C.	13	-	3	-	15,118	14,496	-	24	-	-	-	-
Ga.	131	10	-	-	-	26,362	4	9	-	1	-	1
Fla.	325	13	-	28	37,288	35,160	31	47	10	10	-	2
E.S. CENTRAL	46	22	23	4	51,129	50,050	4	39	3	-	-	-
Ky.	13	4	8	-	5,803	6,011	3	16	-	-	-	-
Tenn.	14	-	4	-	19,551	20,774	-	14	1	-	-	-
Ala.	17	11	9	4	15,698	15,744	-	2	2	-	-	-
Miss.	2	7	2	-	10,077	7,521	1	7	-	-	-	-
W.S. CENTRAL	364	32	91	2	76,510	77,752	75	44	6	27	1	17
Ark.	5	-	3	1	7,337	7,077	10	-	-	-	-	1
La.	68	1	3	-	14,961	17,194	7	5	1	1	-	1
Okla.	8	2	20	1	8,216	8,484	8	1	-	-	-	-
Tex.	283	29	65	-	45,996	44,997	50	38	5	26	1	15
MOUNTAIN	89	12	28	5	18,757	18,402	64	44	5	6	-	5
Mont.	-	1	-	-	532	775	-	2	-	1	-	-
Idaho	-	3	-	-	571	922	7	1	-	-	-	-
Wyo.	-	U	1	-	429	505	U	U	U	U	U	-
Colo.	41	2	6	1	5,525	5,268	2	4	-	3	-	1
N. Mex.	7	2	3	-	2,152	2,141	12	8	1	-	-	-
Ariz.	26	3	5	-	5,483	4,970	30	14	4	2	-	1
Utah	12	1	10	4	845	904	4	5	-	-	-	2
Nev.	3	-	3	-	3,220	2,917	9	10	-	-	-	1
PACIFIC	1,444	38	144	17	88,467	78,209	187	182	22	40	-	175
Wash.	79	2	13	-	6,420	5,853	36	25	2	7	-	33
Oreg.	22	-	1	-	4,408	4,514	33	10	2	-	-	3
Calif.	1,323	34	114	17	74,336	64,558	115	144	18	33	-	120
Alaska	2	1	16	-	2,046	1,967	-	1	-	-	-	-
Hawaii	18	1	-	-	1,257	1,317	3	2	-	-	-	19
Guam	-	U	-	-	91	170	U	U	U	U	U	2
P.R.	59	1	4	2	2,289	2,349	2	8	-	2	-	2
V.I.	2	U	-	-	312	385	U	U	U	U	U	-
Pac. Trust Terr.	-	U	-	-	146	-	U	U	U	U	U	20

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending September 7, 1985 and September 8, 1984 (36th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1985	1985	Cum. 1985	1985	Cum. 1985	Cum. 1984	Cum. 1985	1985	Cum. 1985	1985	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984
UNITED STATES	688	21	2,001	10	398	2,306	1,730	23	2,175	106	1,736	1,532	2	539	545
NEW ENGLAND	38	1	38	1	88	104	77	7	51	-	94	40	-	12	18
Maine	4	-	-	-	1	-	2	-	6	-	5	1	-	-	1
N.H.	4	-	-	-	-	36	12	-	9	-	39	7	-	2	1
Vt.	1	-	-	-	-	7	9	-	2	-	3	18	-	-	-
Mass.	18	1	34	1§	84	48	12	-	14	-	28	11	-	6	16
R.I.	3	-	-	-	-	-	13	5	13	-	12	2	-	-	-
Conn.	8	-	4	-	3	13	29	2	7	-	7	1	-	4	-
MID ATLANTIC	106	1	167	3	35	142	305	7	227	16	112	124	1	215	212
Upstate N.Y.	34	-	71	3†§	13	31	120	6	131	2	51	70	-	17	98
N.Y. City	37	-	54	-	9	100	50	-	14	7	18	5	1	175	96
N.J.	14	1	17	-	10	7	45	1	29	1	4	11	-	9	17
Pa.	21	-	25	-	3	4	90	-	53	6	39	38	-	14	1
E.N. CENTRAL	32	-	428	-	73	688	301	2	826	8	329	397	1	27	80
Ohio	6	-	-	-	52	9	99	1	244	1	38	62	-	-	2
Ind.	3	-	49	-	2	3	39	-	36	-	98	222	-	1	3
Ill.	5	-	286	-	-	178	68	-	179	3	26	23	-	10	48
Mich.	13	-	37	-	18	460	67	1	289	3	33	23	1	15	19
Wis.	5	-	56	-	1	38	28	-	78	1	134	67	-	1	8
W.N. CENTRAL	24	-	1	-	10	46	87	-	66	23	139	108	-	19	34
Minn.	10	-	-	-	6	38	22	-	1	19	69	12	-	2	4
Iowa	1	-	-	-	-	-	8	-	10	1	6	10	-	1	1
Mo.	5	-	-	-	2	3	34	-	11	3	26	16	-	7	-
N. Dak.	1	-	-	-	2	-	4	-	3	-	9	-	-	2	3
S. Dak.	1	-	-	-	-	-	2	-	-	-	2	8	-	-	-
Nebr.	1	-	-	-	-	-	7	-	2	-	4	11	-	-	-
Kans.	5	-	1	-	-	5	10	-	39	-	23	51	-	7	26
S. ATLANTIC	87	10	265	1	24	49	335	1	203	14	286	164	-	54	22
Del.	-	-	-	-	-	-	8	-	1	-	-	2	-	1	-
Md.	21	6	93	-	7	20	46	-	27	7	124	52	-	6	1
D.C.	5	4	9	-	1	8	6	-	-	-	1	-	-	-	-
Va.	19	-	21	-	5	5	41	-	41	3	11	18	-	2	-
W. Va.	2	-	31	-	2	-	8	-	56	-	4	10	-	9	-
N.C.	8	-	9	-	-	-	46	-	11	3	20	22	-	-	-
S.C.	-	-	-	-	1	1	34	-	7	1	2	2	-	3	-
Ga.	6	-	8	-	-	1	56	-	28	-	77	14	-	4	2
Fla.	26	-	94	1†	8	14	90	1	32	-	47	44	-	29	19
E.S. CENTRAL	9	-	-	-	6	3	79	-	23	3	33	12	-	2	9
Ky.	3	-	-	-	5	1	8	-	8	3	6	1	-	2	3
Tenn.	-	-	-	-	-	2	31	-	13	-	16	7	-	-	-
Ala.	5	-	-	-	-	-	24	-	-	-	7	-	-	-	3
Miss.	1	-	-	-	1	-	16	-	2	-	4	4	-	-	3
W.S. CENTRAL	65	2	412	-	13	531	145	2	228	8	263	265	-	32	6
Ark.	1	-	-	-	-	8	13	-	4	-	12	18	-	1	3
La.	1	-	42	-	-	8	22	-	2	1	11	6	-	-	-
Okla.	2	-	-	-	1	8	27	N	N	7	123	226	-	1	-
Tex.	61	2	370	-	12	507	83	2	222	-	117	15	-	30	3
MOUNTAIN	34	-	487	-	49	145	73	1	203	6	141	97	-	5	17
Mont.	-	-	122	-	17	-	5	1	9	1	8	19	-	-	-
Idaho	1	-	126	-	18	23	2	-	9	1	4	7	-	1	1
Wyo.	1	U	-	U	-	-	6	U	2	U	-	3	U	-	2
Colo.	11	-	6	-	7	6	20	-	16	4	50	34	-	-	2
N. Mex.	11	-	1	-	3	88	8	N	N	-	12	6	-	2	-
Ariz.	5	-	232	-	4	1	19	-	99	-	27	20	-	1	1
Utah	2	-	-	-	-	27	7	-	6	-	40	6	-	-	7
Nev.	3	-	-	-	-	-	6	-	62	-	-	2	-	1	4
PACIFIC	293	7	203	5	100	598	328	3	348	28	339	325	-	173	147
Wash.	19	-	28	-	38	139	58	-	29	5	58	139	-	11	1
Oreg.	12	-	3	1†	1	-	30	N	N	5	40	14	-	2	2
Calif.	245	6	157	4§	56	302	229	3	296	18	200	100	-	117	139
Alaska	2	-	-	-	-	-	7	-	8	-	29	1	-	1	1
Hawaii	15	1	15	-	5	157	4	-	15	-	12	71	-	42	4
Guam	1	U	10	U	-	90	-	U	5	U	-	-	U	1	4
P.R.	-	4	54	-	-	7	10	1	130	-	10	-	-	25	7
V.I.	-	U	4	U	6	-	-	U	3	U	-	-	U	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	3	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 September 7, 1985 and September 8, 1984 (36th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1985
UNITED STATES	17,370	19,147	7	14,606	14,454	109	237	493 +27	3,593
NEW ENGLAND	369	352	2	502	417	3	10	7+2	19
Maine	11	4	-	34	20	-	-	-	-
N.H.	9	12	-	13	25	-	-	1	1
Vt.	5	1	-	4	7	-	-	-	-
Mass.	184	204	2	303	224	3	7	5	11
R.I.	12	14	-	38	30	-	-	1	-
Conn.	148	117	-	110	111	-	3	-	7
MID ATLANTIC	2,391	2,585	-	2,667	2,653	2	35	18 +2	345
Upstate N.Y.	181	222	-	466	425	-	9	9	79
N.Y. City	1,466	1,590	-	1,286	1,057	1	18	3	-
N.J.	483	463	-	374	591	1	7	3	33
Pa.	261	310	-	541	580	-	1	3	233
E.N. CENTRAL	733	910	-	1,814	1,909	1	29	36 -1	133
Ohio	103	172	-	324	365	-	6	26 -1	24
Ind.	67	94	-	220	220	-	3	2	18
Ill.	362	308	-	775	796	1	13	6	25
Mich.	154	284	-	387	406	-	5	2	20
Wis.	47	52	-	108	122	-	2	-	46
W.N. CENTRAL	157	277	3	404	452	32	10	35 +1	654
Minn.	32	77	2	87	78	1	6	1	127
Iowa	17	11	-	44	48	-	2	1	121
Mo.	79	140	-	197	228	19	1	3	33
N. Dak.	2	9	-	7	10	-	-	1	95
S. Dak.	5	-	-	19	17	7	-	2	212
Nebr.	6	11	-	11	22	2	1	2	30
Kans.	16	29	1	39	49	3	-	25	36
S. ATLANTIC	4,441	5,666	-	2,949	2,987	6	26	239 +15	927
Del.	28	14	-	27	38	1	-	2	-
Md.	299	347	-	265	288	-	9	23	453
D.C.	241	233	-	115	124	-	-	-	-
Va.	210	284	-	260	303	1	3	18	125
W. Va.	15	13	-	80	94	-	-	1	21
N.C.	465	584	-	375	446	4	2	9 1 8	9
S.C.	564	535	-	358	362	-	1	65	55
Ga.	-	963	-	503	429	-	2	33 4	139
Fla.	2,619	2,693	-	966	903	-	9	6	125
E.S. CENTRAL	1,432	1,323	-	1,289	1,331	5	4	49 +4	183
Ky.	45	71	-	302	319	-	1	7 3	25
Tenn.	429	355	-	375	405	4	1	25	45
Ala.	441	433	-	388	399	1	2	10	109
Miss.	517	464	-	224	208	-	-	7	4
W.S. CENTRAL	4,198	4,670	-	1,783	1,671	39	18	92 +4	627
Ark.	218	149	-	193	183	21	-	13	102
La.	727	823	-	264	222	-	-	1	12
Okla.	123	155	-	177	165	13	1	6 7 3	83
Tex.	3,130	3,543	-	1,149	1,101	5	17	11	430
MOUNTAIN	496	430	2	380	391	14	10	14	306
Mont.	5	2	-	46	17	4	-	6	136
Idaho	4	19	-	17	24	-	-	-	8
Wyo.	8	7	U	5	-	-	-	4	16
Colo.	121	111	-	42	44	2	4	2	21
N. Mex.	94	58	-	67	80	2	4	-	9
Ariz.	230	156	-	169	177	4	2	-	108
Utah	6	13	2	11	30	2	-	-	3
Nev.	28	64	-	23	19	-	-	2	5
PACIFIC	3,153	2,934	-	2,818	2,643	7	95	3	399
Wash.	80	111	-	168	131	-	-	-	4
Oreg.	64	79	-	90	108	1	-	-	4
Calif.	2,957	2,686	-	2,359	2,212	4	91	3	388
Alaska	2	4	-	72	45	2	-	-	3
Hawaii	50	54	-	129	147	-	4	-	-
Guam	2	-	U	23	38	-	-	-	-
P.R.	548	565	-	240	268	-	1	-	31
V.I.	1	8	U	1	3	-	52	-	-
Pac. Trust Terr.	13	-	U	16	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending September 7, 1985 (36th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	595	400	126	24	19	25	31
Boston, Mass.	138	80	33	10	6	9	12
Bridgeport, Conn.	35	26	7	1	-	1	1
Cambridge, Mass.	18	15	3	-	-	-	-
Fall River, Mass.	28	23	5	-	-	-	-
Hartford, Conn.	63	40	13	4	1	4	5
Lowell, Mass.	27	21	3	-	2	1	-
Lynn, Mass.	10	6	4	-	-	-	1
New Bedford, Mass.	27	21	5	1	-	-	2
New Haven, Conn.	47	31	11	4	1	-	1
Providence, R.I.	64	41	15	1	1	6	2
Somerville, Mass.	6	5	1	-	-	-	1
Springfield, Mass.	45	30	10	2	2	1	2
Waterbury, Conn.	26	20	5	-	1	-	3
Worcester, Mass.	61	41	11	1	5	3	1
MID ATLANTIC	2,405	1,577	513	204	65	45	116
Albany, N.Y.	51	30	14	3	1	2	1
Allentown, Pa.	11	9	2	-	-	-	-
Buffalo, N.Y.	100	61	23	10	4	2	10
Camden, N.J.	35	19	12	1	-	3	2
Elizabeth, N.J.	19	15	4	-	-	-	3
Erie, Pa.†	34	25	7	1	1	-	1
Jersey City, N.J.	45	27	9	7	1	1	1
N.Y. City, N.Y.	1,356	876	286	135	41	18	61
Newark, N.J.	37	15	11	6	3	2	4
Paterson, N.J.	27	16	10	-	1	-	1
Philadelphia, Pa.	304	198	68	23	9	6	11
Pittsburgh, Pa.†	54	35	11	4	-	4	1
Reading, Pa.	33	25	5	2	-	1	2
Rochester, N.Y.	105	77	20	3	2	3	11
Schenectady, N.Y.	17	15	2	-	-	-	-
Scranton, Pa.†	33	27	5	1	-	-	2
Syracuse, N.Y.	72	51	14	4	1	2	1
Trenton, N.J.	29	21	5	3	-	-	1
Utica, N.Y.	24	20	3	-	-	1	1
Yonkers, N.Y.	19	15	2	1	1	-	2
E.N. CENTRAL	1,997	1,424	317	116	54	85	66
Akron, Ohio	64	45	16	1	-	2	-
Canton, Ohio	35	27	7	1	-	-	1
Chicago, Ill.§	553	462	11	26	16	37	16
Cincinnati, Ohio	87	58	20	6	1	2	10
Cleveland, Ohio	138	92	32	6	5	3	3
Columbus, Ohio	81	51	17	8	-	5	2
Dayton, Ohio	86	54	18	8	2	4	-
Detroit, Mich.	229	128	50	26	17	8	1
Evansville, Ind.	38	26	10	2	-	-	-
Fort Wayne, Ind.	44	31	8	2	1	2	2
Gary, Ind.§	15	15	-	-	-	-	-
Grand Rapids, Mich.	63	38	15	5	2	3	4
Indianapolis, Ind.	136	92	32	4	4	4	2
Madison, Wis.	39	23	11	2	2	1	3
Milwaukee, Wis.	128	94	24	4	1	5	11
Peoria, Ill.	41	31	7	1	-	2	3
Rockford, Ill.	42	32	6	3	1	-	-
South Bend, Ind.	42	33	7	2	-	-	2
Toledo, Ohio	85	55	21	4	2	3	6
Youngstown, Ohio	51	37	5	5	-	4	-
W.N. CENTRAL	646	442	138	33	19	14	28
Des Moines, Iowa	68	44	16	4	1	3	2
Duluth, Minn.	19	13	3	2	1	-	1
Kansas City, Kans.	44	28	13	1	2	-	-
Kansas City, Mo.	115	67	34	6	6	2	5
Lincoln, Nebr.	32	28	4	-	-	-	5
Minneapolis, Minn.	54	40	9	2	1	2	1
Omaha, Nebr.	59	42	10	4	1	2	4
St. Louis, Mo.	136	97	27	6	2	4	1
St. Paul, Minn.	60	39	12	5	3	1	-
Wichita, Kans.	59	44	10	3	2	-	9
S. ATLANTIC	989	589	249	93	32	25	36
Atlanta, Ga.	120	72	32	8	3	5	1
Baltimore, Md.	208	121	52	24	9	2	2
Charlotte, N.C.	63	39	17	3	3	1	2
Jacksonville, Fla.	72	40	20	5	6	1	3
Miami, Fla.	102	63	22	14	1	2	1
Norfolk, Va.	53	31	13	2	2	5	2
Richmond, Va.	61	33	18	9	-	1	6
Savannah, Ga.	35	22	11	2	-	-	4
St. Petersburg, Fla.	69	55	10	2	-	2	10
Tampa, Fla.	41	24	11	2	2	1	1
Washington, D.C.	145	78	36	20	6	5	2
Wilmington, Del.	20	11	7	2	-	-	2
E.S. CENTRAL	534	333	125	34	20	21	28
Birmingham, Ala.	72	40	17	4	1	10	2
Chattanooga, Tenn.	52	39	7	3	2	1	4
Knoxville, Tenn.	51	33	15	1	2	-	6
Louisville, Ky.	74	51	14	6	-	3	4
Memphis, Tenn.	120	69	31	7	10	2	8
Mobile, Ala.	33	20	5	4	1	3	-
Montgomery, Ala.	40	25	12	1	1	1	3
Nashville, Tenn.	92	56	24	8	3	1	1
W.S. CENTRAL	1,120	708	196	101	68	47	37
Austin, Tex.	61	40	14	4	1	2	2
Baton Rouge, La.	48	24	13	6	3	2	1
Corpus Christi, Tex.	29	19	4	4	1	1	-
Dallas, Tex.	143	76	33	18	9	7	4
El Paso, Tex.	45	20	17	3	2	3	1
Fort Worth, Tex.	94	50	27	9	5	3	2
Houston, Tex. §	283	240	2	9	21	11	4
Little Rock, Ark.	50	32	4	5	7	2	3
New Orleans, La.	118	62	25	22	6	3	-
San Antonio, Tex.	165	90	41	14	8	12	16
Shreveport, La.	27	14	7	4	1	1	1
Tulsa, Okla.	57	41	9	3	4	-	3
MOUNTAIN	533	312	138	44	27	12	23
Albuquerque, N.Mex.	73	44	14	6	9	-	5
Colo. Springs, Colo.	29	18	6	5	-	-	1
Denver, Colo.	108	60	35	7	5	1	3
Las Vegas, Nev.	64	33	21	6	3	1	1
Ogden, Utah	21	14	3	3	1	-	1
Phoenix, Ariz.	92	49	29	7	3	4	2
Pueblo, Colo.	16	10	3	3	-	-	1
Salt Lake City, Utah	46	27	9	3	3	4	2
Tucson, Ariz.	84	57	18	4	3	2	7
PACIFIC	1,490	946	308	126	59	47	81
Berkeley, Calif.	21	11	5	1	3	1	1
Fresno, Calif.	74	52	12	6	2	2	5
Glendale, Calif.	11	7	1	2	1	-	-
Honolulu, Hawaii	55	36	14	4	-	1	2
Long Beach, Calif.	77	50	18	3	1	5	9
Los Angeles, Calif.	358	188	83	51	22	10	8
Oakland, Calif.	68	41	16	9	1	1	6
Pasadena, Calif.	32	24	6	-	2	-	3
Portland, Oreg.	90	61	18	4	5	2	3
Sacramento, Calif.	113	77	21	10	3	2	6
San Diego, Calif.	101	66	24	6	2	3	10
San Francisco, Calif.	138	83	36	9	6	4	3
San Jose, Calif.	159	107	28	12	6	6	14
Seattle, Wash.	117	82	17	7	5	6	2
Spokane, Wash.	45	34	7	2	-	2	9
Tacoma, Wash.	31	27	2	-	-	2	-
TOTAL	10,309††	6,731	2,110	775	363	321	446

*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 3 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.
§ Data not available. Figures are estimates based on average of past 4 weeks.

Polychlorinated Biphenyl Transformer Incident — New Mexico

On June 17, 1985, a transformer located in the basement of the New Mexico State Highway Department building in Santa Fe was found to have overheated and released an oily mist containing polychlorinated biphenyls (PCBs) and their pyrolysis by-products. The transformer contained 245 gallons of askarel*, most of which was vented from the transformer. The askarel was tested for PCBs, and the result was interpreted as negative. Therefore, clean-up began under the assumption that PCBs were not present. By that afternoon, however, a laboratory identified PCBs in an askarel fluid sample from the site. By that time, the three-story building had been extensively contaminated, compounded in part by the clean-up efforts.

Contamination occurred in several ways: (1) mist containing PCBs and pyrolysis by-products entered two rooms in the basement adjacent to the transformer vault and two rooms on the ground floor above the vault via vents and unsealed electrical conduits; (2) direct spread of mist and fumes occurred through three stairwells located in the building, none of which had fire doors; (3) air drafts created by open windows and exhaust fans spread fumes throughout the building; (4) foot traffic by employees and emergency-response teams extended the contamination; (5) the exhaust vent in the transformer room, located near the intake vents for the building's air-conditioning system, allowed further contamination through fumes drawn into the air-conditioning system.

The askarel contained 87% polychlorinated biphenyl (PCB) (Aroclor 1260†) and a mixture of tri- and tetra-chlorinated benzenes (13%). Air samples obtained within 14 hours after the incident showed PCB levels of 48 $\mu g/m^3$ in the transformer vault and 20 $\mu g/m^3$ in the room above the vault. Wipe samples of surfaces showed PCB levels ranging from 30 million $\mu g/m^2$ for grossly contaminated surfaces to 4,700 $\mu g/m^2$ for a desk top with no visible contamination.§

Additional air and surface samples were collected June 22-24. Analysis of these samples demonstrated potential pyrolysis products of PCBs and polychlorinated benzenes. The 2,3,7,8 isomer of tetrachlorodibenzofuran (TCDF) was identified in concentrations averaging 48 pg/m^3 of air in the most heavily contaminated areas of the building. For wipe samples, levels ranged from 41,224 ng/m^2 on grossly contaminated surfaces to 5 ng/m^2 in areas with no visible contamination. The 2,3,7,8 isomer of tetrachlorodibenzo-*p*-dioxin (TCDD) was not detectable in air samples or on surface wipes (detection limit 0.5-5.0 pg/m^3 for air samples and 180 ng/m^2 for surface wipes). The highest levels of chlorinated benzenes were found on the second floor, where air levels of 168 $\mu g/m^3$ and 3.9 $\mu g/m^3$ were recorded for 1,2,4-trichlorobenzene and 1,2,3,4-tetrachlorobenzene, respectively.

The Office of Epidemiology, New Mexico Health and Environment Department, conducted a study to determine whether exposure to fumes or oil at the transformer incident site had caused illness. Exposed persons were identified by highway department officials, by police and fire department attendance logs, and by self-reporting. A questionnaire was administered to exposed and unexposed employees and to emergency-response team members. Eighty (79.2%) of the 101 persons with known exposure completed questionnaires. The most com-

*Fire-resistant, electrically insulated coolant liquid used in PCB transformers.

†Use of trade name is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services and the Public Health Service.

§National Institute for Occupational Safety and Health recommended standard is 1 $\mu g/m^3$ per 10-hour time-weighted average. There are no established federal surface standards for PCBs or polychlorinated benzenes; there are no federal air standards for polychlorinated benzenes.

PCBs — Continued

monly observed symptoms were: nausea (27.5%), eye irritation (22.5%), sore throat (21.2%), nose irritation (18.8%), chest tightness (15.0%), and headache (15.0%). Symptoms were transient and usually resolved as soon as the person left the site. However, two people reported headaches persisting more than 1 day. Nine persons were evaluated at a local emergency room and then released. Analysis of symptom-prevalence data showed that, for individuals not wearing self-contained breathing apparatuses, the number of symptoms was correlated with time at the site ($r = 0.236$, $p = 0.039$) and time in the building ($r = 0.340$, $p = 0.035$).

Fifty-six persons with known exposure submitted sera for PCB analysis, as did 20 controls (unexposed firefighters and highway department employees). Serum PCBs were calculated using Aroclor 1260 as the standard. All but four persons had levels below 10 parts per billion (ppb). The median for exposed persons was 4.1 ppb (range 1.2-41.8 ppb) compared to 2.4 ppb (range 0.9-8.0 ppb) for controls. The values observed in exposed persons were greater than in controls ($p < 0.002$). Persons who entered the building had higher serum PCB levels than persons exposed to fumes outside (median: 4.8 ppb inside; 3.4 ppb outside; $p = 0.014$). Neither individual symptoms nor total numbers of symptoms were correlated positively with serum PCB level.

The affected building has not been reopened.

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Editorial Note: According to Environmental Protection Agency estimates, approximately 77,600 PCB transformers were being used in or near commercial buildings at the end of 1984 (e.g., office buildings, hospitals, schools, and shopping centers) (*1*). While past attention has focused mainly on spills of PCBs from this equipment, the recent occurrence of several fires (*2,3*) involving PCB-containing transformers has focused attention on what may be a more important threat to public health: fires resulting in widespread contamination of structures with PCBs and, in some cases, polychlorinated dibenzofurans (PCDFs) and polychlorinated dibenzo-*p*-dioxins (PCDDs), including 2,3,7,8-TCDD. In addition to these soot-producing incidents, release of PCBs from the pressure-relief valves of overheated transformers have also resulted in contamination. Although a previous incident of this type did not result in detected concentrations of PCDFs and PCDDs (*4*), the Santa Fe incident demonstrates that significant formation of PCDDs and PCDFs, including 2,3,7,8-TCDF can occur from overheated transformers. The formation of PCDFs and PCDDs from the pyrolysis of electrical fluids is of paramount concern as some of the congeners are much more toxic than PCBs. Groups at risk from these exposures include firefighters and other emergency-response personnel, clean-up workers, and occupants of these structures.

In experimental animal studies, exposure to PCB, PCDFs, and PCDDs at a wide range of exposure concentration may cause various systemic effects, including immunologic dysfunction and teratogenesis. In addition, PCBs and TCDDs are carcinogenic in rats and mice (*5,6*). Humans exposed to PCBs, TCDDs, or PCDFs have developed chloracne, metabolic disorders, and other systemic problems (*5,6*). Epidemiologic studies of humans chronically exposed to PCBs or PCDDs in the workplace suggest an association between exposure to these compounds and increased incidence of cancer (*7-9*). However, the long-term health effects of acute exposure, such as this, are not known.

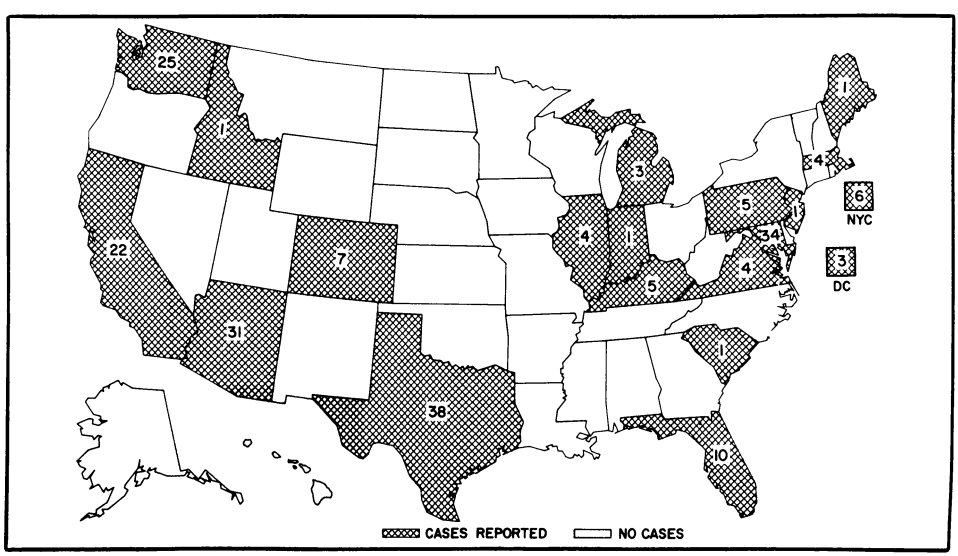
References

1. Environmental Protection Agency. Federal Register, Part IV. 1985;50:29170-201.

PCBs — Continued

2. O'Keefe PW, Silkworth JB, Gurthy JF, et al. Chemical and biological investigations of a transformer accident at Binghamton NY. Environmental Health Perspect 1985;60:201-9.
3. DesRosiers PE. PCB's, PCDF's, and PCDD's resulting from transformer/capacitor fires: an overview. In: Addis G, Komai RY, eds. Proceedings: the 1983 PCB seminar, EPRI EL-3581, project 2028. Palo Alto, California: Electric Power Research Institute, 1984;6-41 to 6-57.
4. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 82-310-1475. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1984.
5. National Institute for Occupational Safety and Health. Criteria for a recommended standard: occupational exposure to polychlorinated biphenyls (PCBs). Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1977; DHEW publication no. (NIOSH) 77-225.
6. National Institute for Occupational Safety and Health. Current intelligence bulletin no. 40: 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD, "dioxin"). Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1984; DHHS publication no. (NIOSH) 84-104.
7. Brown DP, Jones M. Mortality and industrial hygiene study of workers exposed to polychlorinated biphenyls. Arch Environ Health 1981;36:120-9.
8. Urabe H, Koda H, Asahi M. Present state of Yusho patients. Annals New York Academy of Sciences 1979;320:273-6.
9. Hardell L, Sandstrom A. Case-control study: soft tissue sarcomas and exposure to phenoxyacetic acids or chlorophenyls. Brit J Cancer 1979;39:711-7.

FIGURE I. Reported measles cases — United States, weeks 32-35, 1985



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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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