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Current Trends

Softball Sliding Injuries – Michigan, 1986-1987

During the period 1986–1987, a study of the use of break-away bases to reduce sliding injuries was conducted in Ann Arbor, Michigan (*1*). The break-away base that was used in the study is anchored by rubber grommets to a rubber mat that is flush with the infield surface. The mat is anchored to the ground by a metal post similar to that used with standard stationary bases. Seven hundred foot-pounds of force, or one-fifth the force needed to dislodge a stationary base from its mooring, is required to release the break-away portion of the base.

The study evaluated injuries sustained during 633 games on two fields with break-away bases and 627 games on six fields with stationary bases. The players were college students, laborers, executives, physicians, and others ranging from 18 to 55 years of age. Players were assigned to one of four leagues on the basis of skill level and experience. Teams were assigned to playing fields on a random and rotating basis. All fields were maintained in the same manner.

All injuries requiring a player to leave the game were documented by the umpires. Local hospital emergency rooms, the University of Michigan Student Health Service, and private practice orthopedic surgeons were asked to keep logs of patients seen with softball-related injuries. All persons identified by these three surveillance systems were contacted to see whether their injuries had occurred while sliding. Patients who had been playing on the study fields were included in the analysis.

During the study period, there were 45 sliding injuries on the fields with stationary bases (7.2/100 games) and two sliding injuries on the fields with break-away bases (0.3/100 games) (rate ratio = 22.7; 95% confidence intervals, 5.6 to 71.4). Forty-three of the 45 injuries to players sliding into stationary bases involved the lead foot or hand. Twenty-four of the 45 injuries were ankle injuries; five were skin abrasions; five were knee injuries; three were finger fractures; and eight were from other causes. Medical charges for these 45 players were approximately $55,050 ($1,223/injury). The two injuries involving break-away bases comprised a nondisplaced medial malleolar ankle fracture and an ankle sprain. The total medical expense for these two players was approximately $700 ($350/injury).

Injuries – Continued

Reported by: DH Janda, MD, EM Wojtys, MD, FM Hankin, MD, ME Benedict, MA, Univ of Michigan, Ann Arbor, Michigan. Epidemiology Br, Div of Injury Epidemiology and Control, Center for Environmental Health and Injury Control, CDC.

Editorial Note: In 1986, the National Electronic Injury Surveillance System of the U.S. Consumer Product Safety Commission estimated that 361,552 baseball-related injuries were treated in emergency rooms in the United States (*2*). This figure probably underestimates the actual number of injuries. The Amateur Softball Association of America estimates that 32 million individuals participate in softball leagues and that teams consist of an average of 15 persons and play approximately 22 games per year (unpublished data). Based on these data, it may be further estimated that about 23 million softball games are played annually in the United States.

Studies of recreational softball injuries have found that base sliding is responsible for 35% to 71% of injuries occurring during play, including abrasions, sprains, ligament strains, and fractures (*3,4*). These injuries are caused by the impact of rapid deceleration against stationary bases. Methods suggested to reduce base-sliding injuries have included prohibiting sliding, offering better instruction on sliding techniques, using recessed bases, and using quick-release bases (*4,5*). Prohibiting base sliding would be effective but might be met with resistance from some fans and participants. Holding instructional clinics on proper sliding techniques is a possibility for school-related organizations; however, this method might be impractical for community-based teams.

The prospective study in Michigan suggests that modifying the bases can alter the pattern and frequency of sliding injuries. If the stationary-base sliding injury rate of 7.2/100 games and the cost per injury of $1,223 reported in the study are representative, then approximately 1.7 million sliding injuries occur annually at a cost of over $2 billion. Similar calculations indicate that exclusive use of break-away bases would reduce injuries to just over 70,000 (a 96% reduction) and medical costs to $24 million (a 99% reduction).

The umpires indicated that break-away bases did not significantly delay play, even though sliding players dislodged the bases up to six times per game. Properly seated bases did not detach during routine base running, and the umpires did not have difficulty with judgment calls when the bases released. The bases were durable and easy to replace and lasted both seasons.

The use of break-away bases in recreational softball leagues might provide a significant, cost-effective reduction in softball injuries from sliding. However, injuries may still occur from runners' errors in judgment, improper sliding technique, poor timing, inadequate physical conditioning, and alcohol consumption.

References

1. Janda DH, Wojtys EM, Hankin FM, Benedict ME. Softball sliding injuries: a prospective study comparing standard and modified bases. JAMA 1988;259:1848-50.
2. US Consumer Product Safety Commission. The National Electronic Injury Surveillance System: January-December 1986. NEISS Data Highlights 1988;10.
3. Wheeler BR. Ankle fractures in slow-pitch softball: the Army experience. Milit Med 1987;152:626-8.
4. Janda DH, Hankin FM, Wojtys EM. Softball injuries: cost, cause and prevention. Am Fam Physician 1986;33:143-4.
5. Wheeler BR. Slow-pitch softball injuries. Am J Sports Med 1984;12:237-40.

Current Trends

Birth Defects Caused by Isotretinoin — New Jersey

Between June 1983 and January 1987, four infants with isotretinoin embryopathy were born in New Jersey. Isotretinoin embryopathy consists of severe birth defects associated with first-trimester exposure to the synthetic retinoid isotretinoin (Accutane™*, Roche Laboratories, A Division of Hoffmann-La Roche, Inc.), which is used to treat severe, recalcitrant cystic acne. Two of the cases were reported to the New Jersey Birth Defects Registry. A third case was described in the pediatric literature (*1*). The fourth was identified through a teratologist currently investigating cases of isotretinoin embryopathy in the United States (Massachusetts General Hospital, unpublished data). These cases are similar to a larger number of cases that have been reported to the Food and Drug Administration (FDA) from all areas of the United States.

Case 1: In June 1983, a 1,260 g female infant of 30 weeks gestation was born to a 22-year-old woman with no previous pregnancies. The woman had taken isotretinoin for 8 days when she was 4 to 6 weeks pregnant. Isotretinoin treatment had been stopped when the woman learned that she was pregnant. At birth, the infant had microcephaly, bilateral microphthalmia, and bilateral rudimentary pinnae. She died on the 28th day of life. Postmortem examination revealed lissencephaly, rudimentary pinnae, atrial septal defect, ventricular septal defect, patent ductus arteriosus, and interrupted aortic arch (*1*).

Case 2: In June 1985, a full-term male infant weighing 2,760 g was born to a 22-year-old woman who had taken isotretinoin during the first weeks of gestation. She had been counseled about the risk of drug-induced birth defects and had elected to carry the pregnancy to term. The infant had micrognathia, facial dysmorphism, missing ear lobes, Dandy-Walker malformation, and hearing and visual impairment. He now has severe mental retardation and developmental delay and requires institutional care.

Case 3: In September 1986, a male infant of 27 weeks gestation was born to a woman who had taken isotretinoin during the second month of gestation. The infant had dysplastic external ears and hydrocephalus, which was treated with a ventriculo-peritoneal shunt. This abnormality is thought to be secondary to an intraventricular hemorrhage during the early neonatal period.

Case 4: In January 1987, a full-term male infant weighing 3,558 g was born with dysplastic ears and hearing loss. His mother had been treated with isotretinoin during the first trimester of pregnancy.

Reported by: M Knapp, MSN, RN, Special Child Health Svcs and New Jersey Birth Defects Registry; New Jersey State Dept of Health. Birth Defects and Genetic Diseases Br, Div of Birth Defects and Developmental Disabilities, Center for Environmental Health and Injury Control, CDC.

Editorial Note: Isotretinoin was recognized as an animal teratogen before it was first marketed in September 1982. It was, therefore, classified by FDA as Category X, contraindicated for use during pregnancy. A statement to that effect was included in the package insert.

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

Birth Defects — Continued

In June 1983, human teratogenicity was reported to FDA and to the public (*2*). Subsequent reports have documented a strong association between a characteristic group of birth defects and exposure to isotretinoin during the first weeks of gestation (*3,4*). These defects include external ear malformations, cleft palate, micrognathia, conotruncal heart defects, ventricular septal defects, aortic-arch malformations, and certain brain malformations (*3*). In one prospective follow-up study, eight of 36 pregnancies that were exposed to isotretinoin resulted in spontaneous abortions during the first trimester; four resulted in live-born infants with at least one major malformation; one, in a malformed stillborn infant; and 23, in infants without major malformations (*3*). This study found a relative risk of 25.6 (95% confidence interval, 11.4 to 57.5) for the defects associated with isotretinoin embryopathy.

(Continued on page 177)

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

Disease	11th Week Ending			Cumulative, 11th Week Ending		
	March 19, 1988	March 21, 1987	Median 1983-1987	March 19, 1988	March 21, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	343	339	78	6,229	4,129	1,133
Aseptic meningitis	65	101	91	802	962	916
Encephalitis: Primary (arthropod-borne & unspec)	14	21	24	133	165	182
Post-infectious	5	2	2	15	13	16
Gonorrhea: Civilian	11,666	14,294	15,967	144,452	176,880	173,563
Military	332	428	394	2,663	3,723	4,170
Hepatitis: Type A	566	589	453	5,149	5,217	4,860
Type B	438	603	511	3,972	5,128	5,025
Non A, Non B	60	65	78	465	618	670
Unspecified	33	70	108	447	700	1,037
Legionellosis	13	23	12	134	150	123
Leprosy	5	3	3	29	45	53
Malaria	17	9	10	137	144	139
Measles: Total*	57	73	81	429	519	519
Indigenous	52	64	81	404	431	431
Imported	5	9	3	25	88	61
Meningococcal infections	89	79	77	758	891	715
Mumps	89	584	98	882	3,861	794
Pertussis	52	49	40	427	395	371
Rubella (German measles)	3	15	15	31	59	95
Syphilis (Primary & Secondary): Civilian	755	639	516	7,651	7,184	5,993
Military	1	1	5	48	47	50
Toxic Shock syndrome	9	11	7	58	63	85
Tuberculosis	289	455	434	3,446	3,938	3,938
Tularemia	-	1	1	19	17	17
Typhoid Fever	10	10	5	73	48	50
Typhus fever, tick-borne (RMSF)	-	-	-	15	8	10
Rabies, animal	54	115	108	614	845	874

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis (N.C. 1)	7
Botulism: Foodborne	4	Plague	-
Infant	8	Poliomyelitis, Paralytic	-
Other	2	Psittacosis (Fla. 1)	18
Brucellosis (Mich. 1; Calif. 2)	11	Rabies, human	-
Cholera	-	Tetanus (Mo. 1; La.1)	6
Congenital rubella syndrome	-	Trichinosis	4
Congenital syphilis, ages < 1 year	-		
Diphtheria	-		

*Four of the 57 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 March 19, 1988 and March 21, 1987 (11th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	6,229	802	133	15	144,452	176,880	5,149	3,972	465	447	134	29
NEW ENGLAND	284	39	7	4	4,395	6,403	188	299	56	35	3	4
Maine	11	2	1	4	96	212	10	12	1	1	1	-
N.H.	4	7	-	-	73	95	13	8	3	2	-	-
Vt.	3	1	2	-	41	42	3	10	3	-	-	-
Mass.	162	18	3	-	1,547	2,389	117	201	41	27	2	4
R.I.	13	9	-	-	345	486	24	28	6	-	-	-
Conn.	91	2	1	-	2,293	3,179	21	40	2	5	-	-
MID. ATLANTIC	1,927	99	15	-	20,313	28,806	267	422	26	35	29	1
Upstate N.Y.	361	47	11	-	2,335	3,533	162	108	12	2	17	-
N.Y. City	855	15	3	-	8,350	15,864	39	183	2	25	2	1
N.J.	518	37	1	-	3,350	3,412	66	131	12	8	-	-
Pa.	193	-	-	-	6,278	5,997	-	-	-	-	10	-
E.N. CENTRAL	504	110	19	-	23,074	24,208	483	424	23	31	42	-
Ohio	111	46	11	-	5,332	4,788	303	137	9	2	13	-
Ind.	39	16	2	-	2,066	1,968	31	46	1	12	4	-
Ill.	220	2	-	-	6,685	7,328	21	25	-	1	-	-
Mich.	113	41	4	-	7,534	7,929	112	189	10	16	20	-
Wis.	21	5	2	-	1,457	2,195	16	27	3	-	5	-
W.N. CENTRAL	150	42	11	2	5,730	7,061	332	207	19	6	12	-
Minn.	28	12	2	-	774	1,178	12	24	1	1	-	-
Iowa	7	9	5	-	385	724	18	21	4	-	4	-
Mo.	72	5	-	-	3,246	3,574	164	115	9	3	1	-
N. Dak.	-	-	-	-	32	86	2	2	1	-	-	-
S. Dak.	3	5	-	1	111	142	-	1	1	-	4	-
Nebr.	13	1	1	1	359	396	9	15	-	-	2	-
Kans.	27	10	3	-	823	961	127	29	3	2	1	-
S. ATLANTIC	995	178	18	3	40,696	46,316	305	786	58	65	22	-
Del.	14	5	1	-	587	650	1	22	1	1	2	-
Md.	113	16	1	-	3,999	4,750	44	137	4	2	4	-
D.C.	101	5	-	-	2,571	2,851	4	5	2	1	-	-
Va.	105	15	10	1	2,886	3,749	67	38	14	43	1	-
W. Va.	4	5	1	-	327	368	2	12	1	3	-	-
N.C.	66	38	4	-	6,788	6,807	44	141	16	-	9	-
S.C.	34	3	-	-	3,160	4,152	11	134	3	3	4	-
Ga.	142	17	1	-	7,635	7,891	35	122	1	1	1	-
Fla.	416	74	-	2	12,743	15,098	97	175	16	11	1	-
E.S. CENTRAL	161	57	11	2	11,333	12,799	193	242	41	4	6	1
Ky.	24	22	3	1	949	1,294	171	51	16	2	3	-
Tenn.	72	5	3	-	3,541	4,402	13	101	12	-	1	-
Ala.	44	23	5	1	4,101	4,226	3	81	12	2	2	1
Miss.	21	7	-	-	2,742	2,877	6	9	1	-	-	-
W.S. CENTRAL	583	56	4	-	16,653	19,190	497	241	29	91	2	-
Ark.	25	2	1	-	1,487	1,921	54	16	1	2	-	-
La.	93	11	-	-	4,000	3,916	22	59	4	3	1	-
Okla.	12	6	1	-	1,437	2,111	157	42	5	9	1	-
Tex.	453	37	2	-	9,729	11,242	264	124	19	77	-	-
MOUNTAIN	203	33	12	1	3,107	4,627	698	331	40	50	8	-
Mont.	4	1	-	-	85	117	15	13	2	2	-	-
Idaho	2	-	-	-	72	159	28	18	1	-	-	-
Wyo.	1	1	-	-	47	75	1	1	3	-	1	-
Colo.	64	10	2	-	813	949	31	45	3	20	4	-
N. Mex.	12	-	-	-	297	494	129	42	3	1	-	-
Ariz.	72	11	5	-	1,021	1,657	365	146	15	18	1	-
Utah	14	6	3	1	143	187	90	23	10	8	2	-
Nev.	34	4	2	-	629	989	39	43	3	1	-	-
PACIFIC	1,422	188	36	3	19,151	27,470	2,186	1,020	173	130	10	23
Wash.	71	-	1	2	1,365	1,889	378	101	24	13	5	-
Oreg.	52	-	-	-	662	975	443	159	21	4	-	-
Calif.	1,263	162	34	1	16,677	23,876	1,290	735	125	111	3	23
Alaska	7	6	-	-	243	478	75	17	2	2	-	-
Hawaii	29	20	1	-	204	252	-	8	1	-	2	-
Guam	-	-	-	-	32	50	1	3	-	2	-	3
P.R.	287	7	1	-	346	510	3	58	11	9	-	-
V.I.	2	-	-	-	84	50	-	3	-	-	-	-
Amer. Samoa	-	-	-	-	-	103	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	9	24	-	1	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 19, 1988 and March 21, 1987 (11th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	1988	Cum. 1988	Cum. 1987
UNITED STATES	137	52	404	5	25	519	758	89	882	52	427	395	3	31	59
NEW ENGLAND	16	-	1	-	-	6	67	-	3	-	50	11	-	-	-
Maine	2	-	-	-	-	-	2	-	-	-	11	-	-	-	-
N.H.	-	-	-	-	-	-	7	-	2	-	16	1	-	-	-
Vt.	-	-	-	-	-	6	3	-	-	-	-	3	-	-	-
Mass.	10	-	1	-	-	-	27	-	1	-	16	3	-	-	-
R.I.	2	-	-	-	-	-	11	-	-	-	-	-	-	-	-
Conn.	2	-	-	-	-	-	17	-	-	-	7	4	-	-	-
MID. ATLANTIC	17	23	109	1	1	80	65	5	55	-	13	47	1	2	1
Upstate N.Y.	8	-	-	1§	1	12	31	-	15	-	6	34	-	-	-
N.Y. City	7	2	14	-	-	48	8	-	10	-	-	-	-	-	-
N.J.	2	-	-	-	-	5	26	3	14	-	1	2	-	1	1
Pa.	-	21	95	-	-	15	-	2	16	-	6	11	1	1	-
E.N. CENTRAL	7	-	10	-	-	64	77	15	208	4	39	58	-	4	12
Ohio	1	-	-	-	-	4	31	-	36	-	8	19	-	-	-
Ind.	-	-	-	-	-	-	7	5	19	2	17	-	-	-	-
Ill.	-	-	1	-	-	37	2	4	16	-	-	3	-	-	11
Mich.	6	-	9	-	-	23	27	6	91	2	9	15	-	4	1
Wis.	-	-	-	-	-	-	10	-	46	-	5	21	-	-	-
W.N. CENTRAL	3	-	-	-	-	2	37	4	55	-	29	24	-	-	-
Minn.	1	-	-	-	-	-	9	-	-	-	3	3	-	-	-
Iowa	-	-	-	-	-	-	-	1	21	-	13	2	-	-	-
Mo.	1	-	-	-	-	2	14	2	12	-	3	10	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	6	1	-	-	-
S. Dak.	-	-	-	-	-	-	1	-	-	-	2	1	-	-	-
Nebr.	-	-	-	-	-	-	5	1	3	-	-	-	-	-	-
Kans.	1	-	-	-	-	-	8	-	19	-	2	7	-	-	-
S. ATLANTIC	16	13	84	-	5	5	137	4	50	7	41	94	-	-	6
Del.	-	-	-	-	-	-	-	-	-	1	3	-	-	-	-
Md.	2	-	-	-	2	-	16	-	2	3	9	-	-	-	1
D.C.	4	-	-	-	-	-	4	2	19	-	-	-	-	-	-
Va.	3	13	34	-	1	-	16	-	4	-	2	29	-	-	-
W. Va.	-	-	2	-	-	-	-	-	2	-	-	13	-	-	-
N.C.	1	-	-	-	1	-	24	2	9	3	19	44	-	-	-
S.C.	3	-	-	-	-	-	16	-	3	-	-	-	-	-	-
Ga.	1	-	-	-	-	-	16	-	4	-	7	5	-	-	-
Fla.	2	-	48	-	1	5	45	-	7	-	1	3	-	-	5
E.S. CENTRAL	2	-	-	-	-	-	65	5	171	-	7	6	-	-	2
Ky.	-	-	-	-	-	-	10	-	35	-	-	1	-	-	2
Tenn.	-	-	-	-	-	-	40	5	132	-	6	-	-	-	-
Ala.	2	-	-	-	-	-	13	-	3	-	-	3	-	-	-
Miss.	-	-	-	-	-	-	2	N	N	-	1	2	-	-	-
W.S. CENTRAL	14	-	8	-	-	6	44	31	146	14	25	23	-	1	-
Ark.	-	-	-	-	-	-	7	-	1	1	3	2	-	1	-
La.	1	-	-	-	-	-	10	14	64	-	2	2	-	-	-
Okla.	4	-	8	-	-	1	3	16	35	13	20	19	-	-	-
Tex.	9	-	-	-	-	5	24	1	46	-	-	-	-	-	-
MOUNTAIN	7	-	113	-	-	97	29	14	60	19	145	39	-	2	2
Mont.	-	-	-	-	-	1	-	-	-	1	1	-	-	-	-
Idaho	-	-	-	-	-	-	2	-	-	17	131	16	-	-	-
Wyo.	-	-	-	-	-	-	-	-	2	-	1	2	-	-	1
Colo.	3	-	113	-	-	-	8	3	15	1	3	11	-	1	-
N. Mex.	1	-	-	-	-	95	7	N	N	-	-	1	-	-	-
Ariz.	1	-	-	-	-	1	5	8	36	-	1	8	-	-	-
Utah	1	-	-	-	-	-	6	-	1	-	7	1	-	-	1
Nev.	1	-	-	-	-	-	1	3	6	-	1	-	-	1	-
PACIFIC	55	16	79	4	19	259	237	11	134	8	78	93	2	22	36
Wash.	2	-	-	-	-	-	19	-	6	2	13	14	-	-	-
Oreg.	4	-	-	-	-	27	11	N	N	-	2	12	-	-	1
Calif.	48	16	79	4†	18	230	196	11	125	5	42	45	2	20	33
Alaska	1	-	-	-	-	-	2	-	3	-	2	3	-	-	-
Hawaii	-	-	-	-	1	2	9	-	-	1	19	19	-	2	2
Guam	-	-	-	-	1	1	-	1	2	-	-	-	-	1	-
P.R.	1	-	23	-	-	137	4	-	2	1	2	8	-	-	1
V.I.	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*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 March 19, 1988 and March 21, 1987 (11th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	7,651	7,184	58	3,446	3,938	19	73	15	614
NEW ENGLAND	228	100	4	64	90	-	6	-	3
Maine	2	1	1	2	10	-	-	-	1
N.H.	2	1	2	-	5	-	-	-	2
Vt.	-	1	-	-	2	-	-	-	-
Mass.	84	54	1	38	24	-	4	-	-
R.I.	9	-	-	7	7	-	-	-	-
Conn.	131	43	-	17	42	-	2	-	-
MID. ATLANTIC	1,431	1,141	11	636	715	-	12	1	74
Upstate N.Y.	88	34	5	125	122	-	1	-	1
N.Y. City	958	788	2	241	341	-	5	1	-
N.J.	157	128	2	121	121	-	6	-	-
Pa.	228	191	2	149	131	-	-	-	73
E.N. CENTRAL	231	199	7	444	463	1	9	1	10
Ohio	18	16	5	84	96	-	2	-	-
Ind.	17	14	-	43	37	-	2	-	1
Ill.	124	125	-	172	187	-	4	-	2
Mich.	67	26	2	118	129	1	1	1	2
Wis.	5	18	-	27	14	-	-	-	5
W.N. CENTRAL	43	35	10	103	111	9	2	-	84
Minn.	4	4	-	20	24	-	1	-	35
Iowa	3	6	2	9	8	-	-	-	13
Mo.	23	19	4	46	63	7	1	-	4
N. Dak.	1	-	-	1	1	-	-	-	11
S. Dak.	1	3	-	11	4	-	-	-	16
Nebr.	5	2	2	4	3	1	-	-	1
Kans.	6	1	2	12	8	1	-	-	4
S. ATLANTIC	2,734	2,443	8	773	781	2	12	10	210
Del.	39	21	-	7	11	1	-	-	-
Md.	147	137	1	57	66	-	-	-	62
D.C.	126	75	-	39	26	-	-	-	1
Va.	81	57	-	87	76	-	5	-	68
W. Va.	1	1	-	18	25	-	-	-	14
N.C.	176	138	5	46	84	-	1	10	-
S.C.	128	142	-	84	79	-	-	-	10
Ga.	420	373	-	120	88	1	2	-	40
Fla.	1,616	1,499	2	315	326	-	4	-	15
E.S. CENTRAL	428	458	7	266	378	4	-	2	48
Ky.	14	3	2	84	94	3	-	-	30
Tenn.	162	222	3	48	108	-	-	1	-
Ala.	133	119	2	94	123	-	-	1	18
Miss.	119	114	-	40	53	1	-	-	-
W.S. CENTRAL	832	959	4	383	398	1	2	-	78
Ark.	36	46	-	37	34	-	-	-	17
La.	145	154	-	56	63	-	2	-	-
Okla.	39	29	2	44	52	1	-	-	5
Tex.	612	730	2	246	249	-	-	-	56
MOUNTAIN	138	136	4	73	112	2	3	1	48
Mont.	2	7	-	-	8	-	1	-	36
Idaho	-	1	1	-	13	-	-	1	-
Wyo.	-	-	-	-	-	-	-	-	4
Colo.	25	23	1	5	16	2	2	-	-
N. Mex.	13	11	-	16	20	-	-	-	3
Ariz.	36	70	1	39	47	-	-	-	5
Utah	6	4	1	-	1	-	-	-	-
Nev.	56	20	-	13	7	-	-	-	-
PACIFIC	1,586	1,713	3	704	890	-	27	-	59
Wash.	29	29	-	38	39	-	2	-	-
Oreg.	61	42	-	29	22	-	4	-	-
Calif.	1,488	1,638	3	592	770	-	19	-	57
Alaska	1	2	-	9	16	-	-	-	2
Hawaii	7	2	-	36	43	-	2	-	-
Guam	-	1	-	7	2	-	-	-	-
P.R.	117	225	-	38	49	-	2	-	16
V.I.	1	2	-	2	1	-	-	-	-
Amer. Samoa	-	53	-	-	30	-	-	-	-
C.N.M.I.	-	2	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending March 19, 1988 (11th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	721	531	126	37	16	11	60
Boston, Mass.	168	109	34	15	5	5	20
Bridgeport, Conn.	52	37	11	2	2	-	1
Cambridge, Mass.	28	23	2	2	1	-	3
Fall River, Mass.	40	26	9	4	1	-	-
Hartford, Conn.	67	45	12	5	3	2	1
Lowell, Mass.	29	25	4	-	-	-	4
Lynn, Mass.	21	16	4	1	-	-	1
New Bedford, Mass.	24	19	5	-	-	-	3
New Haven, Conn.	44	30	7	6	-	1	5
Providence, R.I.	65	54	8	-	3	-	4
Somerville, Mass.	16	14	1	-	1	-	-
Springfield, Mass.	55	34	17	2	-	2	5
Waterbury, Conn.	42	36	6	-	-	-	6
Worcester, Mass.	70	63	6	-	-	1	7
MID. ATLANTIC	2,838	1,909	545	256	60	68	180
Albany, N.Y.	54	34	10	5	2	3	1
Allentown, Pa.	19	15	3	1	-	-	1
Buffalo, N.Y.	134	94	30	6	-	4	12
Camden, N.J.	37	23	7	3	3	1	1
Elizabeth, N.J.	33	27	3	3	-	-	5
Erie, Pa.†	40	36	4	-	-	-	7
Jersey City, N.J.	50	32	8	8	1	1	1
N.Y. City, N.Y.	1,459	930	278	175	32	44	85
Newark, N.J.	50	24	9	5	8	4	-
Paterson, N.J.	42	25	7	7	-	3	2
Philadelphia, Pa.	392	263	87	25	11	6	22
Pittsburgh, Pa.†	105	81	21	2	1	-	4
Reading, Pa.	46	41	5	-	-	-	9
Rochester, N.Y.	113	83	23	6	1	-	16
Schenectady, N.Y.	18	17	1	-	-	-	-
Scranton, Pa.†	36	31	4	1	-	-	-
Syracuse, N.Y.	102	77	20	3	1	1	8
Trenton, N.J.	43	33	8	2	-	-	1
Utica, N.Y.	30	20	6	4	-	-	-
Yonkers, N.Y.	35	23	11	-	-	1	5
E.N. CENTRAL	2,437	1,633	502	173	55	73	120
Akron, Ohio	51	38	8	2	2	1	-
Canton, Ohio	42	30	12	-	-	-	4
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	191	127	42	14	5	3	24
Cleveland, Ohio	171	108	39	19	2	3	3
Columbus, Ohio	132	85	32	7	3	5	2
Dayton, Ohio	125	87	28	6	3	1	7
Detroit, Mich.	282	161	60	38	13	9	3
Evansville, Ind.	33	28	3	-	1	1	1
Fort Wayne, Ind.	52	39	9	3	-	1	1
Gary, Ind.	11	5	3	-	3	-	1
Grand Rapids, Mich.	73	51	12	7	1	2	7
Indianapolis, Ind.	170	104	41	11	1	13	2
Madison, Wis.	50	40	6	1	1	2	6
Milwaukee, Wis.	162	123	28	5	3	3	10
Peoria, Ill.	51	38	8	1	1	3	4
Rockford, Ill.	51	42	6	2	-	1	9
South Bend, Ind.	55	41	9	3	1	1	6
Toledo, Ohio	107	74	22	6	3	2	9
Youngstown, Ohio	64	50	9	3	2	-	5
W.N. CENTRAL	978	698	168	61	24	27	66
Des Moines, Iowa	57	42	8	4	-	3	6
Duluth, Minn.	27	24	1	2	-	-	-
Kansas City, Kans.	38	22	7	5	2	2	-
Kansas City, Mo.	131	102	18	7	1	3	12
Lincoln, Nebr.	41	29	7	2	2	1	4
Minneapolis, Minn.	260	182	47	12	7	12	20
Omaha, Nebr.	115	91	17	5	1	1	11
St. Louis, Mo.	140	81	36	16	4	3	2
St. Paul, Minn.	72	57	7	4	3	1	-
Wichita, Kans.	97	68	20	4	4	1	11
S. ATLANTIC	1,596	996	327	173	68	30	106
Atlanta, Ga.	190	123	41	13	11	2	8
Baltimore, Md.	208	139	47	14	4	4	16
Charlotte, N.C.	130	89	26	10	4	1	10
Jacksonville, Fla.	137	81	32	12	8	4	15
Miami, Fla.	209	122	48	23	11	4	4
Norfolk, Va.	57	40	10	3	2	2	3
Richmond, Va.	105	70	24	8	3	-	16
Savannah, Ga.	75	55	14	3	1	2	7
St. Petersburg, Fla.	96	82	7	3	2	2	10
Tampa, Fla.	66	39	19	2	3	2	4
Washington, D.C.	287	130	55	77	19	6	13
Wilmington, Del.	36	26	4	5	-	1	-
E.S. CENTRAL	887	597	179	51	27	33	73
Birmingham, Ala.	124	86	20	7	5	6	7
Chattanooga, Tenn.	47	32	9	3	2	1	13
Knoxville, Tenn.	106	73	24	7	2	-	5
Louisville, Ky.	98	68	23	4	2	1	4
Memphis, Tenn.	221	145	38	14	6	18	20
Mobile, Ala.	112	74	23	6	6	3	9
Montgomery, Ala.	47	29	12	3	1	2	5
Nashville, Tenn.	132	90	30	7	3	2	10
W.S. CENTRAL	1,443	910	302	128	52	51	91
Austin, Tex.	45	25	14	5	1	-	6
Baton Rouge, La.	44	32	5	5	1	1	4
Corpus Christi, Tex.	64	47	10	2	3	2	1
Dallas, Tex.	192	108	41	23	9	11	4
El Paso, Tex.	50	34	13	3	-	-	4
Fort Worth, Tex	106	72	17	8	1	8	5
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	96	70	15	3	2	6	12
New Orleans, La.	107	65	26	15	-	1	-
San Antonio, Tex.	217	130	47	17	16	7	15
Shreveport, La.	71	49	15	6	1	-	12
Tulsa, Okla.	143	102	25	7	5	4	21
MOUNTAIN	695	472	121	52	21	29	49
Albuquerque, N. Mex.	97	61	15	15	3	3	10
Colo. Springs, Colo.	46	30	13	2	1	-	8
Denver, Colo.	136	83	24	10	4	15	4
Las Vegas, Nev.	110	75	24	3	4	4	8
Ogden, Utah	24	18	4	2	-	-	3
Phoenix, Ariz.	112	80	20	6	4	2	4
Pueblo, Colo.	28	23	3	1	1	-	-
Salt Lake City, Utah	48	31	5	7	2	3	3
Tucson, Ariz.	94	71	13	6	2	2	9
PACIFIC	2,129	1,405	402	193	64	51	159
Berkeley, Calif.	22	16	4	2	-	-	1
Fresno, Calif.	89	63	17	5	2	2	2
Glendale, Calif.	28	21	5	1	1	-	2
Honolulu, Hawaii	75	54	13	4	2	2	7
Long Beach, Calif.	86	63	15	4	1	3	12
Los Angeles Calif.	609	376	127	66	17	9	28
Oakland, Calif.	78	57	16	3	1	1	2
Pasadena, Calif.	31	24	-	5	2	-	5
Portland, Oreg.	176	117	32	14	10	3	16
Sacramento, Calif.	180	119	38	13	8	2	22
San Diego, Calif.	144	95	30	12	4	3	18
San Francisco, Calif.	167	98	36	26	2	5	5
San Jose, Calif.	191	132	33	17	4	5	19
Seattle, Wash.	145	91	24	16	7	7	2
Spokane, Wash.	58	45	6	-	2	5	11
Tacoma, Wash.	50	34	6	5	1	4	7
TOTAL	13,724††	9,151	2,672	1,124	387	373	904

*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.

Birth Defects — Continued

Human birth defects also have been observed after prenatal exposure to etretinate (Tegison™†, Roche Laboratories, A Division of Hoffmann-La Roche, Inc.), a drug approved in October 1986 for treatment of severe, recalcitrant psoriasis (*2*). Etretinate also carries Category X labeling. Measurable serum concentrations of this drug have been documented more than 2 years after cessation of therapy (*5*), and the risk of teratogenicity may extend for an indefinite period of time after therapy (*6*).

Isotretinoin embryopathy is a preventable syndrome, and the number of infants born with these problems can be reduced by following the guidelines developed cooperatively by FDA and the manufacturer, Hoffmann-La Roche, Inc. This information is distributed in the form of package inserts and patient information leaflets. Current information for prescribing Accutane™ and Tegison™ has been published in the 1988 *Physicians' Desk Reference* (*7*). A summary of these guidelines follows:

1. Isotretinoin and etretinate should not be used by women who are pregnant or who may become pregnant while taking the drug.
2. Pregnancy should be ruled out before treatment begins. This precaution may best be accomplished by obtaining a negative pregnancy test no more than 2 weeks prior to the beginning of therapy and starting therapy on the second or third day of the patient's next normal menstrual period.
3. An effective form of contraception should be used for at least 1 month before therapy begins.
4. Women who have received isotretinoin should continue using an effective form of contraception for 1 month after discontinuing treatment.
5. The period of time during which pregnancy must be avoided after treatment is discontinued has not been determined for women who have received etretinate.
6. Female patients should be counseled on the risk of major birth defects associated with first-trimester exposure to isotretinoin or etretinate. Should a pregnancy occur during treatment (or after treatment, in the case of etretinate), the woman should consult her physician about the management of her pregnancy.

In addition, patients should be counseled not to share these prescription drugs with friends or family members.

The approach suggested by these guidelines cannot be expected to prevent all fetal exposures. It can be anticipated that infants will be born with defects caused by first-trimester exposures to the synthetic retinoids isotretinoin and etretinate as long as these drugs are available for use.

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

Epidemiologic Notes and Reports

Scabies in Health-Care Facilities — Iowa

Scabies continues to occur among residents and staff of Iowa nursing homes and hospitals. For the 8-year period July 1979–June 1987, the Iowa Department of Public Health confirmed scabies in 25 nursing homes, 1 hospital, 1 state institution, and 1 county residential care facility. Reports of scabies were received from 11 other facilities. A report of the investigation of this problem in three nursing homes follows.

Facility 1. In September 1985, scabies mites were found on three of seven nursing home patients with lesions suggestive of the disease. Skin scrapings from one of these patients yielded mites and eggs. He was successfully treated with an appropriate regimen of lindane lotion. The three visiting physical therapists who had treated the patient were also evaluated. Two had pruritic lesions compatible with scabies. A live mite was recovered in skin scrapings from one therapist, who was referred to her personal physician for treatment. Additional scabies cases were confirmed in this facility in December 1985 (1 of 3 positive) and November 1986 (5 of 19 positive).

Facility 2. In September 1985, skin scrapings from a 90-year-old nursing home patient with a persistent skin rash yielded 23 mites. The patient had been hospitalized briefly 3 weeks prior to this assessment, and evidence of transmission to hospital personnel was reported. The condition persisted, and the patient received monthly maintenance treatments until she died during a subsequent hospitalization.

Facility 3. In April 1987, an investigation revealed seven residents and three staff members with confirmed or probable scabies. All but two residents were confined to a ward of patients with Alzheimer's disease. The index patient, who had a rash of long duration, had transferred from another nursing home and probably had scabies upon arrival. Twice during 1986 the state health department had investigated the previous nursing home, which was the probable source of infestation, and had found rashes compatible with scabies but no positive scrapings. The index patient had been included in these investigations.

Reported by: RW Currier, DVM, C Christie, BSN, LA Wintermeyer, MD, State Epidemiologist, Iowa Dept of Public Health. Div of Host Factors, Center for Infectious Diseases, CDC.

Editorial Note: Scabies becomes pandemic at approximately 30-year intervals (*1,2*). Evidence suggests that community scabies peaked in the mid-1970s but has persisted at high levels for the past 10 years (University of Minnesota, unpublished data).

Scabies is caused by infestation with the mite *Sarcoptes scabiei* and is a major problem in nursing homes, particularly among patients who are debilitated and require extensive hands-on care. Because treatment failure is common with approved scabicides (10% crotamiton cream/lotion, 1% lindane cream/lotion, and 10% sulfur in petrolatum), lengthy, intensive retreatment may be necessary.

These reports from Iowa suggest that the scabies mite is introduced when infested patients are transferred between institutions. The quantity of mites carried by these patients expedites transmission, which can occur directly, through contact between residents, or indirectly, through contact with staff. Thus, for such institutional settings, it may be appropriate to screen new patients routinely, preferably before admission, if they have a pruritic rash.

Skin scraping is the only consistent means of detecting mites, assessing the degree of transmissibility, and evaluating treatment when skin lesions persist or

Scabies — Continued

reappear (*3*). Any red, raised, pruritic skin lesions (especially on the upper back) that are not obviously due to other causes are suspect and should be scraped. Scraping will often yield *Demodex folliculorum* mites, which may produce lesions without extensive pruritis, in addition to *S. scabiei*. Treatment of residents, especially those with atypical, crusted rashes, should be aggressive (e.g., lindane lotion for 1 day, followed by 10% crotamiton lotion for 5 days, followed by a second lindane treatment). Treatment should include the entire body from the neck down, with special attention to the underside of well-trimmed fingernails.

Mass prophylaxis will not totally eliminate scabies, and the decision to use it should be based on the prevalence of scabies infestation in the facility. Follow-up examinations are recommended to assess overall control. Patients who cannot be successfully treated should receive monthly maintenance treatments for an extended period (e.g., applications of 10% crotamiton lotion for 2 days each month). Use of protective clothing and gloves by the nursing staff and isolation of patients would not serve any useful purpose since treatment failures usually reflect inadequate application of the scabicide to all appropriate body surfaces and not reinfestation from other patients or staff. Treatment failures occasionally result from resistance of mites to scabicides; failure for elderly, institutionalized persons may reflect concurrent cell-mediated immunodeficiency (*3*).

Nursing personnel frequently acquire scabies, especially on the upper arms and abdomen, but rarely on the hands and wrists (*4,5*). Recovering mites in scrapings from these persons is difficult because they usually carry a small number of adult mites. Occasionally, personnel experience psychogenic scabies or acarophobia, especially after recent treatment. Standard treatment will usually eliminate the problem and should be given to the staff's family members. Health-care workers with persistent complaints are best managed by emotional support and repeated skin scrapings to demonstrate the absence of mites (*6*).

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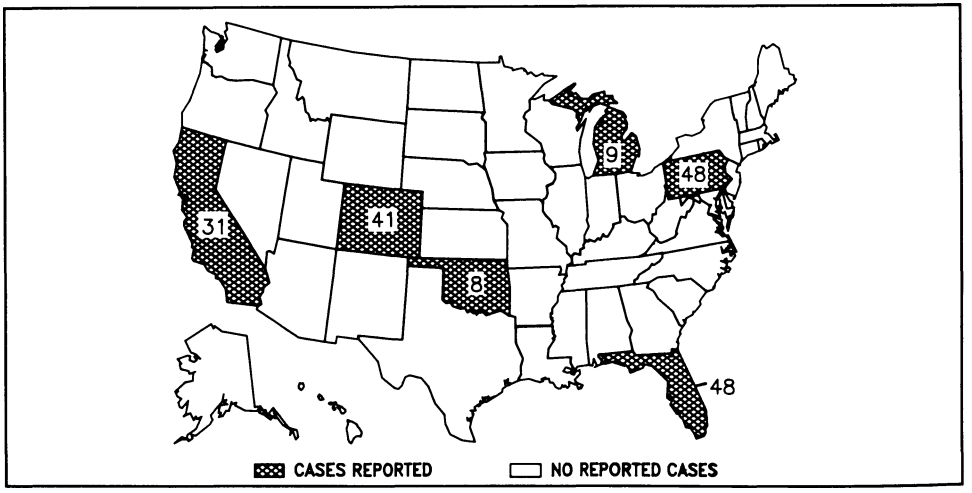
FIGURE I. Reported measles cases – United States, Weeks 7-10, 1988



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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: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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