

Nonfatal Occupational Injuries — Continued

likely to be part-time workers, and the use of an employee-based measure tends to overestimate their true exposure to work hazards. Overestimates of exposure (the denominator of the injury rate formula) produce artificially low injury rates (10). Further research is needed to examine the distributions of injured workers in various sex and age groups by occupation and industry. Although information about the industry and occupation of injured workers and characteristics of the injury events is available in the 1996 NEISS data, this information is in narrative format. Coding of these data is under way and will provide the basis for future, more detailed analysis by NIOSH. NIOSH currently uses the NEISS follow-up capabilities to conduct telephone interview studies with adolescents in the retail trades and services industries, workers aged <20 years injured on farms, and for construction workers injured in fall-related incidents. The detailed epidemiologic information that can be collected through the telephone investigations is a valuable aspect of this injury surveillance system for development of injury intervention strategies.

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Corneal Decompensation After Intraocular Ophthalmic Surgery — Missouri, 1998

During January 8–14, 1998, six of eight patients undergoing elective intraocular surgery at a Veterans Affairs medical center (VAMC) in St. Louis, Missouri, developed corneal endothelial decompensation (corneal edema and opacification) ≤ 24 hours after surgery. All had been operated on with instruments sterilized by the Abtox Plazlyte system (Abtox, Inc., Chicago, Illinois) (1). This report summarizes the results of the

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investigation of these cases and indicates that using the Abtox Plazlyte system to sterilize ophthalmologic surgical equipment led to corneal decompensation.

A case was defined as corneal endothelial decompensation within 24 hours after surgery in any patient undergoing intraocular ophthalmic surgery during January 5–14, 1998. To ascertain cases and to determine the background rate of corneal decompensation, medical records of patients undergoing ophthalmic surgery during September 1997–January 1998 were reviewed. Six cases were identified. All patients had post-operative findings of persistent low visual acuity, cloudy corneas with corneal endothelial decompensation, and iris paralysis with dilated pupils. All were male, ranged in age from 43 to 85 years (median: 67 years), and had chronic systemic diseases such as coronary artery disease and hypertension. Four patients had cataract extraction and a posterior chamber intraocular lens implant, one had repositioning of a previously implanted anterior chamber intraocular lens that had become dislocated, and one had a trabeculectomy filtering procedure for glaucoma. All had surgery performed in the same operating room. The duration of surgery ranged from 17 minutes to 3.5 hours (median: 1.5 hours). Post-operative vision (range: 20/400 to Hand Motion) was significantly worse than pre-operative vision (range: 20/40–20/200).

When case-patients were compared with six randomly selected controls who underwent surgery during January 5–14 and did not have corneal decompensation, there were no differences in type of ophthalmic surgery performed; medications used before, during, or after surgery; type of local or general anesthesia; surgeons or anesthesiologists; or scrub and circulating nurses.

All instruments used in procedures on the case-patients and controls had undergone Abtox Plazlyte sterilization (1). In November 1997, the hospital discontinued using ethylene oxide to sterilize instruments used in ophthalmic surgery and began using the Abtox Plazlyte sterilization method (1,2). From November 5, 1997, through January 14, 1998, a total of 49 patients had ophthalmic surgery that involved instruments sterilized in the Abtox Plazlyte machine. This method uses a vaporized mixture of peracetic acid, acetic acid, and hydrogen peroxide in combination with low temperature (1,2). The vapor is removed with argon, oxygen, and hydrogen gas (1,2). The Abtox Plazlyte system has not been cleared by the Food and Drug Administration (FDA) for either safety or performance. An earlier design was cleared by FDA for use only on stainless steel instruments without small hinges or small lumens, but it was never distributed by Abtox. Instruments routinely used in ophthalmic surgery often have small hinges and small lumens. In addition, ophthalmic cannulas (small-lumen instruments) may have nickel- and chrome-plated brass hubs. Brass can be oxidized to yield copper and zinc compounds. Preliminary results using inductively coupled plasma atomic emission spectrometer analyses performed at CDC revealed copper and zinc in water rinsed through cannulas sterilized in the Abtox Plazlyte system. When this rinse was infused into human and rabbit corneas, corneal decompensation occurred. Further laboratory testing is under way.

On January 14, 1998, the use of the Abtox system was discontinued at the St. Louis VAMC, and ophthalmic instruments were sterilized by steam autoclave. No additional cases have occurred. Abtox is conducting a field correction of the device that includes revised labeling that contraindicates use for ophthalmic instruments.

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Editorial Note: Corneal endothelial decompensation is manifested by opacity of the cornea; it can be a nonspecific response to mechanical or chemical injury (3). Mechanical trauma can result from incidental corneal contact by intraocular instruments during surgery; chemical injury can result from the improper use of intraocular drugs, drugs containing preservatives, or from residues from inadequate rinsing of detergents or other residues from surgical instruments (3,4). When severe, corneal endothelial decompensation requires corneal transplantation. Of the estimated 1.4 million cataract surgeries performed in the United States each year (5), <0.05% are complicated by corneal endothelial decompensation (A. Lubniewski, Veterans Affairs Medical Center, St. Louis, Missouri; and H. Edelhauser, Emory University, Atlanta, Georgia, personal communication, 1998).

Steam autoclaving is the preferred method for sterilizing surgical instruments. Ethylene oxide sterilization can be used for heat-sensitive items. However, because of the environmentally harmful effects of ethylene oxide, the Environmental Protection Agency encourages health-care providers to reduce the use of this form of sterilization. CDC's National Institute for Occupational Safety and Health considers ethylene oxide to be an occupational carcinogen and reproductive toxin (6,7). Since the early 1990s, new types of sterilization using plasma gas technology, such as the Abtox Plazlyte system, have been introduced (1,2). The inductively coupled plasma atomic emission data obtained from the CDC laboratory analyses, in part, prompted the FDA to issue a safety alert about the use of the Abtox Plazlyte Sterilization system to sterilize ophthalmic instruments (8).

To ascertain the extent of this problem, all episodes of corneal decompensation following ophthalmic surgery and information about type of sterilization method used should be reported through state health departments to CDC's Hospital Infections Program, National Center for Infectious Diseases, telephone (404) 639-6413, and to FDA's MedWatch, telephone (800) 332-1088.

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Diagnosis and Reporting of HIV and AIDS in States with Integrated HIV and AIDS Surveillance — United States, January 1994–June 1997

Recent reports based on acquired immunodeficiency syndrome (AIDS) surveillance data have highlighted substantial declines in AIDS incidence and deaths. As a result of improvements in treatment and care of persons infected with human immunodeficiency virus (HIV), surveillance of AIDS alone no longer accurately reflects the magnitude or direction of the epidemic (1). Current public health and clinical recommendations promote early diagnosis and treatment of HIV disease (2). Data on persons in whom HIV infection is diagnosed before AIDS is diagnosed are needed to determine populations in need of prevention and treatment services. This report examines data for persons aged ≥ 13 years in whom HIV infection was diagnosed in 25 states that conducted name-based HIV surveillance in addition to AIDS surveillance during January 1994–June 1997*. Provisional data indicate that declines in AIDS incidence in these states were not accompanied by comparable declines in the number of newly diagnosed HIV cases.[†]

In late 1993, the states included in this analysis merged data from the name-based HIV and AIDS case reporting systems into an integrated HIV/AIDS surveillance system. Patient and provider names were deleted before states forwarded data to CDC and replaced by codes. Cases were divided into two mutually exclusive categories: persons in whom HIV infection was diagnosed (without an AIDS diagnosis) and persons in whom HIV infection was diagnosed only when they first had AIDS diagnosed. Data for persons aged ≥ 13 years were analyzed by the earliest date of diagnosis of HIV or AIDS for January 1994–June 1997. Quarterly trends in the number of persons whose initial diagnosis was HIV infection were compared with quarterly trends in the number of persons whose initial diagnosis was AIDS. HIV and AIDS data were adjusted for delays in reporting of cases and deaths (3).

From January 1994 through June 1997, HIV or AIDS was diagnosed in 72,905 persons aged ≥ 13 years in the 25 states. Of these, HIV infection was the initial diagnosis in 52,690 (72%) and AIDS was the initial diagnosis in 20,215 (28%) (Table 1). From 1995 to 1996, the number of persons in whom HIV infection was the initial diagnosis de-

*Alabama, Arizona, Arkansas, Colorado, Idaho, Indiana, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Jersey, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.

[†]Single copies of this report will be available until April 24, 1999, from the CDC Prevention Information Network, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 519-0459.

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Workers' Memorial Day — April 28, 1998

April 28, 1998, has been designated Workers' Memorial Day to recognize persons who have died from occupational injuries or diseases and opportunities to prevent these deaths. During 1980–1994, a total of 88,622 workers in the United States died from work-related injuries; in 1992, costs of such injuries were an estimated \$145 billion (1). An estimated additional 60,000 workers died from occupational diseases.

Additional information about causes and prevention of work-related injury and disease is available from CDC's National Institute for Occupational Safety and Health (NIOSH), telephone (800) 356-4674; or on the World-Wide Web <http://www.cdc.gov/niosh/homepage.html>.

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Fatal Occupational Injuries — United States, 1980–1994

CDC's National Institute for Occupational Safety and Health (NIOSH) monitors occupational injury deaths through death certificates compiled for the National Traumatic Occupational Fatalities (NTOF) surveillance system* (1). Previous reports analyzed data from 1980–1989 (1–3). This report updates these estimates on the magnitude of work-related injury deaths for the United States from 1980 through 1994, the most recent year for which data are available from this system, and identifies high-risk industries and occupations at national and state-specific levels. The findings indicate that the annual total number of deaths and crude death rates decreased from 7405 (7.5 per 100,000 workers) in 1980 to 5406 (4.4 per 100,000 workers) in 1994.

National death rates were calculated using denominators from employment data from the Current Population Survey, a population-based household survey of the Bu-

*NTOF is based on death certificates compiled from 52 vital statistics reporting units in the United States. Inclusion criteria for death certificate submission to the NTOF database include 1) age ≥16 years; 2) external cause of death (*International Classification of Diseases, Ninth Revision*, codes E800–E999); and 3) "injury at work" designation.