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Hand washing is vital to disease prevention

Dr. Ignaz Semmelweis demonstrated in the 1800s that hand washing is an important means of preventing the spread of germs. Semmelweis worked in a Vienna hospital in the 1800s and was alarmed at the mortality rate in the maternity ward. The patients were dying at such an alarming rate that many were begging to be sent home. Patients in the ward were dying at a rate five times greater than those who gave birth at home.

Most of those dying were being treated by student physicians who worked on cadavers during anatomy class before beginning their rounds on the maternity ward. Students did not wash their hands between touching the dead and living. This resulted in the pathogenic bacteria from the cadavers regularly being transferred to the mothers by the students' hands.

Semmelweis conducted an experiment insisting that the students wash

their hands after anatomy class before seeing patients in the maternity ward. The results of this experiment led to a fivefold decrease in deaths on the maternity ward

This was the beginning of infection control, not just in hospital settings, but public health in general. Today, the value of hand washing in preventing disease is recognized throughout communities, schools, child care settings and in eating establishments.

According to the Centers for Disease Control (CDC), each year Americans are sick more than 4 billion days, spend \$950 billion on direct medical costs and more than 160,000 die due to infectious diseases. Infectious diseases are caused by various types of microscopic germs such as viruses, bacteria, parasites and fungi. These germs cause illnesses ranging from common ailments, like the cold and flu, to disabling

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High-visibility safety apparel standard revised

In 1999, the American National Standards Institute (ANSI) and the International Safety Equipment Association (ISEA) published the ANSI/ISEA 107-1999—High Visibility Safety Apparel standard. This standard was developed in response to concerns that workers exposed to low-visibility hazards were not wearing appropriate visibility-enhancing apparel. Garments complying with this standard quickly became widely accepted as the best way to protect workers against the hazards of low visibility.

On Sept. 15, 2004, ANSI approved a revised edition of the standard: ANSI/ISEA

107-2004—High Visibility Safety Apparel and Headwear. The revision doesn't change the basic requirements of the original 1999 edition—such as garment dimensions, color or retro-reflective performance—with the exception of clearly prohibiting any kind of sleeveless garment being labeled Class 3 when worn alone.



ANSI/ISEA 107-2004 expands product coverage to include high-visibility headwear. It also contains additional testing procedures for knitted fabrics used as background material. Occupational scenarios, recommended performance classes and additional examples of garment design are now included. Appendices now include standard test reports and a com-

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Hand washing

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diseases, such as Lyme disease, to deadly diseases, like the Hantavirus and AIDS. The good news is that many of these diseases can be prevented through amazingly simple and inexpensive methods.

Hand washing is one of the most important things that can be done to keep from getting sick. The CDC cites five common household scenarios in which disease-causing germs can be transmitted by contaminated hands:

1. Hand to food: Germs are transmitted from unclean hands to food. Food is infected when food preparers do not wash their hands after using the toilet and germs are passed to the food that is eaten.
2. Infected infant to hands to other children: During diaper changing, germs are passed from the infant to the hands of a parent or child care provider and then that person handles other children without washing his hands and passes it to them.
3. Food to hands to food: Germs are transmitted from uncooked food (like chicken) to hands to other foods, like salads.
4. Nose, mouth or eyes to hand to others: Germs that cause colds,

eye infections and other illnesses can spread to the hands by sneezing, coughing or rubbing eyes and then get transferred to others by contact.

5. Foods to hands to infants: Germs from uncooked foods are transferred to the hands and then to infants.

Hand washing can prevent the transfer of germs in all five of these scenarios. To properly wash your hands:

- Wet your hands and apply liquid or clean bar soap. Place the bar soap on a rack and allow to drain.
- Rub hands vigorously together and scrub all surfaces.
- Continue scrubbing for 10 to 15 seconds or about the length of time it takes to sing "Happy Birthday to You." It is the soap combined with the scrubbing action that dislodges and removes germs.
- Rinse your hands and dry well.

The Food and Drug Administration (FDA) and the CDC work together to control the transmission of pathogens that may result in foodborne illnesses. Transmission of pathogenic bacteria, viruses and parasites from raw food or from ill workers to food by way of improperly washed hands continues to be one of the major factors in the spread of foodborne illnesses.

The FDA's Food Code contains federal recommendations for preventing foodborne illnesses in restaurants, grocery stores, institutions and vending locations. It is used as a model by local, state and federal regulators. The Food Code contains specific hand hygiene guidelines for retail and food service workers describing where, when and how to wash and sanitize hands. It calls for washing with soap and water using the process before mentioned.

Finally, the Occupational Safety and Health Administration's (OSHA's) Bloodborne Pathogens Standard, 29 CFR 1910.1030, general working practices require that hand washing facilities be made available. If they are not feasible, an antiseptic cleanser and towels or antiseptic towelettes must be available.

Semmelweis, the CDC, the FDA and OSHA all agree that hand washing is the most important thing that can be done to prevent the spread of germs. ■

Safety FYI

Hypothermia results when the body is unable to produce enough heat to replace what's lost to the environment. Surprisingly, hypothermia can occur during air temperatures as high as 65°F and in water temperatures up to 72°F.

TECHlines®

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High-visibility

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pliance certificate.

All references to classes of garments and their uses in specific environments based on vehicle speeds have been removed from the 2004 revision. Garment selection based on the color and complexity of the work environment, the task load of the worker, separation of the worker from moving equipment and vehicles, and other work environment variables are emphasized.

To comply with ANSI/ISEA 107-2004, a garment's background material and retroreflective or combined-performance material must be tested and certified by an independent, accredited third-party laboratory. The manufacturer of the finished garment then verifies that the garment or headwear meets all requirements of the standard and provides a certificate of compliance for each model.

Copies of the ANSI/ISEA 107-2004 can be purchased from ISEA for \$60 each. ■