# Medical News

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## Needlestick Transmission of Hepatitis C to Hospital Staff

The availability of tests to detect antibody to hepatitis C virus (HCV) has led to questions about the transmissibility of HCV by needlestick to hospital staff, the role of testing for the virus in this setting, and the value of administering immune serum globulin to exposed workers.

Kiyosawa and colleagues in Matsumoto, Japan, studied 357 needlestick accidents in 349 employees of Shinsu University Hospital that occurred between 1981 and 1989. Serum was obtained from sources at baseline and from recipients at baseline, every two to four weeks for at least six months. Serum was screened for antibody to HCV by the Ortho HCV Antibody ELISA Test System, with confirmation by the Ortho recombinant immunoblot assay (RIBA). A diagnosis of hepatitis C required development of hepatitis (i.e., increased serum concentration of transaminases) and anti-HCV seroconversion.

No anti-HCV was found at baseline in 196 staff involved in 200 needlestick accidents. In 110 (55%) or 200 accidents, the donor was anti-HCV-positive. Acute hepatitis C developed in three of 110 anti-HCV negative staff who were exposed to needlesticks involving anti-HIV-positive persons (2.7%, confidence interval = 0.6%-8%). Hepatitis developed in an additional two patients, but they had no serologic evidence of hepatitis A, B, or C, or an infection with cytomegalovirus or Epstein-Barr virus. No anti-HCV seroconversions occurred in the absence of increased serum transaminase concentrations. Anti-HCV seroconversion was not seen during five years of observation in 53 initially seronegative healthcare workers who did not sustain needlestick injuries.

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## Hazardous Material Pocket Guide Available

A pocket guide designed to help healthcare workers safely handle hazardous material is now available.

*Right to Know Pocket Guide for Health Care Personnel* is an 88-page training booklet created to address the specific informational training requirements of two Occupational Safety and Health Administration (OSHA) regulations regarding the use of hazardous materials in the workplace. The Hazard Communication Standard was originally enacted in 1985 and requires all employers to train their staff about potential hazards from material they are exposed to at work. The Occupational Exposures to Hazardous Chemicals in Laboratories Standard that took effect in May 1990 details the requirements of both standards

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and explains how they affect the way all healthcare personnel handle hazardous chemical substances.

In the booklet, the two OSHA standards are described, along with hazards of commonly used materials, safety tips for working with hazardous materials, handling of regulated medical wastes, warning symbols for physical and health hazard, and a description of material safety data sheets.

The guide is edited by Robert Roy and is published by Genium Publishing Corporation in Schenectady, New York.

## Changing Psychosocial Patterns Increase Americans' Risk for Infection

Changing psychosocial patterns in the United States, coupled with advanced technology, are putting more Americans at risk for infection than ever before, according to Eugene B. Gallagher, PhD, professor of medical sociology at the University of Kentucky Medical Center, Lexington, Kentucky.

Speaking as a member of the newly formed Infection Control Council, sponsored by Lysol Brand Disinfectant, designed to identify infection control and prevention issues, he said that, in addition to the healthy, active population being at risk, there has been an increase in the numbers of disabled individuals at high risk.

### KEY AREAS OF CHANGE

During the first council meeting, Gallagher cited the major factors for high-risk infection:

- Contemporary life calls for people to be on the move. They tend to relocate in greater numbers because of job considerations; they travel by plane more often and attend more public events. As a result, they are in closer proximity to sources of infection to which they have no acquired immunity.
- The population is growing older, and elderly people have weaker immune systems than the young.
- With the increasing numbers of women in the work force, more children are enrolled in daycare centers, potential breeding grounds for the extremely rapid transmission of infections.
- There has been an increased risk for certain infectious diseases and an increase in certain types of bacteria and viruses. Not only are more individuals ill with such conditions, but social contact and movement puts the general population at high risk for becoming ill.
- Advanced medical technology is keeping alive seriously ill people. Coupled with this aspect of technology is the important practical problem of how to care for such people, who are at extremely high risk for infection because of weakened immune systems.
- As part of the new medical revolution, there has been a growing number of people populating outpatient health facilities and rehabilitation and convalescent centers. The close proximity of people in these settings puts them at greater risk for contracting infections.
- Pressure for more efficient use of hospital beds over the past ten years has led to the earlier discharge of patients, who are often still sick or whose immune systems are weakened. This phenomenon has resulted in more ill people being cared for in the home setting, which puts them at risk for contracting infection from family members, who also may contract disease from the recovering individual.
- More elderly people are entering nursing homes, which are prime places for the transmission of disease. At the same time, the difficulties of access to nursing homes or related facilities has resulted in the elderly and infirm living in the home setting with other family members, frequently children. The risk of infection is great in these situations, partly because of the limited immunity of both the young and the old.
- The modem workplace has seen a rise in the number of "sealed" buildings without adequate incoming fresh air and the circulation of existing air. Such environments, in which often-contaminated air is recirculated over and over again are particularly conducive to disease transmission.

### SAFEGUARDING PUBLIC HEALTH

To curb the spread of infection, according to Gallagher, public health officials, as well as all healthcare professionals, need to focus on:

- Stepping up efforts to educate the public about how to prevent disease development and transmission. An emphasis should be placed on appropriate immunizations, avoidance of suspected sources of infection, and other preventive measures.
- Employing more stringent methods of hygiene and infection control (including emphasizing handwashing and use of disinfectants) in institutionalized settings, such as hospitals, nursing homes, daycare centers, and rehabilitation and convalescent centers.
- Developing campaigns to raise public awareness about the need for good hygiene and disinfection in the home environment.
- Encouraging city planners and industry to direct their attention to health-promoting aspects of design in public spaces, including hospitals, nursing homes, and office buildings.

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