

TerranearPMC Safety Share

Week of October 31, 2011 – Sanitation

Presently, the US is on the verge of a measles epidemic. According to the centers for Disease Control (CDC), this disease was considered to be eradicated years ago, but now is making its way back into our population. Because measles was thought to be no longer a threat, many members of the youngest generations have not received a vaccination while those of us that were vaccinated many years ago are now being informed that the vaccine is not a lifetime preventative measure and therefore, will need to consider another vaccine.

Measles is caused by the rubella virus, and like so many contaminants that cause human sickness, it is spread by contact with droplets from the nose, mouth, or throat of an infected person. As such, sneezing and coughing can put contaminated droplets into the air. Thus, practicing good hygiene and sanitation is one way to control the spread of not just measles (as well as getting vaccinated), but all types of disease-causing toxins.

Sanitation is the hygienic means of promoting health through prevention of human contact with the hazards of wastes. Hazards can be physical, microbiological, biological or chemical agents of disease. Wastes that can cause health problems are human and animal feces, solid wastes, domestic wastewater (sewage, sullage, greywater), industrial wastes and agricultural wastes. Hygienic means of prevention can be by using engineering solutions (e.g. sewerage and wastewater treatment), simple technologies (e.g. latrines, septic tanks), or even by personal hygiene practices (e.g. simple hand washing with soap).

Lack of proper sanitation is one of the world's leading causes of disease and child death in third world nations. The most common illness associated with poor sanitation is diarrhea. In developed countries, diarrhea is little more than a nuisance, but for millions of children in the developing world, it's a death sentence. Chronic diarrhea if left undiagnosed can turn fatal, due to the body dehydrating quickly.

While we, in the United States may not consider sanitation to be a major health concern, organizations, such as CDC, have stressed that even in the US, the spread of disease through poor sanitation is an issue. According to a four-year study conducted by the University of Arizona's Environmental Research Lab (sponsored by Clorox), grocery carts are veritable petri dishes teeming with human saliva, mucus, urine, fecal matter, as well as the blood and juices from raw meat. Swabs taken from the handles and child seats of 36 grocery carts in San Francisco, Chicago, Tucson, and Tampa showed these common surfaces to rank third on the list of nastiest public items to touch, with only playground equipment and the armrests on public transportation producing more appalling results. In terms of playing host to germs and bacteria, the carts are far worse than public bathrooms, which at least are cleaned more often. Bacteria and viruses such as E.coli, staphylococcus, salmonella, and influenza can live on grocery carts: a sorry fact most shoppers are blissfully unaware of.

This is the prime reason why many municipalities are introducing legislation calling for supermarkets to provide shoppers with sanitary wipes to clean off their carts.

For those of us that enjoy relaxing vacations on cruise ships, here too, there have been reported numerous incidents where disease outbreaks have cancelled tours and even terminated trips while in mid-voyage. The CDC *Vessel Sanitation Program* assists the cruise ship industry to prevent and control the introduction, transmission, and spread of gastrointestinal (GI) illnesses on cruise ships. In recent years, outbreaks of gastroenteritis (defined as $\geq 3\%$ of passengers or crew symptomatic) on cruise ships have increased. Most cruise ship gastrointestinal outbreaks are now due to norovirus (a virus that is transmitted by faecally contaminated food or water, or by person-to-person contact), which is also the main cause of acute viral gastroenteritis in the United States. Characteristics of norovirus that facilitate outbreaks are low infective dose, easy person-to-person transmissibility, and ability to survive routine cleaning procedures.

From a workplace perspective, there are a number of regulations promulgated by OSHA that are designed to ensure proper sanitary conditions. These include the HAZWOPER Standard, used to provide safety and health to those employees engaged in working in environments where hazardous chemical materials need to be remediated. Because these sites typically involve projects where personnel work on-site for extended periods of time, paragraph “n” of the HAZWOPER regulation, focuses on the importance of potable water, including methods by which drinking water remains sanitary while ensuring toilet facilities are provided and maintained in a clean manner (including the requirement for appropriate hand/face washing). This regulation also specifies important sanitary conditions for food handling, showers and change rooms.

The OSHA regulation, 29 CFR 1910.141, entitled, *Sanitation*, is designed for all employees; not just employees working within the jurisdiction of HAZWOPER. This regulation specifies requirements for proper housekeeping (a major control to prevent the spread of contaminants and disease-associated substances), waste disposal, vermin control, as well as indicating specific conditions for wash facilities. This includes the requirement of having hot and cold running water (or tepid running water) and having soap or similar cleansing agents available.

With regards to fellow employees having contagious disease, it is required that such persons report any exposure that might pose a direct threat to health or safety in the workplace. In addition, a company may remove or reassign an infected or contagious employee if a secondary infection would pose a higher than usual risk to the employee, co-workers, or others. The company may require the employee to take a medical leave of absence, to undergo a fitness-for-duty examination, to provide a fitness-for-duty certificate from a physician, or to state the risk of exposure in the workplace with regard to his or her contagious illness.

"Keep away from people who belittle your ambitions. Small people always do that, but the really great make you feel that you, too, can become great."

Mark Twain