

## Glossary of infection control and germ terms

Germs and the necessity for infection control are encountered on a daily basis by all members of a cleaning crew. Therefore, they should be familiar with the following terms in order to deal with germs and infection control issues properly.

**AIDS** (Acquired Immune Deficiency Syndrome) — a disease caused by a virus (HIV) that weakens the immune system and subjects the patient to opportunistic diseases such as pneumonia and tuberculosis. The virus is transmitted through the exchange of body fluids, primarily semen, blood and blood products. Though progress has been made in prolonging the life of AIDS patients, there is currently no cure for the disease. However, it can be prevented by having protected sex and using sterilized needles.

**Aerobic** — growing or thriving only in the presence of oxygen.

**Aerosol Transmission** — a cloud or mist of solid or liquid particles containing pathogenic microorganisms, released by coughing or sneezing.

**Amoebiasis** — disease caused by the protozoan *Entamoeba histolytica*, a type of amoeba.

**Analgesics** — drugs that relieve pain.

**Antibiotic** — a substance made either from a mold or bacterium, or synthetically that inhibits or kills certain microorganisms, specifically bacteria, and that treats infections.

**Antigen** — any foreign substance that when introduced into the body, stimulates an immune response.

**Arthropod** — an invertebrate having jointed limbs and a segmented body with an exoskeleton.

**Asexual reproduction** — a type of reproduction where an organism replicates itself, by budding or diving, without the involvement of other organisms.

**Attenuated** — reduced in strength.

**Autoimmune disease** — any of a large group of diseases characterized by abnormal functioning of the immune system that causes it to produce antibodies against your own tissues.

**Autotrophs** — microorganisms that use inorganic materials as sources of nutrients.

**B cells** — one of the two major classes of lymphocytes; during infections B cells mature into plasma cells, which produce antibodies directed at specific antigens.

**Bacterium** — a single-celled microscopic organism, whose genetic material is not enclosed by a membrane.

**Binary fission** — a form of asexual reproduction in which a cell divides into two daughter cells after DNA replication.

**Biological warfare** — the use of bacteria or viruses, or their toxins as weapons.

**Bubonic plague** — a bacterial infection, transmitted from the flea bite of an infected rat to humans. Symptoms include high fever, chills, weakness, and enlarged lymph nodes that turn black (hence the name "The Black Death"). The Plague originated in China and was spread to Western Asia and Europe because China was one of the busiest trading nations. This devastating disease killed 1/3 of Europe's population over a five year period. Though the plague no longer exists, the basic elements of transmission do make future epidemics a possibility. Preventative measures are the proper disposal of garbage and protecting household animals from flea infestation. **Budding** — a form of asexual reproduction where a bud or outgrowth from the end or side of the parent cell emerges and develops

into a new organism.

**Capsid** — the outer protein shell surrounding the nucleic acid of a virus.

**Capsomeres** — repetitive protein subunits which form the capsid; often arranged in a symmetric pattern.

**Carbohydrate** — chemical substance containing carbon, oxygen, and hydrogen atoms which are an essential structural component of living cells and a source of energy for animals: i.e. sugars and starches.

**Carotid arteries** — paired large caliber vessels that pass on either side of the neck supplying oxygenated blood to the brain.

**Cell-mediated** — the branch of the immune system in which specific defence cells, rather than antibodies, respond and act against a foreign antigen.

**Cellulose** — a complex carbohydrate that is the chief element of all plant tissues and fibres.

**Centres for Disease Control and Prevention (CDC)** — a US governmental agency whose mission is to promote health and quality of life by preventing and controlling disease, injury and disability.

**Chagas' Disease** — a parasitic infection that is transmitted by biting insects, it can be prevented by sleeping with bed netting and using insecticide to kill insects.

**Chemolithotrophs** — organisms which obtain their energy from the oxidation of inorganic compounds.

**Chemostat** — an apparatus designed to grow bacteria indefinitely, while keeping the conditions and the colony size constant by having a continuous flow of liquid nutrient wash the colony and steadily remove bacteria.

**Chicken Pox** — a viral infection spread through direct contact or by coughing, sneezing on the surface of the skin and mucous membranes. The blisters first appear on the face and then spread to the entire body. Some children may have a few, and others may have several hundred. A mild fever, or a general malaise are other symptoms that may accompany this infection. In 1995, a vaccine was developed that took 15 years to receive approval from the US Food and Drug Administration (FDA), though it is not widely used. If a child does contract the disease, a topical solution is applied to the blisters, to soothe the itching, and in very rare cases, children have developed serious complications that have proved to be fatal.

**Chlorophyll** — a group of green pigments found in green plants, algae, and some bacteria necessary for energy production.

**Cholera** — transmitted by faecal contaminated food and water and by ingesting raw or undercooked seafood. Symptoms include diarrhea, abdominal cramps, nausea, vomiting, and severe dehydration. This bacterial endemic to India, Africa, the Mediterranean, South and Central America, and the United States. The treatment that is administered is usually antibiotics, which shorten the duration of the illness. Contaminated water supply is the main mechanism for spreading the disease and improving sanitation conditions serves as the best form of prevention. A vaccination is available as a short term method to countries at risk.

**Chromosome** — a threadlike body in the cell nucleus that carries the genes in linear order.

**Cilia** — short hair-like appendages found on the surfaces of some types of cells and organisms; used for either propelling trapped material out of the body or for locomotion.

**Coadaptation** — mutual adaptation in two or more interactive species.

**Computerized axial tomography (CAT scan)** — a special radiographic technique that uses a computer to assimilate multiple X-ray images into a two dimensional cross sectional image.

**Conjugation** — a mating process where the temporary union of two one-celled organisms results in the exchange of genetic material.

**Cryptosporidiosis** — an infection caused by an intestinal parasite, transmitted through the ingestion of food or water contaminated with animal faeces.

**Cytoplasm** — the living substance of a cell excluding the nucleus.

**Deforestation** — the state of being clear of trees.

**Dengue fever** — a virus transmitted from the bite of the Aedes mosquito. Symptoms include headaches, fever, joint pain and a rash. The disease can be fatal if the patient goes into shock. Dengue fever occurs mostly in tropical areas, most recently in Asia, the Pacific, and the Americas. The peak feeding activity of this mosquito is after daybreak and in the late afternoon. Wearing protective clothing that covers most of the body, arms and legs, and using insect repellent with the chemical DEET, are ways to prevent the disease. Prevention and control can be accomplished through mosquito control. Eradication of the mosquito with insecticides are the best preventative measures.

**Diagnosis** — the act of identifying a disease and its cause.

**Dialysis** — a medical procedure that uses a machine to filter waste products from the bloodstream and restores the bloods normal constituents.

**Diphtheria** — an acute bacterial infectious disease that is spread by droplets sprays from an infected person; children can be immunized against this disease.

**DNA (deoxyribonucleic acid)** — the primary genetic material of a cell.

**Ecosystem** — a community of organisms and their physical environment interacting as an ecological system.

**Ebola** — a deadly virus that is transmitted through direct contact with the blood or bodily fluids of an infected person, unsterilized needles or an infected animal. Symptoms include high fever, headaches, muscle aches, stomach pain, fatigue, and diarrhea. Initial symptoms occur 4-16 days after infection, and if not caught in time, proceed very rapidly. Ultimately, the virus causes all major organs to fail, resulting in death. In 1976 in Zaire, the disease appeared from an unknown place and killed 340 people. The origin of the virus was in the Congo, moving to the Sudan, the Ivory Coast, Zaire, and most recently in 1996 in rural Gabon. There are four types of Ebola virus: Ebola Zaire, Reston, Tai and Sudan. Ebola Reston, which is the only virus that is not fatal to humans, only monkeys, made its way to the United States via an import of monkeys from the Philippines. The scariest characteristic of this virus is that it is airborne. Early diagnosis is important in treating the virus, and extreme infection control methods such as isolation are the only way to prevent the spread of this virus.

**Electron microscopy** — a form of microscopy in which a beam of electrons deflected by electromagnets can magnify a specimen up to 400,000 times its original size.

**Encephalitis** — A disease from a virus caused by the bite of an infected mosquito; it can be prevented by wearing long pants and long sleeves, staying inside from dusk to dark when mosquitos feed, and using insect repellent.

**Endemic disease** — a disease that is constantly present to a greater or lesser degree in people of a

certain class or in people living in a particular location.

**Endoplasmic reticulum** -- an extensive network of internal membranes within a eukaryotic cell which is necessary for protein synthesis.