



Special Pathogens Branch

[Home](#)
[Contact Us](#)

Site Contents

- ▶ [Mission Statement](#)
- ▶ [Disease / Virus Information](#)
- ▶ [Education and Prevention Materials](#)
- ▶ [Other Resources](#)
- ▶ [Research Publications](#)
- ▶ [Specimen Submission Information](#)
- ▶ [Outbreak Postings](#)
- ▶ [Glossary](#)

Glossary of Terms

Below you will find an alphabetical listing of common terms used in articles in the Special Pathogen Branch web site. These terms occur frequently in epidemiological and health prevention literature.

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

List of Terms

A-

[▲ to top](#)

[aerosol](#):

A fine mist or spray which contains minute particles.

antibody:

Proteins produced by an organism's immune system to recognize foreign substances.

antigen:

Any substance that stimulates an immune response by the body. The immune system recognizes such substances as being foreign, and produces cellular antibodies to fight them. Antigen/antibody response is an important part of a person's immunity to disease.

assay:

A quantitative or qualitative evaluation, or test, of a substance. Frequently used to describe tests of the presence or concentration of infectious agents, antibodies, etc.

B-

[▲ to top](#)

biosafety level:

Specific combinations of work practices, safety equipment, and facilities, which are designed to minimize the exposure of workers and the environment to infectious agents. Biosafety level 1 applies to agents that do not ordinarily cause human disease. Biosafety level 2 is appropriate for agents that can cause human disease, but whose potential for transmission is limited. Biosafety level 3 applies to agents that may be transmitted by the respiratory route which can cause serious infection. Biosafety level 4 is used for the diagnosis of exotic agents that pose a high risk of life-threatening disease, which may be transmitted by the aerosol route and for which there is no vaccine or therapy.

C-

[▲ to top](#)

carrier:

A person or animal that harbors a specific infectious agent without visible symptoms of the disease. A carrier acts as a potential source of infection.

case-fatality proportion:

The number of cases of a disease ending in death compared to the number

If you need more information on a term, try the [NCID search engine](#), a general WWW search engine, or consult an encyclopedia.

of cases of the disease. Usually expressed as a percentage. While deaths from other diseases are often expressed as mortality rates, SPB normally uses case-fatality proportions. This is due to the fact that rates include a time determinant - for example, 100 deaths per 1000 cases per year. However, the diseases SPB works with break out sporadically, and occur as brief epidemics.

case-to-infection ratio or proportion:

The number of cases of a disease (in humans) compared to the number of infections with the agent that causes the disease (in humans).

[cotton rat \(*Sigmodon hispidus*\)](#)

D-

[▲ to top](#)

[deer mouse \(*Peromyscus maniculatus*\)](#)

disease:

Formally speaking, a disease is the condition in which the functioning of the body or a part of the body is interfered with or damaged. In a person with an infectious disease, the infectious agent that has entered the body causes it to function abnormally in some way or ways. The type of abnormal functioning that occurs is the disease. Usually the body will show some signs and symptoms of the problems it is having with functioning. Disease should not be confused with [infection](#).

E-

[▲ to top](#)

ELISA (enzyme-linked-immunosorbent serologic assay):

A technique that relies on an enzymatic conversion reaction. It is used to detect the presence of specific substances, such as enzymes, viruses, antibodies or bacteria.

endemic:

Disease that is widespread in a given population.

enzootic:

A disease which is constantly present in the animal community, but only occurs in a small number of cases.

epidemic:

The occurrence of cases of an illness in a community or region which is in excess of the number of cases normally expected for that disease in that area at that time.

epizootic:

An outbreak or epidemic of disease in animal populations.

H-

[▲ to top](#)

host:

An organism in which a parasite lives and by which it is nourished.

I-

[▲ to top](#)

IgG:

One of many antibodies present in blood serum which is usually indicative of

a recent or remote infection. IgG is most prevalent about 3 weeks after an infection begins.

IgM:

One of many antibodies present in blood serum which is usually indicative of an acute infection.

immunohistochemistry:

A type of assay in which specific antigens are made visible by the use of fluorescent dye or enzyme markers.

infection:

The entry and development of an infectious agent in the body of a person or animal. In an apparent "manifest" infection, the infected person outwardly appears to be sick. In an inapparent infection, there is no outward sign that an infectious agent has entered that person at all. For example, although humans have become infected with Ebola-Reston, a species of Ebola virus, they have not shown any sign of illness. By contrast, in recorded outbreaks of Ebola hemorrhagic fever caused by Ebola-Zaire, another species of Ebola virus, severe illness followed infection with the virus, and a great proportion of the case-patients died. Infection should not be confused with [disease](#).

M-

[▲ to top](#)

[Multimatte rat \(*M. erythroleucus* or *M. huberti*\)](#)

N-

[▲ to top](#)

nosocomial infection:

An infection occurring in a patient which is acquired at a hospital or other healthcare facility. Commonly called a cross infection.

O-

[▲ to top](#)

[Oryzomys palustris](#): rice rat

P-

[▲ to top](#)

[Peromyscus leucopus](#): white-footed mouse

[Peromyscus maniculatus](#): deer mouse

R-

[▲ to top](#)

report of a disease:

An official report that notifies an appropriate health authority of the occurrence of a disease in a human or in an animal. Human diseases usually are reported first to the local health authority, such as a county health department.

reservoir:

Any person, animal, arthropod, plant, soil or substance in which an infective agent normally lives and multiplies. The infectious agent primarily depends on the reservoir for its survival.

[rice rat \(*Oryzomys palustris*\)](#)

risk:

- A) The chance of being exposed to an infectious agent by its specific transmission mechanism.
- B) The chance of becoming infected if exposed to an infectious agent by its specific transmission mechanism.

RT-PCR (reverse transcriptase polymerase chain reaction): Powerful technique for producing millions of copies of specific parts of the genetic code of an organism so that it may be readily analyzed. More specifically, RT-PCR produces copies of a specific region of complementary DNA that has been converted from RNA. The technique is often used to help in the identification of an infectious agent.

S-[▲ to top](#)

[Sigmoidon hispidus](#): cotton rat

surveillance of disease:

The ongoing systematic collection and analysis of data and the provision of information which leads to action being taken to prevent and control an infectious disease.

T-[▲ to top](#)

transmission of infectious agents (such as a virus):

Any mechanism through which an infectious agent, such as a virus, is spread from a reservoir (or source) to a human being. Usually each type of infectious agent is spread by only one or a few of the different mechanisms.

There are several types of transmission mechanisms:

a) Direct transmission: This type of transmission is, at base, immediate. The transfer of the infectious agent is, as the name implies, directly into the body. Different infectious agents may enter the body using different routes. Some routes by which infectious diseases are spread directly include personal contact, such as touching, biting, kissing or sexual intercourse. In these cases the agent enters the body through the skin, mouth, an open cut or sore, or sexual organs. Infectious agents may spread by tiny droplets of spray directly into the conjunctiva (the mucus membranes of the eye), or the nose or mouth during sneezing, coughing, spitting, singing or talking (although usually this type of spread is limited to about within one meter's distance.) This is called droplet spread.

b) Indirect transmission: Indirect transmission may happen in any of several ways:

Vehicle-borne transmission:

In this situation, a vehicle—that is, an inanimate object or material called in scientific terms a "fomite"—becomes contaminated with the infectious agent. The agent, such as a virus, may or may not have multiplied or developed in or on the vehicle. The vehicle contacts the person's body. It may be ingested (eaten or drunk), touch the skin, or be introduced internally during surgery or medical treatment. Examples of vehicles that can transmit diseases include cooking or eating utensils, bedding or clothing, toys, surgical or medical

instruments (like catheters) or dressings. Water, food, drinks (like milk) and biological products like blood, serum, plasma, tissues or organs can also be vehicles.

Vector-borne transmission:

When researchers talk about vectors, often they are talking about insects, which as a group of invertebrate animals carry a host of different infectious agents. (However, a vector can be any living creature that transmits an infectious agent to humans.)

Vectors may mechanically spread the infectious agent, such as a virus or parasite. In this scenario the vector—for instance a mosquito—contaminates its feet or proboscis ("nose") with the infectious agent, or the agent passes through its gastrointestinal tract. The agent is transmitted from the vector when it bites or touches a person. In the case of an insect, the infectious agent may be injected with the insect's salivary fluid when it bites. Or the insect may regurgitate material or deposit feces on the skin, which then enter a person's body, typically through a bite wound or skin that has been broken by scratching or rubbing.

In the case of some infectious agents, vectors are only capable of transmitting the disease during a certain time period. In these situations, vectors play host to the agent. The agent needs the host to develop and mature or to reproduce (multiply) or both (called cyclopropagative). Once the agent is within the vector animal, an incubation period follows during which the agent grows or reproduces, or both, depending on the type of agent. Only after this phase is over does the vector become infective. That is, only then can it transmit an agent that is capable of causing disease in the person.

c) Airborne transmission: In this type of transmission, infective agents are spread as aerosols, and usually enter a person through the respiratory tract. Aerosols are tiny particles, consisting in part or completely of the infectious agent itself, which become suspended in the air. These particles may remain suspended in the air for long periods of time, and some retain their ability to cause disease, while others degenerate due to the effects of sunlight, dryness or other conditions. When a person breathes in these particles, they become infected with the agent—especially in the alveoli of the lungs. (see also "aerosolization")

How do infectious aerosols get into the air?

Small particles of many different sizes contaminated with the infective agent may rise up from soil, clothes, bedding or floors when these are moved, cleaned or blown by wind. These dust particles may be fungal spores— infective agents themselves—tiny bits of infected feces, or tiny particles of dirt or soil that have been contaminated with the agent.

Droplet nuclei can remain in the air for a long time. Droplet nuclei are usually the small residues that appear when fluid emitted from an infected host evaporates. In the case of the virus causing hantavirus pulmonary syndrome, the rodent carriers produce urine. The act of spraying the urine may create the aerosols directly, or the virus particles may rise into the air as the urine evaporates. In other situations, the droplets may occur as an unintended result of mechanical or work processes or atomization by heating, cooling, or venting systems in microbiology laboratories, autopsy rooms, slaughterhouses or elsewhere.

Both kinds of particles are very tiny. Larger droplets or objects that may be sprayed or blown but that immediately settle down on something rather than remaining suspended, are not considered to belong to the airborne transmission mechanism. Such sprays are considered direct transmission.

V-

[▲ to top](#)

vector:

A carrier which transmits infective agent from one host to another.

[viral hemorrhagic fever \(also spelled as viral haemorrhagic fever and referred to as VHF\)](#)

[virus:](#)

A minute infectious agent.

W-

[▲ to top](#)

[white-footed mouse \(*Peromyscus leucopus*\)](#)

Z-

[▲ to top](#)

zoonotic disease or infection:

An infection or infectious disease that may be transmitted from vertebrate animals (such as a rodent) to humans.

[▲](#)
[Top of Page](#)

[Special Pathogens Home](#) | | [Contact Us](#)

[CDC Home](#) | [Search](#) | [Health Topics A-Z](#)

This page last reviewed November 26, 2003

[National Center for Infectious Diseases](#)
[Centers for Disease Control and Prevention](#)

[Privacy Policy](#) | [Accessibility](#)