



Infections occur when germs enter the body, causing it to display symptoms as it tries to destroy the harmful germs. Infections are caused by several different types of germs, which in some way enter our bodies and cause problems. There are different types of germs (sometimes referred to as micro-organisms; micro meaning small and organism meaning living thing) :

- Bacteria** e.g. *MRSA, Pseudomonas, EColi*
- Viruses** e.g. *Swine Flu, Norovirus*
- Fungi** e.g. *Athletes Foot, Ringworm*
- Protozoa** e.g. *Cryptosporidium*
- Prions** e.g. *'Mad cow' disease, CJD*
- Parasites** e.g. *Scabies, Head lice*



When a germ enters the body, and causes an infection, it is called a **Pathogen**.

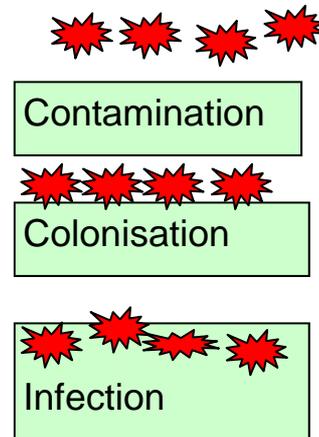
Contamination, Colonisation and Infection

It is vital that everyone understands the difference between these three terms!

Contamination: Surface germs, e.g. on door handles, telephones etc. Doesn't cause any harm in itself but can be picked up – usually on hands!

Colonisation: This is where bacteria multiple and attach to tissue. At this stage the bacteria are not causing an active infection but have the potential to cause infection. E.g. MRSA can be colonised in a service user's groin, not causing a problem However, if that service user goes for hip surgery the MRSA may spread to the wound and cause infection

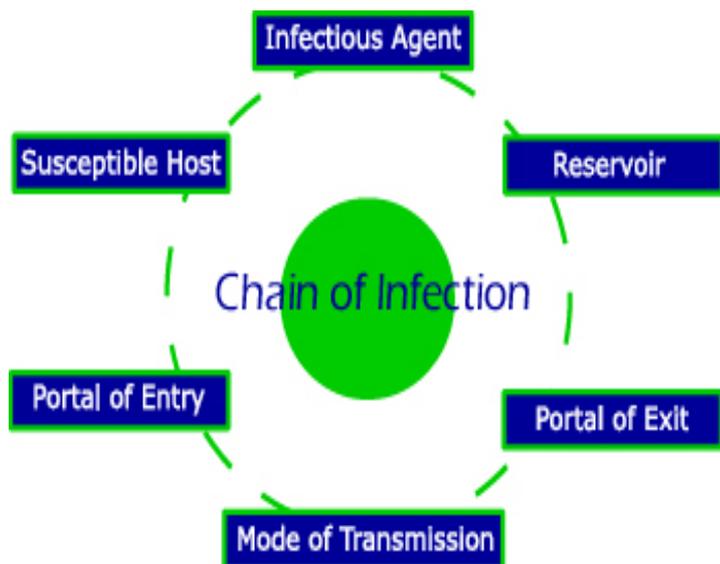
Infection: This is where bacteria multiple and invade healthy tissue



Method of Spread	Example of Infections
Direct Contact: Direct body surface to body surface. Contact and physical transfer of germs from an infected or colonised individual to a susceptible host.	Scabies, Head lice, MRSA contamination on an unwashed care workers' hands to a service user's wound or urinary catheter
Indirect Contact: Contamination of an inanimate object by an infected or colonised person, transferred to another person through that object, e. g. service user equipment	Clostridium difficile through a commode that is not properly cleaned prior to use on another service user e.g. HepB through an endoscope
Droplet: When an infected or colonised person produces droplets through the air which deposit on the eyes, nose or mouth of the host, e.g. coughing, sneezing, talking, suctioning	Rhinovirus (Common Cold) Influenza Meningococcal disease Pertussis
Airborne: When either airborne droplet nuclei or dust particles disseminate infectious agents that remain ineffective over time and distance. Air currents disperse these germs and susceptible people can breathe them in	Tuberculosis Measles Varicella (Chicken Pox)
Common Vehicle: Infectious agents transmitted by contaminated items such as food, water, devices, equipment and medications	Cryptosporidium in water supplies Salmonella Campylobacter
Vector Borne: Vectors transmit infections. Vectors include rats, mice, flies, mosquitoes etc...	Malaria Wiel's Disease

The Chain of Infection

How an infection spreads from one person to another is called the "Chain of infection". If any link in the chain is broken the infection can not spread.



Example of the Chain

Infectious Agent: Bacteria, Virus, Fungus etc.

Reservoir: E.g. contaminated food, dirty equipment

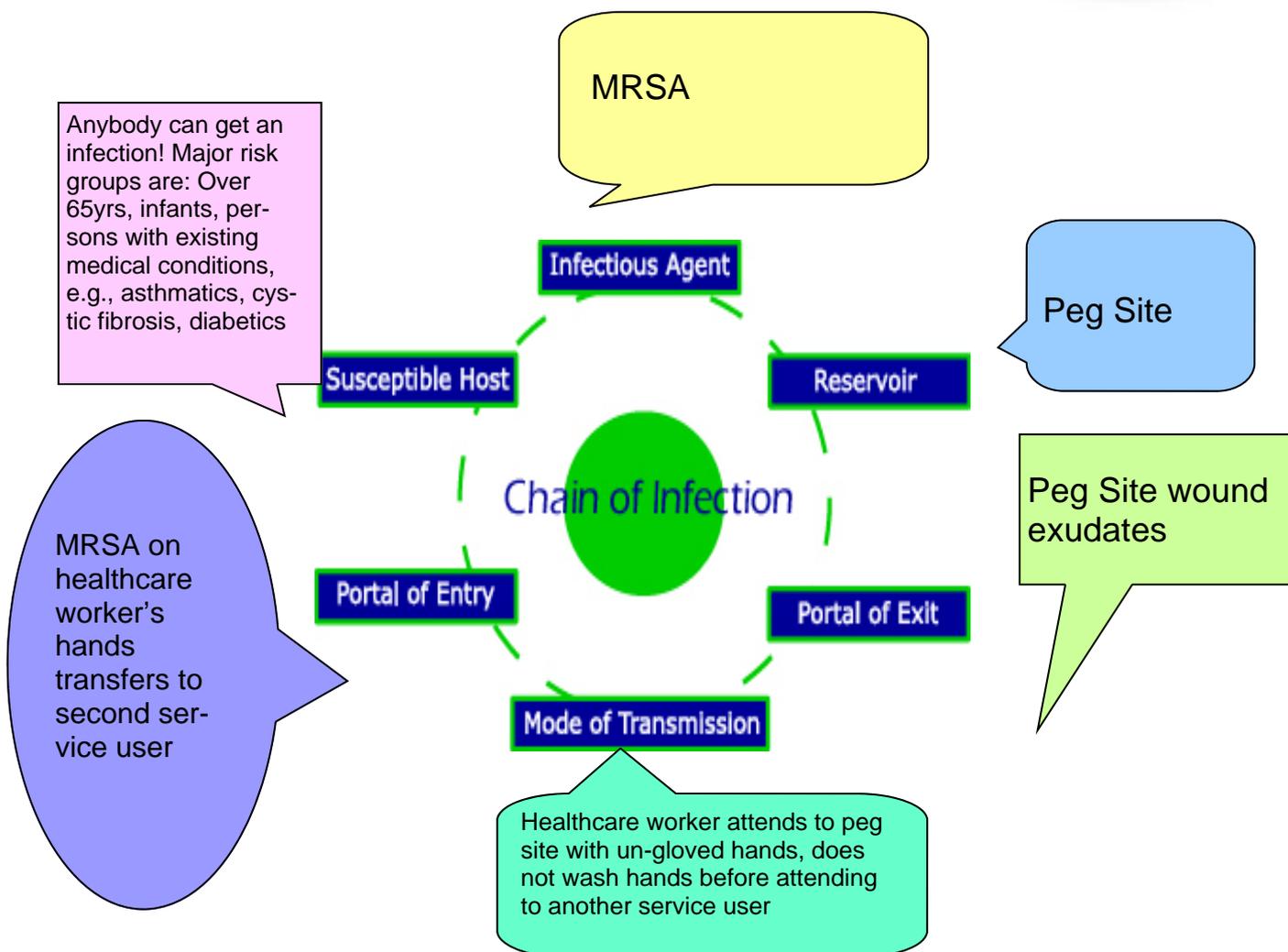
Portal of Exit: blood, faeces, respiratory droplets, skin, scales

Mode of Transmission contaminated hands, droplets through air from sneezing

Portal of Entry: respiratory tract, gastrointestinal tract, broken skin, urinary tract

Susceptible Host: service user, vulnerable person, e.g. child, elderly person etc.

Examples of Breaking the Chain of Infection



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