



2015 Infection Control February newsletter # 1

Measles, Hepatitis A and Avian Flu - pathogens that are always with us

1. Measles

This myxovirus has an envelope - hand hygiene with alcohol hand rub should be effective but may be affected by secretions on the hands so hand washing may still be preferred in this case. The virus is inactivated soon after drying on surfaces but is more stable for longer (2 hours 1) while airborne - it can spread throughout a room carried on currents, infecting those metres away. The tiny dried particles (droplet nuclei) of mucus are inhaled past the nose/throat to along the respiratory tract where the virus commences to grow - a cough may be the first symptom. Airborne precautions are required for suspect measles and the room remains empty for at least 30 minutes (many recommend 2 hours) for particles to settle and for viral inactivation - extra floor cleaning is not recommended because particles are not easily resuspended. Surfaces in contact with secretions/hands are cleaned thoroughly with detergent wipes. The consequences of measles in a person with impaired immunity e.g. a kidney transplant, may be fatal due to reduced/no immunity. This person cannot receive live measles vaccine and is given measles immunoglobulin within a day or so of suspect contact. Measles is highly infectious (one person can infect 18 on average of 2 for Ebola) and is almost always clinical i.e. subclinical infection rare. Eyes are affected with eye secretions infectious. Person is not infectious after 5 days of rash. Ensure all staff are immune to measles otherwise they are at risk to themselves and others

1. *The blue book: guidelines for control of infectious diseases (June 2005).* www.health.vic.gov.au/ideas

2. Hepatitis A

This picorna virus does not have an envelope. 70% alcohol handrub is effective but only if applied correctly for sufficient time and as long as hands are not visibly dirty - hand washing is still probably preferred. In Australia HepA is more likely to be spread from person to person via the oral-faecal route - spread by faecally contaminated water and food is more common in countries where the water supply is contaminated and where food preparation is suboptimal. It may remain infective on surfaces e.g. handles for some days or when in frozen foods where contaminated water is used or when hygienic standards are not enforced during packaging if manual handling is involved. Does anyone remember having a horse size syringe in their backside all those years ago that ached all day? We all received this passive immunisation when my mum and brother developed HepA 45 years ago and well before the days of active immunization by twinrix etc. Are you immunized?.

3. Avian Influenza

This orthomyxovirus has a lipid envelope and is susceptible to alcohol hand rub. Influenza A can change the configuration of haemagglutinin (H) and neuraminidase (N) on its surface so that previous natural immunity or immunisation does not protect the host for a new strain. Human Flu A strains can usually be spotted by a low number after the N and H i.e. current strains are H2N3, swine flu is H1N1. The avian strains are classically 5 or greater - the current (2003 to 2015) Avian flu of concern is H5N1 which produces no symptoms in poultry but has infected over 600 humans throughout Asia with 400 deaths (WHO). It is transmitted to humans by contact with poultry alive or dead. It is not transmitted via cooked meat. Australia has had previous outbreaks amongst poultry of other avian flu strains that do not infect humans. The concern is the high mortality rate, that it may get into our poultry population with dire consequences and most importantly that it becomes transmissible person to person - although this has not yet been established, it has this capacity. Influenza viruses may remain infective on surfaces in the dry, cold for up to 48 hours. Influenza can be transmitted in any season and is spread by droplets and contact although it should be noted probably because of the high mortality rate that airborne precautions are advised i.e. wear a P2/N95 mask rather than a surgical mask when suspecting this.

And while there is a bit of a delay with the 2015 flu vaccine, do the obvious and protect those more vulnerable around you by having the flu shot - there is no human vaccine for Avian flu