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** If you would like any particular topics covered in this bulletin, please let us know at dph@mailp.hse.ie*

Department of Public Health
Health Service Executive – South
Sarsfield House
Sarsfield Road
Wilton
Cork
Tel: 021 4927601
Fax: 021 4346063
Email: dph@mailp.hse.ie
Web: www.shb.ie
www.hse.ie

Editors:

Dr Fiona Ryan
Consultant Public Health Medicine

Ms Benvon Deasy
Public Health Surveillance Scientist

Contributors:

Dr Ina Kelly
SpR Public Health Medicine

Ms Mary McSweeney
Infectious Disease Nurse

Bloodborne Infections: How to reduce the risk

Like all accidents, needle stick injuries happen in an instant but can have long term effects for the health of the doctor, nurse or patient. Such injuries can cause a number of serious and potentially fatal infections with bloodborne pathogens such as Hep C, Hep B, HIV and AIDS. Two areas where steps can be taken to reduce the risk of contracting bloodborne infections are - **hand hygiene** and **safe use and disposal of sharps**.

Hand Hygiene

Hand washing is a simple and very effective method of helping to prevent the spread of infection. For most patient-care activities, hand washing with soap and running water is adequate. Good technique, making sure that all surfaces of the fingers, hands and wrists are washed is more important than the soap used or the length of time spent. Hands should be dried well with a disposable towel. Cuts and abrasions on the hands and forearms should be covered with a waterproof dressing.

Alcohol based hand rubs are also highly effective but should only be used on hands that are physically clean. Again all areas of the hands and wrist should be covered.

Gloves should be worn when in direct contact with blood or body fluids and direct contact with non-intact skin or mucous membrane. Always wash and dry hands

thoroughly after removing gloves or decontaminate with alcohol hand rub if hands are physically clean.

Safe use and disposal of sharps.

A 'Sharp' is defined as any object, which has been used in the diagnosis, treatment or prevention of disease that is likely to cause a puncture wound or cut to the skin. Before undertaking any procedure the risk of exposure to blood/body fluids should be assessed.

- ❖ **Do** use approved sharps bins.
- ❖ **Do** assemble sharps bins correctly.
- ❖ **Do** discard needles and syringes as a single unit immediately after use.
- ❖ **Do** keep sharp containers in a secure place to prevent injury to patients, children or other staff.
- ❖ **Do** have hepatitis B vaccine.
- ❖ **Don't** recap needles after use. This is the most common cause of needle stick injury.
- ❖ **Don't** pass sharps from hand to hand.
- ❖ **Don't** overfill sharps containers.
- ❖ **Don't** use single use items more than once.

Sharps bins should be sealed correctly when filled to the recommended level. The person who seals the bin should sign and date it. The bins should then be stored in a holding area away from the general public, ideally in a locked store room until collected. Local infection control guidelines should have information on where contaminated waste is stored and who is responsible for collection.

Source:

"Prevention and Protection Protocols for Blood and Body Fluid Exposure for Healthcare Workers (a focus on sharps)," Health Service Executive, Southern Area (2006)

Listeriosis and Pregnancy

Listeriosis is a bacterial infection caused by *Listeria monocytogenes*. It is usually transmitted to humans through ingestion of contaminated food, or can be transmitted by direct contact with an infected person. An increase in cases has been noted in Ireland this year with 17 cases notified up to 10/11/2007, compared to 7 in 2006, 12 in 2005 and 11 in 2004. It is important that those at risk, particularly pregnant women, are aware of the risks and prevention measures they can take. In the US that Listeriosis accounts for over a quarter of deaths from food-borne infections in the US.

Health Importance of Listeriosis

Infection during pregnancy may lead to abortion, premature delivery, stillbirth or neonatal infection. Neonatal infection may be manifested as meningo-encephalitis and/or septicaemia. Immuno-compromised individuals and elderly patients may also have similarly severe manifestations of infection. Case-fatality rates of up to 50% in neonates and over 60% in those over 60 years of age have been reported.

Those most at risk are:

- Pregnant women are about 20 times more likely to get Listeriosis than other healthy adults. In the US, about one third of cases happen during pregnancy
- Neonates – the newborn baby generally suffers the serious consequences of the mother's infection
- Immuno-compromised such as people with AIDS (nearly 300 times more likely to get Listeriosis than those with healthy immune systems) and those with serious illnesses such as cancer, diabetes or kidney disease and people taking steroids
- Older people – risk increases over 40 years old

Symptoms of Listeriosis

These range from being asymptomatic, to having a “flu-like illness” which may be mild, fever, myalgia, nausea or diarrhoea, through to neurological symptoms of headache, neck stiffness, confusion, loss of balance and/or convulsions and even death. In healthy adults and in pregnant women, Listeriosis is frequently asymptomatic, or there may only be a mild “flu-like” illness, making it difficult to diagnose.

Diagnosis and Treatment of Listeriosis

Diagnosis is made by blood or CSF culture (or other sterile site), with blood culture the most reliable method during pregnancy. Serological testing is not useful. Antibiotics such as penicillin or ampicillin with or without aminoglycosides are recommended, and co-trimoxazole or erythromycin for those allergic to penicillins. Treatment may prevent infection of the foetus.

Incubation

There is a wide range from about 3 to 70 days, but for 50% of cases the incubation period is about three weeks.

Period of communicability

Mothers of infected neonates may have infective genito-urinary discharges for 7-10 days post-natally. Faecal shedding can last for months in infected people.

Exposure to *Listeria monocytogenes*

This bacterium is widespread in the environment in soil, water, forage, silage and mud, and can infect farm animals and contaminate vegetables. Foods can be contaminated during processing, storing or preparation. Unlike most bacteria *Listeria* multiplies at low temperatures (under 8 degrees Centigrade). It is also resistant to some food preservatives but adequate cooking and pasteurisation are effective in killing the bacterium.

Implicated foods

Foods implicated in outbreaks or sporadic infections include non-pasteurised milk products and soft cheeses, coleslaw, raw vegetables, smoked salmon and various other foods such as pre-cooked, ready-to-eat poultry, deli meats and chilled poultry meals and meat pâté.

General Prevention

- Wash your hands thoroughly. This is probably the single most important step you can take to prevent Listeriosis.
- Wash raw vegetables thoroughly before eating
- Wash knives and other utensils, and cutting surfaces after handling
- Keep uncooked meats separate from vegetables and from cooked and ready to eat foods
- Avoid raw unpasteurised milk or foods made from raw milk
- Thoroughly cook any raw food from animal sources, such as beef, pork, or poultry
- Cook left-over foods or ready-to-eat foods, such as hot dogs, until piping hot before eating
- Microwave ovens may leave a cool patch in the middle of foods, so stir the food halfway through heating

People at high risk should follow the above and additionally:

- Pregnant women and immuno-compromised people should avoid eating high risk foods such as ripened soft cheeses - including feta, brie, camembert, blue-veined, goats cheese, pâté, cold smoked salmon or other smoked fish
- While pregnant, it is safer not to help with lambing etc. or to milk ewes that have recently given birth
- If caring for someone with diarrhoea, due to *Listeria* or any other infective cause, always wash your hands after handling the patient or their bedding

Sources of information:

www.hpsc.ie or www.cdc.gov