Hepatitis

**Hepatitis B**

**Modes of Transmission**

Hepatitis B is transmitted from those who are acutely affected and from those who are carriers of the infection. Blood contains the highest concentration of Hepatitis B virus. Lesser concentrations of the virus occur in other body fluids, such as saliva and semen.

The virus can be transmitted from one person to another in the following ways:

- Following the transfusion of blood or blood products
- Around time of birth
- Exposure to infected blood
- Contaminated needles and syringes
- Sexual contact with an infected person
- Unapparent transfer, probably by blood.

The major route of transmission of Hepatitis B virus is similar to that of HIV, except for the unapparent transfer. Unapparent transfer appears in household contacts. HIV is not transmitted in this way and is in general much less easily transmitted than Hepatitis B.

**Hepatitis B Infection**

Infection with Hepatitis B virus leads to an acute illness with fever, nausea, and jaundice in about 25% of cases. Most people recover. However, about 0.5% of those with acute illness die. In addition, 6%-10% of those infected as adults become chronic carriers of the virus. About 25% of these develop chronic hepatitis, which is associated with a high risk of developing cirrhosis of the liver and liver cancer. Chronic carriage of Hepatitis B virus is much more common when infection occurs in childhood, particularly in the first years of life. Hepatitis B occurs more often in males than in females.

**Hepatitis B Infection in New Zealand**

More people in New Zealand show evidence of past infection with Hepatitis B than in countries such as United Kingdom and the United States. About 10% of young people in New Zealand show evidence of past infection (Hepatitis B antibody) and about 2% are chronic carriers.

A marker in the blood of a carrier is Hepatitis B surface antigen (HBsAg). Chronic carriers may be highly infectious. The Hepatitis B early antigen (HBeAg) is a marker of a person in this highly infectious state. This state is more common in children in New Zealand (about 80% of carriers) than in adults (about 20% of carriers). A proportion of highly infectious carriers become less infectious over time. Treatment may also affect the carrier's state. Amongst Maori and Pacific Island people the rates of past infection and the carrier state are much higher. The rates are also higher in the North Island than in the South Island.
**Prevention**

The vaccine currently available in New Zealand is a yeast-derived vaccine produced by recombinant DNA technology. The Hepatitis B vaccine includes a protective antibody response in more than 90% of healthy adults and more than 95% of children and adolescents. The vaccine has been shown to be safe with no confirmed serious adverse effects.

All University staff and students who come in contact with human blood or body fluid in such settings as a laboratory, a clinical setting and, possibly sporting settings are at risk of acquiring Hepatitis B. This risk can be reduced by observing the following safety precautions and by vaccination.

Checklist for infection control of acquiring Hepatitis B:

- Where processes involve human blood or body tissue, information is to be provided to all staff and students about risks and preventative measures to control Hepatitis B.
- Where processes involve human blood or body tissue, training is to be provided in safety precautions and monitoring of laboratory and clinical practices in accordance with Standard Precautions, or Bachelor of Medical Laboratory Science Laboratory Safety Manual, or equivalent documents.
- Staff and students who are at risk of acquiring Hepatitis B are advised to be tested for antibodies for Hepatitis B and should be vaccinated if they are not immune.
- For students, advice on vaccination (or confirmation of their immune status) should be early in their studies and well before they are exposed to any risk.

Checklist for medical staff or students at risk of transmitting Hepatitis B:

- Staff or students who are Hepatitis (HBeAg) positive should seek expert advice in order to determine which activities or clinical practices are appropriate in view of their higher risk of transmitting the virus while HBeAg positive.
- Staff or students who are HBsAg positive but HBeAg negative are to be reminded of the standard safety precautions that are necessary in all contacts with patients.

**Hepatitis C**

Prevention of Hepatitis C in the University environment is covered by the rules for the prevention of the spread of Hepatitis B.