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FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES INFECTION CONTROL POLICY

The aim of the Faculty's Infection Control Policy is to minimise as far as possible the risks to both students and patients from coming to harm by passing infections between each other. By adhering to the requirements of the Policy, you will also be complying with policies established by the Health Department of Western Australia, the Medical Board of Australia, and those of the teaching hospitals in which you will be working. The guidelines are based on those detailed within the *Australian Immunisation handbook (9th edition, 2008)*.

The Policy has been designed to deal with a range of particular infections that are known to pose risks to both patients and health care workers. In order to make the Policy work effectively it is important that all students understand it and support it.

I. Policy requirements

All students enrolled in the Faculty of Medicine, Dentistry and Health Sciences, and who will have patient contact during their course, are expected to comply with specific requirements set out in the Infection Control Policy.

a) Screening and vaccination requirements

These must be fulfilled prior to enrolment. Failure to produce evidence of compliance with requirements may preclude a student from commencing clinical placements during the first semester of their course.

Students must arrange review by their General Practitioners (GP's), who can arrange appropriate blood testing and vaccinations (see *Notes for General Practitioners regarding potential student's compliance with UWA Faculty of Medicine, Dentistry, and Health Sciences Infection Control Policy*). Supporting evidence of compliance with requirements, in the form of a standardised letter signed by the GP, must then be presented to the Faculty of Medicine at, or prior too, enrolment.

The specific requirements are:

1. Hepatitis B

All students must have a blood sample taken to determine Hepatitis B immunity.

Evidence of immunity to hepatitis B virus infection is required prior to enrolment using documented evidence of an adequate serological response following a completed age appropriate course of hepatitis B vaccine (3 or 4 doses). Serological testing (a blood test) should be performed by a National Association of Testing Authorities (NATA) accredited laboratory. Hepatitis B surface antibody (HBsAb) titre of ≥ 10 mIU/mL is required.

If HBsAb titre < 10 mIU/mL and there is nil or incomplete documentation of prior vaccination, the student requires completion of a 3 or 4 dose hepatitis B vaccination course prior to undergoing repeat serological testing. A student may be undergoing vaccination at the time of enrolment but the Infection Control officer must be made aware of this.

If there is no response to a full course of Hepatitis B vaccination the Infection Control Officer must be contacted.

Students who are known to have Hepatitis B virus infection must be discussed with the Faculty's Infection Control Officer prior to enrolment. **Students cannot enrol onto the Doctor of Dental Medicine course if infected with Hepatitis B virus.** Students on other courses may proceed under the guidance of the Infection Control Officer.

The cost of testing and vaccination is met by the student.

2. Measles, mumps, rubella and varicella

All students must provide evidence of immunity to measles, mumps, rubella and varicella.

Acceptable evidence of immunity includes:

- Documented evidence of a prior full vaccination course (2 vaccinations at least one month apart)
- Presence of adequate antibodies on serological testing (Measles IgG, Mumps IgG, Rubella IgG, and Varicella IgG). Testing must be performed by a National Association of Testing Authorities (NATA) accredited laboratory.
- Prior laboratory confirmed infection (varicella only)
- Students born prior to 1966 (measles only)

Depending on the evidence produced, results primary or boosting vaccinations may be required against these infections. This will be determined by the reviewing GP.

Note that live virus vaccines (measles, mumps, rubella and varicella) should not be administered to those who are pregnant and persons with pre-existing medical conditions causing immunocompromised. If pregnancy is being planned, it should be delayed for at least 28 days after last being administered one of these vaccines. If you have any concerns regarding this, or other issues with vaccination and potential side effects or complications, please contact the Infection control officer.

A small number of people receiving the varicella vaccine may develop mild infection with the vaccine strain of the virus during the six weeks following administration. Those developing a rash during this period should not come into contact with patients for a week following the onset of the rash.

The cost of testing and vaccination is met by the student.

3. Human Immunodeficiency Virus (HIV) and Hepatitis C virus (HCV) status

All students must have a blood sample taken to determine their Human Immunodeficiency Virus (HIV) and Hepatitis C virus (HCV) status. Testing must be performed by a National Association of Testing Authorities (NATA) accredited laboratory.

This guideline is in accordance to current *Western Australian Health Care Worker Immunisation Policy guidelines* (updated September 2012), which reference the *Australian National Guidelines for the Management of Health Care Workers known to be Infected with Blood-Borne Viruses* (published by the Australian Government Department of Health and Ageing, February 2012).

Some persons infected with hepatitis C will clear the virus naturally and others do so after treatment. However they will remain "*hepatitis C antibody positive*". Therefore serological testing needs to be followed by further molecular testing (by polymerase chain reaction, PCR) if a person is found to be antibody positive. Those subsequently found to be "*hepatitis C PCR positive*" would be deemed to have ongoing hepatitis C infection. This should be discussed with the Infection control officer if required.

For prospective dental students, hepatitis B, hepatitis C, or HIV infection precludes entry onto training courses or working as a dentist. If the blood tests are not performed prior to

enrolment and you are subsequently found to be HBsAg positive (indicating current Hepatitis B infection), HCV, or HIV positive **you may be excluded from the course.**

Students with hepatitis C or HIV infection planning to study courses other than dentistry will be allowed to enrol. Prior discussion must take place with the Infection Control officer, and during training restrictions may be placed on the student regarding Exposure Prone Procedures (EPP's). Further details may be found within the *Australian National Guidelines for the Management of Health Care Workers known to be Infected with Blood-Borne Viruses.*

The cost of testing is met by the student.

3. Pertussis

All students must provide documentary evidence of up-to-date immunisation against pertussis (whooping cough).

Immunity against this infection cannot be determined by blood testing. Immunity is assumed if at least one documented dose of vaccine has been received within the last 10 years. If not previously vaccinated, or if vaccination records are incomplete, vaccination will be necessary.

Documentation of previous polio and diphtheria vaccination are no longer an Infection Control policy requirement, though up to date vaccination is still recommended.

The cost of vaccination is met by the student.

4. Tuberculosis

All students must have a Quantiferon-TB blood test or a Mantoux test (Tuberculin skin test) to determine evidence of past exposure to tuberculosis. If either of these tests is positive, further action is required. The student will be referred to the Anita Clayton centre (previously Perth Chest clinic) for review and a chest x-ray performed. A positive test does *not* preclude a student from enrolling, however the case must be discussed with the Infection Control Officer.

The cost of testing is met by the student.

5. Methicillin Resistant *Staphylococcus aureus* (MRSA)

Any student who has been in a hospital (either working or as a patient) outside Western Australia, in the 12 months prior to starting work in a Western Australian hospital, must have swabs taken to determine whether they are carriers of Methicillin-resistant *Staphylococcus aureus* (MRSA). Work in hospitals cannot be commenced until swabs are shown to be MRSA negative or until eradication treatment is prescribed by the Infection control team (for those with positive results).

The cost of testing is met by the student.

6. Influenza

It is recommended that all students receive yearly influenza vaccination

Once a GP has determined that a prospective student has complied with items 1-6 of the policy, they will be required to sign a letter. This needs to be taken to the Faculty of Medicine at enrolment. Failure to produce evidence of compliance with requirements may preclude a student from commencing clinical placements during the first semester of their course.

b) Occupational sharps injuries and body fluid exposures

The health care system in Western Australia has effective infection control strategies and provides a safe working environment that minimizes the risk of a sharps injury or exposure to body fluids,

secretions and excretions, and prevents the transmission of infections from person to person within the health care setting.

Sharps injuries and other body fluid exposure incidents if they do occur, must be reported by the student involved to their supervisor immediately. The Infection Control Officer should also be notified via the Incident Report Form. All HCWs should be tested for all BBVs following such an event, and managed appropriately.

d) Blood borne viruses (BBV's)

Following initial screening tests for Hepatitis B, Hepatitis C and HIV infection at enrolment, student HCWs who undertake EPP's should know their BBV status and are encouraged and supported to undergo regular testing. Occupational exposure is described above in **(c)**, but further testing and follow-up care after potential non-occupational exposures is also required.

Subsequent management.

- Dental students and dentists cannot continue their studies or employment if infected with a BBV.
- All other HCWs and student HCW's infected with a BBV should remain under regular medical supervision.
- HCWs and student HCW's must not perform EPPs if they are human immunodeficiency virus (HIV) antibody positive.
- HCWs and student HCW's must not perform EPPs while they are hepatitis C virus (HCV) RNA positive, but may be permitted to return to EPPs after successful treatment or following spontaneous clearing of HCV RNA.
- HCWs and student HCW's must not perform EPPs while they are HBV DNA positive, but may be permitted to return to EPPs following spontaneous clearing of HBV DNA or clearing of HBV DNA in response to treatment.

The scope of restrictions on practice and study of HCWs and student HCW's infected with a BBV will depend on the likelihood that an EPP will form part of the duties of the field of work undertaken.

c) Encapsulated bacteria

Any exposure to patients with *Neisseria meningitidis* (meningococcal) or *Haemophilus influenza* infection during clinical placements must be reported by the student to their supervisor or Infection Control Officer. Following a significant exposure prophylactic antibiotics *may* be required.

II. Data collection

The Faculty Office will maintain a record of student compliance with the various components of the Infection Control Policy.

III. The Infection Control Officer

The Infection Control Officer (ICO) is a medically qualified member of the Faculty with specialist qualifications in the field of microbiology/infectious diseases. The ICO is there to give you advice at any time regarding concerns you might have about catching infections from patients; or conversely, about passing on an infection to a patient. You can contact the ICO through the Faculty Office should you need to.

The current ICO is Associate Prof Ben Clark, who can be contacted at QE II Medical Centre on 08 9346 4658 or through the Faculty Office on 08 9346 7323.

IV. Confidentiality

The specific information obtained from the blood tests will be made available only to the requesting GP and the Faculty Infection Control Officer. In special circumstances the Associate Dean for

Student Affairs, the Clinic Coordinator at the Oral Health Centre of Western Australia or the Sub-Deans of Health Sciences may also be informed.

Students who approach the ICO for advice will have their queries treated with respect and confidentiality

There may be situations where infection in a student or patient has inadvertently placed others at risk and in order to deal with the situation other Faculty or hospital staff members may need to be informed. This will only be done after consultation between the ICO and the student concerned

Remember always that while confidential information is being collected, it is being done with the clear goal of protecting both students and patients from harmful situations.

V. Situations requiring action

If any of the situations listed below occur, they need to be dealt with as soon as possible by your supervisor and the Infection Control Officer (or by the contacts listed if a needlestick/body fluid exposure occurs out of hours).

Make a note of:

- the date, time and duration of the contact
- the name and date of birth of the contact (i.e. if patient or classmate)
- the nature of the contact

The Infection Control Officer will need to have this information in order to best advise you and others what to do.

1. Needlestick or other body fluid contact

If you are accidentally pricked by a needle or sharp object which has been used on a patient or possibly been used on a patient or if any body fluid from a patient makes contact with your mouth or eyes, chapped skin or open wound on your body, cease work and inform your immediate supervisor without delay. You, or your supervisor, should then contact one of the following urgently:

Students at Sir Charles Gairdner Hospital:

- During working hours contact SCGH Immunology Department: ex. 2833
- After hours page Immunology Registrar through switchboard: 08 9346 3333

Students at Princess Margaret Hospital/KEMH:

- During working hours contact Accidental Inoculation Nurse: page 2711
- After hours contact PMH Emergency Department: ex 8353 OR after hours Nurse Manager, page 8840

Students at Fremantle Hospital:

- During working hours contact Infection Control: page 4168
- After hours contact Emergency Department Senior Registrar/Consultant.

Students at Royal Perth Hospital and other hospitals not listed above:

- During working hours contact the Immunology Clinical Nurse Specialist: ex. 3420
- After hours Immunology Registrar through switchboard: 9224 2244

It is important that you do not delay seeking advice and help following an exposure. In the situation where the source is known to be, or at high risk of being infective for HIV, your risk of acquiring this infection can be substantially reduced if you are administered antiretroviral drugs within several hours, the earlier the better.

Once you have done the above and appropriate management is underway, you must fill out an Incident Report Form. You should give one copy to your supervisor and another to the Infection Control Officer.

2. Contact with rubella, chickenpox, shingles, mumps or measles

If you come into contact with a case of any of these infections (at home, amongst your friends or in a patient) you should contact the Infection Control Officer as soon as possible. As a result of compliance with the Policy you should be immune to these infections and at no risk of acquiring the infection and passing it on to patients or your classmates. However it is best to discuss this with the ICO to ensure that this is the case. See sections VIII.1-4.

3. Contact with any illness with a rash

If you come into contact with anyone (at home, a friend, or a patient) who has an illness with a rash, you should try to find out what the cause of the infection is. If it is something that you believe you are not immune to you should contact the Infection Control Officer to discuss the situation.

4. Potential MRSA contact

If you come into contact with a patient with MRSA while in a hospital in WA you should discuss the necessary course of action with the hospital's Infection Control Department. You may need to have swabs taken to determine whether you have become a carrier.

5. Contact with Tuberculosis

If you come into contact with a case of active pulmonary or laryngeal tuberculosis, then you are at risk of acquiring this infection yourself. Tuberculosis patients who have been on appropriate antimycobacterial therapy for several weeks are no longer infective to others. Following contact with an infective patient you should contact the Infection Control Officer immediately. You may need to have a Mantoux test performed and another in 2-3 months.

6. Contact with Encapsulated Bacteria

If you have significant contact with somebody who has invasive disease with either *Neisseria meningitidis* or (less likely) *Haemophilus influenzae* you may be at risk of being colonised with this bacterium, subsequently becoming ill with it or passing it on to someone else.. Significant contact is:

- kissing contact
- close household contact
- having your face, mouth or eyes come into contact with vomit or respiratory secretions from an infected patient

Following such a contact you can be protected by receiving prophylactic antibiotics, usually in just a single dose. If you have such a contact you should get in touch with the Infection Control Officer immediately.

VI. Reference information

This section contains information about a number of organisms and topics which are relevant to a better understanding of the Infection Control Policy.

1. Measles

Measles is a virus, which infects primarily the respiratory tract. It is not common because of widespread vaccination but cases are still seen in those without immunity who come into contact with a case, usually introduced from outside the community. It is highly infectious. The infection consists of fever, red eyes, runny nose, cough and a widespread red blotchy rash. Pneumonia may develop and middle ear infection is a common complication. Mortality is significant in those under 5 years.

Incubation period: 7 - 18 days, typically 10
Period of infectivity: from 4 days before rash onset, to 4 days after rash onset

2. Mumps

Mumps is a viral infection causing painful enlargement of the salivary glands (parotid, sublingual, submaxillary). It may also affect the testes, ovaries and mammary glands and uncommonly may result in sterility.

In 2012/2013 there was an ongoing mumps outbreak involving students.

Incubation period: 14 - 25 days
Period of infectivity: from up to 7 days before parotitis onset to 9 days after onset

3. Rubella

Rubella is an infection caused by a virus. It is a very common infection in childhood and in this age group it usually causes no problems. Symptoms of the illness include fever, tiredness loss of appetite, swollen glands in the head and neck and a rash. When the infection occurs in adults it may produce a more significant illness, and complications e.g. arthritis and encephalitis (inflammation of the brain) are more common than in children.

The infection is most serious when it occurs in pregnant women because it can be transmitted to the developing foetus with disastrous effects. If the affected baby is born alive it may suffer from the congenital rubella syndrome, a collection of birth defects including microcephaly (abnormally small head), mental retardation, abnormally small eyes, blindness, deafness, bleeding disorders and abnormal heart valves. For this reason, a pregnant woman who is not immune to rubella must avoid contact with the virus at all costs. Even a woman who is immune should avoid contact as reinfections can sometimes occur.

Rubella is spread in the form of droplets from the respiratory tract. The incubation period (time between first contact and first symptoms) ranges from 14 to 23 days. Infection may be asymptomatic. It is important to realise that a person infected with the virus may be infectious to others even before the onset of symptoms. An infected person is infectious for about a week before the onset of symptoms until at least 4 days after the onset of the rash.

Infection with rubella produces immunity to further infections. In addition, immunity may be achieved by vaccination. Rubella is currently part of the childhood vaccination schedule in WA. Reinfection with rubella has been described but is uncommon and is more likely to occur in someone who has achieved immunity through vaccination rather than by natural infection.

Incubation period: 14 – 21 days
Period of infectivity: from 1 week before to 4 days after onset of rash

4. Varicella-Zoster virus

This virus causes chickenpox and shingles. Chickenpox is a common infection of children and usually produces only tiredness, low grade fever, loss of appetite and a very itchy rash consisting of small blisters. Adults who become infected with this virus may suffer from more severe symptoms and are more likely to get complications of pneumonitis (infection of the lungs) or encephalitis. Once a person has been infected with this virus it stays in their body forever, usually causing no further problems. The virus remains hidden in the dorsal root ganglia, small structures of the nervous system close to the spine. In some people, later in life, the virus can become reactivated and travel down the nerve to the skin where it produces a red and blistering skin rash called shingles or zoster. This very painful condition affects only that segment of the skin supplied by the nerve involved.

Two main groups of people should avoid contact with varicella-zoster virus (VZV) if they are not immune to it. These are the immunocompromised (people whose immune systems are impaired by things such as cancer or drugs or HIV infection) and pregnant women. Immunocompromised people if infected by VZV can get an overwhelming and fatal infection. Pregnant women if infected by the virus may experience a number of problems. Firstly, they may get a more serious infection than non-pregnant people would, sometimes resulting in a severe and potentially fatal pneumonitis. Secondly, the developing foetus may be infected and suffer from the foetal varicella syndrome, a

collection of birth defects including scarring of the skin, abnormally small limbs, abnormal eyes and mental retardation. Thirdly, if a pregnant woman comes down with chickenpox within several days before or after birth, her baby may suffer from a severe chickenpox infection after birth with a high mortality.

VZV is spread by respiratory droplets or by contact with virus from the skin rash. It is highly infectious. The incubation period ranges from 2-3 weeks. The period of infectivity is from 2 days before the onset of the rash until 5 days after the appearance of the last lot of vesicles (blisters).

It should be noted that a non-immune person can get chickenpox from another case of chickenpox or from someone with shingles. A person can only get shingles from reactivation of their own latent VZ virus.

Immunity is gained from either natural infection or from vaccination.

Incubation period: 2 – 3 weeks, commonly 14 – 16 days
Period of infectivity: from up to 5 days before onset of rash until all lesions are crusted

5. Pertussis

Pertussis, or whooping cough, is a respiratory infection caused by the bacterium *Bordetella pertussis*. Bacterial toxins damage the ciliated cells of the trachea, resulting in a severe coughing illness which may persist for months. Classical whooping cough is described in young children as having three stages: the catarrhal stage in which increased upper respiratory tract secretions are present, the paroxysmal stage, in which severe bouts of coughing may lead to respiratory arrest, and the convalescent phase, in which coughing episodes persist for months before gradually diminishing.

The mortality of whooping cough is significant, particularly in infants less than 1 year of age. In recent years, whooping cough has become increasingly recognised as an adult infection. Routine vaccination of children between 2 months and 4 years of age has shifted the peak incidence of the infection into the adolescent years but with the majority of cases spread across adulthood. This results from a waning of vaccine induced immunity. A booster is now given to 15-17 year olds. Whooping cough in adults does not usually manifest in the classical manner described in infected children and may thus be unrecognised. Maintenance of adult immunity is important, as infected adults are source of life threatening infection to infants who have not yet been vaccinated.

Since 2010 there has been an ongoing pertussis epidemic in Western Australia, with over 4000 cases notified in 2011 and approximately 3500 in 2012.

Incubation period: 7 – 20 days
Period of infectivity: highest during catarrhal stage (up to a week before coughing paroxysms) and during the following 3 weeks; for 5 days after commencement of effective antibiotics

6. Human Immunodeficiency Virus

This virus is found in the blood of an infected person and in the following bodily fluids: breast milk, semen, cervical and vaginal fluids, saliva, tears, cerebrospinal fluid, urine, alveolar fluid and joint fluid. However, not all of these fluids have been implicated in the transmission of the virus. Most cases of transmission have been associated with blood (contaminated blood transfusions, blood products, contaminated needles in IV drug users) and with sexual intercourse. In developing countries, mother to infant transmission is a significant mode of transmission.

In the occupational setting, health care workers have become infected with HIV primarily from contact with blood or blood-containing bodily fluids. This is most likely to occur following penetration of the skin by a needle ("needle stick injury") or by another sharp instrument which is contaminated with blood from an infected patient, or by contact of such infected blood with mucous membranes (eyes, mouth) or non-intact skin. The estimated risk of acquiring HIV infection from a needlestick

injury from an infected patient is 0.3%. Following mucous membrane contact with infected blood the estimated risk of infection is 0.09%.

Following HIV infection the virus may enter a number of different cells in the body, but those most susceptible are lymphocytes, a type of white blood cell important in the immune response. Following entry of the virus into these cells, the genetic material of the virus inserts itself into the genetic material of the cell. After 3 to 6 months antibodies against HIV are produced by the infected human host and these may be measured by laboratory tests. The period following infection and the point in time when these antibodies can be detected is called the "window period". At the time of the appearance of these antibodies the host may experience a nonspecific flu-like illness called the "seroconversion illness".

The effect of HIV infection on the host is that the cells of the immune system are gradually destroyed, leaving the host less able to fight off infections and particular types of cancer. For a period averaging ten years, the "latent period", the untreated patient may remain outwardly well while the virus continues to replicate and destroy the immune system. When the immune system is damaged beyond a particular point the host begins to experience infections, often caused by microorganisms which do not usually cause problems in people with healthy immune systems. In addition, unusual types of cancers may be seen when these events begin to take place, the patient is said to have AIDS, the Acquired Immunodeficiency Syndrome.

To date there is no vaccine effective against HIV. Potent antiviral drugs have been developed over the years, which slow the replication of the virus and improve the health of those infected. The life expectancy of patients managed with these drugs can now equal that of non- HIV infected persons. Following a risk exposure such as a needle stick injury from an infected patient, the use of these drugs alone or in combination for a period of several weeks can reduce the odds of infection in the recipient by >80%. This is more likely to be effective if the drugs are given early after the exposure rather than later, so it is important to seek advice as soon as possible after such an injury.

Incubation period: Variable; to seroconversion illness, 5 – 70 days, typically 22 days; to onset of AIDS, typically 10 years.

Period of infectivity: Variable: from shortly after infection and for duration of life; influenced by viral load and effectiveness of treatment.

7. Hepatitis B Virus

This blood borne virus is more likely to be encountered by healthcare workers than is HIV, and it is also many more times infectious than is HIV. Fortunately however, infection with HBV can be prevented by vaccination.

HBV is a virus which infects the cells of the liver. Most infections do not cause symptoms, and in those who become ill with hepatitis most recover within 6 months. Symptoms of hepatitis may be severe or mild and include headache, malaise, fever, nausea, vomiting, jaundice and abdominal pain. About 1% of cases may be fulminant, that is severe liver failure and seizures, often leading to death. A small number of cases, perhaps 10%, will become chronically infected and of this group some will develop cirrhosis (a serious form of liver damage) and some will develop fatal cancer of the liver. Those with chronic infection are the major source of transmission to others.

As the virus replicates in the liver it spills out into the bloodstream and it can be detected here and in a number of body fluids. These are semen, cervico-vaginal secretions, breast milk, saliva, urine, bile, sweat, tears, cerebrospinal fluid and joint fluid. HBV is transmitted by similar routes to HIV although is much more infectious. The most common routes of transmission are sexual intercourse, sharing of contaminated needles by intravenous drug users and from mother to infant. The virus may be transmitted on objects such as toothbrushes, eating utensils, razors, baby bottles and toys. Transmission in the hospital setting may occur from patient to healthcare worker and vice versa, and from patient to patient on contaminated equipment. The risk of transmission following a needlestick injury from an infected patient is estimated to be from 27-40% if the patient is HBsAg positive (see below).

A number of tests are used to diagnose hepatitis B or to show immunity to it. During active infection, two components of the virus are usually looked for in the blood, surface antigen (HBsAg) and 'e'

antigen (HBeAg). Both of these indicate that the patient is actively infected and infectious to others. The presence of HBeAg indicates high infectivity. As disease resolves these components disappear from the blood and antibodies to them appear, namely HBsAb and HBeAb. Another antibody, HBcAb, is directed against the 'core' antigen which is found in the liver during active infection but not in the blood.

Those who become chronically infected do not clear the surface antigen (HBsAg) from their blood and do not develop antibody to surface antigen (HBsAb). They may also have HBeAg in the blood. Such cases can be managed with long term antiviral medications.

Infection with HBV can be effectively prevented by the use of a vaccine. The material used in the vaccine is in fact HBsAg, made in the laboratory by a harmless yeast which has been genetically engineered to produce this viral protein. The vaccine gives rise to HBsAb in those vaccinated. The course of vaccination consists of 3 injections, the second 1 month after the first and the third one at 6 months. Although the vaccine produces protective levels of HBsAb in over 90% of individuals, failure to respond to the vaccine occurs in some and is related to increasing age, obesity, smoking and injection in the buttock rather than the upper arm.

For those who do not have immunity to hepatitis B and who receive a needlestick injury or other risk exposure, protection from infection is available by other means. If a risk is thought to exist, then the person receiving the needlestick can be injected with hepatitis B immune globulin (HBIG). This is HBsAb derived from the serum of people who already have high levels of HBsAb, and the process is known as passive immunisation. Administration of HBIG must be carried out within 72 hours of the exposure to be fully effective, and it is followed by a course of the vaccine. The aim of this Policy is to ensure that all students will be immune to hepatitis B in advance of any such injury occurring, so that the process of passive immunisation is not necessary.

Incubation period: 45 – 180 days, average 60 – 90 days
Period of infectivity: As long as HBsAg is present in blood; from many weeks before onset of symptoms and during the period of the acute illness; for the duration of viral carriage in those chronically infected.

8. Hepatitis C Virus

Hepatitis C is transmitted mainly by contaminated blood or blood products, and many cases in the community were acquired from blood transfusions in the days before specific tests were available to screen blood donations for this virus. Another group at risk of acquiring hepatitis C infection is intravenous drug users sharing contaminated needles. Many people with the infection have no history of blood transfusion or IV drug use. Sexual transmission is not thought to be responsible for many cases. The infection may be transmitted from mother to baby but the rate of transmission is not high.

The illness caused by HCV is very similar to that caused by HBV. However, HCV is of major concern because 50-70% of infections will become chronic infections, unlike the 10% chronic infection rate with HBV. As in the case of chronic HBV infection, chronic HCV infection may lead to cirrhosis and hepatocellular carcinoma. Unlike hepatitis B however, treatment of hepatitis C is successful in the majority of cases, and patients clear the virus permanently from their bodies.

Laboratory tests for HCV are relatively limited in their scope. Following infection there is a window period before antibodies to HCV can be detected in the blood, and this averages 6 - 8 weeks. The presence of HCV antibodies in a blood test gives no indication as to when the infection occurred or whether the infection is active or inactive. Another test is available to detect HCV genetic material in the blood (the PCR test), and the presence of this indicates active viral replication in the liver.

There is no vaccine against HCV or any form of passive immunisation.



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