HIV

- Pre- and post-test counselling should be offered and informed consent obtained before testing for HIV and hepatitis viruses.
- In the UK, the prevalence of HIV is low when compared with other European countries. HIV is found largely within Greater London and the South East, where prevalence is in the region of 1% amongst injecting drug misusers. It is now recommended that all pregnant women be offered HIV testing, as the risk of vertical transmission (infection of the baby) is much reduced by administration of medication. Treatment for HIV infection is increasingly effective.
- In the UK, recent evidence suggests that between 50 and 80% of past and current injecting drug users may be infected with hepatitis C. Treatment is only appropriate in selected cases, but all hepatitis C positive patients may benefit from advice to cease alcohol consumption and regarding avoidance of onward transmission.
- Vaccination against hepatitis A & B should be offered to all drug users and to the close contacts of those who are carriers of the hepatitis B virus.

HIV transmission in the substance misusing population occurs by several routes: parenterally through the sharing of dirty needles or injecting paraphernalia, sexually and by vertical transmission from the infected mother to the foetus or during birth. In the UK, the prevalence of HIV is low when compared with other European countries, and is found largely within Greater London and the South East. The rate in London amongst injecting drug misusers is approximately 1 in 80 for men and 1 in 100 for women. The effectiveness of treatment has improved considerably over recent years due to several factors:

- **Combination antiretroviral therapies, including new classes of drug such as the protease inhibitors have been developed and tested.**
- **Improved methods of viral load determination have been shown to have prognostic value.**
- **Improvements in opportunistic infection prophylaxis strategies and treatments now prolong disease-free states.**
- **Zidovudine for HIV-infected pregnant women has been shown to decrease vertical transmission.**
- **Prophylaxis for needle-stick injuries now decreases transmission in health care settings.**

Treatment will now commonly commence with combination therapy which decreases viral load and may delay viral drug resistance (which is increasingly a major concern). In November 1994, Connor et al reported that the administration of zidovudine to previously untreated HIV-infected pregnant women and their newborns reduced the rate of perinatal HIV infection by two-thirds from one in four to one in twelve. It is now recommended that all pregnant women be offered HIV testing and counselling; this is especially important in those with a history of illicit substance misuse.

TESTING

Whilst in general injecting drug misusers should be encouraged to have testing (in view of the effectiveness of treatments now available), this must always remain the client's decision, and should always be preceded by the giving of informed consent. There are various issues which should be discussed before testing in order that the patient makes an informed decision before proceeding:

- **The likelihood of a positive test result.**
- **The potential social and financial implications of a positive result.**
- **The patient's understanding of what a positive test means medically.**
- **What supports are available to him or her.**
- **Results should ideally be given by the person who organised the test, as a planned consultation on a definite day.**
- **Patients with positive results will need clear advice about onward medical treatment and referral.**

Sometimes, an HIV test is requested immediately after an episode of high risk behaviour, such as needle sharing, and the patient needs to be advised that testing will not provide a reliable result until sufficient time has elapsed for the development of antibodies. A wait of three months between the last episode of risk-taking and the performing of the test is advisable, providing accurate results in 99% of all cases. If a test result is negative, reassure and advise about minimising future risk-taking. If a test result is positive, offer appropriate support, advise about how to avoid transmission to others, and offer referral for treatment. After learning of the diagnosis the drug user may require considerably more support than previously.

VIRAL HEPATITIS

Six human hepatitis viruses (designated A, B, C, D, E and G) have been identified and characterised. The D virus accounts for only approximately 2% of cases of viral hepatitis, whilst the E virus is very rare. Injecting drug users are at high risk of infection with hepatitis viruses. In one study of 389 intravenous addicts in California, 41% had antibodies to HAV, 73% to HBV, 94% to HCV and 10% to HDV (Tenant & Moll, 1995). In another study of 716 injecting drug users in Baltimore, 66% had antibodies to HBV and 77% to HCV (Garfein & Vlahov et al, 1996). In the UK, recent evidence suggests that between 50 and 80% of past and current injecting drug users may be infected with hepatitis C (Di Bisceglie A, 1998).

The majority of drug using clients who are tested as antibody positive for a hepatitis virus will be currently asymptomatic. Baseline advice for all such clients should be to avoid the use of alcohol, and care should be taken that medications associated with chronic hepatitis and cirrhosis are prescribed only with extreme caution (e.g. aspirin, chlorpromazine, sulphonamides).

HEPATITIS A (HAV)

The HAV virus is generally transmitted by faecal-oral contact and is associated with child-care, ingestion of contaminated food or water, sexual activity (especially anal sex) and travel to certain high risk areas. Measures to prevent spread of HAV include handwashing, serum immune globulin (IG) prophylaxis, and vaccination. Vaccination is recommended for all illicit drug misusers and close contacts including children.

HEPATITIS B (HBV)

HBV is present in high titres in the blood of infected patients and in moderate quantities in saliva, semen and vaginal secretions. The three principle modes of transmission are through blood (needle-sharing), sexual activity and mother-to-infant. In adults only approximately 30% of acute infections result in jaundice and many cases go undiagnosed. About 5% of adults infected with hepatitis B become chronic carriers, and amongst these those who are positive for hepatitis B e-antigen are the most infectious. Approximately 20% of these carriers will go on to develop progressive liver disease which in some cases will lead to cirrhosis and hepatocellular carcinoma.

TESTING

Carriers are diagnosed by the presence of hepatitis B s-**antigen**. The presence of hepatitis B s-**antibody** may indicate either current infection, resolved infection or successful immunisation. (*See appendix 6,* page 122 for test result interpretations). Pre- and post-test counselling, as described above under HIV testing, should occur before testing.

All injecting drug misusers who are not already immune (hepatitis B s-antibody negative) should be offered **vaccination**; this offer should extend to the close household contacts (especially sexual contacts) of those who are currently infected (hepatitis B s-antigen positive). Bearing in mind compliance, full protection is more likely to be achieved with use of newer formulations which can be administered over a period of weeks rather than the usual 6 months. A typical schedule involves administration of 'Engerix B' at 0, 7 and 21 days with testing 6 to 8 weeks after the third dose (Bock et al, 1995). If the patient has demonstrable antibodies after three doses they probably do not require a booster at 12 months. If the patient has not responded to the three dose course testing should take place for full hepatitis B markers, as the most likely cause of non-responsiveness is being a carrier of the hepatitis B virus. Testing with oral swabs has recently become available but has yet to be fully evaluated.

Current and past injecting drug misusers who are infected (hepatitis B s-antigen positive) should be referred to a specialist with expertise in liver disease for further assessment. Therapy for chronic hepatitis B infections is available, but is expensive and not generally employed. Interferon alpha subcutaneously three times per week decreases HBV replication (Wong, Yim et al, 1995). Post-exposure **prophylaxis** with hepatitis B immunoglobulin (HBIG) (followed by vaccination) is recommended for perinatal, percutaneous, ocular, mucous membrane and sexual contacts.

HEPATITIS C (HCV)

The hepatitis C virus was first identified in 1989. It is estimated that 200,000 people in England have hepatitis C, many undiagnosed. People infected 20 to 30 years ago are now progressing to serious disease, and increasing numbers will come forward needing testing, counselling and referral for investigation and treatment.

The commonest route of infection is by sharing blood-contaminated needles or injecting equipment during intravenous drug misuse. Many patients will deny sharing needles, but the virus is hardy and may often be transmitted through the sharing of injecting paraphernalia other than needles. Sexual transmission occurs but the frequency is uncertain and most studies indicate rates of around 5% in regular sexual partners, and a slightly increased seroprevalence in those with multiple sexual partners. Vertical (mother to baby) transmission appears to be of a similar order; there is thought to be increased risk of transmission if the mother has concomitant HIV infection. Infection may often be acquired within the first six to twelve months of injecting and many users will already be infected by the time they approach services.

The acute infection is most commonly largely asymptomatic, and jaundice only occasionally occurs. It is currently thought that in the order of 20% of new infections will resolve spontaneously, whilst the virus will persist in around 80% of cases. Although some of those with chronic hepatitis C infection experience vague, non-specific symptoms such as fatigue and aching joints, many will only develop symptoms later with the onset of complications of liver disease. Around 20% of patients with chronic infection are likely to develop cirrhosis, sometimes after 20-30 years, and about 25% of these may develop a hepatocellular carcinoma.

TESTING

Screening for hepatitis C is currently achieved by testing for the antibody, although the antigen (proof of current infection) can be detected by polymerase chain reaction (PCR). Testing, as for HIV antibodies, is only reliable 3 months after last possible exposure, and a negative antibody test performed within this period will not rule out infection. Pre- and post-test counselling, as described above under HIV testing, should occur before and after testing. Positive tests should lead to referral to a specialist centre, where confirmation (or otherwise) of active infection can be achieved by PCR. Specialist assessment may involve a period of observation and a liver biopsy to stage the disease.

TREATMENT

The National Institute of Clinical Excellence (NICE) published its appraisal of combination therapy (alpha interferon and ribavirin) for HCV, on 31 October 2000. Recommendations include:

- **Combination therapy is the treatment of first choice for most patients with moderate/severe HCV who were previously untreated or have relapsed after interferon monotherapy.**
- **Treatment for 6 months is recommended for most patients; for genotype 1 patients with initial response, an additional 6 months is recommended.**
- **Treatment is generally not recommended for current intravenous drug users, heavy drinkers, those who did not respond to interferon monotherapy, those with decompensated cirrhosis.**

Combination therapy clears the virus in about 40% of those treated (as compared to about 25% clearance with alpha interferon alone), at a cost of about £10,000 for one year. Treatment requires a high degree of compliance for efficacy (subcutaneous injections three times weekly for up to one year); thus many patients will be considered unsuitable for such intervention. Pergolated formulations of interferon have been developed which though more costly, reduce the frequency of administration necessary.

HEPATITIS D (HDV)

Hepatitis D infection can only occur together with hepatitis B infection, or in those already infected with hepatitis B. Patients with HBV-HDV coinfection generally have a more severe acute disease and a higher rate of chronic hepatitis than those with hepatitis B alone. Its relevance in the injecting drug using population is that it is transmitted by the same routes as hepatitis B; thus carriers of hepatitis B should be advised of the risks of contracting hepatitis D through continued injecting drug use, thus exposing themselves to the risk of a more severe response to infection.

HEPATITIS E

Hepatitis E is particularly rare in the UK and occurs most frequently in epidemics in Asia, South and Central America (Michielsen P & Van Damme P, 1999).

HEPATITIS G

The clinical significance of HGV remains to be established (Michielsen P & Van Damme P, 1999).