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Introduction

Hepatitis B is a serious blood borne infection that can exacerbate hepatitis C, cause serious liver damage and sometimes results in death.

Hepatitis B is preventable with a simple course of three immunisations.

Despite longstanding calls for the promotion of hepatitis B immunisation amongst injecting drug users, at the time of writing many of them are still not being offered immunisation, or even being told that it exists. This guide and the materials that accompany it are designed to help change this situation.

This briefing forms a part of 'Making Harm Reduction Work', a Department of Health initiative. It is intended to give professionals working with drug users, tools to implement some of the essential interventions which lie at the heart of harm reduction.

Hepatitis B immunisation prevents not just one, but two blood-borne viral infections, as it also protects those who receive it against hepatitis D. This is because hepatitis D is an 'incomplete' virus that can only replicate in the presence of hepatitis B.

For the strategy of vaccinating high-risk groups to be as effective as possible, **services in contact with injecting drug users and others at risk, have to find effective ways of ensuring that:**

- immunisations are consistently offered to all those at risk;
- immunisations can be easily accessed by those not currently in contact with services;
- all available opportunities for immunisation are utilised;
- getting immunisation is as simple as possible, without unnecessary impediments, and
- the full schedule of immunisations is completed in as many cases as possible.

This guide gives information on:

- the hepatitis B virus;
- hepatitis B immunisation; and
- possible strategies to increase uptake of hepatitis B immunisation.

The hepatitis B virus

The hepatitis B virus:

- is common amongst injecting drug users;
- requires only microscopic amounts of blood-to-blood transfer to cause risk of infection; and
- is very 'tough' and has been shown to have remained infectious even in dried blood for up to six months.

Transmission of hepatitis B infection can occur through:

- 'direct' sharing of needles and syringes;
- 'indirect' sharing of paraphernalia used to prepare injections;
- unprotected sex;
- a pregnant woman passing it to her unborn child;
- needlestick injuries;
- sharing toothbrushes and razors;
- tattooing or acupuncture with unsterile equipment; and
- ear and body piercing.

Hepatitis B can cause serious liver disease. **The majority of adults** (85% to 90%) **infected by the virus will clear it after a short (occasionally severe) illness and usually gain lifelong immunity.**

However, the remaining **10% to 15% of people may continue to be infectious** indefinitely and will be at greatly increased risk of developing cirrhosis and liver cancer.

For people infected with both hepatitis B and hepatitis C the risk of serious liver disease is much higher.

There has not been any widespread blood testing of the kind that could accurately establish the prevalence of hepatitis B.

Such testing could allow for appropriate advice on:

- how to avoid catching or passing on the infection; and
- more effective planning of services.

However, available UK surveys show that 20% to 30% of injecting drug users in contact with treatment services show evidence of current or past hepatitis B infection.

This means that through immunisation hepatitis B can be prevented in the majority of the remaining 70% to 80% of injecting drug users.

Hepatitis B immunisation

It is not always easy to deliver a full course of hepatitis B immunisations to injecting drug users. However, this difficulty can be compounded:

- In a study conducted in 2000 of all 539 drug agencies in England and Wales, **just two in ten agencies said that they routinely offered hepatitis B immunisation.**
- In 1996, a study of patients with hepatitis C attending a liver disease clinic, found that although **60% of the people with a history of injecting drugs were still susceptible to hepatitis B infection, none of them had been offered immunisation.** This was despite the fact that infection with both viruses is likely to increase the risk of serious liver disease.

However, high levels of success are clearly possible, as are indicated by the service examples below:

- A primary care unit for drug users in Camden and Islington routinely offers hepatitis B immunisation to all new clients and **70% of them complete the full course**;
- In an American study of former injectors attending a methadone maintenance clinic, 86% completed the immunisation schedule.

The Drug Action Team (DAT) template (1999 – 2000) states that 51% of DAT areas have a hepatitis B immunisation programme in place, with the remaining 39% reporting that a programme was planned.

At risk groups

In 1999, the Department of health recommended immunisation against hepatitis B for the following groups:

- current injecting drug users;
- those who inject occasionally;
- those who may 'progress' to injecting, for example, people who are currently smoking heroin and dependent stimulant users;
- non-injecting drug users currently living with injectors (particularly women who are living with male injectors); and
- close household contacts (particularly sexual partners) of injecting drug users.

Immunisation schedules

Immunisations can be given over two or six months. **The accelerated schedule over two months should be the one given routinely to injecting drug users, as it maximises early immunity and the likelihood of completion of the course.**

The accelerated immunisation schedule consists of:

- the **first immunisation**;
- the second immunisation **one month later**; and
- the third immunisation **two months after the first**.

Those undertaking this schedule should have **a fourth dose after 12 months**.

Over six months the schedule is:

- the **first immunisation**;
- the second immunisation **one month later**; and
- third immunisation **six months after the first.**

A complete course of the vaccine will give good long-term protection to around 95% of people.

Even one dose of the vaccine may be enough to give immunity in some individuals.

Approximately 5% of the adult population do not respond to the vaccine and do not develop immunity.

Injecting drug users may be less likely to develop effective immunity than the general population. Factors such as cigarette smoking are thought to make vaccination less likely to be successful.

Vaccine safety

The hepatitis B vaccine is safe. Local reactions at the injection site are the only commonly reported undesirable effect.

Of the very rare undesirable effects, **anaphylaxis** (a life-threatening allergic reaction) is **extremely rare**, with a likely occurrence of just 1 in 600,000 injections.

The possibility of anaphylaxis is sometimes given as a reason for only vaccinating for hepatitis B when resuscitation equipment and staff trained in its use are present.

However, **the extreme rarity of anaphylaxis**, means that it is possible to devise local protocols, in a variety of settings, that **allow nursing staff** (following appropriate training), **to give this life-saving immunisation**

The risks of hepatitis B infection, especially to those who already have hepatitis C, mean that **the very small risks associated with immunisation are far outweighed by the benefits – which can be life-saving.**

Hepatitis B blood tests

At first immunisation
Separate blood tests can be used to determine several things, including whether someone has:

- **had previous exposure to the hepatitis B virus** by testing for antibodies to hepatitis B, known as the anti-HBc test. **A positive test shows that the virus has been present in the past and that vaccination is not necessary.**
- **currently got the virus in their blood** by testing for a part of the virus itself, hepatitis B surface antigen, known as HBsAg. **A positive test shows that the virus is present at the time of the test, and that the person is infectious.**

Both tests are desirable, **but testing should not delay immunisation.** Where possible, **blood should be taken for testing at the same time as the first dose of vaccine is administered.**

Where blood testing is not possible, the full course of immunisation should be administered anyway.

If a person's blood test contains anti-HBc and shows them to have developed immunity through exposure to the virus the course of immunisation can be discontinued.

The numbers of people who test positive for hepatitis B surface antigen will be low, but if a person's blood test does contain HBsAg, (showing that they are currently infectious), they should be advised about how to prevent transmission to others and referred for medical assessment. Their sexual and household contacts should be strongly encouraged to complete a course of immunisation.

A few people who have been infected with hepatitis B virus have persistent e-antigen (HbeAG) and are highly infectious 'supercarriers'.

Post-immunisation
Ideally, blood tests should be taken two months after completion of the immunisation schedule in order to see if it has been successful.

In the case of the accelerated schedule, a blood test should be taken two months after the third injection, as many people are likely to lose contact with services over a longer period.

Booster doses of the vaccine can be given to people who do not develop significant immunity.

Strategies for improving delivery of hepatitis B immunisation

All areas should undertake planning at Drug Action Team level, to ensure:

- **widespread and flexible availability and delivery of hepatitis B vaccination** – it should be possible for individuals to complete a course of immunisations by receiving each injection from a different service;
- clear written information about the benefits of immunisation, including details of where immunisation is available locally is made available to all injecting drug users;
- that there are local protocols in place which allow the non-medical staff, following suitable training and under the supervision of a medical officer, to give the vaccine; and
- that appropriate information, training and resources are made available so that staff in **all agencies who may be in contact with drug users promote hepatitis B immunisation.**

These agencies could include:

- community pharmacies;
- criminal justice agencies;
- housing and employment agencies;
- outreach services;
- primary health-care teams; and
- accident and emergency departments.

Contract specifications can be used to ensure that services promote and provide hepatitis B immunisation in:

- needle exchanges;
- methadone prescribing services;
- detoxification and rehabilitation services; and
- abstinence orientated treatment settings.

All general practitioners need to be aware that UK guidelines on the clinical management of drug users emphasise that drug users are as entitled to high-quality healthcare as any other group.

GP's should be encouraged to offer hepatitis B immunisation to their drug using patients and other members of high-risk groups routinely.

Accident and emergency departments should be encouraged to routinely offer hepatitis B immunisation to those attending with drug related health problems such as overdose, abscesses and septicaemia.

Ensure that policies and mechanisms are in place to guarantee that immunisations are offered to the sexual partners of those diagnosed with acute hepatitis B.

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Hepatitis B vaccination campaign materials

The materials that accompany this guide are designed support those agencies in contact with injecting drug users run campaigns which aim to inform all members of the target groups about hepatitis B vaccination.

A related campaign covering the issue of preventing initiation to injecting and preventing overdose are also available

Posters
Striking and colourful posters. Using positive imagery and language they promote the uptake of hepatitis B vaccination by those people who inject drugs.

Suitable for use in all settings. **Available as a large** (500 mm x 700 mm) **poster** for reception and waiting areas **and as an A3 poster** for notice boards or for clients to take home.

Intervention pad with 50 tear-off vaccination record cards.
Handy pads of 50 tear-off leaflets containing easy-to-read information on hepatitis B vaccination. The leaflets, which fold to a handy credit card size, **also include a vaccination record card.**

There is information on the cover about the reasons for encouraging people to have the vaccination to help the person giving the card deliver an effective intervention.

The pad can be used by drug workers and drug users to promote hepatitis B vaccination.

Campaign leaflet
A leaflet which fits easily in most back pockets that is printed in attractive, metallic inks on a durable card.

The leaflet gives information on hepatitis B vaccination and advice on where and how to get it done. Suitable for all injecting drug users and their partners.

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Hepatitis B immunisation can be a life-saving intervention for injecting drug users.

This guide sets out the case for offering immunisation at those services which have regular contact with injecting drug users and their close contacts. It also stresses the importance of encouraging people to complete the full course of injections.

The guide has been written as part of the Department of Health 'Making Harm Reduction Work' initiative to support the full range of campaign materials that have been developed to enable drug services to encourage hepatitis B immunisation amongst injecting drug users

You can get further copies of this guide, and other campaign materials, from exchangesupplies.org

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