CLINICAL GUIDELINE

Viral Hepatitis (A, B and C)

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Important Note:

The online version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

VIRAL HEPATITIS (A, B AND C)

What's New

- Clients attending Sandyford that have **never** had a Hepatitis B or C test before should be offered them.

Key Points:

- Please ensure that eligible individuals have received Hepatitis A and B vaccinations and **update the consolidated vaccine form** in NaSH with current immune status
- The standard hepatitis A and B vaccination schedule is **0, 1, 6 months** with combination vaccine Twinrix. If rapid immunity is required refer to this protocol for further guidance.
  - Twinrix ® is **not licensed for PEP** (post exposure prophylaxis). Use separate (monovalent) Hep A/B vaccines unless this is declined in which case Twinrix use is off-label.
  - Please discuss any concerns about possible **hepatitis presentation** or transmission with **GUM doctor of the day**
- Screening for Hepatitis B and C extends to cover those from, or sexual partners of those from, countries of **indeterminate** or **higher** prevalence (>2%)
- People who are Hepatitis B core Ab positive and sAg negative, anti-HBs will be checked. If anti-HBs <10, recall for vaccine booster if ongoing risk.
- All patients with chronic liver diseases (including chronic hepatitis B and/or hepatitis C), if not already immune, should be vaccinated against hepatitis A and B.
- If vaccination schedule is interrupted, there is no need to restart – simply complete course.
- Hepatitis B vaccination is now included in the routine immunisation programme for children born after 1st August 2017.

NHSGGC Clinical Guidelines for Hepatitis are at https://rightdecisions.scot.nhs.uk/ggc-clinical-guideline-platform/adult-infection-management/blood-borne-viruses/

NHSGGC Guidance for BBV, Testing and Referral (March 2022) is at https://rightdecisions.scot.nhs.uk/media/2263/bbv-amended.pdf

Contents

Hepatitis A

- People with acute infection can present to sexual health in **prodromal** (3-10 days) or **icteric** phase (1-3 weeks). Incubation period is usually 28-30 days but may occasionally be as short as 15 days or as long as 50 days. Most of those infected have mild or no symptoms with little or no jaundice.
- Largely prevented by **vaccination.**
- Take a **recent travel history** if you suspect someone has hepatitis A.

Main Transmission Routes

Faeco-oral (via food, water, close personal contact).

Outbreaks have been reported in men who have sex with men, possibly linked to oro-anal or digital-rectal contact, multiple sexual partners, anonymous partners, sex in public places and group sex.

Hepatitis A prevention within Sandyford

Offer vaccination to:
- Gay, Bisexual and Men who have sex with Men (GBMSM)
- People who inject drugs
- People living with HIV, HCV or HBV

Preferred vaccination schedule for patients requiring both hepatitis A and B:

Twinrix® 0, 1 and 6 month schedule (3 doses total)

Routine vaccination for patients requiring hepatitis A only:

Single agent hepatitis A vaccine (Avaxim ®, Vaqta®, and Havrix®) 0 and 6 months (2 doses total)

For patients requiring more rapid vaccination for hepatitis B:

Twinrix® very accelerated (ultra-rapid) schedule 0, 7 and 21 days then 12 months (4 doses total)

OR

For post exposure prophylaxis: see hepatitis B section below for alternative schedules with single agent hepatitis B vaccines.

Do not check Hep A antibody to determine if someone has previously been vaccinated.

General advice to give to all men to reduce risk of acquiring hepatitis A

- Washing hands after sex (ideally buttocks, groin and penis too)
- Changing condoms between anal and oral sex
- Gloves for fingering or fisting

- Barrier for rimming
- Not sharing sex toys or douching equipment

Testing and Management of Acute Hepatitis A

Clinical history:

-Check for signs of hepatic decompensation - severe vomiting, dehydration, or if conscious level or personality changes (encephalopathy).

Investigations:

-Serum Hepatitis A virus-specific IgM (HAV-IgM)

-HIV, syphilis and other hepatitis viruses

-LFTs and clotting

-NAATs for chlamydia and gonorrhoea

Follow up/referral:

-**Always discuss with GUM doctor of the day if the patient is unwell.**

-Refer to local acute medical unit if clinical signs of hepatic decompensation or a prolonged Prothrombin time (PT) of more than 5 seconds.

-Hepatitis A is a notifiable disease. Refer patient details to PHPU ggc.phpu@nhs.scot.

-Refer to Sexual Health Advisor for partner notification and support.

-If person is pregnant, obstetric and midwifery team should be updated with the patient's permission.

-If LFT's abnormal refer to GP for follow up until amino-transferase levels are normal (usually 4 -12 weeks). Alcohol should be avoided until ALT is normal.

Advice to patient:

-Patients should be advised to avoid food handling and unprotected sexual intercourse until they have become non-infectious. This should be reinforced by giving them clear and accurate written information available at NHS Inform or THT http://www.tht.org.uk/sexual-health/About-STIs/Hepatitis/Hepatitis-A

-Pregnant women should be advised of the increased risk of miscarriage/premature labour. Breastfeeding can be continued. There is no evidence that hepatitis A is transmitted in breast milk, and infection is not a contraindication to breastfeeding, but good hygiene measures are pragmatically suggested to reduce any risk of transmission.

-Following infection patients can be assumed to have life-long natural immunity for Hepatitis A.

Partner Notification

The infectious period is two weeks before onset of first symptoms until one week after onset of jaundice.

For asymptomatic people the infectious period should be estimated using the timing of contact with the source if known and with consideration of the laboratory test results (e.g. IgM as a marker of more recent infection).

SHA will provide partner notification for potential sexual contacts. All other household, social or food handling contacts should have contact tracing through PHPU.

1. Non-immune sexual contacts (oro-anal, digital-anal, penetrative anal or vaginal) should be given Hepatitis A vaccine within 14 days of exposure.
2. Human Normal ImmunoGlobulin (HNIG) should also be given intramuscularly (off license) to non-immune at risk groups (Age >60 or immunosuppressed) in addition to vaccination up to 14 days post exposure (however this can be extended to 28 days for those at highest risk of most severe disease). **Discuss all cases for HNIG with PHPU.**

To help assess and manage close contacts of a person with hepatitis A please refer to hepatitis A: public health management guidance Hepatitis-A-guidance-13-february-2024.pdf or discuss with PHPU.

Hepatitis B

Main Transmission Routes

- Parenteral (blood, blood products, drug-users sharing needles and syringes, needlestick, acupuncture) and vertical (infected mother to infant).
- Sexual transmission risk correlates with multiple partners, condomless anal sex, transactional sex
- Whilst no recent cases have been identified it is important to be alert to new clusters of infection in lower risk groups

Hepatitis B prevention within Sandyford

All patients should have an assessment of their risk for acquiring hepatitis B through sex.

Vaccination

Offer vaccination to:

People who are at sexual risk of acquiring hepatitis B. At Sandyford services this will typically include -

  - Gay, Bisexual and Men who have sex with Men (GBMSM)
  - People who have experience recent sexual assault (post exposure prophylaxis)
  - People having transactional sex
  - People who inject drugs (and sexual partners of people who inject drugs)
  - Sexual partners of people with positive HBsAg
- Sexual partners of those resident in areas with indeterminate or higher prevalence of Hepatitis B (>2%) [see Appendix 1]
- People who change sexual partners frequently

There is no requirement to check post-immunisation titres.

Vaccination schedules for adults:

Pre-exposure prophylaxis for hepatitis B

Preferred vaccination schedule for patients requiring both hepatitis A and B:

Twinrix® standard schedule 0, 1 and 6 month (3 doses total)

- Vaccination should be offered and started at **first visit** to Sandyford services. Do not wait for the anti-HBcAb result.

- If patient requires vaccination for hepatitis B only – single agent vaccination should be used.

Alternative vaccination schedules can be used for pre-exposure if required:

Twinrix® very accelerated (ultra-rapid) schedule 0, 7 and 21 days then 12 months (4 doses total)

- Twinrix® is licensed for routine and very accelerated vaccine schedule only
- If the very accelerated schedule does not align with clinic logistics or patient availability then you can consider accelerated (rapid) schedule for hepatitis B with single agent vaccine and single agent hepatitis A. **Please discuss with GUM doctor of the day.**

Single agent hepatitis B vaccine accelerated schedule 0, 1 and 2 months (3 doses total) then 12 months (if ongoing risk)

AND

Consider need for hepatitis A vaccination

Vaccination schedules in under 16s

- Hepatitis B vaccinations are now part of routine UK immunisations for children born on or after 1st August 2017. The current programme consists of three doses of a hepatitis B containing product with an interval of one month between each dose, before the age of one year. This confers life-long immunity.

<u>Pre-exposure prophylaxis for hepatitis B for young people</u>

Preferred vaccination schedule for both hepatitis A and B for young people 16 years or older:

Twinrix® adult hepatitis B vaccine standard schedule 0, 1 and 6 month (3 doses total)

Vaccination schedule for hepatitis B only for young people 16 years or older:

Engerix B adult hepatitis B vaccine standard schedule 0, 1 and 6 month (3 doses total)

Hepatitis B vaccination for young people 15 years or younger:

Engerix B paediatric dose (10mcg/0.5ml) or Twinrix Paediatric®

Standard schedule 0, 1 and 6 months (3 doses total)

- Adolescents aged 11-15 who are not likely to attend for three doses and are at low immediate risk of hepatitis B can be offered a two-dose regimen with Engerix B (at 0 and 6 months) using the adult 20 mcg preparation. If in doubt about appropriate dosing, please speak with GUM doctor of the day.
- Take care to check the syringe – 1ml for adults aged 16 years and over, 0.5 ml for 15 years and under
- Please refer to Greenbook for more detail on dosing and vaccination schedules for young people Hepatitis-B-green_book-chapter-18-06-03-2025.pdf

Missed Vaccine Doses

- There is no routine recall for clients who may have missed vaccine doses.
- If a course of immunisation is interrupted: simply resume so that it is completed rather than restart the entire programme.

Testing

Offer testing for hepatitis B to:
All sexual health clinic attendees at least once;
People who have high risk of past exposure to hepatitis B;
People who wish to start HIV PrEP.

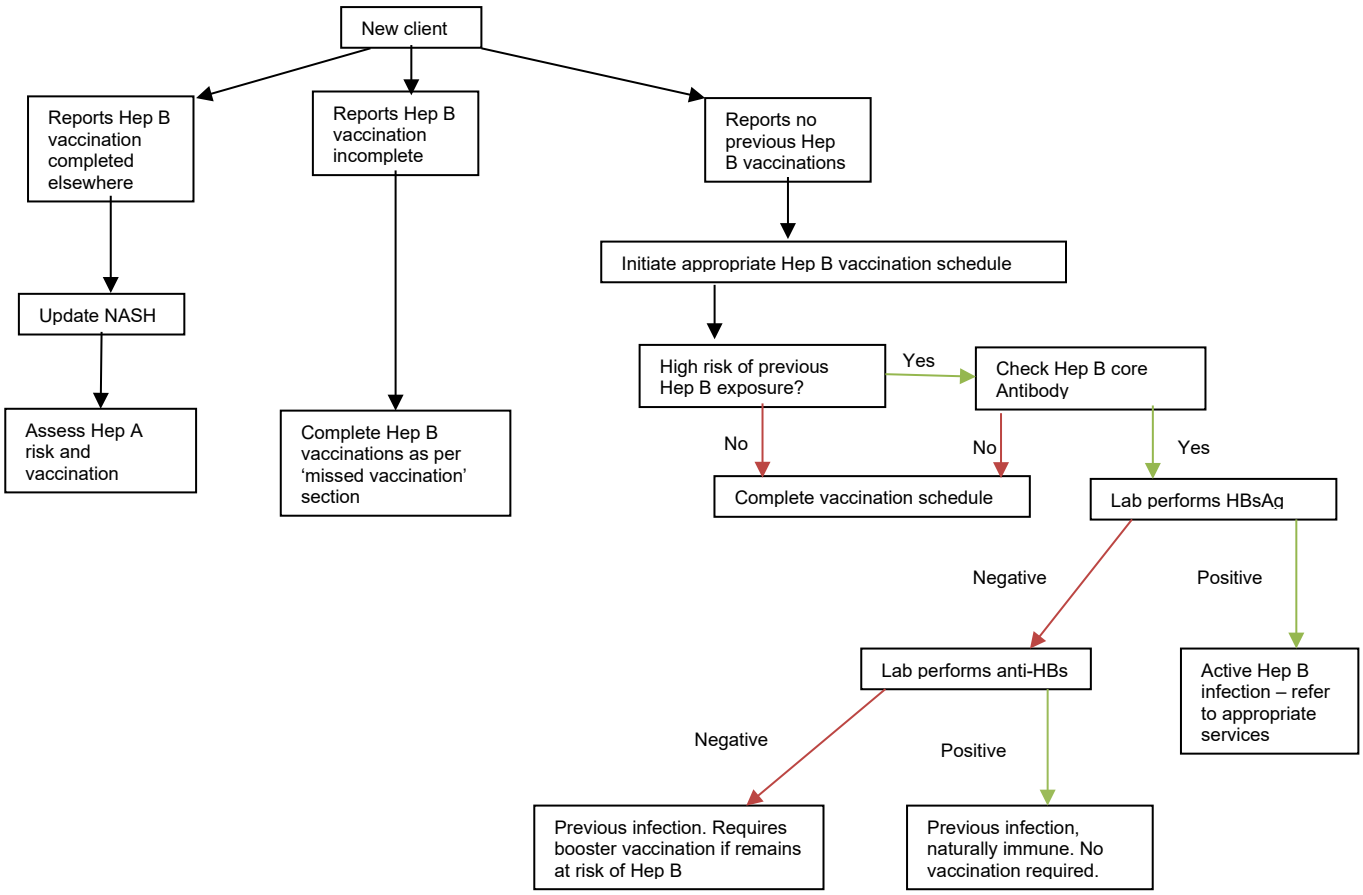
Do not delay starting hepatitis B vaccination whilst awaiting tests for hepatitis B

Bloods tests:

- **Hep B core Antibody** (HBcAb or Anti-HBc) If found to be anti-HBc positive, the lab will automatically check carrier status by testing for HepBsAg and immune status testing anti-HBs

Follow up:

- See flow chart below
- If patients are anti-HBc positive but HepBsAg negative, they should be made aware of their results and advised that their blood tests show that they have had hepatitis B in the past. If sAb >10 they can be advised naturally immune. If sAb <10 they should be offered booster vaccination.
- There is a specific SMS available, which will be sent by the SHA office



General advice to give to all patients to reduce risk of acquiring hepatitis B:

- Hepatitis B acquisition can be reduced by using condoms for penetrative anal and vaginal sex and reducing sexual partner numbers
- Sexual partners and household contacts of those with ongoing Hepatitis B infection should be immunised appropriately
- Advise not to share sex toys
- Post exposure prophylaxis (PEP) is recommended if there has been condomless sex within the past 7 days with a person who has hepatitis B (or hepatitis B status is unknown and high risk sexual exposure e.g. sexual assault) unless the patient has evidence of previous hepatitis B infection or has completed a full course of hepatitis B vaccination with most recent dose in past year (see PEP guidance below)
- People who inject drugs can greatly reduce risk by adopting safer injecting practices, avoiding sharing needles and injecting paraphernalia.

<u>Post-exposure prophylaxis for hepatitis B</u>

If there is significant concern of Hepatitis A/B transmission discuss with the GUM Doctor of the day.

Post exposure immunisation:

Hepatitis B vaccination is also highly effective at preventing infection if given shortly after exposure. Ideally commenced within 24 hours and should be offered within 1 week of a potential exposure. Following disclosure of recent rape or sexual assault, post exposure immunisation may be offered following a risk assessment.

Engerix B (adult or paediatric preparations) can be used for post exposure immunisation

The adult dose (20mcg /1ml) is licensed for use in those 16 years or over. A licensed lower paediatric dose (10mcg / 0.5ml) of Engerix® is used in children aged 15 years and younger on three-dose regimen.

Accelerated Vaccine schedule 0, 1, 2 and 12 months with Engerix B is the preferred regime.

Those who receive post exposure immunisation via this schedule, do not require a further dose at 12 months unless they have renal failure, an identified ongoing risk of exposure or following a further potentially significant exposure.

Adolescents aged 11-15 who are not likely to attend for three doses and are at low immediate risk can be offered a two-dose regimen using the adult 20 mcg preparation.

All three schedules are likely to have similar effectiveness as PEP but the accelerated (four doses at 0, 1, 2, and 12 months); or ultra-rapid (four doses at 0, 7– 10 days, 21 days, and 12 months) are preferred because of higher completion rates in addition to rapid development of immunity in those at ongoing risk and where compliance is an issue.

For people never vaccinated, or presumed non-immune:

Single agent hepatitis B vaccine (e.g. Engerix B) accelerated schedule 0, 1 and 2 months (3 doses total) then 12 months (if ongoing risk)

AND

Human hepatitis B specific immunoglobulin (HBIG) (if exposure within past 7 days)

Hepatitis B immunoglobulin (issued November 2023) - GOV.UK

NB: Administration of Hepatitis B vaccination should not be delayed while awaiting access to immunoglobulin.

For people who have been fully vaccinated and confirmed immune:

Single agent hepatitis B vaccine one booster dose (this is not required if final dose of course, or a booster dose has been given in the past 1 year)

For people who are partially vaccinated:

Single agent hepatitis B vaccine one dose AND then the course completed

For people who have been vaccinated BUT are non-responders:

Treat as for people never vaccinated (see above)

Urgently obtain index source hepatitis B surface antigen (HBsAg), to guide need for 2nd dose of HBIG one month post exposure

If more urgent vaccination for hepatitis B is required (e.g. patient may not/cannot attend follow up):

Single agent hepatitis B vaccine very accelerated schedule 0, 7 and 21 days then 12 months (4 doses total)

- Twinrix® is 'off label' for administration as PEP. It should only be prescribed 'off label' if there is a contraindication to using single agent hepatitis A and B vaccines e.g. patient refuses two vaccine administrations.

Non-sexual exposure risk for hepatitis B

For people who contact Sandyford with a non-sexual exposure risk to hepatitis B, if possible do an initial risk assessment following local guidelines to establish whether injury has significant risk of hepatitis B transmission (page 16, nhsggc-management-of-occupational-and-non-occupational-exposures-to-bloodborne-viruses-2016.pdf).

- If significant risk, direct to A&E.
- If no significant risk and reassurance can be given to the patient, direct to GP for follow up care if required.

If the person is a health care worker and injury has been whilst at work, direct to occupational health.

Management of **Acute** Hepatitis B

Discuss all suspected cases of acute Hepatitis B with GUM doctor of the day

All cases should be notified to PHPU

Refer to Health Advisor for:

- Support with partner notification and general advice.
- To ensure referral has been sent to local hepatitis centre
- To liaise with PHPU

Management of **Chronic** Hepatitis B Infection In Greater Glasgow & Clyde

Hepatitis B results for Sandyford patients will be managed by sexual health advisor team. Please refer to SHA for advice on result management and referral pathway.

1) Provide information to the patient about hepatitis B and measures to prevent onward transmission. A written information sheet about hepatitis B is available here and should be provided to the patient:
2) Information sheet for cases and contacts - Hep B - NHSGGC
3) The patient should also be given advice on and support with the avoidance of other hepato-toxic exposures, including alcohol.
4) Ensure sexual health screening, including HIV and hepatitis C, are up to date.
5) Partner notification (see below)
6) Occupational health - If the patient is a healthcare worker who may perform exposure prone procedures (EPP), please tell them that they are required to inform their occupational health department of their infection (if they do not perform EPPs, they are not required to do this but are still advised to).
7) Inform antenatal team - If your patient is pregnant, please refer to the NHSGGC guideline for the management of hepatitis B positive women identified through antenatal screening id-370-hep-b-combined.pdf. If their diagnosis of hepatitis B was not made through antenatal screening, please ensure that the antenatal service is made aware of the result so that arrangements can be made for her baby to receive post-exposure prophylaxis at birth (add to SC GUM Results for letter).
8) Check with the patient for consent to inform GP or other services and document this in the notes.
9) Refer the patient to their local specialist centre via SCI Gateway, send a letter to the GP and inform PHPU.
    - Adults can be referred to any of the specialist clinics (Infectious Diseases or Gastroenterology).
    - Any patient with hepatitis B and HIV co-infection should be referred to the Brownlee Centre.
    - Patients from other areas should be referred to appropriate local services.

Discuss all patients with current Hep B wishing to start PrEP with GUM DOD.

Partner Notification and Management of Sexual and Household Contacts

Should include any sexual contact (penetrative vaginal or anal sex or oro-anal sex) or needle sharing partners.

Acute Hepatitis B:

This should include a look-back period of 2 weeks from when symptoms first started until sAg is negative.

- If there has been an exposure within the previous 7 days assess whether any Hepatitis PEP is required (Chapter 18 of the green Book) and refer to for Hep B vaccination & Immunoglobulin (NB if contact is in clinic, please administer vaccination)
- After 7 days, see PN for Chronic Hepatitis B

Chronic Hepatitis B:

Trace contacts as far back as any episode of jaundice or to the time when the infection is thought to have been acquired although this may be impractical for periods of longer than two or three years. Practically, this should include current and recent sexual partners, household contacts and needle/equipment sharing partner

Sexual partners can attend Sandyford or GP for testing (including repeat testing outwith window periods) and any ongoing partners should also be offered vaccination.

Current household contacts should be advised to attend their GP

Hepatitis C

Natural History

The majority of patients (>80%) undergo asymptomatic acute infection. Approximately 50-85% of infected patients become chronic carriers – a state which is normally asymptomatic but may cause non-specific ill health. Of 100 people infected with Hep C, 16 will get cirrhosis over 20 years and 1-2 of these will eventually develop liver cancer.

Main transmission route

- People who inject (or use) drugs who share injecting or snorting paraphernalia
- Sexual transmission occurs at a low rate but is more likely for GBMSM and when associated with:
- co-infection with HIV
    - co-infection with other STIs
    - HIV PrEP
    - condomless receptive anal sex
    - sex involving use of stimulant drugs ('chemsex')

Who Should Be Offered A Test For Hepatitis C?

- Clients attending Sandyford who have never had a Hepatitis B test before pragmatically should be offered a Hepatitis C test as well, alongside the recommended Hepatitis B testing, otherwise:
- People who have ever injected substances including steroids
- Those involved in chemsex especially if sharing injecting or snorting paraphernalia
- People who received blood products or organ transplant before 1992
- Following a needle stick injury if the index HCV status is positive or unknown
- Those with known HIV infection
- Children born to women with HCV (deferred until aged 18 months)
- Sexual partners of those at risk of or living with Hepatitis C
- People who may have had ear piercing, body piercing, tattooing or acupuncture with unsterile equipment
- People who may have had unsterile medical or dental procedures abroad
- Patients diagnosed with LGV infection
- People from (or who have had sexual partners from) countries of intermediate to high hepatitis C prevalence (>2%) [see Appendix 1]
- GBMSM using PrEP (checked annually)
- People who are started on HIV PEPSE
- GBMSM having group sex, using toys, doing fisting, or other activities that may increase risk of trauma to anal mucosa or GBMSM who are recommended to have regular STI testing

- People who have been in prison

Testing and Management of Hepatitis C

Blood test:

  - Hepatitis C PCR (9ml plasma EDTA, purple bottle)
- Offer testing for STIs including syphilis and other bloodborne viruses including HIV.

Follow up/referral:

- If HCV PCR **positive (detected, >12)** the lab will do an HCV antibody test if the patient is not known to have Hepatitis C.
- Refer patients to a sexual health adviser
- Give a detailed explanation of their condition
- Partner notification to include any sexual contact or needle sharing partners during the period in which the index case is thought to have been infectious.
- Refer to local hepatitis centre (see hepatitis B section)
- Check with the patient for consent to inform GP or other services and document this in the notes.

  Partner notification
  - The infectious period is from two weeks before the onset of jaundice in acute infection. If there was no acute infection trace back to the likely time of infection (e.g. blood transfusion, first needle sharing) although this may be impractical for periods longer than two or three years.
- Sexual transmission should be discussed, including risk (see above). Sex likely to result in blood exposure (eg fisting, S&M) should be avoided.
  - Patients should also be advised not to donate blood, semen or organs, not to consume alcohol & never to share injecting equipment or razors or toothbrushes.
- If HCV PCR **negative (undetectable, <12)** – there is no evidence of current HCV infection.
- HCV PCR is usually positive within two weeks of infection. If there are concerns about very early acute infection then repeat the test after 1-2 weeks.

Risk reduction

- Needle exchange programs, opiate substitution therapy and addiction services
- The use of condoms, and not sharing lubricant, gloves, toys or other objects (including insertive partners in the setting of group sex)

- Accepting treatment for hepatitis C. HCV treatment for prevention is a cost-effective measure to stop HCV transmission. There is a **risk of re-infection** following treatment.
- There is currently no effective vaccine for HCV

Hepatitis and pregnancy

- People considering pregnancy, who have partners who have Hepatitis B or C, or who test positive themselves should be encouraged to have pre-natal discussion with their hepatitis team.
- People who are pregnant, please follow referral pathway above if they have a new diagnosis of hepatitis B or C, or if patient is not engaged with hepatitis care.

References and Useful Links

- Blood Borne Viruses | Right Decisions *[accessed 14/10/2025]*
- BASHH Hepatitis guideline *[accessed 01/09/2025]*
- 2017 IUSTI Europe Hepatitis Guideline; Brook G et al *[accessed 01/09/2025]*
- Hepatitis A: the green book, chapter 17 - GOV.UK *[accessed 14/10/2025]*
- Hepatitis B: the green book, chapter 18 - GOV.UK *[accessed 14/10/2025]*
- Non sexual exposure risk to blood borne virus (local guidance) nhsggc-management-of-occupational-and-non-occupational-exposures-to-bloodborne-viruses-2016.pdf *[accessed 14/10/2025]*

Appendix 1

Table 1: List of intermediate or high hepatitis B prevalence (>2%)

Africa	All African countries except the Seychelles
Americas	
Caribbean	All Caribbean Islands
Central America	Belize, Colombia
South America	Ecuador, French Guyana, Guyana, Peru, Suriname +
Northern	Greenland,
Asia	
Central Asia	Kazhakstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan,
Eastern Asia	China, Mongolia, North Korea, ,
Southern Asia	Bangladesh, Bhutan, Pakistan Sri Lanka,
SE Asia	Brunei, Cambodia, Myanmar, Philippines, Singapore, South Korea, Taiwan, Vietnam,
Western Asia	Armenia, Azerbaijan, Cyprus, Georgia, Oman, Saudi-Arabia, Syria, Turkey, Yemen,
Europe	Albania, Belarus, Bulgaria, Greece, Kosovo, Moldova, Romania, Russian Federation,
Oceania	New Zealand + all Pacific islands

Data may not be complete for all countries. The purpose of this table is solely to help decide on an offer of risk-based testing where patients originate from or disclose risk in the countries cited

Table 2: List of intermediate or high hepatitis C prevalence (>2%)

Africa	Angola, Benin, Burkina Faso, CAR, Cameroon, Chad, Congo, DRC, Egypt, Equatorial Guinea, Gambia, Ghana, Ivory Coast, Gabon, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo,.Western Sahara
Americas	Greenland, Puerto Rico
Asia	
Central Asia	Kazakhstan, Kyrgyzstan, Tajikistan Turkmenistan, Uzbekistan,
Eastern Asia	Mongolia,
Southern Asia	Pakistan
SE Asia	Cambodia, Thailand, Taiwan
Western Asia	Armenia, Azerbaijan, Georgia, Israel, Iraq, Yemen
Europe	Belarus, Estonia, Greece, Italy, Latvia, Lithuania, Moldova, Romania, Russian Federation, Slovakia, Ukraine,
Oceania	-

Data may not be complete for all countries. The purpose of this table is solely to help decide on an offer of risk-based testing where patients originate from or disclose risk inthe countries cited.