NHS GGC GUIDANCE
ON TESTING, DIAGNOSIS AND REFERRAL
OF BLOODBORNE VIRUSES

Lead Manager:	HIV/Hepatitis Programme Manager(s)
Responsible Director:	Clinical Director, PHPU
Approved by:	Dr Jennifer Armstrong, Chair of NHS GGC Clinical Governance Implementation Group
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Created by the BBV Testing Policy Short-life Working Group, a sub-group of the NHS GGC HIV Prevention Treatment and Care Steering Group and the NHS GGC Viral Hepatitis Managed Care Network.

Original Members:

Celia Aitken, Virologist, West of Scotland Specialist Virology Centre

Louise Carroll, HIV Programme Manager, Public Health

Nicky Coia, Health Improvement and Strategy Manager (Sexual Health)

Martin Murchie, Senior Sexual Health Advisor, Sandyford

Joe Schofield, Hepatitis Programme Manager, Public Health

Roger Wong, Clinical Co-ordinator, Brownlee Centre for Infectious Diseases

Lesley Graham, Senior Addiction Nurse, Glasgow Addiction Service

Version 2.0 Revisions

Catriona Milosevic, Consultant in Public Health Medicine

Eleri Davies, Virologist, West of Scotland Specialist Virology Centre

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SUMMARY

Background: HIV, Hepatitis C and Hepatitis B K cause significant personal and public health problems in the UK. There is evidence that all 3 infections are under-diagnosed resulting in increased morbidity, increased opportunities for onward transmission and additional costs for the NHS. Effective treatment exists for all of these infections.

- *Read the detail on pages 6 &7* 

About the guidance: All NHS staff have a role around testing for BBVs as there is a need to lower the threshold of when to offer testing, and increase knowledge and confidence about symptoms, potential exposures and clinical indicator conditions

- *Read the detail on page 8* 

Who should be tested: anyone who requests a test; anyone who reports risk behaviours or is from an area of high prevalence; anyone with a clinical presentation that could be associated with a BBV.

Remember that people may not be willing or able to tell you about their risk behaviours which does not mean that they have not been at risk. A BBV test could be important and early testing can save lives.

- *Read the detail on pages 9- 12* 

Who can test: All doctors, midwives, and trained health care workers can obtain consent for and conduct a BBV test. As for all investigations, all that is required is informed consent. Pre-test counselling is NOT required.

- *Read the detail on page 13* 

Types of test and taking the sample: BBV testing is available as a venous blood test in all clinical settings and as a dried blood spot (DBS) in prisons, Addictions and some primary care settings. Point of Care tests are available in some limited services and recently commercial home testing kits have become available.

- *Read the detail on page 15* 

The window period: All BBV tests have a window period, which is a time after infection during which the antibody response cannot be detected. It is important to establish whether the person being tested could be in the window period, or has been at risk of exposure to infection during the window period for each virus. If they have been at risk they should be offered re-testing after the appropriate window period.

- *Read the detail on page 13* 

Results: Confirmatory venous samples are required for all positive results regardless of the initial testing technology used. Positive results are best given face to face.

HIV: a positive test shows ongoing infection with HIV and referral is indicated

HCV: there are two types of positive result. A positive antigen test indicates ongoing active infection and referral is indicated. A negative antigen test means the patient does not have active infection and referral is not indicated.

HBV: is a complicated infection and testing involves different measures of several markers. Laboratory colleagues will assist with interpretation of results.

- *Read the detail on pages 17 & 18* 

Referral: In NHS GGC adults diagnosed with HIV are referred to the Brownlee Centre for Infectious Diseases, Gartnavel General Hospital. Patients with ongoing HBV or HCV infection can be referred to either Departments of Gastroenterology or Infectious Diseases. All patients co-infected with HIV and hepatitis should be referred to the Brownlee Centre.

- *Read the detail on page 20* 

Risk Reduction: Use testing as an opportunity to give prevention advice on reducing the risk of passing on or becoming infected with one or more BBVs. This includes safer sex advice including condoms and clean injecting equipment.

- *Read the detail on page 14* 

Repeat testing: In addition to those who individuals who are in the 'window period', repeat testing for BBVs is recommended for people in situations where risk behaviour is likely to continue. For men who have sex with men this is recommended every 3 months and for people who inject drugs at least annually.

Repeat testing is also an opportunity to re-iterate risk reduction advice and consider what other referrals or support might be appropriate.

- *Read the detail on page 19* 

Sandyford Shared Care/BBV Failsafe Support Service – 0141 211 8639

The Sandyford Shared Care Support Service offers professional support and advice to manage the BBV testing, diagnosis and referral process including facilitating partner notification (contact tracing), follow-up and referral

INTRODUCTION

HIV, Hepatitis C and Hepatitis B are important pathogens in the UK causing significant personal and public health problems. Effective treatment exists for all of these infections.

There is evidence that all three of these infections are under-diagnosed – it is estimated that a quarter of people with HIV and over half of those with HCV are unaware of their infections – resulting in increased morbidity, increased opportunities for onward transmission and additional costs for the NHS.

HIV

Each year around 6,000 people are diagnosed with HIV in the UK making it one of the most important communicable diseases in the UK. In Scotland the greatest number of new cases is found in the Greater Glasgow and Clyde (NHSGGC) health board area. Between 2003 and 2015 there has been an average of 130 new cases annually, with a peak of 194 in 2009.

HIV is most commonly transmitted via unprotected sexual intercourse, with men who have sex with men and people from sub-Saharan African being disproportionately affected. HIV has historically been of limited concern in people who inject drugs with low rates of infection, however an outbreak in 2015 demonstrates the vulnerability of at risk networks and the need to maintain testing and prevention strategies.

While there is no vaccine or cure for HIV, the availability of effective treatment has transformed the outcome for people living with HIV into what is now considered a long-term condition, and yet about 50% of all new diagnoses are still made at a late stage with associated poor outcomes.

Many of these late presenters will have been seen by a range of medical professionals, for a range of HIV-related conditions, on more than one occasion before a diagnosis of HIV is made.

Hepatitis C

HCV is the most prevalent BBV in Scotland with approximately 1% of the population infected. Over 14,000 people have been diagnosed with antibodies to HCV in the Health Board area, representing 41% of the diagnosed Scottish population. Where route of transmission is known, 91% of HCV infections were acquired as a result of Injecting Drug Use.

It is estimated that over half of those infected remain undiagnosed, and these individuals are at increased risk of developing serious liver disease including cirrhosis and hepatocellular carcinoma (primary liver cancer). Those who are unaware of their status require diagnostic testing to benefit from clinical assessment and treatment, and advice to reduce the risk of onward transmission.

There is no vaccine for HCV but effective treatments are available that can clear the virus in the majority of people who complete a course of therapy.

Hepatitis B

HBV is the most infectious of the BBVs and the only one for which a vaccine is available HBV can result in an acute, self-limiting disease, or chronic, persistent infection. Both acute and chronic infection can result in serious liver damage.

Prevalence is relatively low in the UK at 0.14-1.0% of the population. Around 100 cases are diagnosed in the Health Board area each year, mostly in pregnant women from high-prevalence countries, including South East Asia, the Indian sub-continent, the middle and far East, Southern Europe and Africa.
Effective treatments are available that can suppress viral replication, but are unlikely to eradicate the virus from a chronically-infected individual.

Table 1: Summary of BBVs

	HIV	HCV	HBV
Natural history of untreated infection	Initial seroconversion illness followed a period of asymptomatic infection then progressive symptomatic immunodeficiency	Rarely illness at time of infection. 80% will develop chronic infection with non-specific malaise or no symptoms. 20% of chronic infections will result in cirrhosis over 10-20 years	Most adult carriers are asymptomatic and have chronic infection resulting from infection earlier in life. Adults with newly acquired infection usually present with symptomatic acute hepatitis. Most will clear their infection during the initial illness, with around 5-% developing chronic infection. Chronic carriers risk progression to cirrhosis and liver cancer over time
Tests required	HIV antigen/antibody test positive indicates infection. Referral is required. Further tests such as CD4 count and viral load at specialist clinic to determine stage.	Antibody test indicates exposure to virus. Antigen or viral load (PCR) test indicates active infection. All patients with active infection require referral to Specialist Care.	A panel of tests is available to determine exposure ± infectivity ± recovery. Results are interpreted by the Specialised Virology Laboratory. Referral to specialist care will be recommended if indicated.
Vaccine available	No	No	Yes
Treatment available	Very successful lifelong treatment with combination of drugs to control infection.	Very successful. New agents are available that can cure patients of their infection	Antiviral medication and interferon licensed for use in chronic infection.
Treatment results	Life expectancy on treatment, similar to non-HIV diagnosed individuals.	Treatments are increasingly well tolerated and of reduced duration. Around 90% of people who compete a course will clear their infection	Cure rarely achieved, suppressive treatment available
Vertical transmission	15-25% untreated, reduced to <1% by treatment of mother and baby, breast feeding contra-indicated	5% transmission rate, no effective intervention to minimise transmission, breast feeding is not contra-indicated	Variable transmission rate can be reduced by treating mother before birth and neo-natal immunisation.
Window period	1-2 months	3-6 months	3-6 months
Transmission	Sexual, Blood borne, Vertical	Blood borne, Vertical, Sexual (less common unless co-infected HIV)	Blood borne, Vertical, Sexual, Close contact in some cases

AIM OF THE GUIDANCE

The testing patients for blood borne viruses and referral for treatment is an important role for all healthcare staff. Even staff who cannot perform BBV testing themselves should be able to raise the issue and signpost people to appropriate testing services.

This guidance aims to ensure that regardless of geographical location or entry into services, people have equity of access to quality testing, follow-up and onward referral.

This Guidance is required by NHS Greater Glasgow and Clyde Sexual Health and BBV Strategy Group and its sub-committees, the HIV Prevention Treatment and Care Steering Group and the Viral Hepatitis Managed Care Network. It has been developed in line with national guidelines and policies (*Appendix 7*) and applies to:

- All staff who work with people at risk of or living with BBV infections
- All staff who see people at risk of BBV infections
- All staff who are involved in BBV testing

In effect, this policy is applicable to nearly all staff as there is a clear need to lower the threshold of when to offer testing and increase knowledge and confidence about symptoms, potential exposures and clinical indicator illnesses.

This guidance does not cover occupational testing, antenatal screening or the specifics associated with testing children. Separate guidance exists for these areas.

HOW TO TEST

Who should be tested?

- Anyone who requests a test
- Anyone who reports risk behaviours or is from an area of high prevalence
- Anyone with a clinical presentation that could be associated with a BBV

As there is significant overlap in the routes of acquiring HIV, HCV and HBV, it is often optimal to test for all three infections. However some groups of people and some behaviours have a higher risk for particular infections, therefore, in assessing whether to test for one, you should consider the prevalence and risk for all BBV infections and offer all three if appropriate.

Patients may not be able or willing to articulate risk behaviours therefore it is important to remember that the lack of a documented risk does not equate to an absence of risk. BBV testing might still be indicated.

Clinical judgement will be required to decide if and which BBV tests are appropriate for any presenting patient. This is particularly important if the patient has any unexplained or non-specific symptoms.

HIV testing should be offered to:

- Anyone, regardless of traditional 'risk group', who has symptoms or conditions that could be associated with HIV (See Table 2, *Appendix 1*) or has unexplained non-specific symptoms
- Men and women who have had unprotected penetrative anal or vaginal intercourse, as part of a full sexual health screen
- Men who have sexual contact with other men
- People born or who have lived in a country of high prevalence (For a summary of countries with a high prevalence of HIV, see *Appendix 2*)
- Anyone who has ever injected drugs
- Women who attend for termination of pregnancy
- Everyone who has been diagnosed with hepatitis C or hepatitis B
- People who may have had unsterile medical treatment abroad, or treatment in countries where infection control procedures are sub-standard
- People who have had tattoos or body piercing in circumstances where infection control procedures are suboptimal
- The sexual contacts of those diagnosed with HIV infection
- Pregnant women
- The children of women known to be infected with HIV

It is particularly important to consider HIV as a differential diagnosis when certain conditions and symptoms are present. The ability or inability to identify a risk must not dictate whether an HIV test is performed. If the patient exhibits any of the following indicator conditions, an HIV test should be carried out as part of the routine work up of that patient.

Table 2: – Conditions that may be associated with HIV Infection

A full breakdown of the clinical indicator illnesses associated with HIV infection can be found at *Appendix 1*

- Any lymphadenopathy of unknown cause
- Any sexually transmitted infection
- Any unexplained blood dyscrasia including: thrombocytopenia, neutropenia, lymphopenia
- Cervical cancer and CIN Grade 2 or above
- Chronic diarrhoea of unknown cause
- Lymphoma
- Mononucleosis illness, where EBV testing is negative
- Multidermatomal or recurrent herpes zoster
- Oral candidiasis
- Pyrexia of unknown origin
- Recurrent bacterial infections e.g. Pneumonias
- Chronic, recurrent salmonella, shigella or campylobacter infections
- Severe recalcitrant psoriasis
- Severe seborrhoeic dermatitis
- TB
- Weight loss of unknown cause

Remember - early testing saves lives

Hepatitis C testing should be offered to:

- Anyone who has **EVER** injected drugs
- Everyone who has been diagnosed with HIV or hepatitis B
- Recipients of blood clotting factor concentrates prior to 1987
- Recipients of blood and blood components before September 1991 and organ/tissue transplants in the UK before 1992
- People born or who have lived in a country of high prevalence, predominantly, Asia, Eastern Europe Africa and the Caribbean
- People who have received medical or dental treatment in countries where there is a high prevalence of HCV infection and where infection control procedures may be suboptimal
- People who have had tattoos or body piercing in circumstances where infection control procedures are suboptimal
- Patients with an otherwise unexplained persistently elevated alanine aminotransferase
- The sexual partners and close contacts of those diagnosed with hepatitis C
- Men who have sex with men where the sexual activity can lead to trauma and bleeding
- Pregnant women, if other risk factors such as injecting drug use are present
- Children whose mother is known to be infected with HCV

Hepatitis B testing should be offered to:

- People born or who have lived in a country of high prevalence, predominantly, Asia, Eastern Europe Africa and the Caribbean
- Men who have sex with men, who are not already immunised
- Everyone who has been diagnosed with HIV or hepatitis C
- People who have received medical or dental treatment in countries where there is a high prevalence of HBV and where infection control procedures may be suboptimal
- People who have had tattoos or body piercing in circumstances where infection control procedures are suboptimal
- Those who are being investigated for abnormal LFTs
- Anyone who has injected drugs, if part of a BBV screen on a venous sample.
- The sexual partners and close contacts of those diagnosed with hepatitis B
- Pregnant women
- Children of women known to be infected

Table 3: Summary of BBV Testing

Risk Group/Behaviour	HIV	Hepatitis C	Hepatitis B
Anyone who has symptoms or conditions that could be associated with HIV (See Table 2) or has unexplained non-specific symptoms	♦		
Men and women who have had unprotected penetrative anal or vaginal intercourse, as part of a full sexual health screen	♦		
Men who have sexual contact with other men	♦		♦†
Men who have sex with men where the sexual activity can lead to trauma and bleeding or involves injecting drugs (Chemsex)	♦	♦	♦
Pregnant women	♦		♦
People born or who have lived in a country of high prevalence	♦	♦	♦
Anyone who has ever injected drugs	♦	♦	♦*
Women who attend for termination of pregnancy	♦		
Everyone who has been diagnosed with a BBV should be tested for the others.	♦	♦	♦
People who have received medical or dental treatment in countries where infection control procedures may be suboptimal	♦	♦	♦
People who have had tattoos or body piercing in circumstances where infection control procedures are suboptimal	♦	♦	♦
Those who are being investigated for abnormal LFTs		♦	♦
The sexual partners and close contacts of those diagnosed with hepatitis B & C		♦	♦
The children of women known to be infected with HIV, hepatitis B or hepatitis C	♦	♦	♦

† If not already immunised against hepatitis B
* If part of a BBV screen on a venous sample

Who can test?

All doctors, midwives, nurses and trained healthcare workers can obtain consent for and conduct a BBV test. Testing for BBVs is therefore achievable in non-specialist settings, including primary care.

As for all investigations, all that is required is informed consent, which does not usually need a lengthy discussion. **Pre-test counselling is no longer required.**

Consent to test

The BHIVA/BASHH UK Guidelines for HIV testing 2008 state that the essential elements for consent to test are to explain:

- The benefits of testing, especially access to successful treatment which is best given early, and the monitoring and support available
- Details of how the result will be given

In most cases this will be sufficient to obtain informed consent for testing. Consent should be recorded in the notes, but written consent from the patient is not required.

In some cases more explanation will be required and other areas explored. These might include:

- The window period, and whether a re-test will be required.
- The person's ability to cope with the result and support available.

Assure patients of confidentiality and explain that life assurance and mortgage issues are not a deterrent to testing.

- Negative test results should have no impact and should not be supplied to insurance companies (beware computer generated medical reports which may contain this information)
- Positive tests, wherever they are carried out, may make it more difficult but not impossible to get life policies. This is not different from any other significant medical condition.

Some groups such as people with learning disability or mental health problems may require additional support and referral for fuller pre-test discussion before testing. Consider referral to a specialist service in these cases. *See Appendix 3*

The Window Period

All BBV tests have a window period, which is a time after infection during which the antibody response cannot be detected by the usual testing methods. It is important to establish whether the person being tested could be in the window period, or has been at risk of exposure to infection during the window period for each virus. If they have been at risk they should be offered re-testing, assuming they are negative, after the appropriate window period.

HIV Window Period

The Fourth Generation HIV antigen/antibody will detect the majority of infected individuals at one month after specific exposure.

A negative antigen result at 4 weeks post exposure is very reassuring/highly likely to exclude HIV infection.

An additional HIV test should be offered at 2 months (8 weeks) to everyone who tests to definitively exclude HIV infection. Therefore, re-testing from 4 weeks is appropriate and should be conducted especially if sero-conversion is suspected.

If there is an additional known risk then re-testing should not be delayed. *(See BASHH EAGA 2014 statement on HIV window period- Appendix 7)*

Hepatitis B and C Window Period

Testing for HCV and HBV is recommended at 3 months and again at 6 months. Hepatitis B and C can have long incubation periods, which is why the official window period is 6 months, however, if the infection is detected earlier, referral should be expedited.

Table 4: Window Periods for BBVs

Infection	Window period *
HIV	1-2 months
HCV	3-6 months
HBV	3-6 months

Risk Reduction

Use testing as an opportunity to give prevention advice on reducing the risk of passing on or becoming infected with one or more BBVs. This advice will include:

- Safer sex and condoms

  Free condoms are available in NHS GGC. This site lists where they can be accessed. www.freecondomsglasgowandclyde.org
- Avoid sharing any equipment to take drugs including spoons, filters, water needles/syringes, pipes, snorting equipment and even surfaces to prepare drugs
- Sterile injecting equipment is provided free of charge from a number of settings across the Health Board. The following map shows the location of injecting equipment providers in each locality. http://www.staffnet.ggc.scot.nhs.uk/Acute/Division%20Wide%20Services/Pharmacy%20and%20Prescribing%20Support%20Unit/Community%20Pharmacy/Pages/Addictions-ContactsInformation.aspx
- Where individuals have tested for HIV, alert them to the availability of PEPSE (Post-exposure prophylaxis for sexual exposure) PEPSE can be obtained from Sandyford or Accident and Emergency, up to 72 hours after sexual exposure to HIV. *(See BASHH UK guideline for the use of post-exposure prophylaxis for HIV following sexual exposure (2011) – Appendix 7)*
- Reinforce the advice about the interventions that can reduce the risk of infection to an unborn child

Types of test and taking the sample

BBV testing is available as a venous blood test in all clinical settings and as a dried blood spot (DBS) in prisons, Addictions, and some primary care settings.

HIV a combined antigen/antibody test

HCV Either an antibody or antigen test will be conducted. The Specialist Virus Laboratory will decide which test to use, based on clinical and risk information provided with the sample. A positive antibody test indicates that a person has ever been infected. A positive antigen or PCR test indicates active infection.

HBV a panel of tests to determine past, acute or chronic infection. For the correct tests to be done, the clinician should clearly supply the reason for testing on the request form e.g. test for infection **or** test for post-immunisation serology

Venous Blood Testing

- A single 9 ml EDTA purple topped sample bottle is preferred, however, if this is not available fill a 4 ml Full Blood Count bottle
- If no electronic ordering is available, a standard virology form can be used to request tests. Ensure that contact details are clearly appended
- The results of all virology test undertaken with a CHI number will be available on SCI store
- Results from routine blood samples are usually available from the WSSVC within 2 days, but are guaranteed to be reported within 5 working days and if positive, will be reported directly to the testing physician.
- Samples that require an urgent result must be marked URGENT, and the WoSSVC alerted.

Dried Blood Spot (DBS) Tests

DBS testing kits are not routinely available. However, DBS samples can be collected from patients with poor venous access, usually resulting from a history of injecting drug use. To facilitate testing among this group, DBS kits have been made available to Addiction services, Shared Care GPs, prisons and some other primary care settings. Antigen testing is not available on DBS kits

Point of Care Tests (POCT) or Finger Prick Tests

POCT are widely used in many health care settings across the UK but the main weakness is that they generally only test for a single pathogen therefore multiple tests are needed. For this reason, POCT are limited for use in some settings by some practitioners in NHS GGC. It is important to recognise that the window period can also vary depending on which type of POCT has been used and the generation of the kit.

Home Testing Kits

Home testing kits have recently been licensed for use in the UK. As at April 2015 the only licensed product is a POCT finger-prick test from Biosure, sold on-line. The market will expand and other home testing kits will become available. While home testing kits are very accurate if used appropriately, all home testing kits are vulnerable to user error. Any patient who reports a positive, or reactive result from a home testing kit, requires a confirmatory test in a health care setting. It is also important to consider the window period when discussing home testing results.

Sending the sample

During normal working hours, all venous samples should be sent to the West of Scotland Specialist Virology Centre (WSSVC).

Out of hours, contact the on-call virologist via Glasgow Royal Infirmary Switchboard.

DBS and other testing techniques have their own associated protocols and timescales which are communicated to those authorised to use them.

Laboratory details can be found at *Appendix 4*

RESULTS

Interpreting the result

Confirmatory samples will be required for any positive results and will be requested by the laboratory. These samples are mainly to confirm patient identity and it is acceptable for them to be taken after referral to specialist care**. Referrals should not be delayed by the need for a confirmatory test and it is good practice to take the test and continue with the referral.**

HIV: A positive antigen/antibody test shows ongoing infection with HIV and referral is indicated. Other tests to measure the level of virus (Viral Load) stage of infection (CD4) and duration of infection (avidity) are also carried out after referral.

HBV: Hepatitis B testing involves detection and measurement of several HBV-specific antigens and antibodies. Various markers are used to identify different phases of HBV infection, and to determine whether a patient has acute or chronic infection, is immune to HBV as a result of prior infection or vaccination, or is susceptible to infection. Colleagues at the Specialist Virology Laboratory will interpret HBV test results and provide appropriate information on the meaning and required action. A positive hepatitis B surface antigen (HBsAg) result indicates active infection and the patient should be referred to Specialist Care for further assessment and follow-up.

HCV: Either an antigen or an antibody test will be used. The laboratory will decide which test to use based on the clinical or risk information provided on the request form. It is essential that clinicians provide the following information, where applicable:

- history of injecting drug use or other risk factors associated with hepatitis C
- evidence of liver disease e.g. cirrhosis, deranged LFTs
- evidence of acute hepatitis

A positive **antigen** test indicates on-going active infection and patients should be referred to Specialist Care.

A negative antigen test means that the patient does not have active infection and does not require referral.

An **antibody test** indicates if the person was ever infected with hepatitis C. A negative antibody test (HCV Ab -) indicates that the person has not been infected with hepatitis C. A positive antibody test (HCV Ab +) shows that the patient has ever been infected. Antibody positive samples will then be tested for viral RNA.

A positive Antigen or RNA test indicates active infection and the need for referral.

The laboratory will interpret all HCV test results, and confirm whether onward referral is indicated. If there is clinical suspicion of chronic hepatitis, please contact the lab to discuss.

Giving the result

Results for all BBVs are best given face to face, although in some settings such as Sandyford, protocols and systems are in place to communicate negative results via automated techniques.

If negative:

- Check if re-testing is required due to the window period
- Explain that this negative result does not mean they are immune from infection in the future
- Discuss how to avoid future risk and reinforce importance of regular sexual health checkups, use of condoms and sterile injecting equipment as appropriate.
- Discuss the need for repeat testing, and the frequency of this, if the person is at on-going risk or where risk behaviour is likely to continue.
- Discuss hepatitis A/B vaccination and schedule if appropriate

If positive:

- Review pre-test discussion and address the persons concerns
- Discussion of who to tell and who not to tell
- Identify supports
- **A positive result will require a confirmatory sample.** These samples are mainly to confirm patient identity and it is acceptable for them to be taken after referral to specialist care. Referrals should not be delayed by the need for a confirmatory result and it is good practice to take the test and continue with the referral.
- For acute HBV and HCV, immediate referral is required and it may be appropriate to arrange referral before seeing the patient to give them their result.
- For chronic HBV and antigen or PCR positive HCV routine referral to a specialist for investigation and assessment for treatment is recommended, however if the patient is unwell, immediate referral is also recommended.
- For HIV, immediate referral is required and it may be appropriate to arrange the referral appointment before seeing the patient to give them their result.

Repeat Testing

In addition to those who individuals who are in the 'window period', repeat testing for BBVs is recommended for people in situations where risk behaviour is likely to continue: These include:

• All sexually active MSM. • MSM at high risk of HIV* * See BASSH Recommendation on STI testing for men who have sex with men at Appendix 7	Offer of annual testing recommended 3 monthly HIV testing is recommended
• People who inject drugs or share other drug taking equipment	Annual testing for HCV and HIV is recommended.
• People who are at recent risk of HCV infection and who have an antibody positive but antigen/PCR negative result	Repeat antigen/PCR testing after a 6 month interval following last exposure. This excludes acute infection where the antigen/PCR might not be initially positive
• Anyone who has previously tested negative but re-presents with clinical symptoms suggestive of a BBV	Repeat on presentation
• Anyone who has on-going or repeated risk for any BBV	Repeat as necessary

Repeat testing is also an opportunity to re-iterate risk reduction advice and consider what other referrals or support might be appropriate. (See *Appendices 5 & 6*)

REFERRAL

In NHS GGC referral for adults diagnosed with HIV is to the Brownlee Centre for Infectious Diseases, Gartnavel General Hospital

Patients with ongoing HBV or HCV infection can be referred to either Departments of Gastroenterology or Infectious Diseases, for clinical assessment and treatment.

All patients co-infected with HIV and hepatitis should be referred to the Brownlee Centre.

Children are followed up by the specialist paediatric infectious disease consultants at Yorkhill Hospital.

Table 5: Referral Centres

Referral Centre	HIV	HCV	HBV	HIV/Hepatitis Co infection
Infectious Diseases Brownlee Centre	♦	♦	♦	♦
Dumbarton Joint Hospital (outreach clinic)		♦		
Gastroenterology Gartnavel General Hospital Glasgow Royal Infirmary Queen Elizabeth University Hospital New Victoria Hospital Royal Alexandra Hospital Inverclyde Royal Hospital Vale of Leven		♦ ♦ ♦ ♦ ♦ ♦	♦ ♦ ♦ ♦ ♦ ♦ ♦	

Referral can be facilitated via the normal processes, by letter, phone call or SCI gateway to the appropriate treatment centre.

All HIV and hepatitis B positive results are automatically copied to the Sandyford Shared Care Support Service. Sexual Health Advisors will contact the testing clinician to offer professional support and advice to manage the BBV testing, diagnosis and referral process including facilitating follow-up and referral.

Sandyford Shared Care/BBV Failsafe Support Service – 0141 211 8639

In addition there are a range of third sector support agencies that deliver information, prevention interventions, counselling and support to those at risk of or living with HIV. *See Appendix 5*

Appendix 1: Clinical Indicator Conditions for HIV Infection

Medical Speciality	Aids defining condition	Other conditions where an HIV test should be offered
Respiratory	Tuberculosis Pneumocystis	Bacterial pneumonia Apsergillosis
Neurology	Cerebral toxoplasmosis Primary cerebral lymphoma Cryptococcal meningitis Progressive multifocal leucoencephalopathy	Aspetic meningitis/encephalitis Cerebral abscess Space occupying lesion of unknown cause Guillain-Barre syndrome Transverse myelitis Peripheral neuropathy Dementia Leucoencephalopathy
Dermatology	Kaposi's sarcoma	Severe or recalcitrant seborrhoeic dermatitis Severe or recalcitrant psoriasis Multi-dermatomal or recurrent herpes zoster Sever fungal dermatoses
Gastroenterology	Persistent cryptosporidiosis	Oral candidiasi Oral hairy leukoplakia Chronic diarrhoea of unknown cause Weight loss of unknown cause Salmonella, shigella or campylocater Hepatitis B infection Hepatitis C infection
Oncology	Non-Hodgkin's lymphoma	Anal cancer of anal intraepithelial dysplasia Lung cancer Seminoma Head and neck cancer Hodgkin's lymphoma Castleman's disease
Gynaecology	Cervical cancer	Vaginal intraepithelial neoplasia Cervical intraepithelial neoplasia Grade 2 or above
Haematology		Any unexplained blood dyscrasis including: • thrombocytopenia • neutropenia • lymphopenia
Ophthalmology	Cytomegalovirus retinitis	Infective retinal diseases including herpes viruses and toxoplasma Any unexplained retinopathy
ENT		Lymphadenopathy of unknown cause Chronic parotitis Lymphoepithelial parotid cysts
Emergency Medicine		Coma Meningitis
Other		Mononucleosis-like syndrome (primary HIV infection) Pyrexia of unknown origin Any lymphadenopathy of unknown cause Any sexually transmitted infection

UK National Guidelines for HIV Testing 2008, British HIV Association. British Association of Sexual Health and HIV British Infection Society
http://www.bhiva.org/documents/Guidelines/Testing/GlinesHIVTest08.pdf

Appendix 2: BBV Prevalence Rates by Country

List of High Hep B & HIV* Prevalence Countries
(Sources: Hep B - CDC 2006; HIV - UNAIDS Global Report 2013)

E. Europe & Asia		
	Hep B >8%	HIV ≥1%
Armenia	Y	-
Azerbaijan	Y	-
Brunei***	Y	-
Bulgaria	Y	-
Burma***	Y	-
Cambodia	Y	1.5
China	Y	-
East Timor***	Y	-
Estonia	-	1.3**
Georgia	Y	-
Indonesia	Y	-
Kazakhstan	Y	-
Korea North & South	Y	-
Kyrgyzstan	Y	-
Laos	Y	-
Malaysia	Y	-
Moldova	Y	-
Mongolia	Y	-
New Guinea	Y	-
Philippines	Y	-
Russian Federation	-	1.4**
Taiwan***	Y	-
Tajikistan	Y	-
Thailand	Y	1.2
Turkmenistan***	Y	-
Ukraine	-	1
Uzbekistan	Y	-
Vietnam	Y	-
African Continent		
Angola	Y	2.8
Benin	Y	1.3
Botswana	Y	24.4
Burkina Faso	Y	1.1
Burundi	Y	1.5
Cameroon	Y	4.9
Cape Verde	Y	-
Cent. African Rep.	Y	4.6**
Chad	Y	3.4
Congo	Y	3
Cote d'Ivoire	Y	3.8
Dem. Rep. Congo	Y	1.2
Djibouti	Y	1.5
Equatorial Guinea	Y	9.7
Eritrea	Y	-
Ethiopia	Y	1.5
Gabon	Y	4.8
Gambia	Y	1.7
Ghana	Y	1.6
Guinea	Y	2
Guinea-Bissau	Y	5.3
Kenya	Y	6.3
Lesotho	Y	24.7
Liberia	Y	1.1
Madagascar	Y	-
Malawi	Y	11.4
Mali	Y	1.2
Mauritania	Y	-

	Hep B >8%	HIV ≥1%
Mauritius	Y	1.3
Mozambique	Y	12.9
Namibia	Y	15.2
Niger	Y	-
Nigeria	Y	3.5
Rwanda	Y	3.2
Sao Tome & Principe	Y	1.4
Senegal	Y	-
Sierra Leone	Y	2.1
Somalia	Y	-
South Africa	Y	18.4
Sudan (HIV - South)	Y	4
Swaziland	Y	28.3
Togo	Y	3.5
Uganda	Y	8.4
United Rep. Of Tanzania	Y	5.7
Western Sahara***	Y	-
Zambia	Y	13.7
Zimbabwe	Y	15.6
Middle East		
Jordan+	Y	-
Saudi Arabia+	Y	-
South America		
Belize	-	1.6
Bolivia	Y	-
Brazil	Y	-
Chile	Y	-
Colombia	Y	-
Ecuador	-	1.1
El Salvador	-	1.2
Guatemala	-	1.5
Guyana	-	2.1
Panama	-	1
Peru	Y	1.3
Suriname	-	1.2
Uruguay		1
Arctic and North America		
Baffin Island	Y	-
Banks Island	Y	-
Canada (Around Hudson Bay only)	Y	-
Greenland	Y	-
North West Territories	Y	-
Nunavut	Y	-
Quebec (Around Hudson Bay only)	Y	-
Queen Elizabeth Islands (Some)	Y	-
Victoria Island	Y	-
Caribbean		
Bahamas	-	3.5
Barbados	-	1.1
Haiti	-	2.3
Jamaica	-	2
Trinidad & Tobago	-	1.7

* HIV prevalence estimates for 15-49 year olds (high estimates used)
** 2011HIV data (no data available for 2013)
*** High prev HBV Countries consistently not included in HIV tables individually
+ No previous HIV data although listed in previous HIV tables, and not included in HIV tables this time
(Still no data provided for Bahrain, Cyrpus, Iraq, Kuwait, Lybian Arab Jamahiriya, Qatar, Syrian Arab Republic, United Arab Emirates, Algeria and Oman)

Appendix 3 – Sandyford Testing Services, Specialist BBV Testing and Support Services and Treatment and Care Centres

1) Sandyford Services

1.1 Sandyford Shared Care/BBV Failsafe Support Service – 0141 211 8639

For support, advice, assisted management or training on Testing, Diagnosis & Management, supported referral and partner notification (contact tracing) Operated by Sexual Health Advisors

1.2 Sandyford Professional Helpline – 0141 211 8646

For advice and support around clinical issues associated with sexual and reproductive health. Monday to Friday 9.00-12.00 and 1.00 -4.30 p.m.

1.3 Sandyford Sexual Health Advisors – 0141 211 8634

1.4 Sexual and Reproductive Health Clinics

a) Sandyford Central

2-6 Sandyford Place
Glasgow
G3 7NB
Telephone: 0141 211 8130
www.sandyford.org

b) Steve Retson Project - 0141 211 8628/211 8130

Dedicated sexual health service for men who have sex with men. Call for information on opening times and venues. Same day testing and results service is available.
www.steveretsonproject.org.uk

c) Sandyford local clinics (hubs) and (satellites) are located in various parts of the Health Board Area.

Consult the website for locations and opening times of all services.

Tel: 0141 211 8130

www.sandyford.org/sandyford-services/

2) Brownlee BBV Testing Service

Gartnavel Hospital,
1053 Great Western Road,
Glasgow,
G12 0YN
Tel: 0141 211 1089

www.brownleehiv.org

3) Specialist Treatment and Care Centres

3.1 Infectious Diseases

Brownlee Centre
Gartnavel Hospital,
1053 Great Western Road,
Glasgow,
G12 0YN
Tel: 0141 211 1074

www.brownleehiv.org

3.2 Gastroenterology

Gartnavel General
Ward 7B, Eighth Floor, Main Building
Gartnavel General Hospital
1053 Great Western Road
Glasgow G12 0YN

Tel: 0141 211 3275

Glasgow Royal Infirmary
3rd Floor, Surgical Block
Glasgow Royal Infirmary
84 Castle Street,
Glasgow G4 OSF

Tel: 0141 211 4911

Queen Elizabeth University Hospital
1345 Govan Road
Glasgow G51 4TF

Tel: 0141 201 0000

New Victoria Hospital
Grange Road
Glasgow G42 9LF

Tel: 0141 201 6000

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

Tel: 0141 314 6850

Inverclyde Royal Hospital
Larkfield Road
Greenock
PA16 0XN

Tel: 01475 633777

Vale of Leven
Main Street
Alexandria
G83 0UA

Tel: 01389 817239

NB: Hepatitis B referrals only. No current service of HCV patients at the Vale of Leven

3.3 Paediatric HIV Treatment and Care Services

Dr Conor Doherty or Dr Rosie Hague
Paediatric Infectious Diseases
Royal Hospital for Children – Glasgow
1345 Govan Road
Glasgow G51 4TF
Tel: 0141 201 0000

Appendix 4 – Laboratory Information

West of Scotland Specialist Virology Centre

Monday to Friday, 09:00 to 17:00 Tel: 0141 201 8722

For information on how and where to submit samples:

http://www.nhsggc.org.uk/content/default.asp?page=home_virology

Out of hours

Between 17:00 and 08:45 contact on call virologist via Glasgow Royal Infirmary Switchboard, Tel: 0141 211 4000

- In normal hours the lab is able to process and produce results within 2 hours of receipt. Note that reactive samples will need to be confirmed on the next day.
- Testing clinicians must provide the laboratory with adequate contact details to include the name and preferably two contact numbers of the main results recipient and a deputy.
- Note that provided a CHI number is supplied, the results will also be available on the Clinical Portal.

Appendix 5 – Patient Support and Information

1) Support Organisations and Services

Terrence Higgins Trust Scotland

Third Floor Breckenridge House
274 Sauchiehall Street
GLASGOW G2 3EH
Email: info.scotland@tht.org.uk
Tel: 0141 332 3838

Waverley Care African Health & Hepatitis C Projects

12 Queens Crescent
Glasgow
G4 9AS
Tel: 0141 332 2520
www.waverleycare.org

NHS GGC HIV Peer Support Project

Brownlee Centre
Gartnavel Hospital,
1053 Great Western Road,
Glasgow,
G12 0YN
Tel: 0141 211 1074
Brownleehiv@ggc.scot.nhs.uk

2) Patient Information

A suite of patient information leaflets that covers testing, waiting for results, negative results and information for people newly diagnosed with a BBV can be found here

3) Quick Reference Guides

HIV	**Click here**
Hepatitis C	**Click here**
Hepatitis B	**Click here**

Appendix 6 – Training and Risk Reduction Information and Resources

1) BBV Training Team

A range of training is offered. Contact the BBV Training Team at the Sexual Health Adviser office to discuss your requirements, book onto training or access the e-learning modules on NHS Learn-Pro.

Telephone: 0141 211 8634
email: GG-UHB.bbvtrainingteam@nhs.net
web: http://www.sandyford.org/clinicians/training-/bbv-training-.aspx

2) Free Condoms

www.freecondomsglasgowandclyde.org

3) Injecting Equipment Provision

http://www.staffnet.ggc.scot.nhs.uk/Acute/Division%20Wide%20Services/Pharmacy%20and%20Prescribing%20Support%20Unit/Community%20Pharmacy/Pages/Addictions-ContactsInformation.aspx

4) Glasgow Addiction Services

http://www.glasgow.gov.uk/index.aspx?articleid=5573

Appendix 7 - National Policies and Guidelines

Health Protection Agency (2012) Hepatitis C in the UK 2012. London: Health Protection Agency Centre for Infections
http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317135237219

BASHH – EAGA Statement on HIV Window Period 2014
http://www.bashh.org/documents/2613.pdf

UK National Guidelines for HIV Testing 2008, British HIV Association · British Association for Sexual Health and HIV · British Infection Society
(http://www.bhiva.org/documents/Guidelines/Testing/GlinesHIVTest08.pdf)

Recommendations for Testing for Sexually transmitted infections in men who have sex with men 2016, British Association for Sexual Health and HIV
http://www.bashh.org/documents/BASHH%20Recommendations%20for%20testing%20for%20STIs%20in%20MSM%20-%20FINAL.pdf

UK guideline for the use of post-exposure prophylaxis for HIV following sexual exposure (2015). British Association for Sexual Health and HIV.
http://www.bashh.org/documents/PEPSE%202015%20guideline%20final_NICE.pdf

Royal College of General Practitioners. Guidance for the prevention, testing, treatment and management of hepatitis C in primary care. London: RCGP 2007.
http://www.nhs.uk/hepatitisc/SiteCollectionDocuments/pdf/the-prevention-testing-treatment-and-management-of-hep-c-in-primary-care.pdf

Scottish Intercollegiate Guidelines Network. Management of hepatitis C. Guideline No.133. July 2013. Available at www.sign.ac.uk/pdf/sign133.pdf

Sexual Health and Bloodborne Virus Framework 2016-2020 Update
http://www.gov.scot/Resource/0048/00484414.pdf

Human Immunodeficiency Virus (HIV) Services Standards July 2011
http://www.healthcareimprovementscotland.org/default.aspx?page=11954

Quality Indicators for Hepatitis C. April 2012
http://www.healthcareimprovementscotland.org/programmes/long_term_conditions/hepatits_c/hepatitis_c_quality_indicators.aspx