Public Health England

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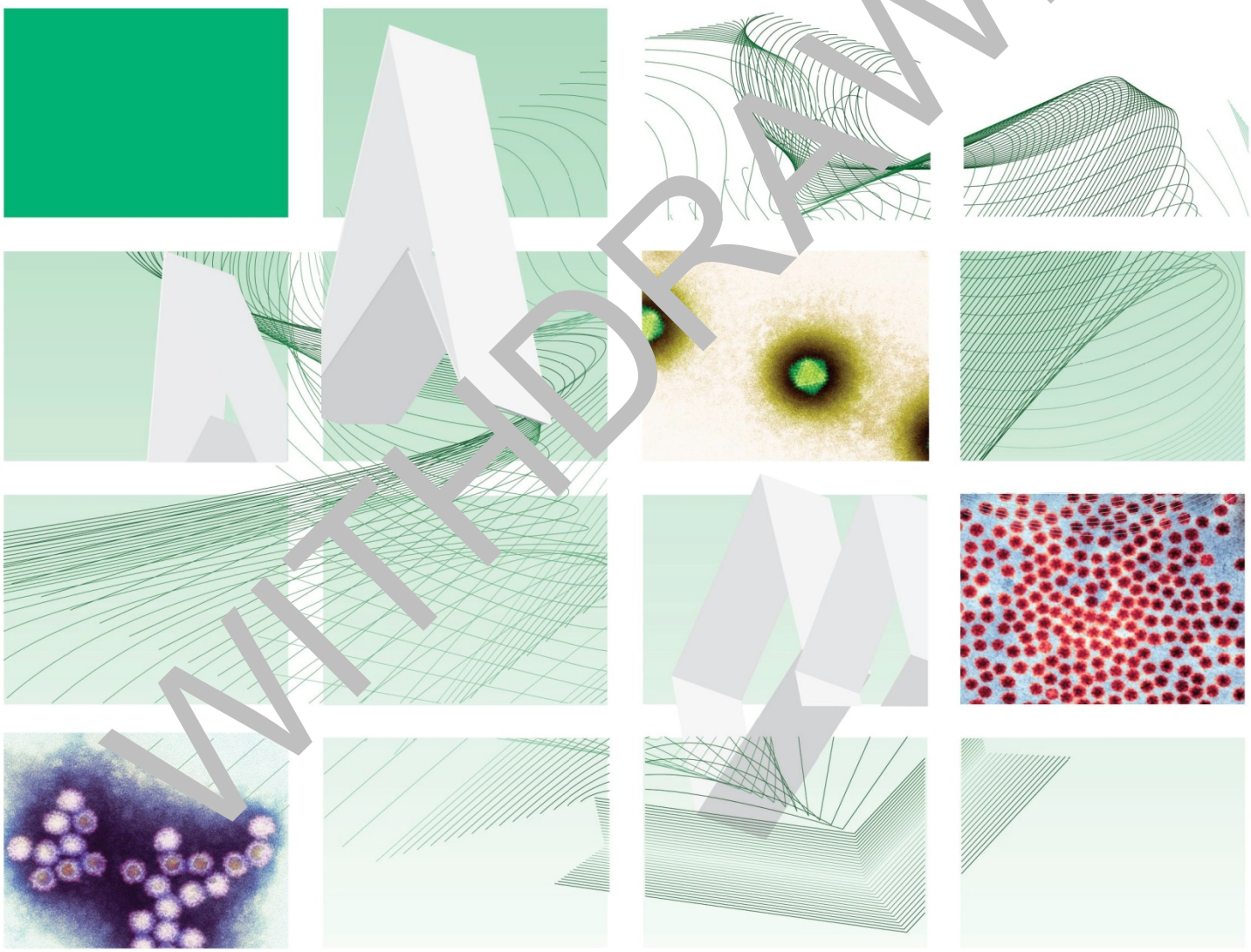
UK Standards for Microbiology Investigations

Blood Borne Virus Testing in Dialysis Patients



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Acknowledgments

UK Standards for Microbiology Investigations (SMIs) are developed under the auspices of Public Health England (PHE) working in partnership with the National Health Service (NHS), Public Health Wales and with the professional organisations whose logos are displayed below and listed on the website https://www.gov.uk/uk-standards-for-microbiology-investigations-smi-quality-and-consistency-in-clinical-laboratories. SMIs are developed, reviewed and revised by various working groups which are overseen by a steering committee (see https://www.gov.uk/government/groups/standards-for-microbiology-investigations-steering-committee).

The contributions of many individuals in clinical, specialist and reference laboratories who have provided information and comments during the development of this document are acknowledged. We are grateful to the Medical Editors for editing the medical content.

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UK Standards for Microbiology Investigations are produced in association with:

Logos correct at time of publishing.

Contents

Amendment Table

Each SMI method has an individual record of amendments. The current amendments are listed on this page. The amendment history is available from standards@phe.gov.uk.

New or revised documents should be controlled within the laboratory in accordance with the local quality management system.

Amendment No/Date.	3/27.04.15
Issue no. discarded.	1.2
Insert Issue no.	2
Section(s) involved	**Amendment**
Whole document.	Hyperlinks updated to gov.uk.
Page 2.	Updated logos added.
Scope.	Scope (including type of specimen, viruses covered, guidance and test result definitions) added.
Flowchart.	Flowchart updated and dialysis away from base streamlined. PCR changed to NAATs. Test results text updated to reflect definitions in scope.
Footnotes.	Addition of footnote g – consider HCV AG/HCV NAATs at start of dialysis and annually. Addition of footnote j regarding segregation.
References.	Updated.

UK Standards for Microbiology Investigations[#]: Scope and Purpose

Users of SMIs

- SMIs are primarily intended as a general resource for practising professionals operating in the field of laboratory medicine and infection specialties in the UK.
- SMIs provide clinicians with information about the available test repertoire and the standard of laboratory services they should expect for the investigation of infection in their patients, as well as providing information that aids the electronic ordering of appropriate tests.
- SMIs provide commissioners of healthcare services with the appropriateness and standard of microbiology investigations they should be seeking as part of the clinical and public health care package for their population.

Background to SMIs

SMIs comprise a collection of recommended algorithms and procedures covering all stages of the investigative process in microbiology from the pre-analytical (clinical syndrome) stage to the analytical (laboratory testing) and post analytical (result interpretation and reporting) stages.

Syndromic algorithms are supported by more detailed documents containing advice on the investigation of specific diseases and infections. Guidance notes cover the clinical background, differential diagnosis, and appropriate investigation of particular clinical conditions. Quality guidance notes describe laboratory processes which underpin quality, for example assay validation.

Standardisation of the diagnostic process through the application of SMIs helps to assure the equivalence of investigation strategies in different laboratories across the UK and is essential for public health surveillance, research and development activities.

Equal Partnership Working

SMIs are developed in equal partnership with PHE, NHS, Royal College of Pathologists and professional societies.

The list of participating societies may be found at https://www.gov.uk/uk-standards-for-microbiology-investigations-smi-quality-and-consistency-in-clinical-laboratories. Inclusion of a logo in an SMI indicates participation of the society in equal partnership and support for the objectives and process of preparing SMIs. Nominees of professional societies are members of the Steering Committee and Working Groups which develop SMIs. The views of nominees cannot be rigorously representative of the members of their nominating organisations nor the corporate views of their organisations. Nominees act as a conduit for two way reporting and dialogue. Representative views are sought through the consultation process.

SMIs are developed, reviewed and updated through a wide consultation process.

[#]Microbiology is used as a generic term to include the two GMC-recognised specialties of Medical Microbiology (which includes Bacteriology, Mycology and Parasitology) and Medical Virology.

Quality Assurance

NICE has accredited the process used by the SMI Working Groups to produce SMIs. The accreditation is applicable to all guidance produced since October 2009. The process for the development of SMIs is certified to ISO 9001:2008.

SMIs represent a good standard of practice to which all clinical and public health microbiology laboratories in the UK are expected to work. SMIs are NICE accredited and represent neither minimum standards of practice nor the highest level of complex laboratory investigation possible. In using SMIs, laboratories should take account of local requirements and undertake additional investigations where appropriate. SMIs help laboratories to meet accreditation requirements by promoting high quality practices which are auditable. SMIs also provide a reference point for method development.

The performance of SMIs depends on competent staff and appropriate quality reagents and equipment. Laboratories should ensure that all commercial and in-house tests have been validated and shown to be fit for purpose. Laboratories should participate in external quality assessment schemes and undertake relevant internal quality control procedures.

Patient and Public Involvement

The SMI Working Groups are committed to patient and public involvement in the development of SMIs. By involving the public, health professionals, scientists and voluntary organisations the resulting SMI will be robust and meet the needs of the user. An opportunity is given to members of the public to contribute to consultations through our open access website.

Information Governance and Equality

PHE is a Caldicott compliant organisation. It seeks to take every possible precaution to prevent unauthorised disclosure of patient details and to ensure that patient-related records are kept under secure conditions.

The development of SMIs are subject to PHE Equality objectives https://www.gov.uk/government/organisations/public-health-england/about/equality-and-diversity. The SMI Working Groups are committed to achieving the equality objectives by effective consultation with members of the public, partners, stakeholders and specialist interest groups.

Legal Statement

Whilst every care has been taken in the preparation of SMIs, PHE and any supporting organisation, shall, to the greatest extent possible under any applicable law, exclude liability for all losses, costs, claims, damages or expenses arising out of or connected with the use of an SMI or any information contained therein. If alterations are made to an SMI, it must be made clear where and by whom such changes have been made.

The evidence base and microbial taxonomy for the SMI is as complete as possible at the time of issue. Any omissions and new material will be considered at the next review. These standards can only be superseded by revisions of the standard, legislative action, or by NICE accredited guidance.

SMIs are Crown copyright which should be acknowledged where appropriate.

Suggested Citation for this Document

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Scope of Document

Type of specimen

Whole blood, clotted blood, serum, plasma

Scope

This algorithm covers screening for the following blood borne viruses (BBV) from haemodialysis patients at base (ie the place where the patient's dialysis usually takes place):

- Hepatitis B Virus (HBV)
- Human Immunodeficiency Virus (HIV)
- Hepatitis C Virus (HCV)

For further information refer to Department of Health guidelines 'Good practice guidelines for renal dialysis/transplantation units' and The Renal Association guidelines for Blood Borne Virus Infection[1,2].

For testing following dialysis away from base or outside of the UK, please refer to Department of Health guidelines 'Good practice guidelines for renal dialysis/transplantation units' Addendum 2015.

This SMI should be used in conjunction with other SMIs.

Definitions

For all antigen, antibody and NAT's testing the following definitions apply:

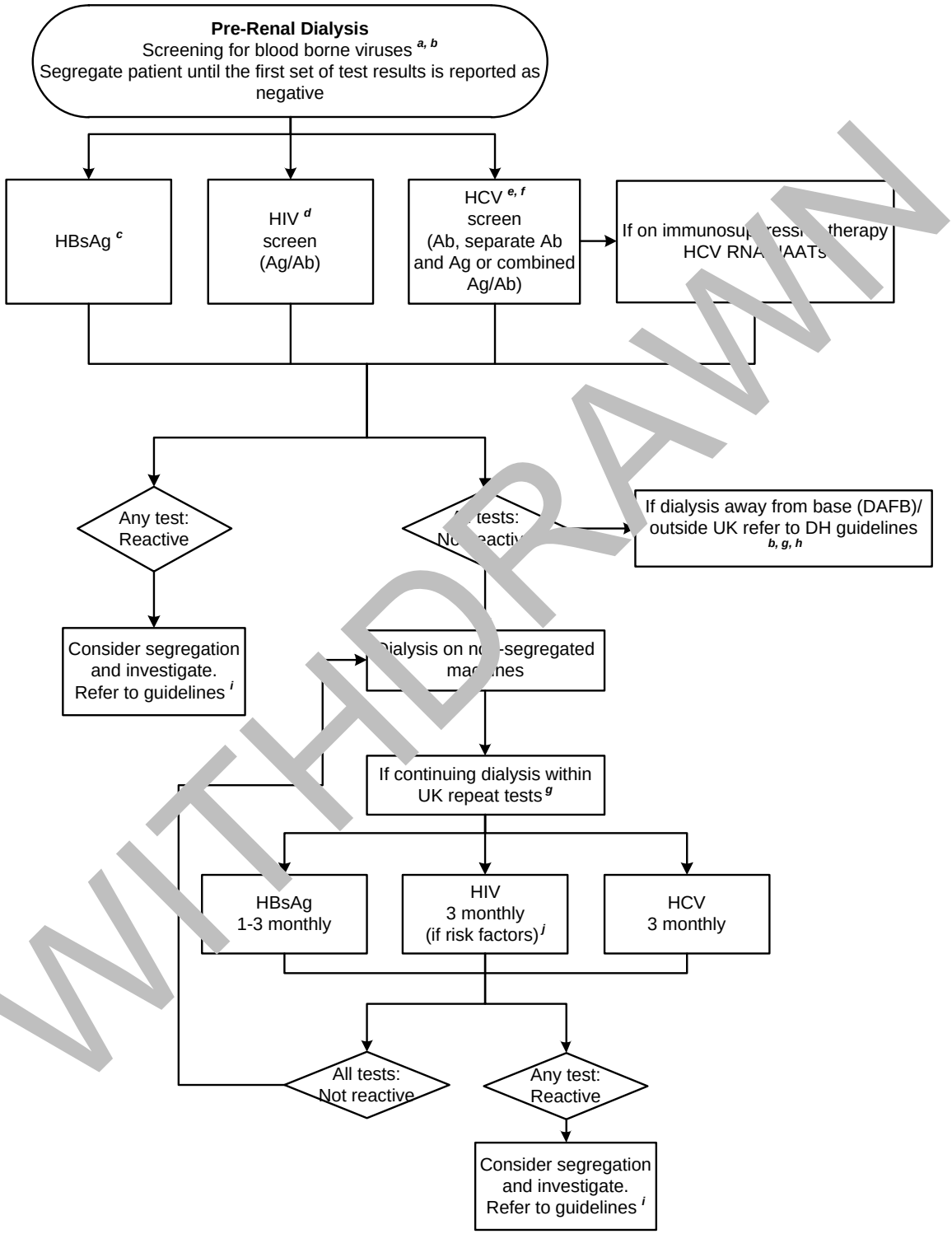
Reactive – Initial internal-stage positive result pending confirmation.

Not reactive – Initial internal-stage negative result.

Detected – Report-stage confirmed reactive result.

Not detected – Report-stage not reactive result.

Blood Borne Virus Testing in Dialysis Patients[1-3]



Footnotes

a) If more than 1 month since negative tests for BBV.

b) Local risk assessment should be carried out based on the patient's history, including where and when dialysed if outside the UK.

c) For interpretation and further investigation of HBs Ag results refer to V 4 - Hepatitis B Diagnostic Serology in the Immunocompetent (including Hepatitis B in Pregnancy).

d) Refer to V 11 - Anti-HIV Screening. A fourth generation test should be used.

e) Refer to V 5 - Investigation of Hepatitis C Infection by Antibody Testing & Combined Antigen/Antibody Assay.

f) In addition to HCV Ab testing consider HCV Ag/HCV NAAT at start of dialysis and annually.

g) Store blood samples for at least a year.

h) Refer to Department of Health guidelines for dialysis away from base (DAFB)[3]. http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Dearcolleagueletters/DH_120686

i) Consider segregation and investigate. Refer to Department of Health guidelines 'Good practice guidelines for renal dialysis transplantation units. Prevention and control of blood-borne virus infection'[1].

j) If no risk factors as per the guidelines

Notification to PHE[4,5] or Equivalent in the Devolved Administrations[6-9]

The Health Protection (Notification) regulations 2010 require diagnostic laboratories to notify Public Health England (PHE) when they identify the causative agents that are listed in Schedule 2 of the Regulations. Notifications must be provided in writing, on paper or electronically, within seven days. Urgent cases should be notified orally and as soon as possible, recommended within 24 hours. These should be followed up by written notification within seven days. For the purposes of the Notification Regulations, the recipient of laboratory notifications is the local PHE Health Protection Team. If a case has already been notified by a registered medical practitioner, the diagnostic laboratory is still required to notify the case if they identify any evidence of an infection caused by a notifiable causative agent.

Notification under the Health Protection (Notification) Regulations 2010 does not replace voluntary reporting to PHE. The vast majority of NHS laboratories voluntarily report a wide range of laboratory diagnoses of causative agents to PHE and many PHE Health Protection Teams have agreements with local laboratories for urgent reporting of some infections. This should continue.

Note: The Health Protection Legislation Guidance (2010) includes reporting of Human Immunodeficiency Virus (HIV) & Sexually Transmitted Infections (STIs), Healthcare Associated Infections (HCAIs) and Creutzfeldt-Jakob disease (CJD) under 'Notification Duties of Registered Medical Practitioners': it is not noted under 'Notification Duties of Diagnostic Laboratories'.

https://www.gov.uk/government/organisations/public-health-england/about/our-governance#health-protection-regulations-2010

Other arrangements exist in Scotland[6,7], Wales[8] and Northern Ireland[9].

References

1. Department of Health. Good Practice Guidelines for Renal Dialysis/Transplant Units: Prevention and Control of Blood-Borne Virus Infection. 2002. p. 24-35.

2. The Renal Association. Blood Borne Virus Infection. 2012.

3. Department of Health. Good Practice Guidelines for Renal Dialysis/Transplant Units: Prevention and Control of Blood-Borne Virus Infection. Addendum: Guidelines for dialysis away from base (DAFB). 2010.

4. Public Health England. Laboratory Reporting to Public Health England: A Guide for Diagnostic Laboratories. 2013. p. 1-37.

5. Department of Health. Health Protection Legislation (England) Guidance. 2010. p. 1-12.

6. Scottish Government. Public Health (Scotland) Act. 2008 (as amended).

7. Scottish Government. Public Health etc. (Scotland) Act 2008. Implementation of Part 2: Notifiable Diseases, Organisms and Health Risk States. 2009.

8. The Welsh Assembly Government. Health Protection Legislation (Wales) Guidance. 2010.

9. Home Office. Public Health Act (Northern Ireland) 1967 Chapter 36. 1967 (as amended).