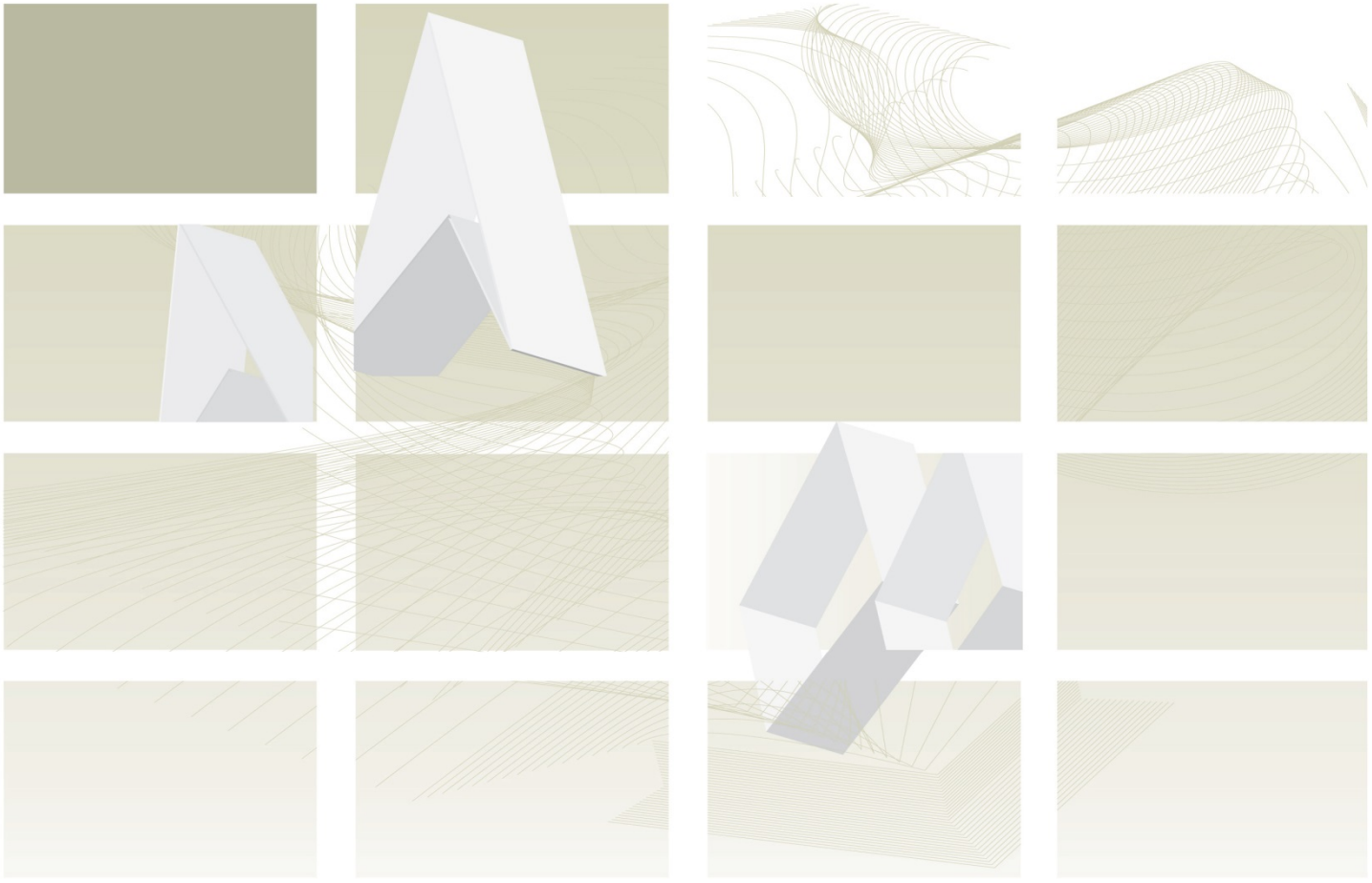
Public Health England

NHS

UK Standards for Microbiology Investigations

Review of users' comments received by
Working group for microbiology standards in clinical bacteriology

B 17 Investigation of tissues and biopsies from deep-seated sites and organs



NICE accredited
www.nice.org.uk/accreditation

NICE has accredited the process used by Public Health England to produce Standards for Microbiology Investigations. Accreditation is valid for 5 years from July 2011. More information on accreditation can be viewed at www.nice.org.uk/accreditation.

For full details on our accreditation visit: www.nice.org.uk/accreditation.

Recommendations are listed as ACCEPT/ PARTIAL ACCEPT/DEFER/ NONE or PENDING

Issued by the Standards Unit, Microbiology Services, PHE

RUC | B 17 | Issue no: 1 | Issue date: 08.04.16

1st Consultation: 23/08/2013 – 15/11/2013

Version of document consulted on: B 17dg+

Proposal for changes

Comment number	1		
Date received	29/10/2013	**Lab name**	Kings College Hospital- representing MSTAG
Section	Various		
Comment			
General comments: a. Lots of cross references, almost unreadable perhaps Tissue and Bone UK SMIs could be amalgamated. b. 1.2.1 Delays over 24hr, the group would like clarification of the reference quoted as it seem to be from a text book. c. 2.5.2 The note regarding fungal cultures may be better placed in section 2.5.1. d. 2.5.3 FAB sub-cultured at >40hr, but incubation time quoted is 5 days. e. Sabouraud agar 40-48hr this is inconsistent with the flow chart, should it be 5 days as a minimum? f. FAA+ neomycin is in 'all samples' and 'if microscopy suggestive of mixed infection'. g. Flowchart - some typos seen. h. Grind/homogenise - not if Fungi are sought. i. BSAC guidelines quoted-should this be more general as EUCAST used widely.			
Health benefits			
No.			
Recommended action	a. **PARTIAL ACCEPT** Most of the cross reference have been moved to the scope and are not repeated throughout the document. The document title and scope of the document has been updated. b. **ACCEPT** This has been removed as no evidence can be found to support this statement. Alternative recommendations are being sought. c. **ACCEPT** The text has been moved to section 4.4.1. d. **ACCEPT** Table and flowchart updated in final version. Broths are		

	subcultured if evidence of growth (≥40hr), or at day 5. e. **PARTIAL ACCEPT** Following discussion incubation has been updated (in final version) to 14 days at 35-37ºC or 28 days at 28-30ºC. f. **NONE** If microscopy suggestive of mixed infection a metronidazole disc is added g. **ACCEPT** Flowchart reviewed and updated h. **ACCEPT** Text updated in section 4.4.1. i. **ACCEPT** This has been updated in the document.

Comment number	2		
Date received	30/10/2013	**Lab name**	Manchester PHL
Section	Scope and specific tissues		
Comment			
a. The scope is unclear and limited; although it states the document is on bacteriological processing there is quite a lot of material on parasites and fungi. b. There does not seem to be anything on viruses even in the background, although corneas, intestinal biopsies, lung biopsies, brain biopsies often have viral PCRs done. c. PCR is not mentioned in the document even though many of the bacteria and fungi mentioned will be best diagnosed by PCR; heart valves and liver granulomata for instance would often have *C. burnetii* PCR done and *P. jirovecii* will be tested by PCR in many cases. Many biopsies are tested for bacterial and fungal pathogens by 16S and 18S PCR. d. Brain biopsy has been overlooked in the sample types (it is only mentioned in safety section with regard to exotic pathogens), but it is still taken for undiagnosed mass lesions so is relevant to this document in looking at the differentiation between bacterial, fungal and toxoplasma abscesses versus lymphoma etc.			
Financial barriers			
No.			
Recommended action	a. **ACCEPT** Reference to fungi and parasites removed from the majority of the document. Scope updated. b. **PARTIAL ACCEPT**		

	It is specified in the scope that this SMI covers bacteria and fungi only. Reference to NAATs has been included in the document. c. **ACCEPT** Reference to NAATs has been included throughout. d. **ACCEPT** Brain biopsies added to specific tissue section.

Comment number	3		
Date received	06/11/2013	**Lab name**	Royal Alexandra Microbiology Department
Section	2.5.3		
Comment			
a. I think it is unnecessary to put up a MacConkey or CLED plate routinely with all such samples, many of which will be sterile. b. Most organisms will grow on the blood and can be separated from there. A chocolate plate for any fastidious organisms would be more useful. c. CLED as an addition for certain clinical details may be useful.			
Evidence			
Experience of culturing samples.			
Recommended action	a-c. **NONE** Following discussions, the group agreed that the following combination of plates was most appropriate for all clinical conditions: blood agar, CLED/MacConkey/Selective anaerobic agar and a fastidious anaerobe broth.		

2nd Consultation: 06/01/2015 – 26/01/2015

Version of document consulted on: B 17do+

Proposal for changes

Comment number	1		
Date received	15/01/2015	**Lab name**	Nottingham University Hospitals
Section	1.2 and 4.6.1		
Comment			
a. 1.2- Suggest change wording as per B 14 -totally impractical to state any sample			

from brain abscess or any site from a patient with a travel history to America, Africa Asia etc is processed in full containment level 3, because of a potential but extremely rare infection of Rhinocladiella infection. Keep statement where infection with hazard group 3 organisms in 4.6.1. b. Suggest from such deep-seated sites both Pseudomonads and Coliforms should be identified further, Pseudomonads to species levels and Coliforms to at least genus level.	
Recommended action	a. **ACCEPT** The safety section will be reviewed and the text regarding brain abscesses and *Rhinocladiella mackenziei* removed. b. **ACCEPT** It was agreed that Pseudomonads and Enterobacteriaceae should be identified to species level. The table in 4.6.1 will be updated accordingly.

Comment number	2		
Date received	20/01/2015	**Lab name**	Public Health laboratory Manchester
Section	Specific tissues		
Comment			
a. Lung biopsies...: PCP may be diagnosed less invasively, but usually with reduced sensitivity, by processing induced sputum or bronchoalveolar lavage specimens. PCP is usually diagnosed by PCR nowadays with high sensitivity and specificity on samples such as sputum (induced or otherwise) and BAL. Suggest rewrite along the lines of: PCP is usually diagnosed less invasively using sensitive PCR methods on samples including induced sputum or bronchoalveolar lavage. b. Aspergillus culture has poor sensitivity - suggest highlighting use of PCR and galactomannan in diagnosis on BAL samples. c. Throughout this section the value of PCR might be highlighted where appropriate eg Heart valves - Q fever PCR, 16S PCR, Lymph nodes - Toxoplasma PCR is available in a number of centres, not just the Swansea reference laboratory, etc.			
Evidence			
One example for PCP: J Clin Microbiol. 2011 May;49(5):1872-8. doi: 10.1128/JCM.02390-10. Epub 2011 Mar2.Multicenter, prospective clinical evaluation of respiratory samples from subjects at risk for Pneumocystis jirovecii infection by use of a commercial real-time PCR assay. M.Hauser PM(1), Bille J, Lass-FlÃl C, Geltner C, Feldmesser M, Levi M, Patel H,Muggia V, Alexander B, Hughes M, Follett SA, Cui X, Leung F, Morgan G, Moody A,Perlin DS, Denning DW. One example for aspergillus: J Clin Microbiol. 2012 Nov;50(11):3652-8. doi: 10.1128/JCM.00942-12. Epub 2012Sep 5.Diagnostic accuracy of PCR alone compared to galactomannan in bronchoalveolarlavage fluid for diagnosis of invasive pulmonary aspergillosis: a systematic review. Avni T(1), Levy I, Sprecher H, Yahav D, Leibovici L,		

Paul	
Financial barriers	
No.	
Health benefits	
No.	
Recommended action	a. **PARTIAL ACCEPT** It was felt that this was a valid point. However, the information is better placed in (and is included in) B 57: Investigation of brochoalveolar lavage, sputum and associated specimens. A cross reference to B 57 will be included in the text. b. **PARTIAL ACCEPT** It was agreed that this was outside of the scope of the document. This is information is included in B 57. A cross-reference to B 57 will be included in the text. c. **ACCEPT** Text regarding PCR will be included where appropriate.

Comment number	3		
Date received	23/01/2015	**Professional body**	UKCMN
Section	a. Section 1.2 b. Section 4.4.2 c. Section 4.5.1 d. Section 5.1 e. Section 4.4.2 f. Appendix		
Comment			
a. Section 1.2 Replace Penicillium marneffei with Talaromyces (previously Penicillium) marneffei, Add 'and Cladophialophora species' so it reads: (to cover Rhinocladiella mackenziei 27 and Cladophialophora species), Add sentence after safety cabinet so it reads: Grinding and homogenisation of all specimens must be undertaken in a microbiological safety cabinet. NB Samples for mycological examination must not be homogenised. b. Section 4.4.2 Add a paragraph on fungal Fluorescent staining technique: Fluorescent staining for fungi. For suspected fungal infection place a small portion of tissue in a sterile Eppendorf tube with a few drops of 20% KOH, place in a heat block for 20 min to soften. Using a sterile pipette place the softened tissue on a glass slide, add a drop of calcoflour/blankophor and view under a fluorescent microscope. Note the type of structures seen to correlate with subsequent culture results ie pseudohyphae,		

true hyphae, yeast forms, other fungal elements. c. Section 4.5.1 At the bottom of the table add 'and some Cryptococcus isolates ' so it reads: eg Histoplasma capsulatum, and some Cryptococcus isolates. d. Section 5.1 Add a reporting line for fungi seen: Mycology “report on type of fungal elements seen Appendix Replace top box of the flow diagram with Grind or homogenise a specimen unless a fungal infection is suspected. e. Section 4.5.1 table “Immunocomp host sab agar listed, but shouldn't this be a sab slope + chloramphenicol- Similarly for mycetoma there should be a sab+chloramphenicol slope and this should be incubated at 30°C. f. Appendix - The mycetoma decision tree needs to include mould media, the immunocomp tree should have chloramph in the media and the temperature should be 30C as well and incubate for up to 28 days at least.
Financial barriers
No.
Health benefits
No.

Recommended action	a-f. **ACCEPT** The document will be updated to reflect the comments made.

Comment number	4		
Date received	23/01/2015	**Lab name**	Truro
Section	a. Page 11 b. Page 19		
Comment			
a. Pg 11, 1.2 - Penicillium marneffei is now named Talaromyces marneffe. b. Pg 19 - Sabouraud agar also incubated at 28-30°C.			
Recommended action	a. **ACCEPT** Text updated. b. **ACCEPT** Section 4.5.1 and flowchart updated.		

Comment number	5		
Date received	26/01/2015	**Professional body**	IBMS
Section	a. Section 1.2 b. Appendix 1		

	c. Section 4.7
Comment	
a. Section 1.2 Specimen processing Paragraph starts, 'It is recommended that all Gram-negative coccobacilli from (TEXT MISSING HERE) should be processed….' Additional text needs to be added to say what the specimen is from. b. Appendix 1 Typo in chart under selective media – should say Nocardiosis, not Norcardiosis, and the bubble at the bottom that says '7d Norcardia sp…,' also needs correcting. c. Under the antimicrobial susceptibility testing each document make reference to BSAC or EUCAST which is fine for bacterial pathogens. However, for Candida and Moulds (which are mentioned in the text) only CLSI breakpoints apply.	
Recommended action	a. **ACCEPT** Text corrected. b. **ACCEPT** Text corrected. c. **ACCEPT** Text added to section 4.7.

Comments received outside of consultations

Comment number	1		
Date received	22/05/2013	**Lab name**	Belfast
Section	Page 22		
Comment			
We have been revising SOPs and referred to SMI Bacteriology B 17 (Investigation of Tissues and Biopsies) for guidance. While studying flowchart on page 22 of the document it was noted that stream for 'all samples' does not have a recommendation for enrichment (?fastidious anaerobe broth) but rather two adjacent cells refer to prolonged incubation on solid media. Apologies if you have already been inundated with notifications of this observation.			
Recommended action	**ACCEPT** This has been addressed. The flowchart now includes FAA broth for all samples.		

Respondents indicating they were happy with the contents of the document

Overall number of comments: 4			
Date received	02/09/2013	**Lab name**	R&D, Department of Microbiology,

			Leeds General Infirmary
Date received	07/11/2013	**Lab name**	Royal Oldham Hospital
Date received	06/01/2015	**Lab name**	Microbiology Queen Elizabeth Hospital LGHT Woolwich SE18 4QH
Date received	21/01/2015	**Lab name**	Northern Health and Social Care Trust