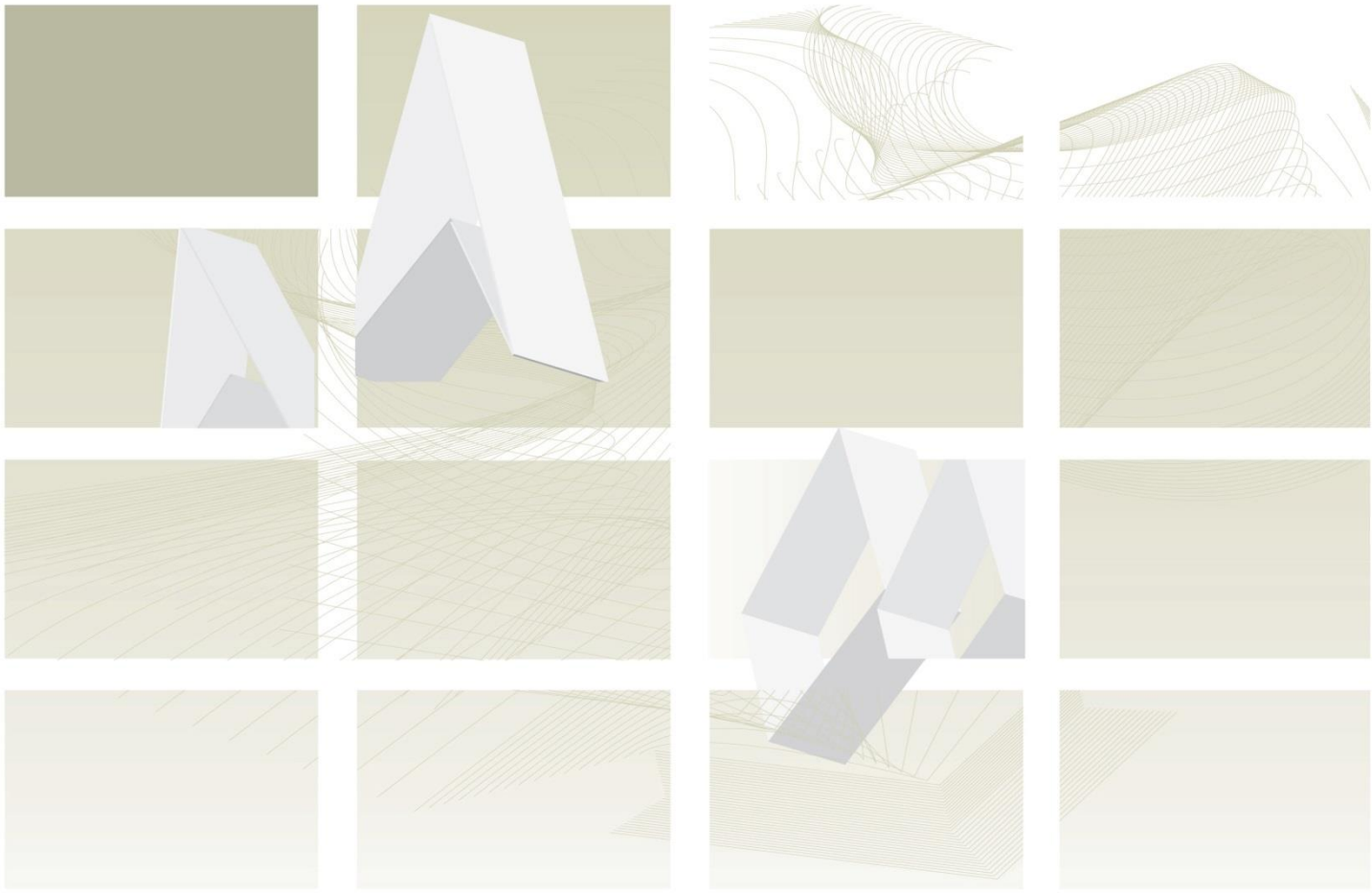
UK Standards for Microbiology Investigations

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

B 29 Investigation of specimens for screening for MRSA



Consultation: 19/01/2018 – 02/02/2018

Version of document consulted on: B 29de+

Proposal for changes

Comment number	1		
Date received	19/01/2018	**Laboratory/Professional body**	Laboratory
Section	Pages 11-13		
Comment			
Only one minor comment: On page 11 it states that: 'Direct plating on selective medium has the advantage that results may be available within 24hr, but most studies indicate that direct plating is less sensitive than broth enrichment followed by plating on solid media. Whether this is the case with more recently developed chromogenic media remains to be determined'. Also, on page 13 it states that 'The advantage of enrichment over direct plating has yet to be confirmed with chromogenic media.' In my view there are now a number of studies that show that enrichment culture will increase the yield of MRSA whether chromogenic media are used or not. Three examples of such studies are provided below. Some studies that show conflicting results have often used quite inhibitory broths (e.g. containing 7.5% salt). Dodémont M, Verhulst C, Nonhoff C, Nagant C, Denis O, Kluytmans J. Prospective Two-Center Comparison of Three Chromogenic Agars for Methicillin-Resistant Staphylococcus aureus Screening in Hospitalized Patients. J Clin Microbiol. 2015 Sep;53(9):3014-6. https://www.ncbi.nlm.nih.gov/pubmed/26109446 Veenemans J, Verhulst C, Punselie R, van Keulen PH, Kluytmans JA. Evaluation of brilliance MRSA 2 agar for detection of methicillin-resistant Staphylococcus aureus in clinical samples. J Clin Microbiol. 2013 Mar;51(3):1026-7. doi: 10.1128/JCM.02995-12. http://jcm.asm.org/content/51/3/1026.full Wolk DM, Marx JL, Dominguez L, Driscoll D, Schifman RB. Comparison of MRSASelect Agar, CHROMagar Methicillin-Resistant Staphylococcus aureus (MRSA) Medium, and Xpert MRSA PCR for detection of MRSA in Nares: diagnostic accuracy for surveillance samples with various bacterial densities. J Clin Microbiol. 2009 Dec;47(12):3933-6. https://www.ncbi.nlm.nih.gov/pubmed/19828738		
Evidence			
Provided above.			
Financial barriers			
No.			
Health benefits			

No.	
Recommended action	PARTIAL ACCEPT: Group advised that the use of direct culture on chromogenic agar should always be recommended over enrichment although enrichment is more sensitive. Sentence "The advantage of enrichment over direct plating with chromogenic media has yet to be confirmed" has been removed to avoid confusion. References included in document

Comment number	2		
Date received	23/01/2018	**Laboratory/Professional body**	Laboratory
Section	Introduction and Technical information/limitations		
Comment			
Typo on page 9 transfers and Under technical information/limitations the draft SMI states that Staphylococcus sciuri can ...grow on chromogenic MRSA medium with a blue green pigment. This statement assumes that all MRSA chromogenic media produce a blue chromogen but this is not the case (see links in evidence below).			
Evidence			
http://www.chromagar.com/clinical-microbiology-chromagar-mrsa-focus-on-mrsa-28.html#.WmdzvI-0Pmg http://www.biomerieux-diagnostics.com/chromid-mrsa-smart http://hardydiagnostics.com/chromogenic-mrsa-staphylococcus-aureus-mrsa-identification-by-chromogenic-media-hardychrom-mrsa/			
Financial barriers			
No.			
Health benefits			
No.			
Recommended action	ACCEPT Note: section was removed from document as introduction was reduced		

Comment number	3		
Date received	31/01/2018	**Laboratory/Professional body**	Laboratory
Section			

Comment	
1. "MRSA strains are a continuing and increasing problem in healthcare settings…" Not sure what evidence there is for this in the UK currently, esp with MRSA bacteraemia rates declining steeply 2. "MRSA and MSSA are similar in virulence and this is often connected to mobile genetic elements the presence or absence of which determines the clinical outcome" this is in odds with more recent literature – e.g. see J Infect Dis. 2012 Mar 1;205(5):798-806. doi: 10.1093/infdis/jir845 and The ISME Journal (2010) 4, 577–584; doi:10.1038/ismej.2009.151; 3. In mechanisms of resistance: add mecC and PBP2c where corresponds. 4. "Eleven distinct types of SCCmec" this should be twelve (doi:10.1128/AAC.01692-15) 5. Section 5.3 – antimicrobial susceptibility testing: add the following: "The national Staphylococcus Reference Service in Public Health England (PHE) invites the referral of S. aureus strains showing unusual resistance (specifically to vancomycin, teicoplanin, linezolid, quinupristin/dalfopristin, daptomycin, tigecycline, ceftaroline or ceftibiprole) for analysis and surveillance purposes."	
Evidence	
Not completed.	
Financial barriers	
Not completed.	
Health benefits	
Not completed.	
Recommended action	1. ACCEPT: sentence changed by removing the word increasing. 2. ACCEPT: sentence has been removed as group estimated it creates more confusion and adds nothing to the whole paragraph. 3. ACCEPT: mecC and PBP2c added 4. ACCEPT: changed to twelve and reference added 5. ACCEPT: suggested sentence added Other minor changes to text where accepted from the noted and reviewed version.

Comment number	4		
Date received	02/02/2018	**Laboratory/Professional body**	Laboratory

Section	page 9
Comment	
Whole section feels very out-dated, especially the paragraph wi:th references 13 and 14 which date back to the 1990s. Needs a complete refresh, taking into account current data on the balance between MRSA and MSSA.	
Evidence	
Not completed.	
Financial barriers	
Not completed.	
Health benefits	
Not completed.	
Recommended action	Whole section removed from introduction in new document/template

Comment number	5		
Date received	02/02/2018	**Laboratory/Professional body**	Laboratory
Section	2 & 4		
Comment			
1. 2.2 Remove reference to fungal culture as this is MRSA screening so not relevant for this document. 2. 2.3 Are there any guidelines for what are the minimum sites to be tested or is this a local agreement only? Swabs from nose, axilla, groin, etc. and urine specimens are appropriate specimens. 3. 4.5.1 Temperature for incubation should be in a range, e.g. 35-37 degrees C and not a fixed 37 degrees C. A fixed temperature is unattainable from a UKAS standard perspective. 4. 4.7 Should BSAC guideline be removed as this is no longer the recommended method.			
Evidence			
Not completed.			
Financial barriers			
Not completed.			
Health benefits			
Not completed.			

Recommended action	1. ACCEPT: sentence replaced by: “Unless otherwise stated, swabs for MRSA culture should be placed in appropriate transport medium” 2. ACCEPT: a new section describing swabbing sites and procedure has been added to the document. 3. ACCEPT: temperature modified to show range and not fixed temperature 4. ACCEPT: BSAC guidelines removed

Comment number	6		
Date received	02/02/2018	**Laboratory/Professional body**	Professional body
Section	Mechanisms of resistance		
Comment			
Paragraph 4 doesn't make grammatical sense. Perhaps the sentence could be replaced with: The presence of the mecA gene or proven resistance to oxacillin, meticillin or cefoxitin, using methodologies recommended by EUCAST (BSAC) or NCCLS, are accepted criteria for confirmation of meticillin resistance.			
Evidence			
Not completed.			
Financial barriers			
No.			
Health benefits			
No.			
Recommended action	PARTIAL ACCEPT: sentence replaced for clarity: “The presence of the mecA and mecC genes and oxacillin, meticillin or cefoxitin MIC above breakpoints recommended by national and international validated methods are accepted criteria for methicillin resistance.”		

Respondents indicating they were happy with the contents of the document

Overall number of comments: 3			
Date received	22/01/2018	**Laboratory/Professional body**	Professional body
Health benefits			
No.			

Date received	25/01/2018	**Laboratory/Professional body**	Professional body
Health benefits			
Not completed.			
Date received	30/01/2018	**Laboratory/Professional body**	Commercial company
Health benefits			
Yes.			