Public Health England

NHS

UK Standards for Microbiology Investigations

Review of Users' Comments received by Working Group for Microbiology Standards in Clinical Bacteriology

B 6 Culture of Specimens for *Bordetella pertussis* and *Bordetella parapertussis*

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

Consultation: 27/09/2013 – 20/12/2013

Version of document consulted on: B 6dj+

PROPOSAL FOR CHANGES

Comment Number	1		
Date Received	30/09/2013	**Lab Name**	Sandwell and West Birmingham Hospitals NHS trust
Section			
Comment			
I have looked at our data for our initial validation work. The Vitek MS correctly identified 1 each NCTC or ATCC strains of *Bordetella pertussis*, *parapertussi* and *bronchoseptica* that we have in our collection. We only rarely isolate this although we have a childrens ward and GP access work the number of requests for culture are quite small. We also have correctly identified the Bordetella strains distributed in last 2 years by NEQAS, also I can say that the Vitek MS identification matched the reactivity with antisera we carry and any phenotypic aspects we consider for any clinical strains isolated during the upsurge of screening conducted last year as part of the national 'epidemic'. Most MS studies have included Bordetella and the ID is correct in varying amounts system to system. Accurate ID is influenced by care taken in preparing sample for analysis and also the company's effort in building a database with robustly confirmed isolates across a range of geography and strain variants. With less common strains the database may have been built with fewer strains which could lead to less reliable overall identification. As I proposed in my talk the labs using MS for identification really ought to use the CE-IVD component for clinical work unless they have extensive and robust identification for those strains not included by the CE-IVD database. It is also in the users interest to feedback misidentification to the company or MHRA especially if a species is claimed in the CE-IVD database and reliably fails to identify or give correct ID. I should also like to provide comment on the length of culture for *Bordetella pertussis*. We deviate for current SMI for length of culture. I have experience at the Children's Hospital, Birmingham and here at City Hospital that 7 days incubation is insufficient for maximum recovery of infecting strains. We have experience that at least 1 NEQAS *B. pertussis* took longer than 7 days to be visible on Charcoal Media. I have attached a paper describing the recovery rate vs time of incubation for Bordetella. Our method is to culture for 12 days based on this paper - case ascertainment by culture is poor enough without missing significant numbers through insufficient culture time.			
Evidence			
Reference supplied: Journal of Clinical Microbiology June 1996 p 1563-1564Extended Incubation of Culture Plates Improves Recovery of Bordetella spp. Gary Katzko, Marianna Hofmeister, Deirdre Church.			
Recommended Action	**NONE** Expert advice from the reference laboratory at Colindale		

	indicates that 7 days is adequate. The majority of isolates grow within 5 days of incubation.

Comment Number	2		
Date Received	21/11/2013	**Lab Name**	Microbiology at North Devon District Hospital
Section	2.7		
Comment			
Reference here is to use BSAC Guidelines for antimicrobial testing but I was not aware that there is a way of performing antimicrobial testing.			
Evidence			
BSAC Methods for Antimicrobial Susceptibility testing volume 12 May 2013.			
Recommended Action	**ACCEPT** Reference to BSAC has been removed.		

Comment Number	3		
Date Received	06/12/2013	**Lab Name**	PHL Bristol
Section	Title page		
Comment			
Since this document provides a standard method only for culture-based detection and antimicrobial sensitivity testing, and not PCR or serological testing, the title should be revised to reflect this. As it is, it is misleading.			
Recommended Action	**ACCEPT** The title has been changed to 'Culture of specimens for *Bordetella pertussis* and *Bordetella parapertussis'.*		

Comment Number	4		
Date Received	19/12/2013	**Lab Name**	Aberdeen Royal Infirmary
Section	Introduction		
Comment			
With culture sensitivity stated in the draft SMI to be as low as 20% (it is much lower than this in Aberdeen), we think it is time to stop retaining the view that culture is the gold standard for diagnosis of *Bordetella pertussis* . The SMI should be amended to reflect this, with culture retained where sensitivity testing is required and PCR used as the routine method of detection in respiratory samples.			

Evidence	
As stated in the draft document, PCR is sensitive, specific and rapid.	
Financial barriers	
As the draft SMI recommends considering testing for respiratory viruses, if this is done, the change to testing for pertussis by PCR might cost less.	
Recommended Action	**NONE** The working group agreed that the culture method was relevant with rapid methods available where necessary.

RESPONDENTS INDICATING THEY WERE HAPPY WITH THE CONTENTS OF THE DOCUMENT

Overall number of comments: 4			
Date Received	06/12/2013	**Lab Name**	Public Health Wales, Rhyl laboratory
Date Received	10/12/2013	**Lab name**	Microbiology Dept. CPL, St James Hosp, Dublin 8 Ireland
Date Received	17/12/2013	**Lab Name**	Clinical Evidence & Effectiveness
Date Received	18/12/2013	**Lab Name**	Virology Laboratory, Aberdeen Royal Infirmary