Public Health England

Protecting and improving the nation's health

# UK Standards for Microbiology Investigations

## **Review of Users' Comments** received by
## Joint Working Group for Syndromic Algorithms

## S 2 Pneumonia



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

Issued by the Standards Unit, Microbiology Services, PHE



RUC | S 2 | Issue no: 1 | Issue date: 24.08.15

**1st Consultation: 08/01/2010 – 05/02/2010**

**PROPOSAL FOR CHANGES**

| **Comment Number** | 1 | | |
|---|---|---|---|
| **Date Received** | 15/01/2010 | **Lab Name** | Royal Devon & Exeter Hospital |
| **Section** | Whole document | | |
| **Comment** | | | |
| a. I appreciate that it is logical to separate immunocompetent and immunocompromised but I feel it must be stressed that this is not rigid. For example, patients not known to be HIV infected and without recognised risk factors can present with pneumocystis pneumonia.<br>b. In the two algorithms both serology and PCR are included for Mycoplasma and Chlamydia. I think it should be made clear that PCR is preferred if available and that to do both is unnecessary - if we take on expensive new tests we have to drop the inferior existing tests.<br>c. I was rather startled by the idea of HSV and CMV PCR being something one would do on patients who were not immunocompromised. If this is correct I think it needs a foot-note to explain what the indications are.<br>d. I understand the colour coding for investigations but at times it leads to difficulties, for example with pneumocystis, isolation is an inappropriate term. The options are either antigen detection by IF or DNA detection by PCR.<br>e. I think lung biopsy should be mentioned. Certainly in some problem patients this can give the answer when all else has failed. I also think that, given that these algorithms are "joined up clinically" rather than being mere bench manuals, there should be a recognition that some patients who present with "pneumonia" may have other diagnoses such as vasculitis or cancer as the cause of their lung disease. | | | |
| **Recommended Action** | a. **ACCEPT**<br>The SMI (formerly NSM) has been amended to include footnote to cover pneumocystis pneumonia in patients without risk factors.<br>b. **ACCEPT**<br>The SMI (formerly NSM) has been amended with a footnote.<br>c. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>d. **ACCEPT**<br>The SMI (formerly NSM) has been amended to indicate immunofluorescence and/or PCR testing for *Pneumocystis jirovecii*.<br>e. **ACCEPT** | | |

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| | The SMI (formerly NSM) has been amended to include a footnote to cover lung biopsies, vasculitis and cancer. |

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| **Comment Number** | 2 | | |
| **Date Received** | 02/02/2015 | **Lab Name** | Royal Cornwall Hospital NHS Trust |
| **Section** | Page 6 | | |
| **Comment** | | | |
| Investigation of *Pneumocystis jirovecii* - our laboratory do not culture for this isolate. Histological staining is performed. A comment to the alternative testing methods would be appropriate. | | | |
| **Recommended Action** | **ACCEPT**<br>The SMI (formerly NSM) has been amended to indicate immunofluorescence or PCR testing for *Pneumocystis jirovecii*. | | |

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| **Comment Number** | 3 | | |
| **Date Received** | 04/02/2015 | **Lab Name** | Royal Preston Hospital |
| **Section** | All | | |
| **Comment** | | | |

a. The title should perhaps be, "Lower Respiratory tract infection (LRTI) in adults."
b. On page five, we disagreed with the statement which suggested that the common cold is a LRTI.
c. We felt that the categories of LRTI should include moderate severity with the investigations, which are indicated, brought in line with the British Thoracic society's recommendations.
d. We felt that Blood cultures are indicated for severe LRTI irrespective of the presence of pyrexia.
e. In the document, the symbols, "e" in particular, are difficult to read.
f. In an immunocompetent adult we would not normally do a viral PCR, except when pandemic influenza is circulating.
g. We don't do legionella culture in our laboratory routinely for severe LRTI. We perform this if other tests, clinical details, suggest infection with this agent.
h. On a BAL, we would only do CMV and HSV PCR if the patient is immunocompromised.
i. We don't do Legionella PCR on BALs or pleural fluids.
j. For immunocompromised patients, the categories of LRTI only includes

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| mild/severe. We suggest changing this to mild/moderate/severe.<br>k. Under the heading "Blood," we would add:<br>i. CMV PCR<br>ii. HSV PCR<br>iii. Cryptococcal antigen, galactomannan<br>l. We questioned why a serology investigation was placed under the heading, "respiratory sample."<br>m. We don't perform Legionella PCR. | |
| **Recommended Action** | a. **NONE**<br>The title of the syndromic algorithm has been changed to 'Pneumonia'. It is intended to deal specifically with pneumonia.<br>b. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>c. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>d. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>e. **NONE**<br>This is unavoidable as footnotes are required.<br>f. **NONE**<br>Other viruses are important (directly as a pathogen, preceding pathogen and inform infection control actions) in these cases and should be considered.<br>g. **NONE**<br>Legionella PCR should be considered as a secondary test.<br>h. **ACCEPT**<br>The SMI (formerly NSM) has been amended to remove CMV and HSV PCR as a secondary test on an immunocompetent adult.<br>i. **ACCEPT**<br>The SMI (formerly NSM) has been amended to include arrow and spacing to indicate Legionella PCR as a secondary test.<br>j. **ACCEPT**<br>The SMI has been amended.<br>k.<br>i. **ACCEPT** |

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| | The SMI (formerly NSM) has been amended to include CMV PCR as a secondary test.<br>ii. **NONE**<br>Not necessary.<br>iii. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>l. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>m. **NONE**<br>The SMI (formerly NSM) has been amended to include arrow and spacing to indicate Legionella PCR as a secondary test. |

**2nd Consultation: 02/07/2010 – 06/08/2010**

**PROPOSAL FOR CHANGES**

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| **Comment Number** | 1 | | |
| **Date Received** | 12/07/2010 | **Lab Name** | Imperial College Healthcare |
| **Section** | Page 6, Pneumonia in Immunocompromised Adults | | |
| **Comment** | | | |
| Under the BAL column, I would prefer to see "HSV and CMV qualitative PCR" (rather than "quantitative"), as quantitative would need to be per cell rather than per volume of BAL, due to the highly variable nature of this specimen type (as opposed to blood). Furthermore, the clinical usefulness of quantitating, in principle, in this specimen type is in my opinion doubtful. We would normally request a blood sample for quantitation if clinically relevant.<br>To my knowledge, there is a lack of evidence for the clinical usefulness of quantitation in BAL samples. | | | |
| **Recommended Action** | **ACCEPT**<br>The SMI (formerly NSM) has been amended to remove the term ‘quantitative’ from CMV PCR. | | |

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| **Comment Number** | 2 | | |
| **Date Received** | 02/08/2010 | **Lab Name** | Aberdeen Royal Infirmary |
| **Section** | Whole document | | |
| **Comment** | | | |
| a. Pages 5 and 6 text above flowchart: insert "bacterial" before "samples" on last | | | |

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| lines. Collection of samples for virology is not influenced by antibiotics.<br>b. Pages 5 & 6 flowcharts:<br>i. Change *Mycoplasma* sp to *Mycoplasma pneumoniae*. We agree with footnote c saying CFT for *M. pneumoniae* is being replaced by PCR. As labs stop doing CFT, what should be done for *Chlamydia* sp serology? We have been in email correspondence with the Respiratory & Systemic Infection Lab at MS Colindale (formerly CfI). They say they cannot recommend (and do not use) any serological assay for *M. pneumoniae* and that there is no good alternative to CFT as a genus-specific test for *C pneumoniae*, *psittaci* & *abortus*.<br>ii. Viral PCR screen: targets should be specified so as to discourage variation between centres as to what is included in the screens both for immunocompetent and immunocompromised patients.<br>c. Page 6: Investigation for *Pneumocystis jirovecii* should be by PCR, not EIA or isolation. | |
| **Recommended Action** | a. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>b.<br>i. **ACCEPT**<br>The SMI (formerly NSM) has been amended to *Mycoplasma pneumoniae*. Serology for *Chlamydophila* species is poorly specific. The SMI (formerly NSM) has been amended to include test for *Chlamydophila* species (*Chlamydophila psittaci* and *pneumoniae*) by PCR as a second line test.<br>ii. **ACCEPT**<br>The SMI (formerly NSM) has been amended to include a note to cover minimum targets based on local assessments.<br>c. **ACCEPT**<br>The SMI (formerly NSM) has been amended to indicate immunofluorescence or PCR testing for *Pneumocystis jirovecii*. |

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| **Comment Number** | 3 | | |
| **Date Received** | 06/08/2010 | **Lab Name** | University Hospital Bristol |
| **Section** | Immunocompromised adults | | |
| **Comment** | | | |
| a. Pneumonia - immunocompromised should have HSV and CMV PCR under | | | |

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| sputum as well as BAL.<br>b. Not sure PCP is EIA, more like immunofluorescence or microscopy and specific staining. | |
| **Recommended Action** | a. **ACCEPT**<br>The SMI (formerly NSM) has been amended to include CMV PCR and a note to state that literature on HSV and CMV by PCR testing is not clear for sputum specimens.<br>b. **ACCEPT**<br>The SMI (formerly NSM) has been amended to indicate immunofluorescence or PCR testing for *Pneumocystis jirovecii*. |

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| **Comment Number** | 4 | | |
| **Date Received** | 08/08/2010 | **Lab Name** | Public Health Wales - Health Protection |
| **Section** | Page 5 & Page 6 | | |
| **Comment** | | | |
| a. Page 5: Has the value of PCR for *Chlamydia* species in respiratory samples been established and is there a standard methodology? Which species of chlamydia should be detected and how do you differentiate them. Is it useful to detect *Chlamydia pneumoniae*?<br>b. Page 6 HSV and CMV quantitative PCR on BALs - I don't believe the value of this has yet been established and have no data on how the results should be interpreted. | | | |
| **Recommended Action** | a. **NONE**<br>CFT is only available as a *Chlamydophila* group antigen. Serology for *Chlamydophila* species is poorly specific. The SMI (formerly NSM) has been amended to include test for *Chlamydophila* species (*Chlamydophila psittaci* and *pneumoniae*) by PCR as a second line test.<br>b. **PARTIAL ACCEPT**<br>The SMI (formerly NSM) has been amended to include CMV PCR and a note to state that literature on HSV by PCR testing is not clear for BAL specimens. PCR testing for CMV is established. | | |

**COMMENTS RECEIVED OUTSIDE OF CONSULTATIONS**

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| **Comment Number** | 1 | | |
| **Date Received** | 08/02/2010 | **Lab Name** | SEMSTAG |

| Section | All |
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| **Comment** | |
| a. A distinction needs to be made between which samples you must have and which ones you would like to have.<br>b. A clearer distinction between primary and secondary testing is needed. Legionella PCR should be a secondary test, as it is not considered routine in most laboratories.<br>c. Antibiotic should be replaced with antimicrobial.<br>d. Footnote h next to CURB-65 should refer to footnote b.<br>e. The urine antigen test should not have the colour for serology.<br>f. Parasites are missing from the document and should be considered in certain cases.<br>g. Culture would not be carried out on Pneumocystis. | |
| **Recommended Action** | a. **NONE**<br>The algorithm lists samples required for appropriate testing. The footnotes will describe the circumstances where the preferred samples are not available.<br>b. **ACCEPT**<br>The SMI (formerly NSM) has been amended to include arrow and spacing to indicate Legionella PCR as a secondary test.<br>c. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>d. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>e. **ACCEPT**<br>The SMI (formerly NSM) has been amended.<br>f. **ACCEPT**<br>The SMI (formerly NSM) has been amended to include a footnote for rare causes of pneumonia.<br>g. **ACCEPT**<br>The SMI (formerly NSM) has been amended to indicate immunofluorescence or PCR testing for *Pneumocystis jirovecii*. |