

ATYPICAL PNEUMONIA TESTING by POLYMERASE CHAIN REACTION (PCR)

Community-acquired pneumonia (CAP) is one of the most common infectious diseases and is an important cause of morbidity and mortality worldwide. Atypical CAP represents approximately 15% of all CAP cases.

Common pathogens seen in atypical CAP may include *Mycoplasma pneumoniae*, *Chlamydomphila pneumoniae*, and *Legionella* species. These organisms are difficult to identify by conventional tests. Culture may take up to six weeks, requires special media and expertise, and is insensitive and prone to contamination. Rapid, accurate testing is important to assure appropriate treatment in a timely manner.

The following single and combination Nucleic Acid Amplified Tests (NAAT) are performed in Microbiology. Testing will be performed at least three times per week using Real Time Polymerase Chain Reaction (PCR) technology. Please note that as demand increases, testing schedules may be adjusted to ensure appropriate turnaround time.

COMBINATION TESTS:

Atypical Pneumonia NAAT

- Includes *Mycoplasma pneumoniae*, *Chlamydomphila pneumoniae*, and *Legionella pneumophila/Tatlockia (Legionella) micdadei*

Mycoplasma and Chlamydomphila NAAT

- Includes *M. pneumoniae* and *C. pneumoniae*

SINGLE TESTS:

Mycoplasma pneumoniae NAAT

- *M. pneumoniae* usually causes upper respiratory tract infections with fever, cough, malaise, and headache. Tracheobronchitis with fever and nonproductive cough may also occur. Pneumonia is seen in 5-15 % of *Mycoplasma* infections.
- Persons of all ages are at risk but rarely children less than 5 years old. It is the leading cause of pneumonia in school-age children and young adults.

Chlamydomphila pneumoniae NAAT

- *C. pneumoniae* may cause pneumonia or bronchitis with a gradual onset of cough with little or no fever. Less common presentations are pharyngitis, laryngitis, and sinusitis. The spectrum of illness can range from asymptomatic infection to severe disease.
- Infections are most often seen in school-aged children.

Legionella pneumophila/Tatlockia (Legionella) micdadei NAAT

- The symptoms of Legionnaires' disease are similar to many other forms of pneumonia and may include: high fever, chills, and cough. Muscle aches and headache are also common.
- Persons of all ages are at risk, but the elderly and those with compromised immune systems are at risk for more severe disease.

For questions or additional information, please call:

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*****PLEASE REFER TO THE ATTACHED TABLE FOR ADDITIONAL INFORMATION*****

ATYPICAL PNEUMONIA TESTING BY REAL TIME PCR

TEST	MNEMONIC TEST CODE	CPT CODE	PATHOGENS DETECTED	COLLECTION ¹	SENSITIVITY
Atypical pneumonia NAAT	PNEUMONAAT 7000075	87581, 87486, 87541, 87798	<ul style="list-style-type: none"> • <i>M. pneumoniae</i> • <i>C. pneumoniae</i> • <i>L. pneumophila</i> • <i>T. micdadei</i> 	1 fluid specimen in sterile container OR 2 swab specimens: <ul style="list-style-type: none"> • 1 Swab in M4 or M6 Viral Transport Media AND <ul style="list-style-type: none"> • 1 Swab in Liquid Stuart's or Liquid Amies bacterial transport media. 	92-100%
<i>Mycoplasma pneumoniae/Chlamydomphila pneumoniae</i> NAAT	CHLMYCNAAT 7000070	87581, 87486	<ul style="list-style-type: none"> • <i>M. pneumoniae</i> • <i>C. pneumoniae</i> 	1 fluid specimen in sterile container OR 1 swab specimen: <ul style="list-style-type: none"> • 1 Swab in M4 or M6 Viral Transport Media 	99-100%
<i>Mycoplasma pneumoniae</i> NAAT	MYCOP NAAT 7000038	87581	<ul style="list-style-type: none"> • <i>M. pneumoniae</i> 	1 fluid specimen in sterile container OR 1 swab specimen: <ul style="list-style-type: none"> • 1 Swab in M4 or M6 Viral Transport Media 	99-100%
<i>Chlamydomphila pneumoniae</i> NAAT	CHLPNENAAT 7000060	87486	<ul style="list-style-type: none"> • <i>C. pneumoniae</i> 	1 fluid specimen in sterile container OR 1 swab specimen: <ul style="list-style-type: none"> • 1 Swab in M4 or M6 Viral Transport Media 	100%
<i>Legionella pneumophila/Tatlockia micdadei</i> NAAT	LEGIONNAAT 7000065	87541, 87798	<ul style="list-style-type: none"> • <i>L. pneumophila</i> • <i>T. micdadei</i> 	1 fluid specimen in sterile container OR 1 swab specimen: <ul style="list-style-type: none"> • 1 Swab in Liquid Stuart's or Liquid Amies bacterial transport media 	92-100%

¹Swab specimens for *M. pneumoniae* and *C. pneumoniae* require Viral Transport media. Swab specimens for *L. pneumophila* and *T. micdadei* require Bacterial Transport media. For PNEUMONAAT testing, please submit one swab in each transport media. See boxes below for acceptable specimen types and transport media.

ACCEPTABLE SPECIMEN TYPES

Fluid Specimens:

- Bronchial Alveolar Lavage (BAL)
- Bronchial Wash
- Nasal Aspirate
- Nasal Wash
- Sputum

Swab Specimens:

- Nasopharyngeal (NP) swab
- Throat swab (**unacceptable for LEGIONNAAT**)

ACCEPTABLE SPECIMEN TRANSPORT

M. pneumoniae, C. pneumoniae:

- M4 Viral Transport medium
- M6 Viral Transport medium
- Sterile container (fluid specimens only)

L. pneumophila/T. micdadei:

- Liquid Stuart's Mini-tip (dark green cap)
- Sterile container (fluid specimens only)

Store and transport specimens refrigerated