



BIONEXT

LABORATOIRE LUXEMBOURGEOIS
D'ANALYSES MÉDICALES



RESPIRATORY INFECTIONS IN ADULTS AND CHILDREN

Since the autumn of 2023, there has been an **increase** in cases of **infection with *Mycoplasma pneumoniae*** in Europe.

Mycoplasma pneumoniae is a bacterium known as “atypical”, which is responsible for infections in the upper or lower respiratory tracts. It is **very frequent in children above the age of 4 and young adults**, and is the second cause for acute community-acquired pneumonia (CAP) of bacterial origin. Transmission between humans is via droplets and the incubation period is 1 to 3 weeks in general.

Its symptoms are variable. A physician may make a clinical diagnosis in the presence of pulmonary disease, particularly if it is associated with muscle pain, dermatological lesions and hepatic cytolysis, particularly in an epidemic situation.

The diagnosis is to be confirmed by a PCR test on a nasal-pharyngeal swab or expectoration.

The first-line treatment for the condition is based on **macrolide-based probabilistic antibiotic therapy**, in monotherapy according to the recommended dosages.

In spite of the epidemic situation, other etiologies, viruses or bacteria, must also be tested

Indications	Preferred method	Benefits	Return time
Pneumonia known as “atypical” ¹ ----- Pneumonia of viral origin ²	PCR nasal-pharyngeal swab or expectoration	Se > 95% Sp ~ 100%	24 hours
Legionnaires' disease ³	<u>First-line action</u> Antigen testing Urine	Se ~ 95% Sp ~ 95%	< 12 hours
	<u>Second-line action</u> Culture Expectoration	• Certainty diagnosis • Identification of species other than <i>L. pneumophila</i> • Epidemiology	7 - 15 days
Pneumonia of bacterial origin Exacerbation of chronic obstructive pulmonary disease (COPD) ⁴	Culture Expectoration	Antibiogram	48 to 72 hours

1. *Mycoplasma pneumoniae*
Chlamydia pneumoniae
Bordetella pertussis

2. Influenza A and B viruses
SARS-COV-2
RSV

3. *Legionella pneumophila*

4. *Streptococcus pneumoniae*
Haemophilus influenzae
Staphylococcus aureus
Moraxella catarrhalis

And serology tests?

These are no longer of interest for diagnosing acute cases since the availability of **reliable PCR techniques that allow rapid diagnosis**.

They have several drawbacks:

- *Need to test two samples spaced by one to two weeks*
- *Lack of specificity (many cross reactions)*
- *Difficulty of interpretation: absence of IgM does not rule out infection or repeat infection*

The diagnosis is thus made retrospectively. For *M. pneumoniae* IgM are often absent in adults, particularly in repeat infections, where diagnosis is based on an increase in IgG value in 2 serums samples taken 2 weeks apart.

In practice Prescription?

- PCR for a target pathogen
or
- PCR for respiratory pathogens (bacteria and/or viruses)
- BIONEXT récupère vos prélèvements au cabinet tous les jours, pour plus d'informations :

☎ 27 321 285

✉ bio@bionext.lu



Key points

- ✓ *Mycoplasma pneumoniae*
Chlamydia pneumoniae
- ✓ Influenza, RSV, COVID-19
Allows differential diagnosis
- ✓ Suspected bacterial pulmonary
infection Cultures continue to be used
- ✓ Serology is not suitable for diagnosing acute
infections
- ✓ Only one sample for all PCR tests
- ✓ All these tests are covered by CNS

PCR

Multiplex PCR

Culture

Anytime, Anywhere

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laboratories in Luxembourg



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