

# B·R·A·H·M·S PCT

Procalcitonin (PCT) Reference Values  
in Neonatology



## Neonatal Early Onset Sepsis (EOS)<sup>1</sup>

PCT guidance to discontinue antibiotic therapy

Risk stratification = Risk assessment score + Neonatal blood culture result

### Risk assessment

Advised within 12 hrs of initiation of antibiotic therapy

Max score = 3

#### Risk factors

Check box if positive

1 Mother Group B streptococcus positive	<input type="checkbox"/>	
2 Maternal chorioamnionitis (fever >38.5, fetal tachycardia)	<input type="checkbox"/>	
3 Premature rupture membranes >18 hours	<input type="checkbox"/>	
4 Gestational age <37 weeks	<input type="checkbox"/>	A =
0 boxes checked? Score = 0   ≥1 box checked? Score = 1 → 0/1		

#### Clinical symptoms

Check box if positive

1 Respiratory distress or apnoea	<input type="checkbox"/>	
2 Tachycardia or bradycardia	<input type="checkbox"/>	
3 Arterial hypotension and/or poor perfusion	<input type="checkbox"/>	
4 Hypothermia or hyperthermia	<input type="checkbox"/>	
5 Seizure, floppy infant, irritability, or lethargy	<input type="checkbox"/>	
6 Vomiting or feeding intolerance or ileus	<input type="checkbox"/>	B =
0 boxes checked? Score = 0   ≥1 box checked? Score = 1 → 0/1		

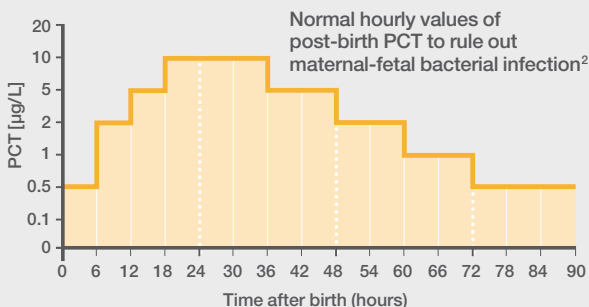
#### Laboratory findings

Check box if abnormal

1 White blood cells <5x10 <sup>9</sup> cells per L	<input type="checkbox"/>	
2 C-reactive protein >10 mg/L	<input type="checkbox"/>	C =
0 boxes checked? Score = 0   ≥1 box checked? Score = 1 → 0/1		

**Calculate total risk score A+B+C → 0-3**

Blood culture	Total risk score	Risk stratification category	Duration of antibiotic therapy
Neg	0/1	4: Infection unlikely (low risk)	<b>PCT guidance</b> <ul style="list-style-type: none"> <li>• First PCT measurement* as early as possible</li> <li>• Repeat PCT measurement (every 24 hrs is recommended)</li> </ul> <b>Continue</b> antibiotic therapy at least 24 hrs. <b>STOP</b> after 2 consecutive PCT values are within range.
Neg	2	3: Infection possible (medium risk)	
Neg	3	2: Infection probable (high risk)	Continue, as per guidelines
Pos	≥1	1: Infection proven	



\* PCT can be measured in the venous blood including venous blood from the umbilical cord, for detecting early onset neonatal sepsis.<sup>3</sup>

## Neonatal Late Onset Sepsis<sup>4</sup>

**PCT <0.5 µg/L**

Rules out nosocomial infection in neonatal ICUs with negative predictive value 94.6%

**References** **1** Stocker et al., Lancet 2017; 390: 871–81. **2** Stocker et al., Neonatology 2010; 97: 165-74. **3** Chiesa et al., Clin Chem 2003; 49(1): 60-8. **4** Isidor et al., Scand J Infect Dis 2007; 39: 1063-6.

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Find out more at [thermoscientific.com/procalcitonin](https://thermoscientific.com/procalcitonin)

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