

Ancillary Diagnostic Testing for Neonatal Sepsis

Hematological Indices

Performance of Hematologic Tests for Neonatal Sepsis				
Test	Sensitivity	Specificity	PPV	NPV
I:T > 0.15	96%	71%	25%	99%
or ↓ PMNs	96%	61%	20%	99%
I:M ≥ 0.3	93%	81%	32%	99%
Bands > 1500/μL	63%	69%	17%	95%
or ↓ WBC*	44%	92%	36%	94%
WBC degenerative Δ**	33%	95%	39%	93%
Platelets ≤ 150,000/μL	22%	99%	60%	93%

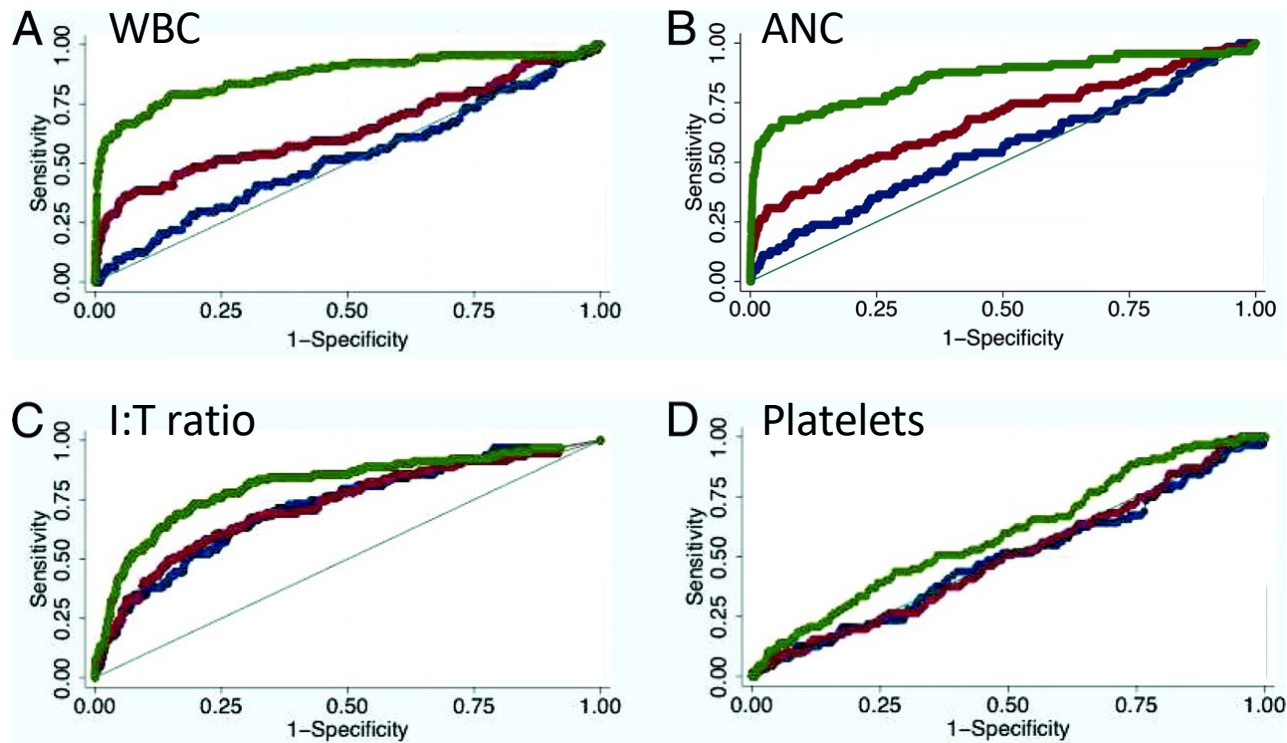
* WBC ≤ 5K or ≥ 25K, 30K, or 21K at birth, 12-24 hrs or after 24 hrs, respectively (#/μL)

** ≥ 3+ per Zipursky

Zipursky 1976, Rodwell 1988

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Hematological Indices Complete Blood Counts at ≤ 72 Hours of Age

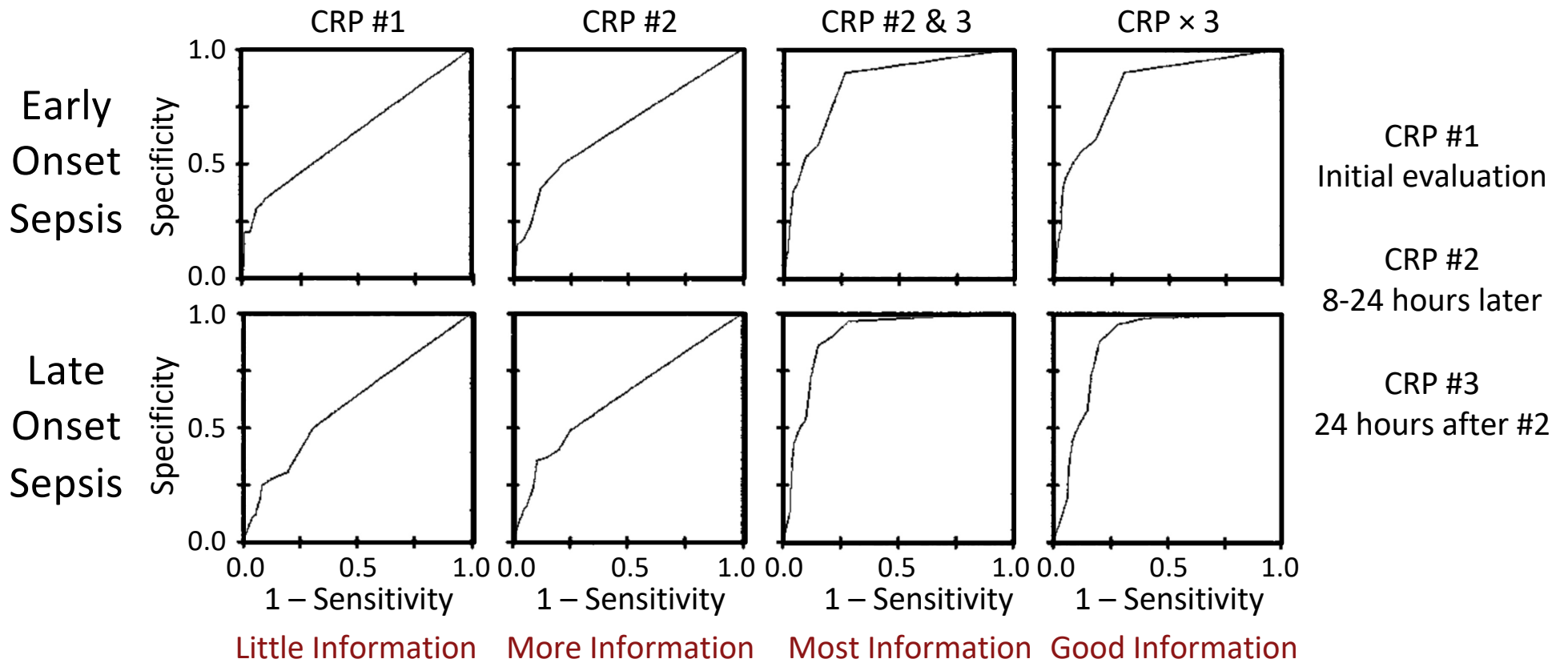


n = 67,623 including 245 sepsis cases

Newman 2010

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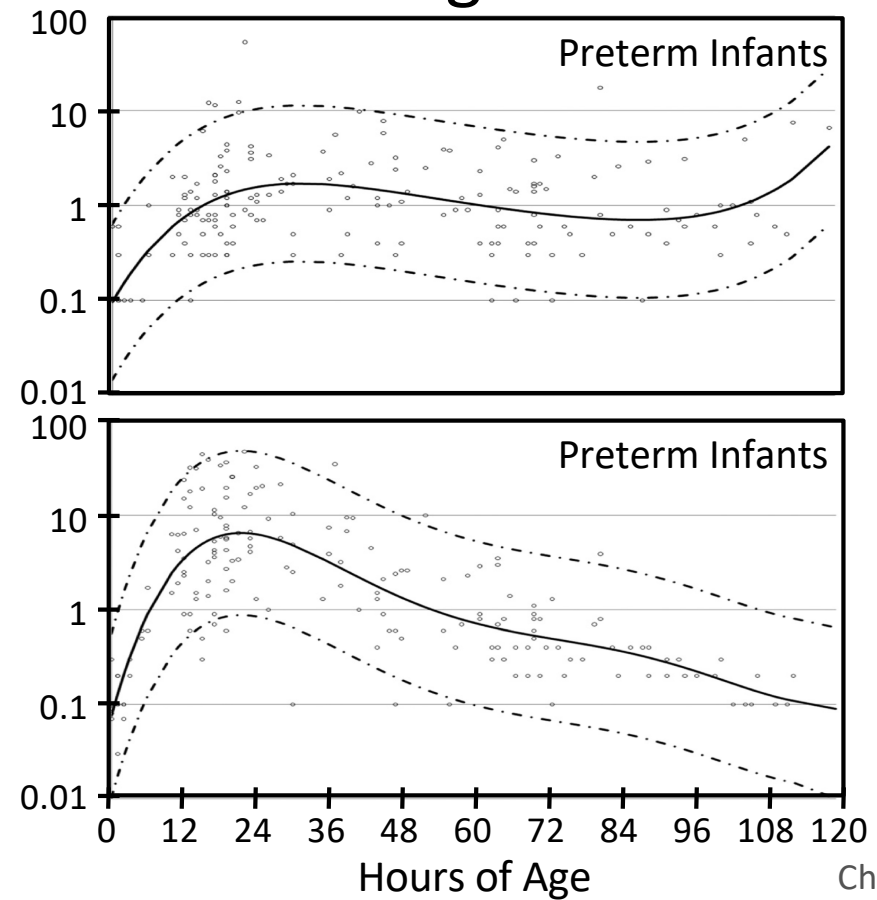
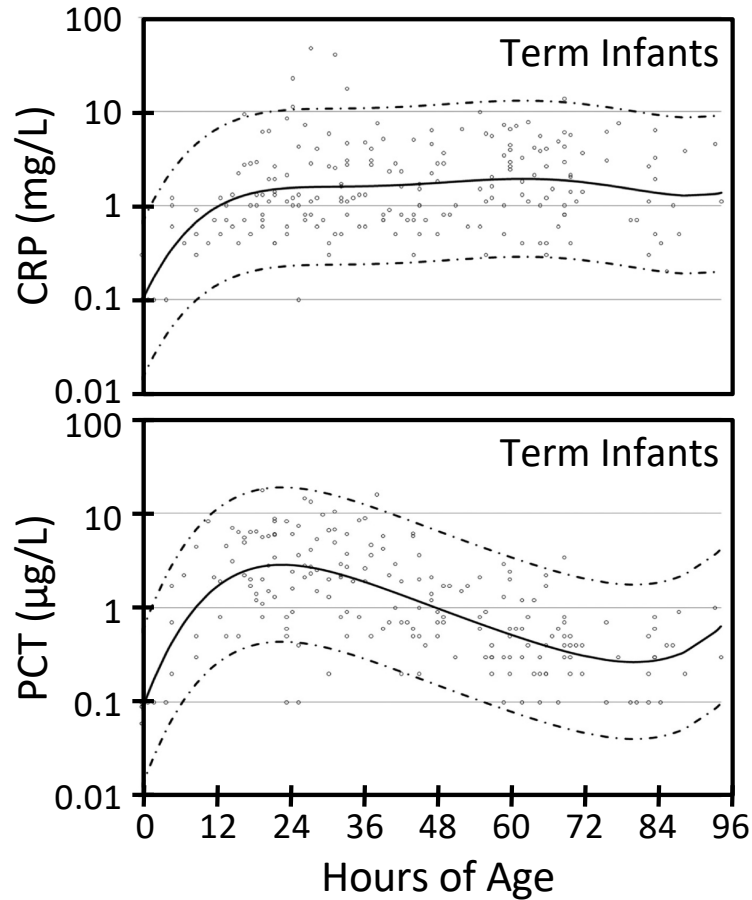
C-Reactive Protein



Benitz 1998

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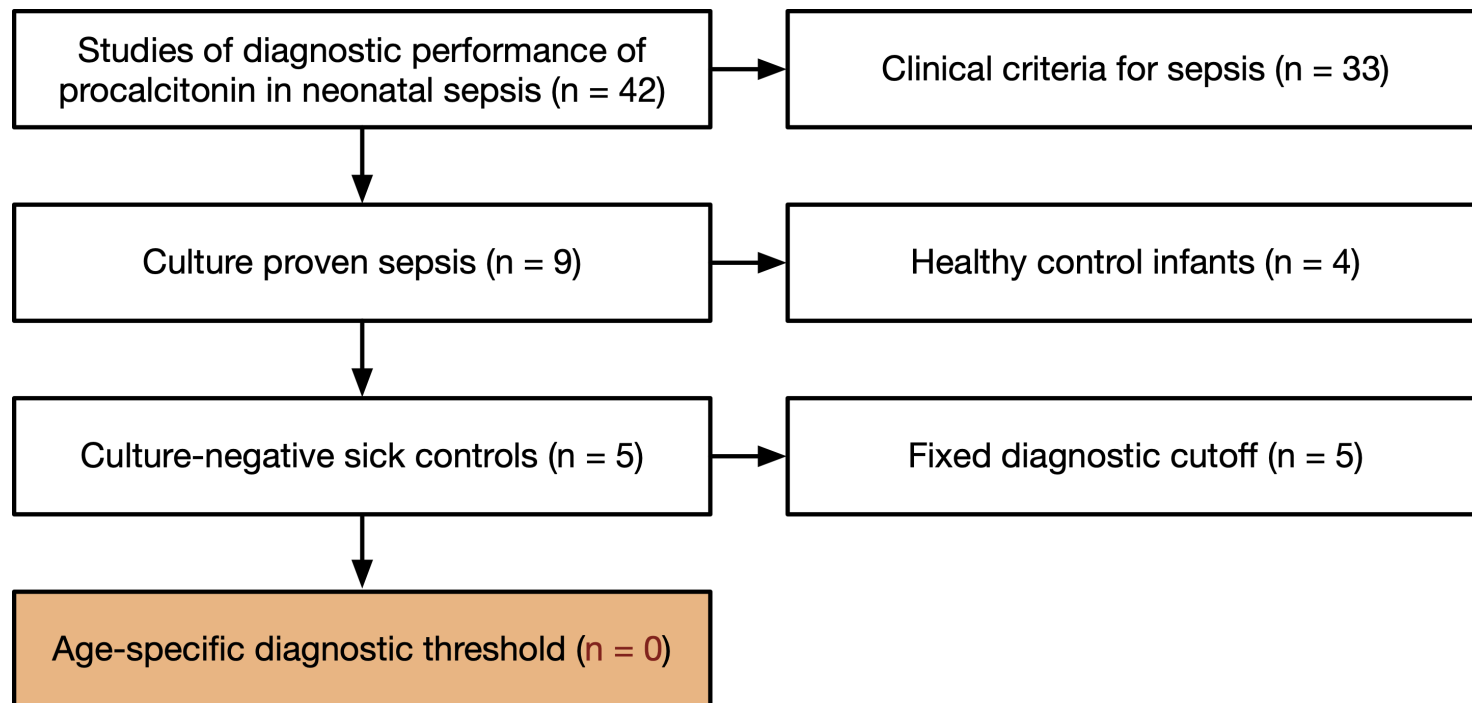
Procalcitonin: Normative Ranges



Chiesa 2011

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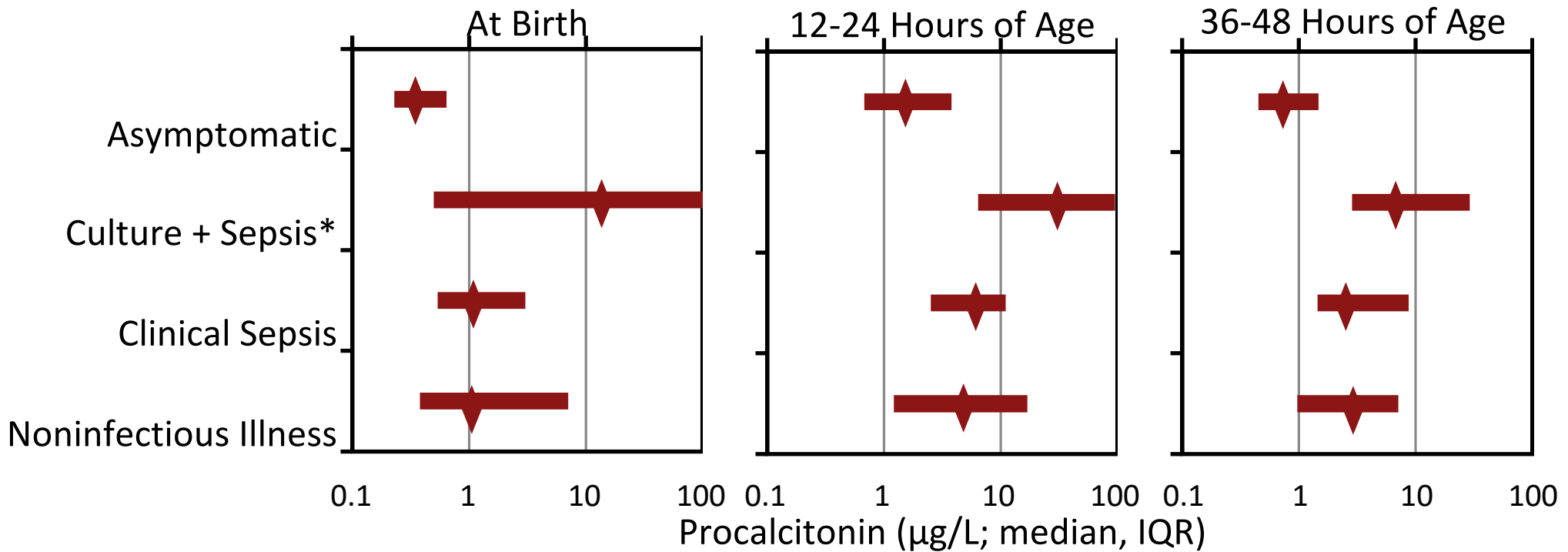
Procalcitonin Reports of Diagnostic Test Performance



Vouloumanou 2011, Chiesa 2015

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Procalcitonin in Early Onset Sepsis



* Significant difference from clinical sepsis group at birth (P = 0.006), 12-24 hrs (P = 0.002) and 36-48 hrs (P = 0.032).

Lopez Sastre 2007