



Sepsis: New Frontier of Diagnosis and Management



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Sepsis: Defining a Disease Continuum



Infection/
Trauma

SIRS

Sepsis

Severe Sepsis

A clinical response arising from a nonspecific insult, including ≥ 2 of the following:

- $T \geq 38.5^{\circ}\text{C}$ or $\leq 36^{\circ}\text{C}$
- $\text{HR} \geq 2\text{SD}$ for age or $\leq P10^{\text{th}}$
- $\text{RR} \geq 2\text{SD}$ for age
- WBC count abnormality or $>10\%$ immature neutrophils

SIRS with a presumed or confirmed infectious process

SIRS = Systemic Inflammatory Response Syndrome

Adapted from: Bone RC, et al. *Chest* 1992;101:1644
Opal SM, et al. *Crit Care Med* 2000;28:S81

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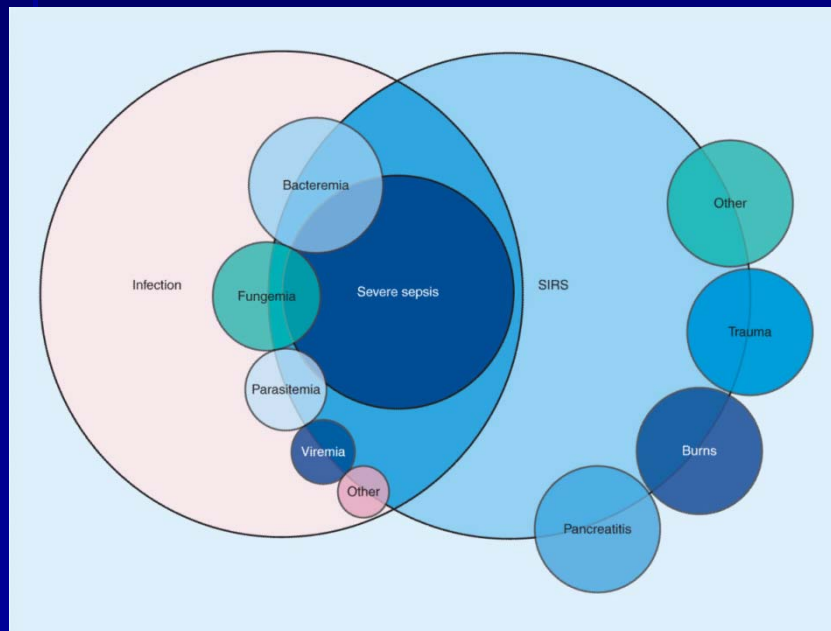


Infection/
Trauma

SIRS

Sepsis

Severe Sepsis



Sepsis with ≥ 1 sign of organ failure

Cardiovascular (refractory hypotension)

Renal

Respiratory

Hepatic

Hematologic

CNS

Metabolic acidosis

Shock

Pathophysiology

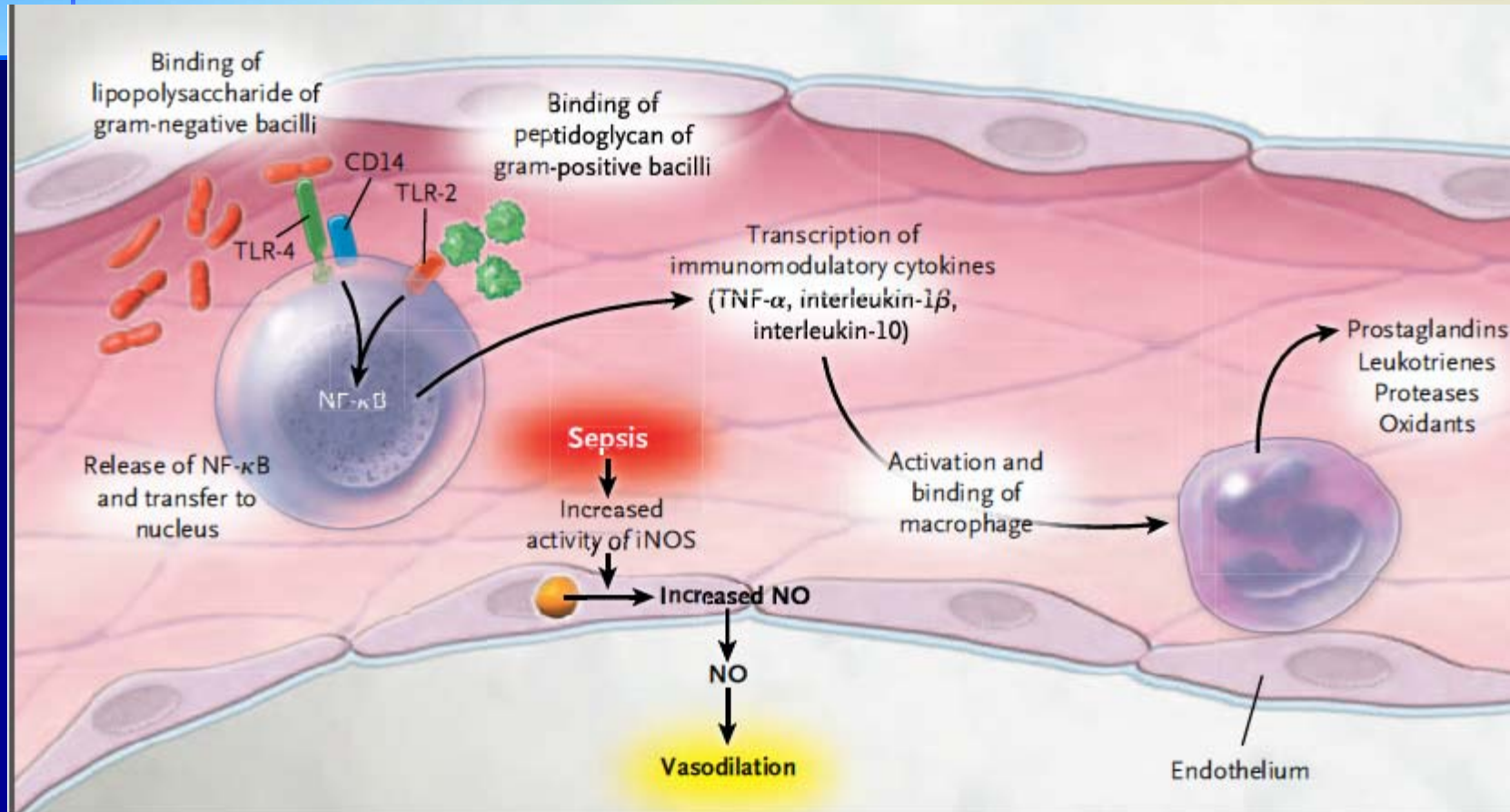


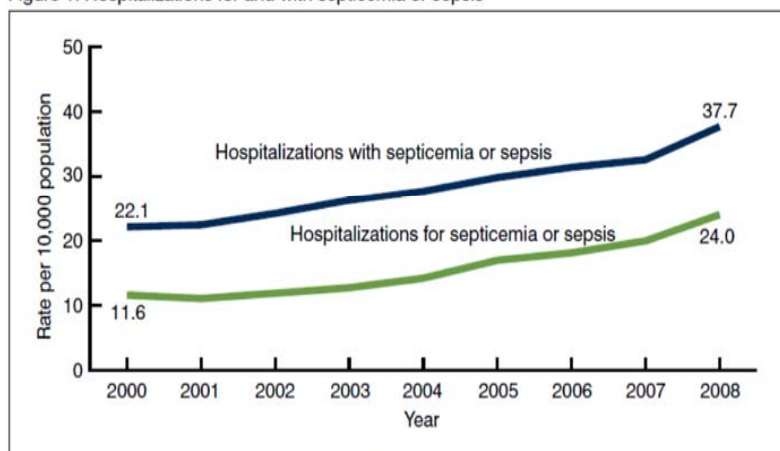
Figure 1. Inflammatory Responses to Sepsis.



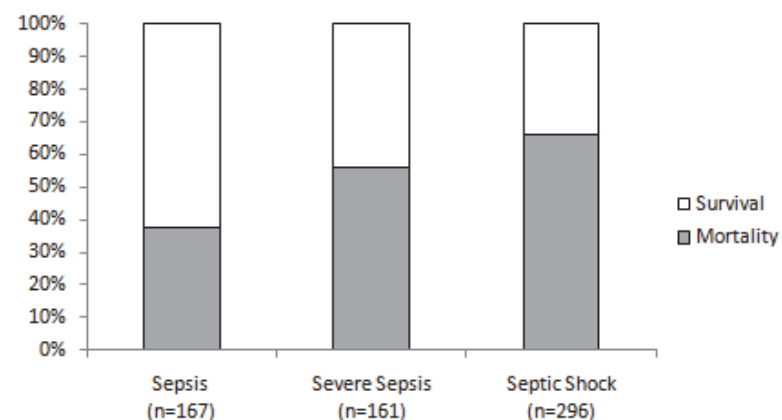
Why Focus on Sepsis?

Hospitalization rates for septicemia or sepsis more than doubled from 2000 through 2008.

Figure 1. Hospitalizations for and with septicemia or sepsis



NOTE: Significant linear trend from 2000 through 2008 for both categories.
SOURCE: CDC/NCHS, National Hospital Discharge Survey, 2000-2008.



Severe sepsis: 751,000 cases per year
 Septic shock: 200,000 cases per year
 Mortality: sepsis 10-20%
 severe sepsis 20-50%
 septic shock 40-80%

Hospital costs of sepsis have doubled⁴



Angus DC, et al. Crit Care Med. 2001; 29:1303-10.
Wenzel RP. N Engl J Med 2000; 343:1961-3.