

Sepsis 2024

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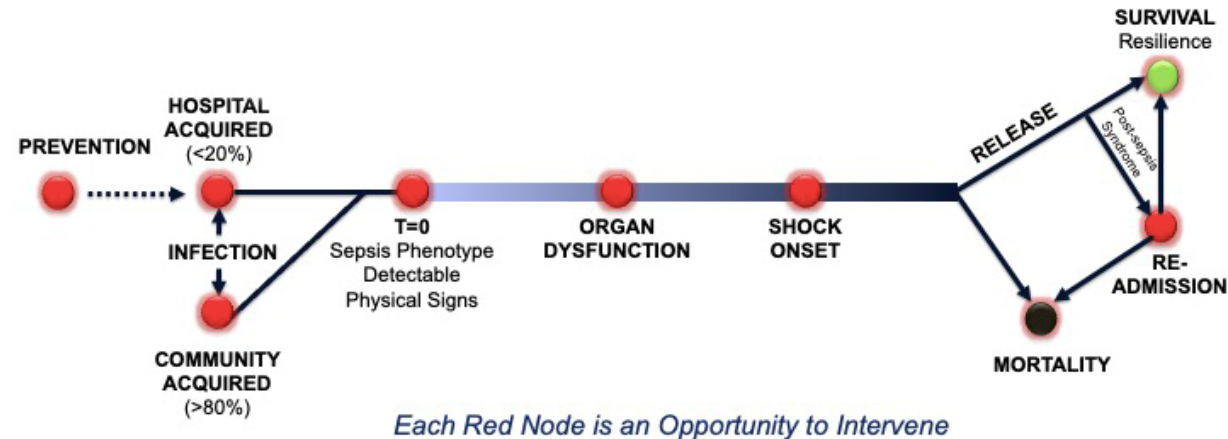
Sepsis Impact in the US each year

- More than 1.7 million people in the U.S develop sepsis ¹
- Nearly 270,000 adult Americans die as a result of sepsis ¹
- More than \$62 billion is spent on sepsis healthcare costs²

¹ <https://www.cdc.gov/sepsis/>

² [Buchman TG, Simpson SQ, Sciarretta KL, et al: Sepsis Among Medicare Beneficiaries: 3. The Methods, Models, and Forecasts of Sepsis, 2012-2018. Crit Care Med 2020; 48:302-318](#)

Sepsis as a national priority

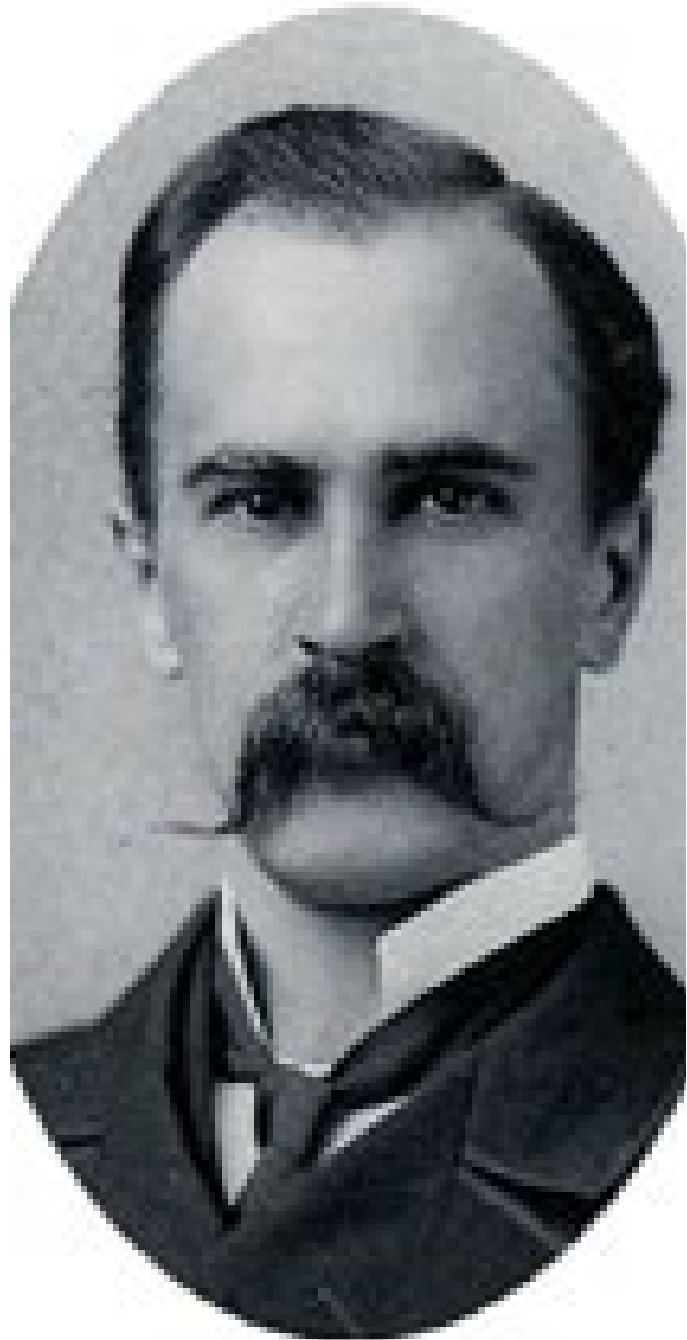


Biomedical **A**dvanced **R**esearch and **D**evelopment **A**uthority ([BARDA](#)), part of the **A**dministration for **S**trategic **P**reparedness and **R**esponse ([ASPR](#)), within the United States Department of **H**ealth and **H**uman **S**ervices ([HHS](#)).



**Pathophysiology
of Sepsis**

What do we need to know



*“Except on few occasions,
the patient appears to
die from
the body's response to
infection
rather than from it.”*

Sir William Osler – 1904

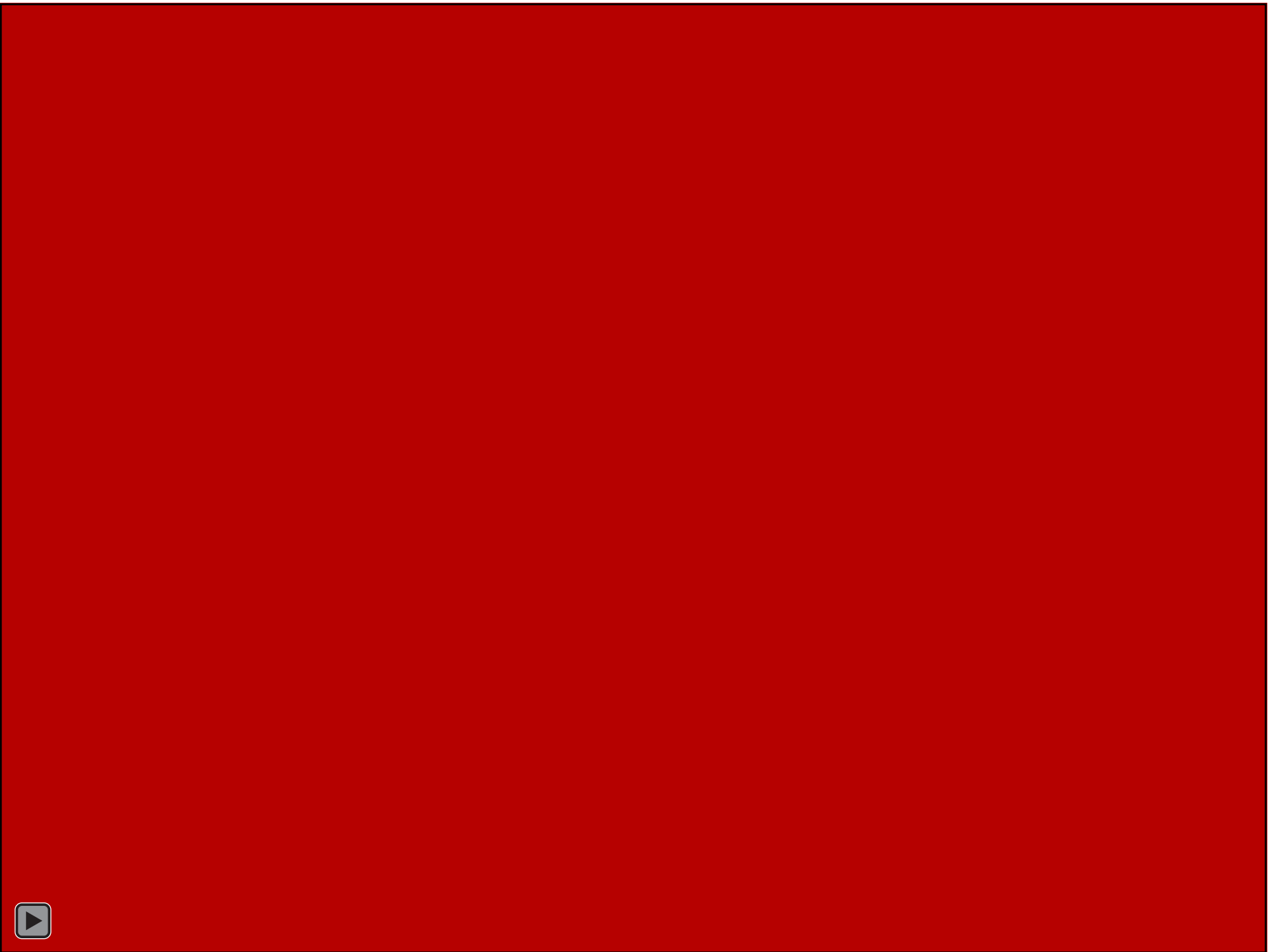
The Evolution of Modern Medicine

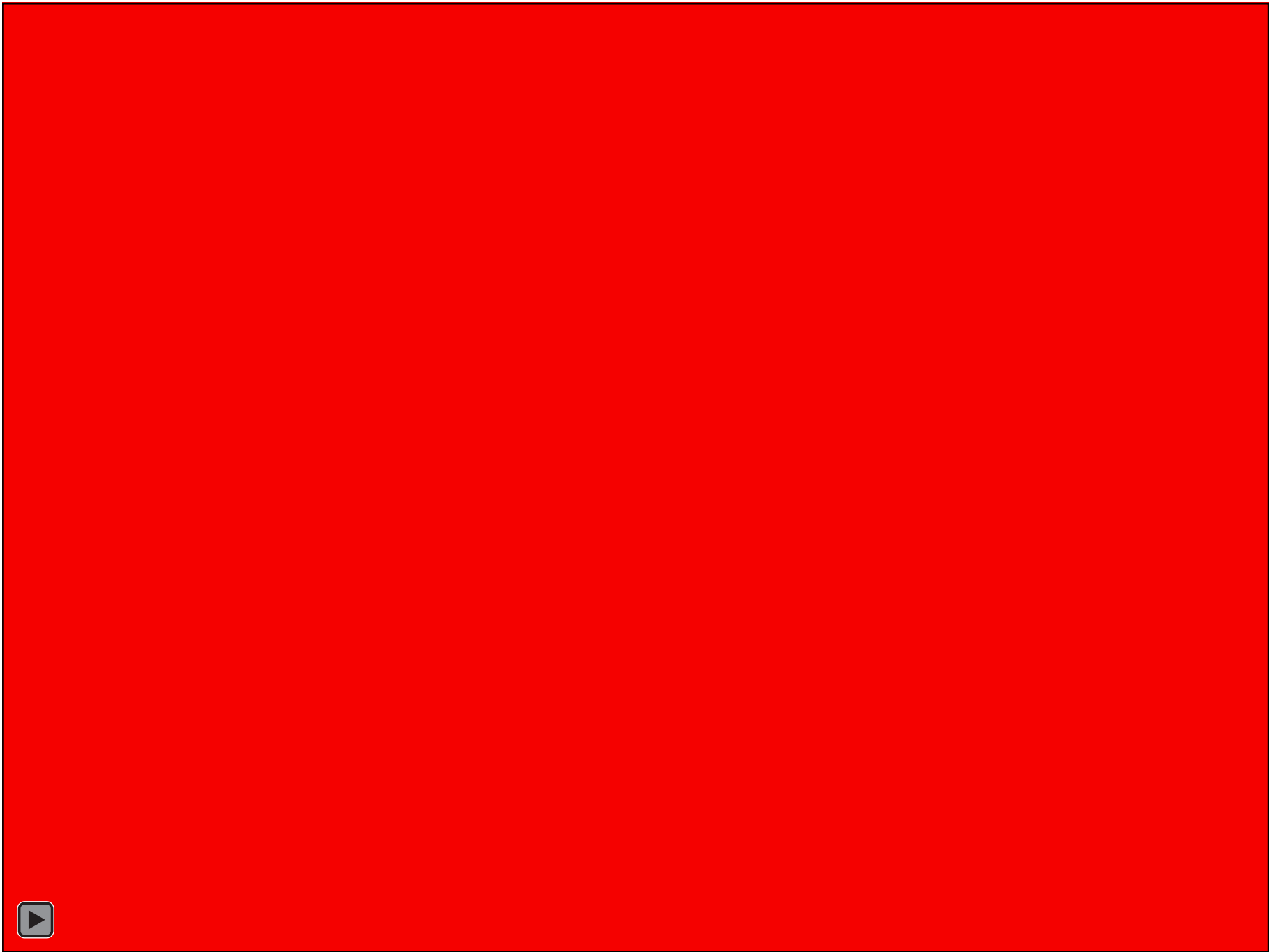
“Our arsenals for fighting off bacteria are so powerful, and involve so many different defense mechanisms, that we are more in danger from them than from the invaders.

“We live in the midst of explosive devices; we are mined!”

Lewis Thomas - 1972

Germs, New England Journal Of Medicine





5 second rule

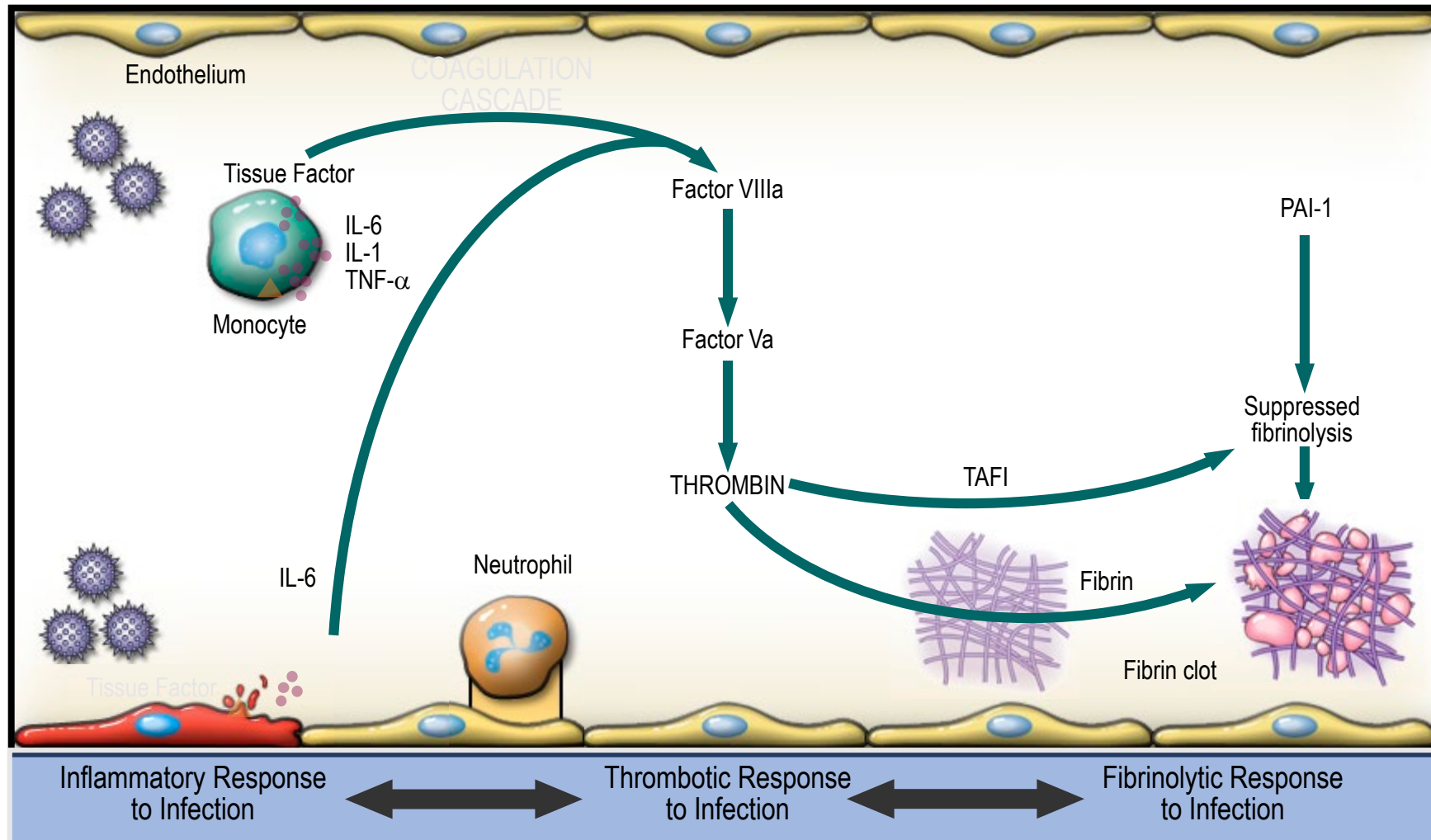


Immune Response





Coagulation and Impaired Fibrinolysis In Severe Sepsis



History of Treating Severe Sepsis

Clinical tx –antibiotics, fluids, vasopressors



The Surviving Sepsis Campaign Bundles

TO BE COMPLETED WITHIN 3 HOURS OF TIME OF PRESENTATION*:

1. Measure lactate level
2. Obtain blood cultures prior to administration of antibiotics
3. Administer broad spectrum antibiotics
4. Administer 30ml/kg crystalloid for hypotension or lactate ≥ 4 mmol/L

** "Time of presentation" is defined as the time of triage in the emergency department or, if presenting from another care venue, from the earliest chart annotation consistent with all elements of severe sepsis or septic shock ascertained through chart review.*

Remains the Same

TO BE COMPLETED WITHIN 6 HOURS OF TIME OF PRESENTATION:

5. Apply vasopressors (for hypotension that does not respond to initial fluid resuscitation) to maintain a mean arterial pressure (MAP) ≥ 65 mmHg
6. In the event of persistent hypotension after initial fluid administration (MAP < 65 mm Hg) or if initial lactate was ≥ 4 mmol/L, re-assess volume status and tissue perfusion and document findings according to Table 1.
7. Re-measure lactate if initial lactate elevated.

The background of the slide is a close-up, slightly blurred image of an electrocardiogram (ECG) strip. The grid is a light pink color, and the ECG trace is a dark blue line. The strip is oriented vertically, with the top of the image showing the beginning of a lead and the bottom showing the end. The overall color palette is soft and clinical, with shades of blue and pink.

Sepsis Prevention in Nursing Homes

- Early recognition
 - Systemic Inflammatory Response Syndrome
 - Heart rate
 - Respiratory rate
 - Temperature
 - Change in behavior

Viven Health Program



Help nursing staff recognize Sepsis
Early



Treatments quickly