

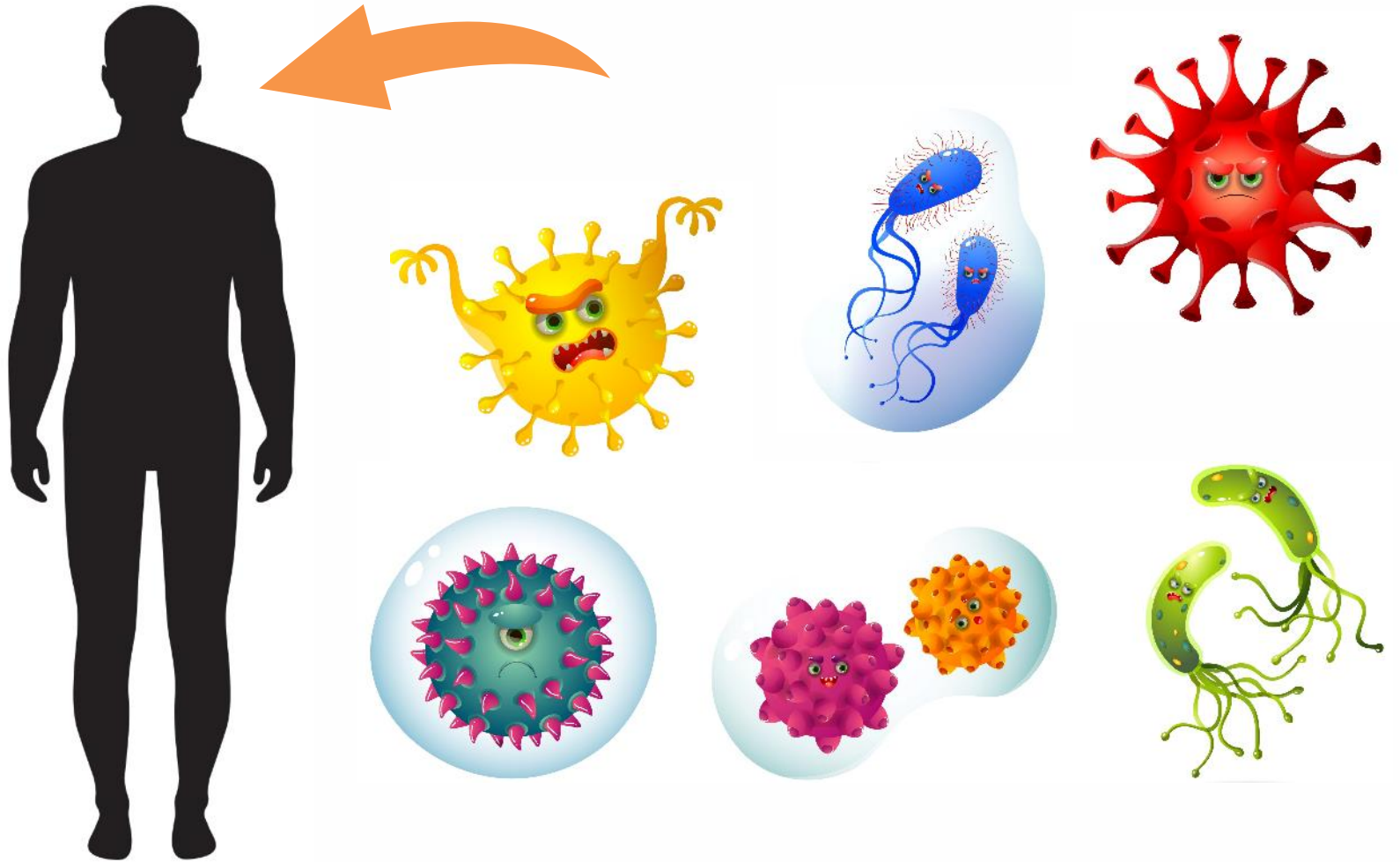
Simple Sepsis Pathophysiology

A microscopic view of blood showing numerous red blood cells and several green, rod-shaped bacteria. The background is a warm, reddish-orange color, suggesting a blood vessel or tissue. The bacteria are scattered throughout the field of view, some appearing to be in motion.

Simple Sepsis Pathophysiology

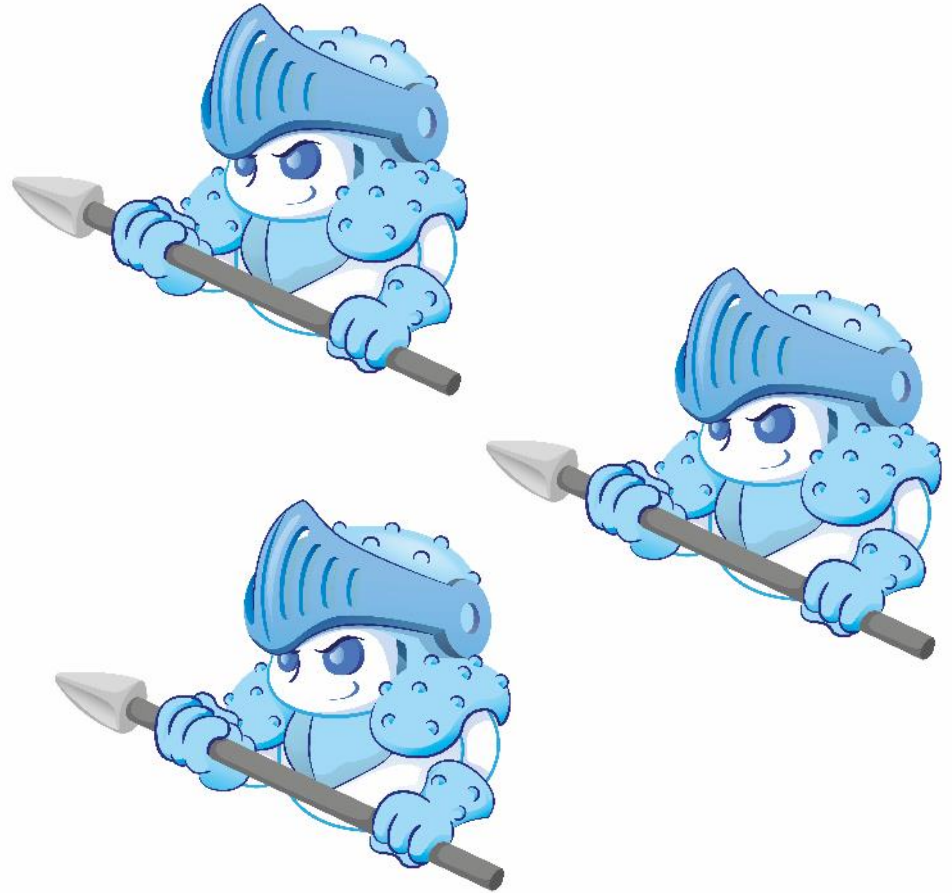
Sepsis is not infection.
“Sepsis is a life-threatening organ dysfunction caused by a dysregulated host response to infection.”

Body Is Invaded by a Pathogen

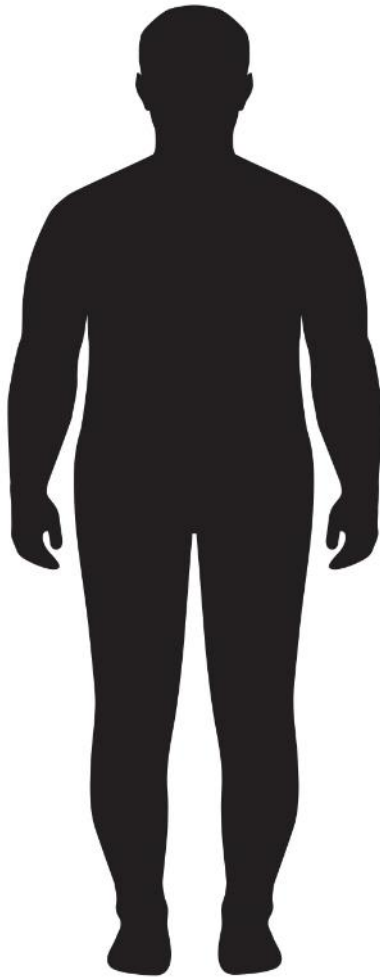


Immune Response Is Triggered

White blood cells increase to kill the invading pathogen, producing inflammatory mediators such as histamine, interferons, interleukins, and tumor necrosis factor.



Response to Inflammatory Mediators



- Vasodilation

- Capillary leak

- Blood clotting

Insufficient Blood Flow to Organs



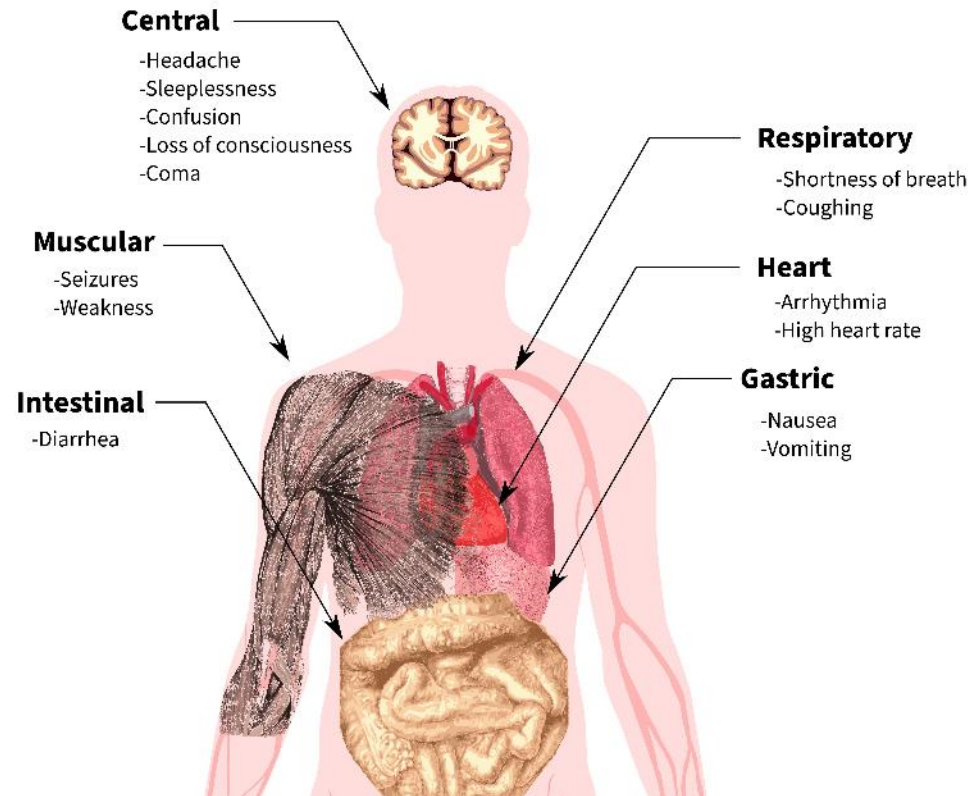
Vasodilation, capillary leak, and blood clotting can decrease blood flow to organs and extremities.

Metabolic Acidosis

Hypoperfused kidneys:

- Cannot get rid of waste.
- Cannot produce enough bicarbonate to balance the pH.
- Will lead to an increase in lactic acid.

Symptoms of acidosis



Septic Shock

- “Patients with septic shock can be clinically identified by a vasopressor requirement to maintain a mean arterial pressure of 65 mm Hg or greater and serum lactate level greater than 2 mmol/L (>18 mg/dL) in the absence of hypovolemia.”
- If septic shock continues, organs can fail.



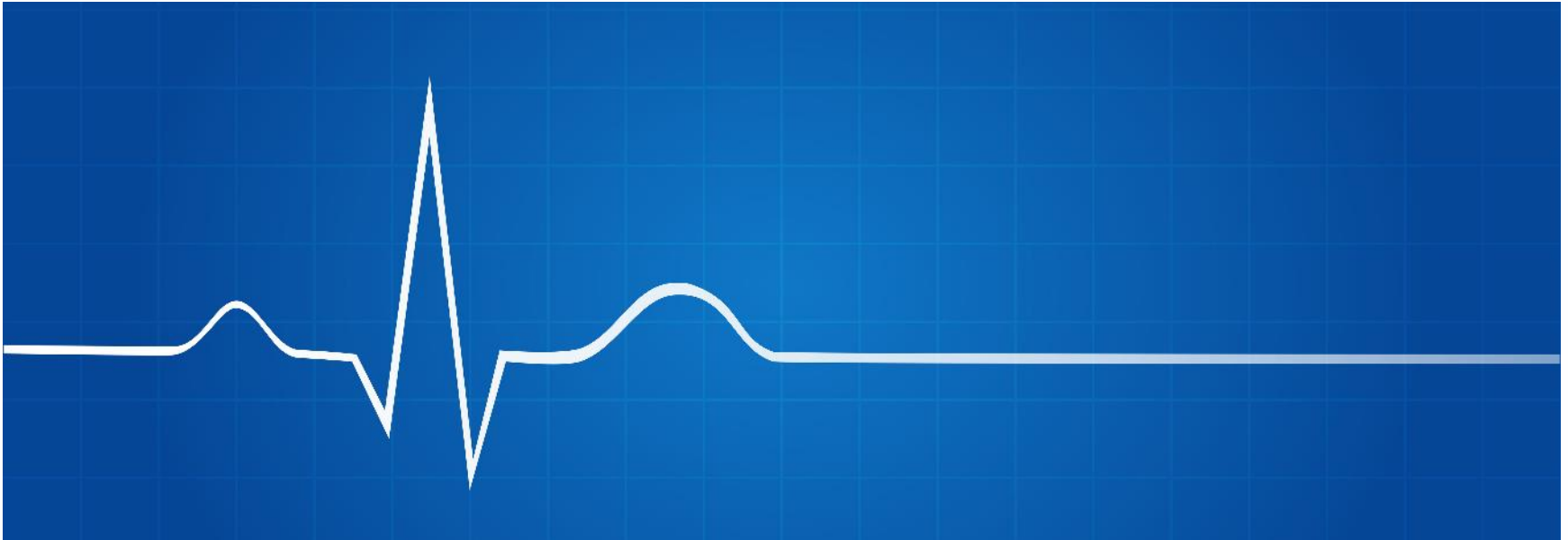
Multi-Organ Failure

- Related to decreased blood flow
- Increases the likelihood of death



Death

- Related to multiple organs failing at the same time
- Cessation of life
- Permanent cessation of all vital bodily functions



Simplified Sepsis Pathophysiology

Body invaded by pathogen



Immune response



Vasodilation, capillary leak, blood clotting



Decreased blood flow to organs



Metabolic acidosis



Septic shock



Multi-organ failure

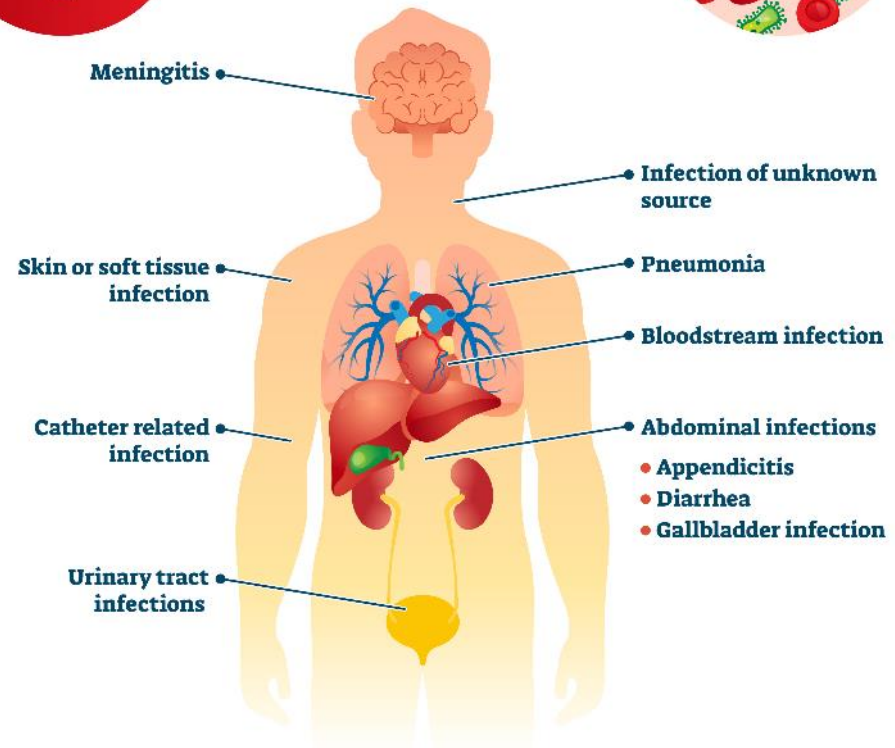
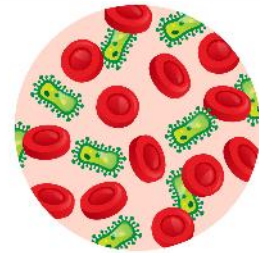


Death



SEPSIS

Sepsis is a potentially life-threatening condition caused by the **body's response** to an infection



References

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Thank you!

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