

Pathophysiology Gram-negative bacteria traditionally have been the most commonly implicated microorganisms in septic shock. SIRS stimulates an overwhelming inflammatory immunologic and hormonal response similar to that seen in septic patients. This immune response provokes the activation of biochemical cytokines and mediators associated with an inflammatory response and produces a complex cascade of physiologic events that leads to poor tissue perfusion. The imbalance of the inflammatory response and the clotting and fibrinolysis cascades are considered critical elements of the devastating physiologic progression that occurs in patients with severe sepsis. The cardiovascular system also begins to fail, the BP does not respond to fluid resuscitation and vasoactive agents, and signs of end-organ damage are evident (eg, renal failure, pulmonary failure, hepatic failure). Increased capillary permeability, which leads to fluid seeping from the capillaries, and vasodilation are two such effects that interrupt the ability of the body to provide adequate perfusion, oxygen, and nutrients to the tissues and cells. However, there is also an increased incidence of gram-positive bacterial infections, and gram-positive bacteria currently account for 50% of cases of septic shock (Smith & McInnis, 2007). GI status may be compromised, as evidenced by nausea, vomiting, diarrhea, or decreased bowel sounds. The heart rate increases, progressing to tachycardia.