

# Vitamin C: A Cure for Sepsis?

## The Physiological Basis for Vitamin C as a Potential Treatment for Sepsis



**26**  
Million

Patients  
are diagnosed  
each year<sup>1</sup>

**60%**

Mortality rate<sup>2</sup>

[sep-sis]: systemic release of inflammatory mediators in response to an infection<sup>3</sup>

### Trademark Characteristics of Septic Shock

#### Weak, thinning endothelium

Systemic inflammation causes significant blood displacement as it rushes out of blood vessels and into tissue<sup>1,2,4</sup>

#### Acute hypotension

The quick displacement of blood leaves low fluid volume in blood vessels and causes dangerously low blood pressure<sup>1,3</sup>

#### Tissue hypoxia

Severe hypotension leads to lack of oxygen throughout the body's tissues and accumulation of damaging free radicals<sup>1,2,7</sup>

### Benefits of Vitamin C Administration

#### Protects integrity of endothelium

Vitamin C prevents premature cell death in the endothelium so there is less blood displacement<sup>5,6</sup>

#### Allows vessels to constrict

Vitamin C blocks inducible nitric oxide synthase and increases vasopressin and dopamine, which will cause blood vessels to constrict and increase BP<sup>1,7</sup>

#### Reduces oxidative stress

Vitamin C clears out harmful free radical build-up and activates other molecules to do the same<sup>1</sup>

Article by Jennifer Johnston

Design by Gabe Hunt

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