

Sepsis Train the Trainer Manual

Module B: Sepsis and Its Effects on the Body

SLIDE 2—WHO IS AT RISK

Anyone can get an infection, and any infection can lead to sepsis. However, there are some people more at risk than others.

- Chronic medical conditions like HIV, diabetes, lung disease, kidney disease
- Older Adults aged 65+
- Immunosenescence
- People with chronic medical conditions like HIV, diabetes, lung disease, kidney disease
- People with weakened immune systems
- People with cancer
- Sepsis survivors
- Hospitalized patients
- Male gender
- Cognitive impairment

SCRIPT

There are a lot of factors that seem to be important if we are looking to identify people who are at greater risk for developing sepsis. Many people in long term care settings fall into one or more of these categories. Let's talk a bit more about some of these factors.

SLIDE 3—MOST COMMON INFECTIONS LEADING TO SEPSIS

- Pneumonia
- Urinary Tract Infections
- Gastrointestinal Infections
- Skin Soft Tissue Infections

SCRIPT

CDC's case review in NY identified these four sites as the most common.

SLIDE 4—MOST COMMON ORGANISMS CAUSING SEPSIS

- Staphylococcus
- E. Coli
- Streptococcus

SCRIPT

Three kinds of infectious organisms were identified by CDC in patients with sepsis. In many patients no organism was identified. Blood cultures are not always taken before treatment is administered and this can complicate the process of identifying the agent that led to sepsis.

SLIDE 5—GRAPHIC-WITHOUT PROMPT TREATMENT SEPSIS CAN LEAD TO ORGAN FAILURE AND DEATH

SLIDE 6—BEING A SURVIVOR OF SEPSIS IS A RISK FACTOR FOR SEPSIS

SCRIPT

- Having had sepsis makes it more likely that you will develop sepsis in the future.
- Sepsis seems to convey some long term immunosuppression that lasts past the acute episode. So they are more likely to get reinfected and also more likely to develop sepsis again.
- This is true of more than ½ sepsis survivors.
- There is also the issue of cognitive impairment in people who survive sepsis.

- Cognitive impairment is a risk factor in and of itself.

SLIDE 7—What is Sepsis

SCRIPT

Read Bullet points

SLIDE 8—HOW DOES THE IMMUNE SYSTEM REACT DURING SEPSIS

- The immune response to infection is part of the pathway that leads to sepsis.
- We have two primary mechanisms to ward off infection. One is local involving infection fighting cells that live in the skin.
- A second mechanism involves immune cells that are made in the bone marrow and in the thymus gland.
- These travel through the blood vessels to get to the site of infection.
- Some of these cells are general, they fight anything that is recognized as foreign. Some are specific to a particular kind of bug.
- The ones that are specific take a while to ramp up and may not appear for a couple of days after the infection starts.

SLIDE 9—HOW DOES THE IMMUNE SYSTEM REACT DURING SEPSIS CONTINUED

- There can be local tissue damage that occurs as the infection is being fought.
- Blood vessels typically dilate and can later form small clots.
- These clots are the body's attempt to wall off the infection and keep it from spreading.

SLIDE 10—VIDEO ON SYMPTOMS FROM ALLIANCE ON AGING

SLIDE 11—DIAGRAM OF LOCAL TO SYSTEMIC EFFECTS

- The immune system does an excellent job of fighting infection as long as it remains local.
- But when there are many sites in the body affected.

- OR when infectious material travels through the blood system to other parts of the body we get overwhelmed.
- Too much infection and too much damage from infection fighting cells leads to damage in lots of parts of the body.

SLIDE 12—DIAGRAM OF RED BLOOD CELLS

- Unfortunately, healthy cells can be damaged while our bodies are trying to fight off foreign invaders.
- The infection fighting cells release chemicals that dissolve germs but can also damage our own tissues in the process.
- What is even more harmful, however, is the disruption to blood circulation. Small clots form as a way of limiting the spread of the germs.
- But this also prevents blood from circulating locally and can lead to the death of cells that would normally get oxygen from the supply of these small to medium size blood vessels.