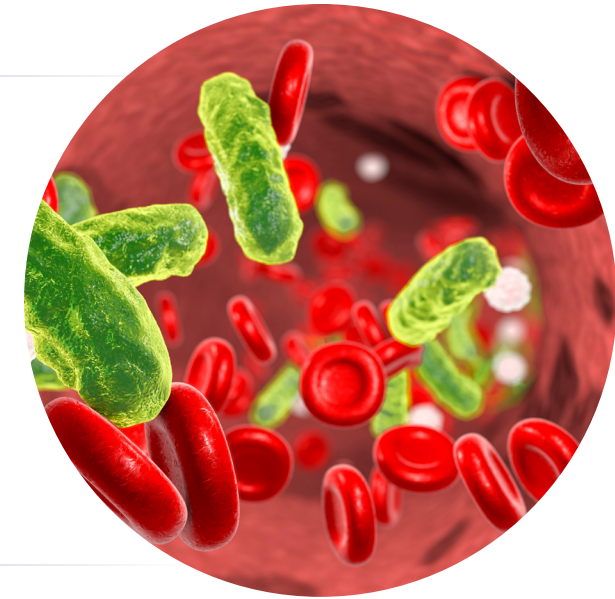


LIFE AFTER SEPSIS

What you need to know



SALEM HEALTH
SEPSIS COMMITTEE 2023



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This guide is provided by the Salem Health Sepsis Committee, which has dedicated itself to:

- Improving care for patients dealing with sepsis.
- Providing education to the public and community we serve.
- Providing current education to providers and staff.
- Keeping updated on the most recent research.
- Monitoring our care of patients with sepsis

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What is sepsis?

Sepsis is an overwhelming and life-threatening response to infection that can lead to tissue damage, organ failure and death.

How common is sepsis? Very. Because sepsis can occur in many ways, from pneumonia to skin infections, to brain infections, it can be hard to recognize.

To help appreciate how common this is, here are some figures about sepsis: In the United States, more than 1.7 million people are diagnosed with sepsis each year, with more than 350,000 adults dying and more than 50% of survivors experiencing post-sepsis syndrome and other lingering effects, including amputations.

Luckily, there are many things we can do to help. You are not alone and the situation is not hopeless—but the key is to seek medical help as soon as possible if you suspect you or someone you know has sepsis. The earlier we can treat sepsis, the higher the chance of returning to health. The yearly incidence of sepsis in America is higher than prostate cancer, auto accidents, breast cancer, heart failure, diabetes, Alzheimer's disease or heart attacks.

Anyone can develop sepsis. However, some people are at greater risk:

- People with chronic diseases
- People with no spleen
- People with weakened immune systems
- Infants less than a year old
- Adults over 60

But if detected early, sepsis can be treated.

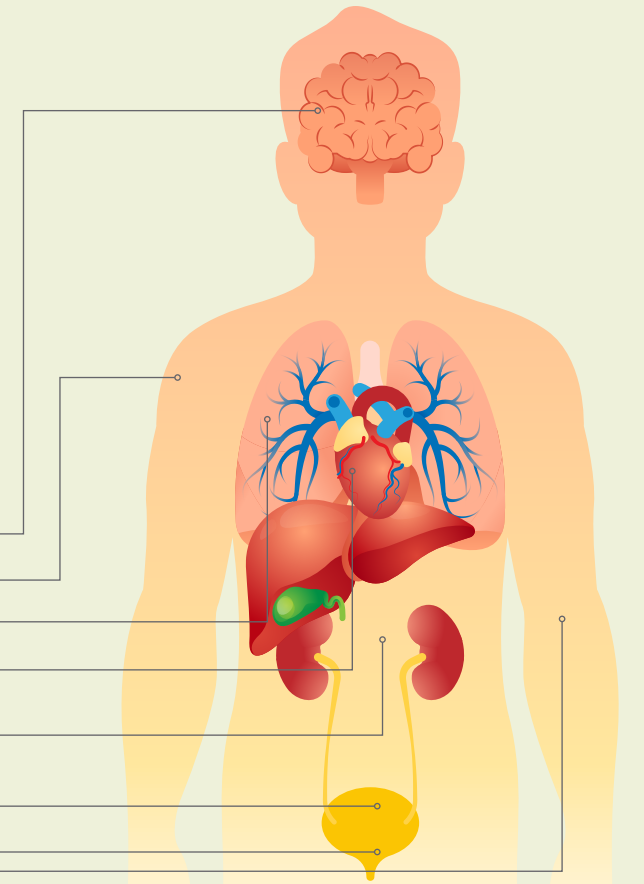
What causes sepsis?

Sepsis occurs when the body's response to an infection is out of control.

Normally, the body's immune system fights infections, but in sepsis, the immune system attacks itself.

The most common sources of sepsis are from lung, urine, abdominal and skin infections:

- Meningitis
- Skin or soft tissue infection
- Pneumonia
- Bloodstream infection
- Abdominal infections (appendicitis, gallbladder infection, infectious diarrhea)
- Urinary tract infection
- Catheter-related infection



Like a heart attack or stroke, **sepsis is a medical emergency** that requires immediate attention.

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Sepsis is the No. 1:

- Cause of death in hospitals
- Cause of hospital readmissions
- Most expensive condition for hospitals to treat

How sepsis strikes fast: One patient's story

After only four days of feeling ill with abdominal pain, weakness and no appetite, a 41-year-old man was too weak to continue working his labor-intensive outdoor job. His co-workers found him vomiting and lying on the ground, doubled over.

He arrived at the Salem Hospital emergency department critically ill and too unstable for imaging tests to find the source of the sickness.

Instead, emergency surgery uncovered what all had feared:

The man's gallbladder was infected and had ruptured—spilling infection onto his other organs. His lungs, kidneys and liver were no longer functioning. He was comatose.

Sepsis takes hold

Over the next 28 hours, three intensive care doctors, two surgeons, a kidney doctor, an infectious disease pharmacist, three critical care nurses, critical care techs, certified nurse aides and laboratory personnel worked feverishly to try to save this man's life.

They could not save him.

Even with every modern medical treatment at the team's

fingertips, sepsis had already taken hold. Nothing—not surgery, not blood transfusions, not medications, not dialysis, not even a ventilator—could save him from the infection and immune response raging through his body.

He died the next morning.

It can happen to anyone

This man's family had never heard of sepsis or septic shock. They didn't know the risk he was taking by not seeking medical attention for his unusual abdominal pain.

From the day he started feeling ill until the day he died was less than a week.

Three different terms for sepsis

Depending on the severity of the infection, and the body's response, there are different terms to describe the situation. You might compare it to the difference between saying that it's sprinkling or it's pouring. These words convey very different meanings that help you decide if you should grab an umbrella or not!

The three levels of sepsis:

Sepsis means an infection that has not caused other organs to stop working correctly. For example, you may have an infected wound

on your arm, but your lungs and kidneys are still working fine. This may or may not need hospital care.

Severe sepsis is when other organs, such as the kidneys, heart, liver or lungs are showing signs of not working properly. The whole body is becoming sick, even though the infection is only in the arm. This requires hospital care with possible intensive care.

Septic shock is when the body is so severely sick that the blood pressure drops to dangerously low levels. This requires intensive care in the hospital.

You may also hear the term *blood poisoning*, which means the infection is actually in the blood, circulating around with each heartbeat.

Warning signs of sepsis

There is no single “warning sign” for sepsis. It can appear many different ways. Sepsis can be subtle — until it isn't.

Depending on how severe the sepsis is, some or all of the following may occur:

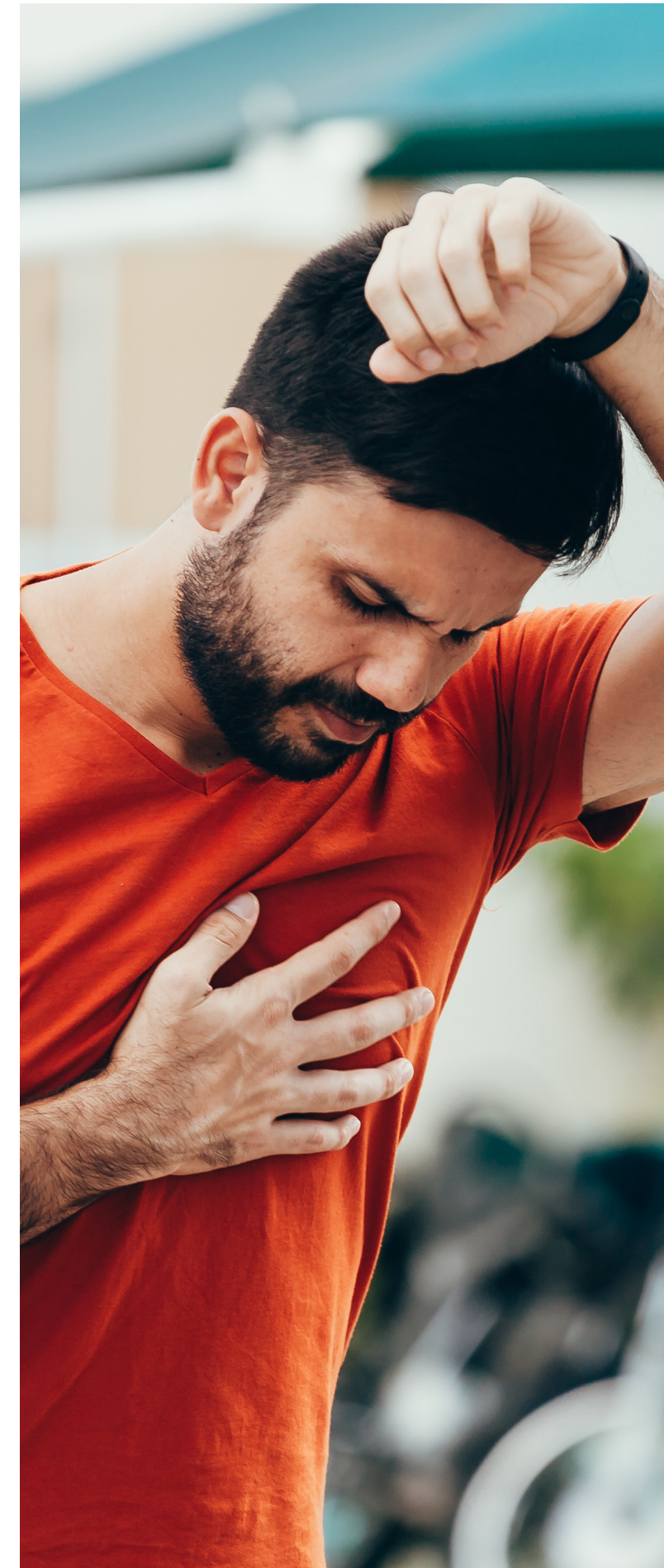
- Dropping blood pressure
- Racing heart
- Shortness of breath
- Feeling really cold or really hot, clammy skin
- “Foggy” thinking and confusion
- Weakness, dizziness, feeling faint
- Nausea, vomiting
- Diarrhea
- Unusual rash or skin color
- Vague or acute pain

More warning signs of advancing sepsis

If sepsis gets worse (severe sepsis or septic shock), then the body's organs might begin to fail. Signs may be:

- Drop in urination.
- Difficulty breathing.
- Dark patches on the skin.
- Confusion.
- Decreased consciousness or other behavioral changes.

Often, family will say, “They're just not right.” And in the vast majority of times, that's correct. Listen and trust your gut instinct.



What happens at the hospital?

Depending on how severe the sepsis is, you may be admitted to different areas of the hospital.

Intensive care: Patients are admitted to intensive care for medications that help support the heart and blood pressure. They may also need to have a breathing tube (ventilator) and a feeding tube for nutrition.

General adult health units: As a person's condition improves, or for severe cases, treatment can be provided on a general care unit.

The total hospital stay can last from a few days to months. This will vary from patient to patient and depends on the severity of the sepsis.

Treatment

The three key sepsis treatments are:

- Source identification (the cause/location of the infection)
- Intravenous (IV) antibiotics
- Intravenous fluids

The most important of these is antibiotics.

The infection needs to be identified and treated early, ideally within 24 hours. Therefore, there might be many tests done to try to find the infection, such as:

- Chest or abdominal X-rays
- Blood work
- Other imaging studies
- Emergency surgery

Therapies

As your health improves, you may be offered therapies that are key to your recovery.

Physical therapy: One of the most important things for recovery after sepsis is physical therapy. Starting physical therapy within three months after discharge not only improves physical strength, but also reduces ten-year mortality (death) rates in sepsis survivors.

Occupational therapy: Where physical therapy is about building strength, occupational therapy focuses more on practical day-to-day skills. This could be anything from tying your shoes to taking a shower, to cooking a meal.



Psychotherapy: Exploring the thoughts and feelings around the experience and recovery can help you feel less depressed and more hopeful during the hard times. Learn tools for reducing stress or improving your mental health.

Speech therapy: Depending on the location and severity of your sepsis, it's perfectly normal to need help with speech or swallowing.

All these therapies are provided in the hospital and may continue after you go home.

Preparing for a challenging recovery

Scary as it may be, it is important to be prepared for challenges after recovering from sepsis. Knowledge is power!



Of all sepsis survivors, 33% are readmitted to the hospital within 90 days. If you're over 50, that number rises to 50%.

The majority of readmissions and deaths are because of recurrent sepsis, heart or kidney failure, and pneumonia.

Mortality (death) rates one year after surviving sepsis varies, anywhere from 7% to 43%.

The five-year mortality rate after severe sepsis is 82%. That means only 18% with severe sepsis or septic shock survive another five years.

At Salem Health we work every day to beat these odds and improve the statistics.

Post-sepsis syndrome: Watch for signs

Post-sepsis syndrome is just what it sounds like: a group of serious symptoms that patients may develop after a bout of sepsis. If you have these symptoms, seek help right away!

Signs of post-sepsis syndrome

Physical

- Low energy
- Shortness of breath
- Lightheadedness
- Headaches
- Muscle or joint pain
- Generalized weakness — difficulty walking, let alone running
- Repeated infections
- Balance problems
- Low or loss of appetite
- Swallowing or feeding problems
- Hair loss and skin rashes
- Surgical amputation of digits or limbs

Mental

- Hallucinations
- Anxiety or panic attacks
- PTSD with flashbacks and nightmares
- Poor concentration that affects learning, memory, thinking
- Depression
- Generalized irritability with mood swings
- Sleep disorders

‘Normal’ post-sepsis challenges

Physical and mental challenges post-sepsis that are not signs of the syndrome include:

- Sadness
- Difficulty swallowing
- Muscle weakness
- Clouded thinking
- Difficulty sleeping
- Poor memory
- Difficulty concentrating
- Fatigue
- Anxiety

While these may not be signs of post-sepsis syndrome, you should still talk to your doctor about them. Often there are medications and therapies that can help ease these feelings.



Immune system

Immunosuppression means having a weakened immune system. People who are immunosuppressed have a reduced ability to fight infections and other diseases.

Immunosuppression is evident early in sepsis and persists after patients leave the hospital.

A weakened immune system is a big reason for repeat infections and the problems of post-sepsis syndrome.

One year after discharge, 73% of deaths from ICU sepsis survivors were due to complications from infections. In comparison, only 11% died within one year in non-septic ICU survivors.



Cognitive/thinking issues

Cognitive issues affect around 20% of sepsis survivors and can last up to 8 years.

People around you may not understand the newly occurring problems and this might create stress and misunderstandings.

Long-term cognitive issues include:

- Memory gaps. This can cause a feeling that you’re missing pieces of your life. Relatives and friends can help fill these gaps.
- How fast you think or comprehend.
- Loss of attention span.
- Struggles with understanding and memory, which can be both debilitating and frustrating.

Cardiovascular/heart issues

Sepsis is associated with increased short- and long-term risk of cardiovascular disease including:

- Stroke
- Heart attack
- Heart failure

For example, one study showed that those hospitalized for severe pneumonia are four times as likely to develop heart issues in the first 30 days post-infection. The risk remained elevated for 10 years.

Advice for survivors

Life after sepsis may be different than before. Almost all aspects of your daily routine may be affected:

- You may be temporarily dependent on help from family, friends or professional caretakers.
- Relationships with partners and friends may suffer because even after you've been discharged from the hospital, you are not fully recovered.
- You may not be able to return to work or hobbies right away.

Try to be kind to yourself. Give yourself some grace. Remember, you are still healing after you leave the hospital.

Guide to recovery

Exercising when you're already tired may not seem easy. Please start slowly, with daily walks if possible.

Start where you are comfortable starting. Recovery is not a competition.

Create your own healthy habit that is right for you.

Listen to your body, but don't shy away from your therapies.

You will get stronger with daily work and you will feel immense pride in your progress. Rejoice in this!

If you feel overstimulated, or have trouble concentrating, try to find ways to feel more at ease, proceeding more slowly.

- Seek the necessary peace you need.
- Don't be afraid to decline visits or events when you are not up to things yet.
- Listen to yourself.

Involving your friends and family in your recovery will be a big support. It is okay to lean on others for a while. (After all, wouldn't you do the same if roles were reversed?)

During your recovery, you may experience that there is a thin line between "I'm doing OK" and "I can't go any further." Learn to recognize and communicate what your body is telling you, so that the people surrounding you can also pay attention.

Advice for family and friends

You might be shocked by what you have seen your loved one go through. You have all been through ups and downs during the sepsis episode. You have experienced major interruptions of daily life as your relative or friend struggled for survival.

You will be relieved that your loved one can return home. You may expect a swift recovery and a return to normal. However, try not to be disappointed or frustrated if this takes longer than expected or if lingering issues remain.

Children may struggle to accept the new reality and that the sepsis survivor is not the exact same person they were before. Make sure that they receive the appropriate support and respect their sensitiveness.

Spouses and partners might misinterpret different behaviors in all aspects of life. Therefore, it is important to share struggles and feelings.

Friends and relatives might not understand why a person who survived sepsis is not able to have the same social life as before. Try not to voice disappointment, but instead respect the pace of recovery needed for each unique person.

Prevention: What can you do to stop sepsis?

Be aware of any potential infections and seek treatment immediately. Do not delay!

Discuss prophylactic antibiotics. This may mean taking antibiotics before a potential infection, such as before surgery or a dental procedure. Work with your doctor and discuss the proper use of these antibiotics. Do not take antibiotics without the guidance of a doctor.

Vaccinate against preventable infections such as pneumonia, meningitis and measles, and get a yearly flu shot.

If you smoke, come up with a plan to stop. Salem Health's Community Health Education Center (salemhealth.org/chec) has free resources to help you quit.

Avoid immunosuppressant drugs if possible.

Work with your health care provider to make sure you stay on top of:

- Blood pressure
- Diabetes (blood sugar levels)
- Diet and nutrition

- Foot care
- Dental care
- Incontinence (bladder issues)

More things you can do:

Healthy eating and exercise will help you manage your health. Try to do this every day. If you fall down, pick yourself up and keep trying.

Regularly and thoroughly wash your hands with soap after using the toilet, after cleaning or blowing your nose, after contact with animals or raw meat, and after gardening or housecleaning.

Pay attention to insect bites and skin injuries. In case of infections, it's better to be safe than sorry. Think sepsis!

