



# SEPSIS INFORMATION BOOKLET



## SEPSIS *is*

A life-threatening condition triggered by infection

It affects the function of the organs and is most effectively treated if recognised early

If you have infection and feel very unwell, suspect sepsis. Seek urgent medical advise



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive

Tús Áite do  
Shábháilteacht 1 Othar  
Patient Safety 1 First

**NATIONAL  
CLINICAL  
EFFECTIVENESS  
COMMITTEE**

## What is sepsis?

Sepsis is a life-threatening condition triggered by infection that affects the function of the organs. It is treated most effectively if recognised early.

## How common is SEPSIS?

In 2016, there were 14,804 cases of sepsis documented in Ireland and 1 in 5 of these patients died.

## Who is at risk?

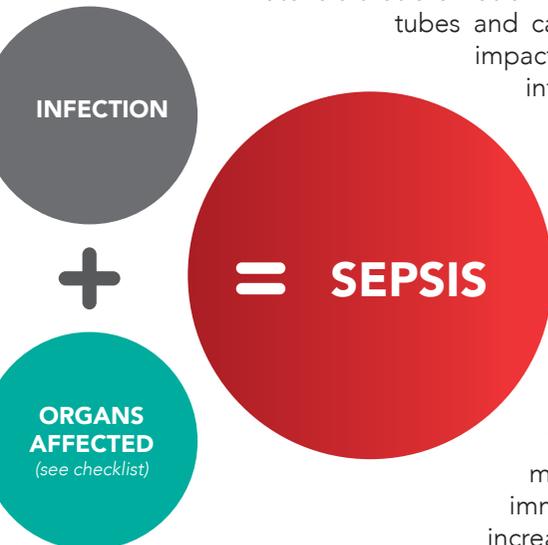
People who are older or who have chronic health issues are at increased risk of developing sepsis when they contract an infection. The Centre for Disease Control has reported that 90% of adults and 70% of children who develop sepsis have a predisposing health condition. If you have any of these conditions you should reduce your risk of getting infection as much as possible and if you contract one be vigilant for the signs of sepsis and seek urgent medical review if any are present.

The immune system is designed to identify and destroy, if possible, anything that is identified as not a normal part of the body. This includes bacteria, viruses and other bugs in areas of the body that should be sterile.

Many medications and treatments affect the immune system and patients on these treatments need to know they are at increased risk of sepsis and be vigilant for the symptoms and signs.

Materials that are not a normal part of the body such as medical tubes and catheters are designed to have as little impact as possible, but if they become infected the immune system has real difficulty in clearing the infection as the normal repair mechanisms do not work on artificial materials, this also includes materials that have been used to surgically repair damaged parts or any other material that has been inserted into the body.

Transplanted organs require immune damping medications to prevent 'rejection' by the body and these medications may lead to an abnormal immune response to infection and increased risk of sepsis.



## Conditions associated with increased risk of sepsis:

- At risk of neutropenia, e.g. on chemotherapy and/or radiotherapy treatment for cancer.
- Taking immunosuppressant medications to control a chronic health problem.  
If you are taking medications read the information leaflet and ask your pharmacist if they can affect your immune system.  
For example:
  - Steroids
  - Methotrexate
  - Anti-rejection agents (post transplantation)
  - Biological agents.
- Living with a cancer diagnosis.
- Frailty, this is an assessment of nutritional, functional and general health status.
- Diabetes.
- Chronic obstructive pulmonary disease (COPD).
- Chronic kidney disease.
- Chronic liver disease.
- HIV / AIDS.
- Recent surgery or a physical trauma.
- Older age, particularly over 75 years.



# Signs & symptoms of infection:

Infections are often suspected when a person develops a temperature and feels unwell. A high temperature is  $> 38^{\circ}\text{C}$ . A low temperature,  $< 36^{\circ}\text{C}$ , is also of concern but do check your technique.

Watch out for loved ones who have taken paracetamol as that may lower the temperature but does not treat any underlying infection.

**Infection causes a combination of non-specific and local signs and symptoms depending on where the infection is in the body.**

## Non Specific signs and symptoms of infection

- Temperature  $> 38^{\circ}\text{C}$  or  $< 36^{\circ}\text{C}$
- Rigors (severe uncontrollable shivering)
- Fatigue
- Loss of appetite
- Muscle and joint pain
- Vomiting and diarrhoea

## Local signs and symptoms

Respiratory tract / lung infection



Cough with or without green sputum and you may or may not be breathless.

Abdominal Infection



Unexplained abdominal (tummy) pain with or without a swollen tummy. You may have worse pain when your tummy is pressed.

Urinary tract infection



Burning sensation on passing urine with intense urge, flank (side) pain may be present.

## Local signs and symptoms... continued

<p>Genital tract infection</p>		<p>Lower tummy discomfort or pain with or without stinky discharge.</p>
<p>Skin</p>		<p>Pain, swelling, redness and hot to touch. There may be a pus or fluid ooze.</p>
<p>Bones and joints</p>		<p>Pain, swelling, redness and hot to touch. There may be a pus, fluid ooze or stiffness.</p>
<p>Brain &amp; meningitis</p>		<p>Severe headache, neck stiffness, not able to tolerate bright lights. You may or may not have a rash. You may or may not be agitated or confused.</p>
<p>Device related <i>(applies to materials in the body that are not a normal part of it e.g. medical tubes or metal work)</i></p>		<p>Pain, swelling, redness and hot to touch in the area of the device. There may be a pus or fluid ooze. <i>Examples are a cannula in your vein (for fluids or medicine like antibiotics), or a catheter (tube in your bladder to drain urine) which can cause infection. A cannula in your vein may cause redness, swelling and pain and/or pus at the point of entry to the vein. The catheter may cause a urinary tract infection (see above).</i></p>
<p>Blood stream infection or blood poisoning</p>		<p>Severe nonspecific signs.</p>

# Infection and Sepsis Prevention

Our bodies are very well designed and have multiple layers of defense against infection.

To work well all of these must be in good working order. Not all bugs cause infection and bugs in the right place are essential for our body to be healthy. We have bugs on our skin and our digestive system that not only help keep us well but also ensure that our immune system is working well and that we are getting essential vitamins and minerals.

## The skin and mucous membranes:

Intact skin and mucous membranes (the lining of our mouth, lungs and gut) act as a physical barrier to prevent bugs from getting into our body. Friendly bugs on the skin are normal and keep the numbers of bad bugs down.

## Good sanitation:

Clean water to drink and clean toilet facilities get rid of contaminated waste and prevent clean areas from being contaminated.

## Vaccination or immunization:

Vaccination is a method of stimulating the immune system to recognise and destroy dangerous bugs. It works with the body's own natural defenses and it only identifies the dangerous bugs. This is different from using antibiotics where both good bugs and bad get killed and the body's natural balance may be put out of order. Having a healthy natural balance of bugs is important for healthy living.

## Exposure

Have any close contacts been very sick recently with similar symptoms? Has your loved one had a recent operation or infection? Are they known to carry a multi-drug resistant bacteria? Have they recently travelled to tropical areas or to an area with an outbreak?

## Good hygiene:

Keeping our environment and ourselves clean. Not with disinfectant sprays but using soap and water to keep the total number of bugs down and to get rid of things like food stains that bugs can thrive on. In hospital it is different, because of the nature of the work, there are many more infection causing bugs in the hospital environment so in hospital alcohol gels and other disinfectants may have to be used.

## Breastfeeding:

When a baby is born his or her immune system is not fully functioning and it hasn't been exposed to the bugs in the environment. At birth, the baby gets exposed to Mum's bugs as he or she is delivered and cuddled. This is important so that baby can be exposed to a nice healthy diverse population of bugs for his or her skin and digestive tract. Breast milk contains cells and proteins from the mothers' immune system that can be used by baby to fight infections. Immune cells and proteins are also transferred across the placenta before birth and these give some protection too. Because of their immature immune systems babies are at increased risk of infection and indeed sepsis.

## Sepsis Checklist:

If your loved one has an infection do the following checklist. If you tick any of these, this is a sign of organ malfunction.

Tick if applies	Part of the body affected	 Consider
<input type="checkbox"/>	Brain 	<p>Are they acting themselves? Abnormality can range from mild agitation or confusion all the way to a coma.</p> <p>Are they too sick to communicate?</p>
<input type="checkbox"/>	Breathing 	<p>Is their breathing pattern very fast and laboured, for instance can they finish a sentence without a pause?</p> <p>Are their lips blue-tinged?</p>
<input type="checkbox"/>	Circulation 	<p>Is their heart racing very fast and are their hands and feet cold, clammy and pale?</p> <p>Do they get very dizzy when they try to stand or even sit up?</p>
<input type="checkbox"/>	Kidneys 	<p>Have they passed no urine in the past 12 hours and do not feel the need to go?</p>
<input type="checkbox"/>	Clotting 	<p>Do they have a new rash that does not disappear when pressed on by your finger or when a glass is rolled over it (glass test)?</p>
<input type="checkbox"/>	Functional status 	<p>Do they have a change in behaviour or performance? In some people with intellectual and/or physical disabilities it can be difficult to recognise these changes if you don't know them well.</p> <p>Young people may have severe leg pain and difficulty standing.</p>

# COULD THIS BE SEPSIS

If your loved one has an infection that is getting worse, look for the signs of sepsis on the checklist.

**Infection**



**= SEPSIS**

**Organ  
Malfunction**



## WHAT TO DO

If any of the signs of sepsis (see checklist) are present or you are worried your loved one is getting worse:

- Get urgent medical assistance (GP, Out of hours service, Local Emergency Department).
- Tell them the part of the body that is abnormal from your checklist and ask -

**COULD THIS BE SEPSIS?**

## REMEMBER

**Suspect SEPSIS – seek urgent medical advice**



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive

Clinical Strategy and Programme Division

For more information visit:  
[www.hse.ie/sepsis](http://www.hse.ie/sepsis)