CONDITION

Shock

Shock is a life-threatening failure of blood flow that deprives organs of oxygen.

WHAT IT IS
Critically reduced blood flow and oxygen delivery

BODY SYSTEM
Heart and circulation, with effects throughout the body

MAIN SYMPTOMS
Confusion, rapid breathing, weak pulse, cold clammy skin

WHAT CAUSES IT
Severe bleeding, infection, allergy, heart failure, or blocked circulation

HOW IT IS DIAGNOSED
Emergency examination, blood tests, heart tests, and imaging

MAIN TREATMENT
Immediate circulation support and treatment of the underlying cause

CAN IT BE CURED?
Sometimes - reversible when the cause is treated promptly

IS IT AN EMERGENCY?
Yes - suspected shock always needs emergency care

LONG-TERM OUTLOOK
Best with early reversal; organ damage worsens recovery

Overview

Shock is a life-threatening condition in which the circulation cannot deliver enough oxygen-rich blood to the body's organs. Without enough oxygen, the brain, heart, kidneys, and other organs can begin to fail.

Medical shock is not the same as feeling shocked, frightened, or emotionally overwhelmed. It is an emergency involving blood flow and oxygen delivery.

Shock can develop after major bleeding, a serious infection, a severe allergic reaction, heart failure, or a blockage in the circulation. It may appear suddenly, or it may worsen over several hours.

Low blood pressure is common, but it is not always present at first. A person can be in shock even if an early blood pressure reading seems normal. The overall pattern of symptoms,

examination findings, and test results is more important than one number.

Prompt emergency treatment can restore circulation and prevent further organ injury. Treatment must also address the cause, such as stopping bleeding or treating infection.

Symptoms

Symptoms may be subtle at first. The body tries to protect the brain and heart by making the heart beat faster and narrowing blood vessels in the skin.

Common warning signs include:

Blood pressure may fall as shock becomes more severe. The skin can become mottled, with irregular pale, blue, or purple areas.

Symptoms can differ according to the cause. In septic shock, which is caused by an extreme response to infection, the skin may initially feel warm or look flushed rather than cold. Fever, shivering, or an unusually low temperature may occur.

Anaphylactic shock may cause swelling of the tongue or throat, wheezing, breathing difficulty, hives, vomiting, or collapse. A severe allergic reaction can occur without obvious skin symptoms.

Shock caused by heart failure may come with chest discomfort, severe breathlessness, sweating, or coughing up frothy fluid. Shock from a blocked blood vessel may cause sudden chest pain, breathlessness, or collapse.

After an injury, signs of internal bleeding may include increasing abdominal pain or swelling, bruising, vomiting blood, or passing black or bloody stool. Serious internal bleeding can occur without visible blood.

- Fast breathing or shortness of breath
- A rapid, weak pulse
- Pale, cool, or clammy skin
- Confusion, unusual sleepiness, agitation, or fainting
- Weakness, dizziness, or difficulty standing
- Reduced urination
- Nausea, thirst, or a dry mouth

Causes and risk factors

Doctors often group shock by what has gone wrong with the circulation.

Hypovolemic shock happens when the body loses too much blood or fluid. Causes include major injuries, internal bleeding, surgery, severe burns, prolonged vomiting, or severe diarrhea. Bleeding related to pregnancy or childbirth can also cause it.

Cardiogenic shock occurs when the heart cannot pump enough blood. A large heart attack is a common cause. Severe heart muscle disease, dangerous heart rhythms, or a sudden valve problem can also be responsible.

Distributive shock happens when blood vessels become too relaxed or leaky, so blood is not distributed effectively. Septic shock and anaphylactic shock are important examples. Damage to the spinal cord can sometimes cause neurogenic shock, in which normal control of blood vessel tightening is lost.

Obstructive shock is caused by something blocking blood flow through the heart or major blood vessels. Examples include a large blood clot in the lungs, pressure around the heart from fluid or blood, and a collapsed lung that puts pressure on the heart.

More than one type can occur at the same time. For example, a person with a severe infection may also be dehydrated or have reduced heart function.

The risk of shock is higher when a person has a severe injury, uncontrolled bleeding, a serious infection, known severe allergies, or significant heart disease. Older adults and people with weakened immune systems may have less typical symptoms during infection. However, shock can affect people of any age.

Diagnosis

Shock is diagnosed through an urgent assessment of circulation, breathing, mental alertness, and signs of organ stress. Treatment often begins before the exact cause is confirmed.

The emergency team checks blood pressure, pulse, breathing rate, oxygen level, temperature, skin circulation, and urine output. They also look for bleeding, infection, allergic symptoms, chest problems, or recent injuries.

Blood tests may measure:

Blood cultures may be taken if infection is suspected. This helps identify bacteria or fungi, although results take time and a negative culture does not rule out sepsis.

An electrocardiogram, or ECG, records the heart's electrical activity. Bedside ultrasound can assess the heart, major blood vessels, lungs, and possible internal bleeding. X-rays or CT scans may be used when the person is stable enough and the results could guide treatment.

There is no single test that confirms every type of shock. Doctors combine the examination, test results, response to treatment, and evidence of the underlying cause.

- Lactate, which can rise when tissues are not receiving or using oxygen normally
- Blood cell levels, including signs of blood loss or infection
- Kidney and liver function
- Blood acidity, salts, and glucose
- Blood clotting
- Markers of heart injury

Treatment and management

Shock requires treatment in an emergency department, operating room, or intensive care unit. The first priorities are supporting breathing and circulation while identifying the cause.

Oxygen may be given when oxygen levels are low or breathing is failing. Some people need a breathing tube and mechanical ventilation.

The team places intravenous lines, or sometimes a line into a bone when vein access is difficult. Fluids may be used to improve circulation, but the amount and type are chosen carefully. Large amounts may be harmful in some forms of heart failure or ongoing bleeding.

Blood products may be needed after major blood loss. External bleeding is controlled with direct pressure, wound packing, a tourniquet when appropriate, surgery, or a procedure that seals a bleeding blood vessel.

Other treatment is matched to the cause:

Medicines called vasopressors may be used when blood pressure remains dangerously low. They tighten blood vessels and are usually given through a monitored intravenous line. Inotropes are medicines that help the heart pump more strongly.

Treatment is adjusted using repeated examinations, blood tests, urine output, blood pressure, and other monitoring. Recovery depends on correcting the cause rather than raising blood pressure alone.

- Suspected sepsis is treated promptly with antibiotics like amoxicillin or doxycycline , circulation support, and control of the infection source
- Anaphylaxis is treated urgently with injected adrenaline and airway support

- Cardiogenic shock may require medicines that support blood pressure or heart pumping, treatment of a heart attack, or selected mechanical support
- A large lung clot may need medicine or a procedure to restore blood flow
- Pressure around the heart or from a collapsed lung may require immediate drainage
- Severe fluid loss is treated by replacing fluid and correcting its cause

Complications

Shock can damage organs when blood flow remains inadequate. The risk rises when shock is severe or treatment is delayed.

Possible complications include:

Shock can be fatal, even with intensive treatment. The cause, the person's health before the event, and how quickly circulation is restored all affect the outcome.

Treatment itself also has risks. Intensive care teams balance the benefits and risks of fluids, blood products, breathing support, medicines, and procedures throughout care.

- Acute kidney injury
- Heart rhythm problems or heart injury
- Breathing failure and fluid build-up in the lungs
- Liver injury
- Brain injury, confusion, or seizures
- Abnormal blood clotting and bleeding
- Damage to the bowel or limbs
- Failure of several organs at once

Prevention

Not every episode of shock can be prevented. Sudden internal bleeding, heart problems, severe infections, and unexpected allergic reactions can happen despite reasonable precautions.

Some risks can be reduced. Use appropriate safety equipment at work, in vehicles, and during sport. Seek timely care for significant bleeding, serious injuries, worsening infections, or persistent vomiting and diarrhea.

If you have a known risk of anaphylaxis, follow your allergy action plan. Carry prescribed adrenaline auto-injectors, know how to use them, and make sure people close to you understand what to do.

Managing heart disease and taking prescribed medicines as directed may reduce the risk of some causes of cardiogenic shock. Recommended vaccinations can lower the risk of certain serious infections, although they cannot prevent every case of sepsis.

Living with it and what to expect

Shock is an acute emergency rather than a long-term condition. Once circulation has recovered, future health is mainly shaped by the cause and whether any organs were injured.

Some people recover quickly after a reversible cause is treated. Others spend days or weeks in intensive care and need a longer period of rehabilitation. Weakness, poor appetite, disturbed sleep, breathlessness, and reduced stamina are common after a critical illness.

Memory problems, difficulty concentrating, low mood, anxiety, or distressing memories can also occur after intensive care. These problems may improve over time, but recovery is not always steady.

Follow-up may include checks of kidney and heart function, wound or surgical care, medication review, and physical rehabilitation. Care may also focus on the original condition, such as heart disease, severe allergy, infection, or a blood clot.

Some people have lasting organ damage or need ongoing support. Others return to their usual activities without major long-term limits. The chance of another episode depends on whether the underlying cause can happen again.

Routine follow-up is important after discharge, especially if symptoms are not improving, medicines have changed, or rehabilitation is difficult. This is different from new signs of shock, which need emergency care.

When to get medical help

Suspected shock always needs emergency help. Call your local emergency number immediately if someone has signs such as confusion, collapse, rapid breathing, cold clammy skin, a weak rapid pulse, or severe weakness-especially after an injury, bleeding, infection, allergic reaction, or chest symptoms.

While waiting for help:

Do not drive a person with suspected shock to hospital if emergency transport is available. Their condition may worsen on the way, and paramedics can begin treatment.

After recovery, arrange routine medical follow-up for ongoing tiredness, reduced mobility, medication concerns, wound problems, or emotional symptoms. Seek urgent reassessment for worsening breathlessness, reduced urination, fever with increasing illness, fainting, new chest pain, or recurrent confusion.

- Keep the person still and warm
- Control visible bleeding with firm direct pressure
- Use a prescribed adrenaline auto-injector if anaphylaxis is suspected
- Do not give food or drink
- Do not move someone with a possible head, neck, or back injury unless necessary for safety
- Begin CPR and use an automated defibrillator if the person is unresponsive and not breathing normally

Common questions

Is medical shock the same as emotional shock?

No. Emotional shock describes a psychological response to a frightening or distressing event. Medical shock is a failure of the circulation to deliver enough oxygen to organs. Emotional distress alone does not usually cause circulatory shock.

Can you be in shock with normal blood pressure?

Yes. Blood pressure can remain normal early on because the body narrows blood vessels and increases the heart rate. Confusion, rapid breathing, poor skin circulation, or reduced urination may appear before a clear blood pressure drop.

Can shock be cured?

Shock can sometimes be fully reversed when the cause is treated quickly. For example, circulation may recover after bleeding is stopped or an allergic reaction is treated. Severe or prolonged shock may cause lasting organ damage despite treatment.

How quickly does shock develop?

It may develop within minutes after major bleeding or anaphylaxis. In other situations, such as infection or gradual internal bleeding, it can worsen over hours. Any concerning pattern should be treated as an emergency rather than watched at home.

Should I give water to someone in shock?

No. A person in shock may vomit, lose consciousness, or need urgent surgery or anesthesia. Keep them warm and wait for emergency professionals unless a dispatcher gives different instructions.

How long does recovery take?

Recovery can range from days to many months. It is influenced by the cause, the length of intensive care, organ injury, and health before the event. Rehabilitation and follow-up can support physical and emotional recovery.

Sources

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