CONDITION

Sudden infant death syndrome

Sudden infant death syndrome is the unexplained death of a baby younger than 1 year after a complete investigation.

WHAT IT IS
Unexplained sudden death of an infant younger than one year

BODY SYSTEM
Breathing and nervous system regulation

MAIN SYMPTOMS
No warning signs, unresponsive, not breathing, limp

WHAT CAUSES IT
Unknown, likely several interacting factors

HOW IT IS DIAGNOSED
Autopsy, death-scene investigation, and medical history

MAIN TREATMENT
Emergency resuscitation attempts and bereavement support

CAN IT BE CURED?
No, the event is fatal by definition

IS IT AN EMERGENCY?
Yes, when an infant is unresponsive or not breathing normally

LONG-TERM OUTLOOK
Fatal for the infant; grief support helps families

Overview

Sudden infant death syndrome, or SIDS, is the sudden and unexplained death of a baby younger than 1 year. It is sometimes called crib death, although it can happen wherever a baby sleeps.

SIDS is diagnosed only after a thorough investigation finds no other explanation. That investigation usually includes an autopsy, a review of the baby's medical history, and an examination of where the baby died.

SIDS is one type of sudden unexpected infant death, often shortened to SUID. SUID is a broad term that includes any sudden, unexpected death during infancy. Some deaths are later explained by suffocation, infection, heart disease, a genetic condition, or another cause. Those deaths are not classified as SIDS.

Most SIDS deaths happen during sleep or in a sleep environment. Researchers believe that some babies may have difficulty responding normally when breathing or oxygen levels change during sleep. Safe-sleep practices can lower the risk, but they cannot prevent every case.

Symptoms

SIDS does not usually cause warning symptoms that families can recognise beforehand. A baby may have appeared healthy before being found unresponsive.

Signs at the time of discovery may include:

These signs are an emergency, but they do not confirm SIDS. Other medical problems can also cause a baby to become unresponsive. SIDS can be diagnosed only after the death has been fully investigated.

Brief changes in breathing, colour, muscle tone, or responsiveness in a living baby are not called SIDS. They still need medical assessment because there may be another cause.

- No response to touch or sound
- No normal breathing
- Limpness
- Blue, grey, or unusually pale skin, lips, or tongue

Causes and risk factors

The exact cause of SIDS is unknown. A widely used explanation is the "triple-risk model." This suggests that SIDS may occur when three things come together:

An underlying vulnerability may involve how the brain controls breathing and waking from sleep. In most cases, this cannot be detected before death.

The risk is higher during the first 6 months of life, although SIDS can occur at any time before the first birthday. Babies born prematurely or with a low birth weight also have a higher risk.

Sleep-related factors associated with higher risk include sleeping on the stomach or side, soft or inclined sleep surfaces, loose bedding, and objects around the baby's face. Sharing a sleep surface with another person raises risk, especially when the adult smokes, has used alcohol or sedating drugs, or is extremely tired. Sofas and armchairs are particularly dangerous places to sleep with a baby.

Exposure to tobacco smoke during pregnancy or after birth also raises risk. These factors

affect risk; they do not prove why an individual baby died. SIDS can happen even when a family has followed safe-sleep advice.

- A baby has an underlying vulnerability
- The baby is in a sensitive stage of early development
- An outside stressor affects breathing, heart rate, temperature, or waking

Diagnosis

There is no screening test that can predict SIDS in a living baby. After a sudden unexpected death, emergency clinicians and the medical examiner or coroner investigate possible causes.

A complete investigation generally includes:

Genetic testing may sometimes be considered, particularly if the history suggests an inherited heart rhythm or metabolic disorder. A finding that explains the death may lead to a diagnosis other than SIDS and may have implications for close relatives.

If no cause is found after an appropriate investigation, the death may be certified as SIDS or as an unexplained sudden infant death. The terms used can differ between jurisdictions and medical examiners.

- An autopsy, which is a detailed examination of the body after death
- Examination and documentation of the place where the baby was found
- Review of the baby's health, growth, recent symptoms, and medical records
- Review of pregnancy and family medical history
- Laboratory tests, which may include tests for infection, toxins, or metabolic conditions

Treatment and management

SIDS is a diagnosis made after death, so there is no treatment that can reverse it. When a baby is found unresponsive or not breathing normally, nobody can know the cause immediately. Emergency resuscitation should be attempted unless emergency professionals advise otherwise.

Call the local emergency number, place the phone on speaker if possible, and follow the dispatcher's instructions. Start infant CPR if you know how, or let the dispatcher guide you. An automated external defibrillator, or AED, can be used if one is available and its instructions are followed.

After a sudden infant death, the family will usually have contact with emergency staff, investigators, and a medical examiner or coroner. The investigation can feel difficult, but its purpose is to look carefully for an explanation. Questions about the sleep setting are a routine part of this process and do not by themselves mean that someone is being blamed.

Bereavement support is an important part of care. This may include support from a primary care clinician, counsellor, spiritual adviser, peer group, or specialist infant-loss service. If the investigation identifies a possible inherited condition, close relatives may be offered specialist assessment.

Complications

SIDS is fatal for the baby. Its wider effects can continue for a long time for parents, siblings, grandparents, and other caregivers.

Grief may involve shock, guilt, anger, anxiety, sleep problems, or difficulty concentrating. Some people develop depression or symptoms of post-traumatic stress. Relationships may be strained because people grieve in different ways.

The investigation and delay in receiving final results can add uncertainty. Families may also feel anxious about future pregnancies or the sleep of another baby. These reactions deserve support, even when they begin months after the death.

Prevention

SIDS cannot always be prevented. Safe-sleep practices lower the chance of SIDS and other sleep-related infant deaths, but they do not remove all risk.

For every sleep, including naps:

If a baby rolls over independently, continue placing them on their back at the start of sleep. They usually do not need to be repeatedly turned back, as long as the sleep space is firm and empty.

Avoid overheating and keep the baby's head uncovered. Dress the baby appropriately for the room rather than adding loose blankets. Weighted blankets, weighted sleep clothing, and weighted swaddles are not safe for infants.

Swaddling has not been shown to prevent SIDS. If it is used, the baby should always be placed on their back, and swaddling should stop when the baby shows signs of trying to roll.

Avoid smoking and nicotine during pregnancy and around the baby. Breastfeeding is

associated with a lower risk of SIDS. Offering a pacifier at sleep time may also reduce risk; if it falls out after the baby is asleep, it does not need to be replaced.

Home breathing and heart-rate monitors have not been shown to prevent SIDS. A monitor prescribed for a particular medical problem should be used as directed, but it does not replace safe-sleep practices. Routine vaccinations should be kept up to date.

- Place the baby on their back
- Use a firm, flat, level sleep surface designed for infants
- Keep the sleep space empty except for a fitted sheet
- Keep pillows, blankets, bumpers, toys, and sleep positioners out
- Use a separate infant sleep space in the caregiver's room, ideally for at least the first 6 months
- Avoid sleeping with a baby on a sofa, armchair, or adult bed

Living with it and what to expect

There is no recovery course for a baby after SIDS because the event is fatal. For the family, the following months and years may involve both grief and the practical effects of a sudden death.

The investigation may take weeks or months. Sometimes it identifies another cause; sometimes the death remains unexplained. A lack of answers can be especially hard, but it does not mean the family failed to notice something.

Grief often changes over time rather than following a fixed series of stages. Birthdays, holidays, the anniversary of the death, and another pregnancy may bring strong feelings back. Some people want to talk often, while others prefer privacy. Neither response is automatically unhealthy.

Future siblings are not certain to experience SIDS. Families can review current safe-sleep advice before another baby arrives. If testing suggests an inherited disorder, a genetics or heart specialist may explain whether relatives need further testing.

Support remains appropriate long after the immediate event. Persistent guilt, panic, low mood, nightmares, or difficulty managing daily life can be discussed with a healthcare professional or bereavement service.

When to get medical help

Call emergency services immediately if a baby:

Begin infant CPR and follow the emergency dispatcher's instructions. Do not wait to see whether the baby improves.

Seek urgent medical assessment for a living baby who has pauses in breathing, marked breathing difficulty, a major colour change, unusual limpness, a seizure, or severe difficulty waking. These events are not SIDS, but they may signal another serious problem.

Routine help is appropriate if you want advice about a baby's sleep space or have concerns about breathing during sleep. After an infant death, arrange support if grief, anxiety, or sleep problems are making everyday life difficult.

Get immediate crisis help if grief leads to thoughts of suicide, self-harm, or being unable to remain safe.

- Is unresponsive or cannot be woken
- Is not breathing normally or is only gasping
- Becomes limp
- Has blue or grey lips or tongue

Common questions

Is SIDS the same as suffocation?

No. Suffocation means that something blocked breathing and is an identified cause of death. SIDS remains unexplained after a complete investigation. Both are included under the broader term sudden unexpected infant death.

Can SIDS happen when a baby is awake?

SIDS is most often associated with a sleep period, but the diagnosis is based on the unexplained nature of the death rather than the name of the room or furniture involved. A sudden collapse while awake needs the same emergency response and full investigation.

Can a baby monitor prevent SIDS?

No home monitor has been shown to prevent SIDS. Movement, oxygen, and heart-rate monitors may also cause false alarms. They do not replace placing a baby on their back in a firm, flat, empty sleep space.

Is bed-sharing safe if I do not smoke?

Bed-sharing still carries more risk than placing a baby in a separate infant sleep space. Risk is especially high with smoking, alcohol, sedating medicines or drugs, extreme tiredness,

prematurity, or a sofa or armchair.

Is SIDS the parents' fault?

SIDS can happen without warning, including in families who followed safe-sleep guidance. Risk factors do not prove that one action caused an individual death. Investigations are intended to find an explanation, not to assume blame.

At what age does the risk of SIDS end?

SIDS is defined as occurring before a baby's first birthday. The risk is greatest during the first 6 months and becomes lower as the baby grows, but safe-sleep practices should continue throughout infancy.

Sources

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