

What is Sudden Infant Death Syndrome?

What is Sudden Infant Death Syndrome (SIDS)?

Sudden Infant Death Syndrome (SIDS) is the "sudden death of an infant under one year of age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of the clinical history" (Willinger, et al., 1991).

What Are the Most Common Characteristics of SIDS?

Most researchers now believe that babies who die of SIDS are born with one or more conditions that make them especially vulnerable to stresses that occur in the normal life of an infant, including both internal and external influences. SIDS occurs in all types of families and is largely indifferent to race or socioeconomic level. SIDS is unexpected, usually occurring in otherwise apparently healthy infants from 1 month to 1 year of age. Most deaths from SIDS occur by the end of the sixth month, with the greatest number taking place between 2 and 4 months of age. A SIDS death occurs quickly and is often associated with sleep, with no signs of suffering. More deaths are reported in the fall and winter (in both the Northern and Southern Hemispheres) and there is a 60- to 40-percent male-to-female ratio. A death is diagnosed as SIDS **only** after all other alternatives have been eliminated: SIDS is a diagnosis of exclusion.

What Are Risk Factors for SIDS?

Risk factors are those environmental and behavioral influences that can provoke ill health. Any risk factor may be a clue to finding the cause of a disease, but risk factors in and of themselves are not causes.

Researchers now know that the mother's health and behavior during her pregnancy and the baby's health before birth seem to influence the occurrence of SIDS, but these variables are not reliable in predicting how, when, why, or if SIDS will occur. Maternal risk factors include cigarette smoking during pregnancy; maternal age less than 20 years; poor prenatal care; low weight gain; anemia; use of illegal drugs; and history of sexually transmitted disease or urinary tract infection. These factors, which often may be subtle and undetected, suggest that SIDS is somehow associated with a harmful prenatal environment.

How Many Babies Die From SIDS?

From year to year, the number of SIDS deaths tends to remain constant despite fluctuations in the overall number of infant deaths. The National Center for Health Statistics (NCHS) reported that, in 1988 in the United States, 5,476 infants under 1 year of age died from SIDS; in 1989, the number of SIDS deaths was 5,634 (NCHS, 1990, 1992). However, other sources estimate that the number of SIDS deaths in this country each year may actually be closer to 7,000 (Goyco and Beckerman, 1990). The larger estimate represents additional cases that are unreported or underreported (i.e., cases that should have been reported as SIDS but were not).

When considering the overall number of live births each year, SIDS remains the leading cause of death in the United States among infants between 1 month and 1 year of age and second only to congenital anomalies as the leading overall cause of death for all infants less than 1 year of age.

How Do Professionals Diagnose SIDS?

Often the cause of an infant death can be determined only through a process of collecting information, conducting sometimes complex forensic tests and procedures, and talking with parents and physicians. When a death is sudden and unexplained, investigators, including medical examiners and coroners, use the special expertise of forensic medicine (application of medical knowledge to legal issues). SIDS is no exception.

Health professionals make use of three avenues of investigation in determining a SIDS death:

- (1) the autopsy,
- (2) death scene investigation, and,
- (3) review of victim and family case history.

The Autopsy

The autopsy provides anatomical evidence through microscopic examination of tissue samples and vital organs. An autopsy is important because SIDS is a diagnosis of exclusion. A definitive diagnosis cannot be made without a thorough postmortem examination that fails to point to any other possible cause of death. Also, if a cause of SIDS is ever to be uncovered, scientists will most likely detect that cause through evidence gathered from a thorough pathological examination.

A Thorough Death Scene Investigation

A thorough death scene investigation involves interviewing the parents, other caregivers, and family members; collecting items from the death scene; and evaluating that information. Although painful for the family, a detailed scene investigation may shed light on the cause, sometimes revealing a recognizable and possibly preventable cause of death.

Review of the Victim and Family Case History

A comprehensive history of the infant and family is especially critical to determine a SIDS death. Often, a careful review of documented and anecdotal information about the victim's or family's history of previous illnesses, accidents, or behaviors may further corroborate what is detected in the autopsy or death scene investigation.

Investigators should be sensitive and understand that the family may view this process as an intrusion, even a violation of their grief. It should be noted that, although stressful, a careful investigation that reveals no preventable cause of death may actually be a means of giving solace to a grieving family.

What SIDS Is and What SIDS Is Not

SIDS Is:

- the major cause of death in infants from 1 month to 1 year of age, with most deaths occurring between 2 and 4 months
- sudden and silent--the infant was seemingly healthy
- currently, unpredictable and unpreventable
- a death that occurs quickly, often associated with sleep and with no signs of suffering
- determined only after an autopsy, an examination of the death scene, and a review of the clinical history
- designated as a diagnosis of exclusion
- a recognized medical disorder listed in the International Classification of Diseases, 9th Revision (ICD-9)
- an infant death that leaves unanswered questions, causing intense grief for parents and families

SIDS Is Not:

- caused by vomiting and choking, or minor illnesses such as colds or infections
- caused by the diphtheria, pertussis, tetanus (DPT) vaccines, or other immunizations
- contagious
- child abuse
- the cause of every unexpected infant death

Any sudden, unexpected death threatens one's sense of safety and security. We are forced to confront our own mortality (Corr, 1991). This is particularly true in a sudden infant death. Quite simply, babies are not supposed to die. Because the death of an infant is a disruption of the natural order, it is traumatic for parents, family, and friends. The lack of a discernible cause, the suddenness of the tragedy, and the involvement of the legal system make a SIDS death especially difficult, leaving a great sense of loss and a need for understanding.

References:

Corr, C.A., Fuller, H., Barnickol, C.A., and Corr, D.M. (Eds). *Sudden Infant Death Syndrome: Who Can Help and How*. New York: Springer Publishing Co., 1991.

Goyco, P.G., and Beckerman, R.C. "Sudden Infant Death Syndrome." *Current Problems in Pediatrics* 20(6):299-346, June 1990.

National Center for Health Statistics. "Advanced Mortality Statistics for 1989." *Monthly Vital Statistics Report*, Vol. 40, No. 8, Supp. 2, January 7, 1992, p. 44.

National Center for Health Statistics. "Advance Report of Final Mortality Statistics, 1988." *Monthly Vital Statistics Report*, Vol. 39, No. 7, Supp. 1990, p. 33.

Willinger, M., James, L.S., and Catz, C. "Defining the Sudden Infant Death Syndrome (SIDS): Deliberations of an Expert Panel Convened by the National Institute of Child Health and Human Development." *Pediatric Pathology* 11:677-684, 1991.

Information Sheet #1 was originally published in 1993.

This publication was produced by the National Sudden Infant Death Syndrome Resource Center, 2070 Chain Bridge Road, Suite 450, Vienna, VA 22182, (703) 821-8955, (operated by Circle Solutions, Inc.). The Resource Center is an affiliate of the National Center for Education in Maternal and Child Health and is a service of the U.S. Department of Health and Human Services, Public Health Service, Health Resources and Services Administration, Maternal and Child Health Bureau. This publication is not copyrighted; it may be reproduced in whole or in part without permission. However, in accordance with accepted publishing standards, it is requested that proper credit be given to the source(s). The views in this publication do not necessarily reflect the views of the sponsoring agency.
