Joint Statement on Safe Sleep
Reducing Sudden Infant Deaths in Canada

Sudden infant deaths that occur during sleep continue to be a significant public health concern in Canada. This joint statement provides health practitioners with current evidence-based information so they may offer guidance to parents and caregivers to help reduce the risks.

Background

Sudden infant deaths in Canada

Sleep-related sudden infant deaths occur unexpectedly in otherwise healthy infants. They include deaths due to Sudden Infant Death Syndrome (SIDS) as well as accidental deaths caused by suffocation or strangulation in bed.

SIDS

SIDS is defined as the sudden death, during sleep, of an infant less than one year of age, which remains unexplained after a thorough case investigation, including the performance of a complete autopsy, an examination of the death scene and a review of the clinical history.[1] Current medical and scientific evidence explains SIDS as a multifactorial disorder arising from a complex interaction of underlying vulnerabilities of the infant and the environment.[2][3][4] However, the exact cause or causes of SIDS remains unknown.

SIDS can occur at any time during the first year of life but peaks between 2 and 4 months, with fewer SIDS deaths occurring after 6 months.[5][6][7] There is a higher incidence of SIDS in infants who are male, premature or of low birth weight.[5][6][8] Further research is necessary to increase our understanding of the biological causes and mechanisms that predispose some infants to sudden infant deaths relative to non-affected infants in seemingly comparable circumstances.

Large-scale epidemiological studies over the last two decades have increased our understanding of SIDS and identified certain modifiable risk factors. The most important modifiable risk factors for SIDS are infants sleeping in the prone position, and exposure to tobacco smoke prenatally and after birth.[9][10][11][12][13][14][15][16][17]

Common terms

SUID (sudden unexpected infant death)—also referred to as **SUDI** (sudden unexpected death in infancy) is a broad term used to describe all sudden, unexpected infant deaths for which a cause is not immediately clear.

Once investigated, some SUIDs can be explained by a specific cause (for example, an underlying infection or disease, accidental suffocation or strangulation in bed (**ASSB**), etc.). When a death cannot be explained, it is called **SIDS**.

While the terms SUID/SUDI have sometimes been used by death certifiers as an alternative to a final SIDS diagnosis, the practice is not recommended given the imprecision of these umbrella terms.[25][27][28] It has been noted that there can be inconsistency in the meaning of the "U"—which may represent unexpected, undetermined, unknown, unexplained, or unascertained in actual usage.[28]

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Government of Canada / Gouvernement du Canada
Canadian Paediatric Society / Société canadienne de pédiatrie
Baby's Breath / Souffle de bébé

The rate of SIDS has declined significantly since the late 1980's. Between 1999 and 2004, Canada observed a 50% decrease in the rate of SIDS, which coincided with the launch of recommendations to place infants on their back to sleep, a message reinforced by the Back to Sleep campaign in 1999. [18] [19] The decline may also be attributable, in part, to a decrease in maternal smoking during pregnancy and an increase in breastfeeding. [19] [20]

A similar decline in the SIDS rate in the United States in the 1990s was found to be partially attributed to a shift in diagnosis away from SIDS towards deaths from accidental suffocation and strangulation, as well as other/unspecified causes. [21] [22] An analysis of Canadian data did not support a change in reporting practices as the explanation for the SIDS decline during that time period. [23]

In the years that followed, there was little change in the SIDS rate in Canada. Between 2007 and 2011, 5.8% of all infant deaths (0 to 1 year of age) and 19.6% of postneonatal deaths (28 days to 1 year of age) were attributed to SIDS. [24]

Over the last decade, there has been a notable shift in reporting practice for infant deaths, in Canada as well as globally, making it challenging to assess the prevalence of SIDS. Since 2012, SIDS is no longer being used for the classification of infant deaths in most provinces/territories in Canada. These deaths are instead classified as "undetermined" cause. The practice raises serious concern about implications for SIDS surveillance and research, as well as worries about the unsettling impact for bereaved families left without a diagnosis. [25] [26] [27] [28] This has prompted calls for the establishment of consistent classification categories for SIDS and other unexplained sudden deaths in infants, including clear definitions and guidance for death certifiers. [28]

Based on the last available data (pre 2012), the highest rate of SIDS in Canada is in Nunavut, where the SIDS mortality has been found to be over 3 times the Canadian rate. [20] Alarming disparities persist among Canada's Indigenous population, with a SIDS rate more than seven times higher than the non-Indigenous population. [29] Canadian research has also identified differences in SIDS rates based on neighbourhood income, with the ratio of SIDS being about two times greater in the lowest income quintile compared to the highest. [30]

Other causes

Other causes of death that occur while an infant is sleeping include unintentional suffocation or asphyxiation due to overlay or entrapment. These deaths can be difficult to distinguish from SIDS and many of the risk factors are similar. [31] [22] These risk factors include the presence of soft or loose bedding, using a sleeping surface that is not designed for infant sleep, and infants sharing a sleeping surface with an adult or another child—particularly when combined with the presence of at least one other risk factor. [9] [16] [32] [33] [34] [35] [36] [37] [38] [39] [40] [41]

In Canada, threats to breathing (suffocation, choking, strangulation) were the most common underlying cause of unintentional death for infants under the age of one, representing 69% of accidental deaths. [42] Infants under 4 months accounted for the vast majority (70%) of these deaths. [42]

BRUE vs SIDS

There is no evidence connecting BRUE as a risk factor for SIDS. A *brief resolved unexplained event* (BRUE) is when an infant younger than one year stops breathing, has a change in muscle tone, turns pale or blue in color, or is unresponsive. The event occurs suddenly, lasts less than a minute, is completely resolved, and there is no explanation for the event after a thorough history and exam. [43] [44] In the past, these events were mistakenly thought to be precursors to SIDS, and were referred to as *near-miss SIDS* or *aborted SIDS*. These terms were abandoned in the 1980s when the evidence confirmed **no correlation between these events and SIDS**. [43] The evidence continues to confirm that there are, in fact, more differences than similarities between BRUE and SIDS. The only risk factor that has been shown to influence both is maternal smoking. [44]

Principles of Safe Sleep

Key modifiable factors that reduce the risk of SIDS and other sleep-related infant deaths:

Infants placed on their backs to sleep, for every sleep, have a reduced risk of SIDS.

Infant sleep position is one of the most significant modifiable factors to reduce the risk of infant sleep-related deaths. Prone and lateral sleeping positions are linked to increased rates of SIDS; even infants who regurgitate should be placed to sleep on their backs.[9][11][16][39][45][46][47][48][49][50] Infants who normally sleep on their backs and are then placed to sleep in the prone position are at particularly high risk.[45][46][11] This reinforces the importance of consistently placing infants on their backs to sleep at home, in childcare settings and when travelling. **Sleep positioners** or any other infant sleep positioning devices should not be used as they pose a risk of suffocation.[51][52]

Once infants are able to roll from their backs to their stomachs or sides, it is not necessary to reposition them onto their backs. However, soft or loose bedding and other objects can pose a suffocation hazard if the infant rolls onto them, so parents/caregivers should continue to keep the infant's sleep area clear.[41]

Although **positional plagiocephaly**, commonly referred to as flat head, is most commonly caused by supine sleep position, the condition can largely be prevented. Placing the infant's head towards alternating ends of the crib will help to encourage the infant to lie equally on both sides of the head. When awake, infants will benefit from supervised tummy time, several times every day, to prevent plagiocephaly and counteract any effects of regular back sleeping on muscle development.[53][54][55]

Despite the intention to follow safe sleep recommendations, not all parents/caregivers put their babies in the supine position for every sleep.[56] Canadian research has found that mothers with lower levels of formal education were more likely to place their infants in a non-supine sleep position.[57] Another study found particularly high rates of non-supine infant sleep position among the Inuit population.[58] These findings suggest the need for tailored health promotion strategies for specific populations.

Preventing exposure to tobacco smoke, before and after birth, reduces the risk of SIDS.

Maternal smoking during pregnancy is an important risk factor for SIDS.[6][9][14][39][59][60][61][62] The risk of SIDS associated with maternal smoking is dose-dependant.[9][63][12][64] Women who reduce the amount of cigarettes smoked during pregnancy can reduce the risk of SIDS for their infant, and those who stop smoking can further reduce the risk.[9][10][15] It is estimated that one third of all SIDS deaths could be prevented if maternal smoking was eliminated.[65][66][67]

Infants who are exposed to second-hand smoke after birth are also at greater risk of SIDS, and this risk increases with the level of exposure.[68][10][14]

Smoking and **bed sharing** appear to have a synergistic effect. The risk of SIDS is significantly higher for infants that bed share with an adult who is a smoker or if their mother smoked during pregnancy.[64][69][70][71][72]

There is little published research on **cannabis** exposure and SIDS. As cannabis smoke contains many of the same harmful chemicals as tobacco smoke, avoiding infant exposure before and after birth is strongly advised. Vaping cannabis does not eliminate the potential risk.[120][121]

The use of **vaping products** has increased dramatically in recent years. While often marketed as a means to reduce smoking, vaping products are a less harmful option only for existing smokers who quit smoking completely and switch to vaping. Vaping while pregnant exposes infants to nicotine as well as a host of other potentially harmful substances. [73] [74] [75] Until there is further evidence on the long term health effects, it is safest to avoid vaping during pregnancy and to protect infants from exposure to second-hand vapour from vaping products. [76] [77] [78]

The safest place for an infant to sleep is in a crib, cradle or bassinet that meets current Canadian regulations.

Cribs, cradles, bassinets (including bassinet attachments for playpens) are regulated in Canada and are the safest places for an infant to sleep.

When infants sleep on surfaces that are not designed for them, such as sofas, armchairs and adult beds, they are more likely to become trapped and suffocate, in particular when the surface is shared with an adult or another child. [71] [32] [16] [39] [38] [79] [80]

A safe infant sleep surface:

- Has a firm, flat mattress with a tightly fitted sheet;
- Has no gaps between the mattress and sides, where the infant could become trapped;
- Is free of soft bedding, bumper pads, toys and sleep/head positioners.

Infant sleep products that attach to the adult bed are not recommended. These products present a risk of suffocation and entrapment. [51]

A crib, cradle or bassinet should never be modified and should always be used according to the manufacturer's instructions.

Toys and soft bedding such as pillows, duvets, quilts, comforters and bumper pads increase the risk of suffocation and should not be placed in an infant's crib, cradle or bassinet. [16] [33] [34] [35] [36] [37] [38] [41] [40] [81]

Overheating is a risk factor for SIDS. [82] Infants are safest when placed to sleep in simple, fitted sleepwear that is comfortable at room temperature and does not cause them to overheat. Infants do not require additional blankets as infants' movements may cause their heads to become completely covered and cause them to overheat. [83] [84] If a blanket is used, infants are safest with a thin, lightweight blanket. [51] If a sleep sack is used, it should be sized properly to protect the infant from slipping down inside the sleep sack. [85]

Swaddling is often used to calm infants and promote sleep. Swaddled infants have an increased risk of death when they roll or are placed prone. [86] [87] [88] If swaddling is used, the infant should always be placed on their back and swaddling discontinued as soon as the infant shows signs of trying to roll. Care should be taken to ensure that a swaddled infant's mouth and nose remain well clear of the blanket, and that the infant is wrapped in a way to allow free movement of the hips and legs. [89]

Products that maintain an infant in a seated position, such as car seats, strollers, swings and bouncers, are not intended for infant sleep. When sleeping in a seated position, an infant's head can fall forward and their airway can become blocked. [90] [91] For that reason, if an infant falls asleep while travelling in a car seat or stroller, they should be moved to a crib, cradle or bassinet once the destination is reached. Similarly, when using inclined products such as bouncers or swings, which are often used to lull infants to sleep, the infant should be moved to a crib, cradle or bassinet once asleep.

Babies may also fall asleep in **baby slings or carriers**. It is important that the baby always be in an upright position, with their face in full view, and without any obstruction to their airway when in a baby sling or carrier. If the baby is positioned incorrectly, their chin may fall forward and they can suffocate against the product's fabric, the wearer's body, or their own chest. [92] [93] [94] [90]

Infants who share a room with a parent or caregiver have a lower risk of SIDS.

Room sharing refers to a sleeping arrangement where an infant's crib, cradle or bassinet is placed in the same room and near the parent or caregiver's bed. Infants who share a room have a lower risk of SIDS and will benefit from room sharing for the first 6 months, the period of time when the risk of SIDS is highest. [14] [79] [95] [96] Room sharing facilitates breastfeeding and frequent contact with infants at night.

Bed sharing describes a sleeping arrangement where an infant shares a sleeping surface, such as an adult bed, sofa, or armchair, with an adult or another child. Sharing a sleeping surface increases the risk of SIDS, suffocation from overlay or entrapment, and overheating. [39] [71] [79] [97] [98] The risk is particularly high for infants less than 4 months of age, or if the infant was born preterm or with low birthweight. [98] [71] [99] Other factors that put infants at greater risk when bed sharing include:

- When an infant shares a sleeping surface with a parent or caregiver who smokes, has consumed alcohol, is under the influence of illicit drugs or medications that may cause drowsiness, or is overly tired. [14] [39] [42] [69] [70] [71] [95] [96]
- If the infant's mother smoked during the pregnancy. [64] [69]
- Sleeping with an infant on a soft surface, such as a sofa, armchair, waterbed or air mattress. [32] [42] [69] [71] [100]
- Not placing the infant on their back. [16] [42] [69]
- The presence of loose bedding, pillows, blankets and other objects in the bed. [69]
- When an infant shares the bed with more than one person or animal. [16] [42]

Safe sleep away from home

It is important that infants have a safe sleep space when sleeping away from home, including in **child care settings, when visiting or travelling**. Bassinet attachments for playpens provide a safe option until the infant starts rolling over or exceeds the weight limit for the attachment. Playpens themselves are not regulated for infant sleep in Canada and do not meet the same safety requirements as cribs, cradles or bassinets (including bassinet attachments for playpens). If used as a temporary sleep space while travelling, it is important to ensure the playpen is securely set up following the manufacturer's instructions and that precautions are taken to create a safe infant sleep surface. An extra mattress or padding should never be added to a playpen, and it should be clear of soft items, bedding and toys. Particular attention should be given to the location of the playpen within the room to make sure no additional risks, such as strangulation hazards posed by corded window coverings or electrical cords, are introduced into the sleep environment.

Recent Canadian data indicates that bed sharing is a common practice that parents employ for practical reasons. [101] A third of mothers reported sharing a bed with their infant everyday or almost everyday and an additional 27% reported doing so occasionally. Breastfeeding was the most commonly cited reason for infant bed sharing, followed by facilitating sleep for the infant or mother. Given the prevalence, parents should be aware of the factors that put infants at greatest risk when bed sharing, so they can knowingly avoid them.

The term *co-sleeping* can refer to a range of sleeping practices that include both bed sharing and room sharing. Definitions of this term are not consistent enough to make it universally acceptable.

Breastfeeding provides a protective effect for SIDS.

Breastfeeding is associated with a decreased risk of SIDS.[102][103][104][105] The evidence indicates that breastfeeding for **at least 2 months** is necessary to provide a protective effect, and is associated with half the risk of SIDS, with greater protection provided with increased duration.[102] Although exclusive breastfeeding is preferred given the many associated health benefits, exclusive breastfeeding does not appear to provide added protection from SIDS over any breastfeeding.[102]

In Canada, as well as globally, exclusive breastfeeding is recommended for the first **six months**, and continued for up to 2 years or longer along with age-appropriate complementary feeding.[107]

Canadian research has estimated that increasing efforts to promote, protect and support breastfeeding could help prevent a substantial proportion of SIDS mortality, particularly among Indigenous infants in Canada.[106]

Successful breastfeeding is not dependent on sharing a sleeping surface.[14][39] However, parents who may bring their infant into bed to breastfeed should be aware of the factors that increase the risks associated with bed sharing. Moving the infant back to sleep in a crib, cradle or bassinet following the feeding will minimize any potential risk.[39][96][70]

Other modifiable factors:

In addition to these key principles, other factors that can affect the risk of SIDS and other sleep related infant deaths include:

Pacifiers

Some evidence suggests that pacifiers may provide a protective effect for SIDS.[36][108][109][110][111][112] Infants who accept a pacifier should have one consistently, for every sleep.[109][113] A pacifier is not required to be reinserted if it is expelled during sleep.

While there is no solid evidence to demonstrate that pacifier use impairs breastfeeding, it is recommended to delay the introduction of a pacifier until breastfeeding is well established.[114]

Alcohol and substance use

Alcohol and opiate use during pregnancy are associated with an increased risk of SIDS.[115][116][117] Parental alcohol and substance use are also associated with a significantly higher risk of infant death when combined with bed sharing.[118][119][42][70]

Immunizations

Immunization does not increase the risk of SIDS and may even lower the risk.[122][123][4] Infants should receive their vaccinations according to the schedule established in their province/territory.

Home monitors: Despite marketing claims, there is no evidence that home sleep monitors—used to detect infant breathing, heart rate or movement—reduce the incidence of SIDS.[44][124] These products can provide a sense of false reassurance. Priority should be placed on the principles of safe sleep as the most effective way to decrease the risk of SIDS.

Summary

Sudden infant deaths that occur during sleep continue to be a significant public health concern in Canada. The most important modifiable factors that can lower the risk are:

- Placing infants on their backs to sleep for every sleep.
- Protecting infants from exposure to tobacco smoke, before and after birth.
- Providing a safe sleep environment for infants. The safest place for an infant to sleep is in a crib, cradle or bassinet, free of soft loose bedding, placed in the parent's room for the first 6 months.
- Breastfeeding—for at least 2 months, with greater protection provided with longer duration.
- Practicing the principles of safe sleep FOR EVERY SLEEP—at home, in childcare settings and when travelling.

Although bed sharing is not advised, parents/caregivers should be aware of the factors that put infants at greatest risk when bed sharing so they can take steps to avoid them.

Health care providers are encouraged to share and discuss guidance on safe sleep practices with parents/caregivers of infants, beginning in pregnancy.

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