



POSITION STATEMENT

Re-breathing Carbon Dioxide and Overheating: Leading Risk Factors for SIDS

INTRODUCTION

Thanks to years of research, experts have been able to develop risk reduction recommendations that can help parents and caregivers provide the best possible chance for their baby to survive and thrive. We hope the following information will help you understand why these recommendations are so important in caring for your baby.

While the recommendations cover many of the challenges faced by our babies, most of them revolve around providing a “safe sleep area” for your baby. So we would like to spend some time talking about this in relation to re-breathing carbon dioxide and overheating; two of the leading causes of Sudden Infant Death Syndrome or SIDS.

Providing a safe sleep area for your baby is one of the most important things you can do to ensure their safety. To eliminate as much risk as possible, babies should be placed to sleep in a crib that meets current safety standards, on their back, on a firm, flat surface, with nothing around them that could block the flow of fresh air. On the other hand, we also know that there are times, either by choice or circumstance, that babies need to sleep in an area other than a crib. It is important to note that this vision of a safe sleep area must be duplicated no matter where your baby sleeps.

Now to understand why this is so important. A recent breakthrough in SIDS research has discovered the strongest evidence to date of a biological cause for these deaths. There is a population of babies that are born with a defect in their brainstem. This defect is in the area of the brain where serotonin is used and recycled. Serotonin controls all of the baby’s major bodily functions such as heart rate, breathing, arousal, temperature and blood pressure. SIDS victims do not have enough serotonin receptors to carry important messages to the brain. In other words, in situations where an alarm would normally sound in the baby’s brain to help them respond to a challenge, no alarm is sent and the baby sleeps through the challenge and can die – suddenly and unexpectedly. Researchers are hopeful that they will soon find a way to identify babies with this defect, but to date we have no way to know which babies have this defect.

It is critical that all babies are cared for according to these recommendations in order to remove as much risk as possible for SIDS.

WHAT IS RE-BREATHING?

As human beings, when we exhale we exhale carbon dioxide. This exhaled air is very low in oxygen. When babies sleep on their tummy, or there is soft bedding or other items in their sleep area, this exhaled air can build up around their head and face. Instead of breathing fresh air, the baby “re-breathes” his exhaled air. Most babies would wake up and respond, but babies that have the brain disorder do not. If babies are placed on their back to sleep, we eliminate the possibility for this exhaled air to build up. This is why we have been able to reduce SIDS rates

by more than 50 percent, just by placing babies on their back to sleep. Another leading cause of re-breathing is soft and fluffy bedding. It can block the flow of fresh air to the baby and cause them to re-breathe too much carbon dioxide. This is why it is so important to remove all soft items from your baby's sleep area, especially once they start moving around during sleep. These items include pillows, blankets, comforters, soft or pillow-like bumpers, stuffed animals and any other soft items.

WHAT ABOUT OVERHEATING?

Overheating has also been identified as a leading risk factor for SIDS. Again, in some babies the alarm doesn't sound and the baby doesn't respond to the overheating . . . which can trigger a SIDS death. Take care not to overheat your baby with too much clothing or too warm a room. Babies are fine in whatever would be comfortable for a lightly clothed adult.

Adult beds (as we know them in the U.S.), greatly increases the risk for rebreathing and overheating. Research shows that the risk is high **EVEN IF THE BABY IS SLEEPING ON HIS BACK!**

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