

## **The “Safe to Sleep” Program Proves Infant Monitoring of Oxygen Can Save Lives**

The “Safe to Sleep” program is a set of recommendations for creating a safe sleep environment for infants. It was introduced in the early 1990’s, originally called the “Back to Sleep” program, and its adoption resulted in a more than 50% deduction in the SIDS death rate for infants over the next decade. These recommendation have been updated over the years to provide the current set of recommendations for a safe infant sleep environment. However, these recommendations have not eliminated all deaths, and there are still 3000 to 4000 deaths per year of infants dying in their sleep.

The cause of SIDS is still unknown, and many other of the non-SIDS deaths are classified as accidental suffocation, strangulation, various minor medical problems, like respiratory congestion, etc. Most of these deaths have one thing in common. The infant’s final cause of death was lack of oxygen, asphyxia.

The recommendations of the “Safe to Sleep” program, which resulted in a significant reduction in death, were mainly designed to improve the infant’s oxygen intake. Sleeping on the back, sleeping without blankets, no loose clothing or pillows, not sharing a bed, smoke free environment, etc., all improve an infant’s oxygen intake. By optimizing an infant’s ease of oxygen intake, this resulted in a significant drop in the death rate. This is strong evidence the lack of oxygen intake (asphyxia) is the cause of many of these deaths.

There is really no other explanation for the drop in the death rate which resulted from the Safe to Sleep program. If the Safe to Sleep program by itself resulted in a reduction in deaths, then that percentage who were saved were saved from asphyxiation.

An infant’s oxygen levels can easily be monitored using pulse-oximetry, which measures the oxygen saturation of the blood. Today, there are wireless and portable devices available which can economically and conveniently be used in the home for monitoring the oxygen level of an infant during sleep. Pulse-oximeters monitor the oxygen saturation of the blood as a percentage of maximum saturation, SpO<sub>2</sub>. When the SpO<sub>2</sub> level goes below an unhealthy level, an alarm is sounded and the caretaker can take action. Usually, just arousing the infant from sleep is adequate from correcting the immediate problem. However, when SpO<sub>2</sub> is not measured, then the levels can continue to drop, eventually causing death.

The Safe to Sleep program’s success is based on the fact that by using the safe sleep recommendations, infants are less likely to intake insufficient oxygen. But,

there are still 3500 infants per year that die from SIDS and other sleep related causes. Many of these death are likely to be caused asphyxia. Obviously, oxygen deprivation is also the cause of death in accidently suffocation situations and other deaths of infants while sleeping.

In addition to the evidence of the "Safe to Sleep" program, there are many other studies that provide evidence that oxygen deprivation is predecessor to SIDS deaths.

It is therefore concluded that monitoring infant's oxygen levels during sleep will prevent many of the 3000 to 4000 infant deaths during sleep that occur every year.