

Reprinted from Wichita Post-Polio Support Group, Kansas Section, February 2001

PRIMARY SLEEP DISORDERS IN POST-POLIO SYNDROME

Sleep Disordered Breathing: Obstructive Sleep Apnea (OSA), Central Sleep Apnea (CSA) and Hypoventilation. Post-polio may cause breathing problems during sleep including OSA, CSA and Hypoventilation. During sleep important changes occur in the physiology of breathing. These include an increase in the resistance to airflow in the upper airway, reduced responsiveness to blood carbon dioxide level, and during REM sleep, reduced ventilatory effort. Because post-polio syndrome may affect control of the muscles of the upper airway, reflex responses to the level of oxygen and carbon dioxide in the blood, and weakness of muscles of respiration, these normal phenomena may be exaggerated. OSA results when the upper airway collapses and causes repeated interruptions in airflow (apneas). Apneas are terminated by arousal from sleep, which may occur scores, even hundreds of times per night resulting in sleep disruption. This may result in either hypersomnia or insomnia. OSA is a risk factor for hypertension (high blood pressure), myocardial infarction (heart attack), congestive heart failure (CHF) and stroke. Individuals with OSA are also at a seven times increased risk of motor vehicle accidents. OSA is suggested by a history of loud snoring, observed interruptions in breathing and daytime sleepiness.

OSA is very common, affecting 9% of women and 24% of men, and most cases remain undiagnosed. CSA occurs when the brain reflexes for triggering breathing during sleep are defective. This can occur due to brain diseases (such as some examples of post-polio syndrome) or cardiovascular diseases, and may co-exist with other breathing problems during sleep, such as OSA or hypoventilation. Many individuals with CSA have difficulty initially falling asleep because of frequent central apneas with arousal at the transition from wakefulness to sleep (transitional central apneas).