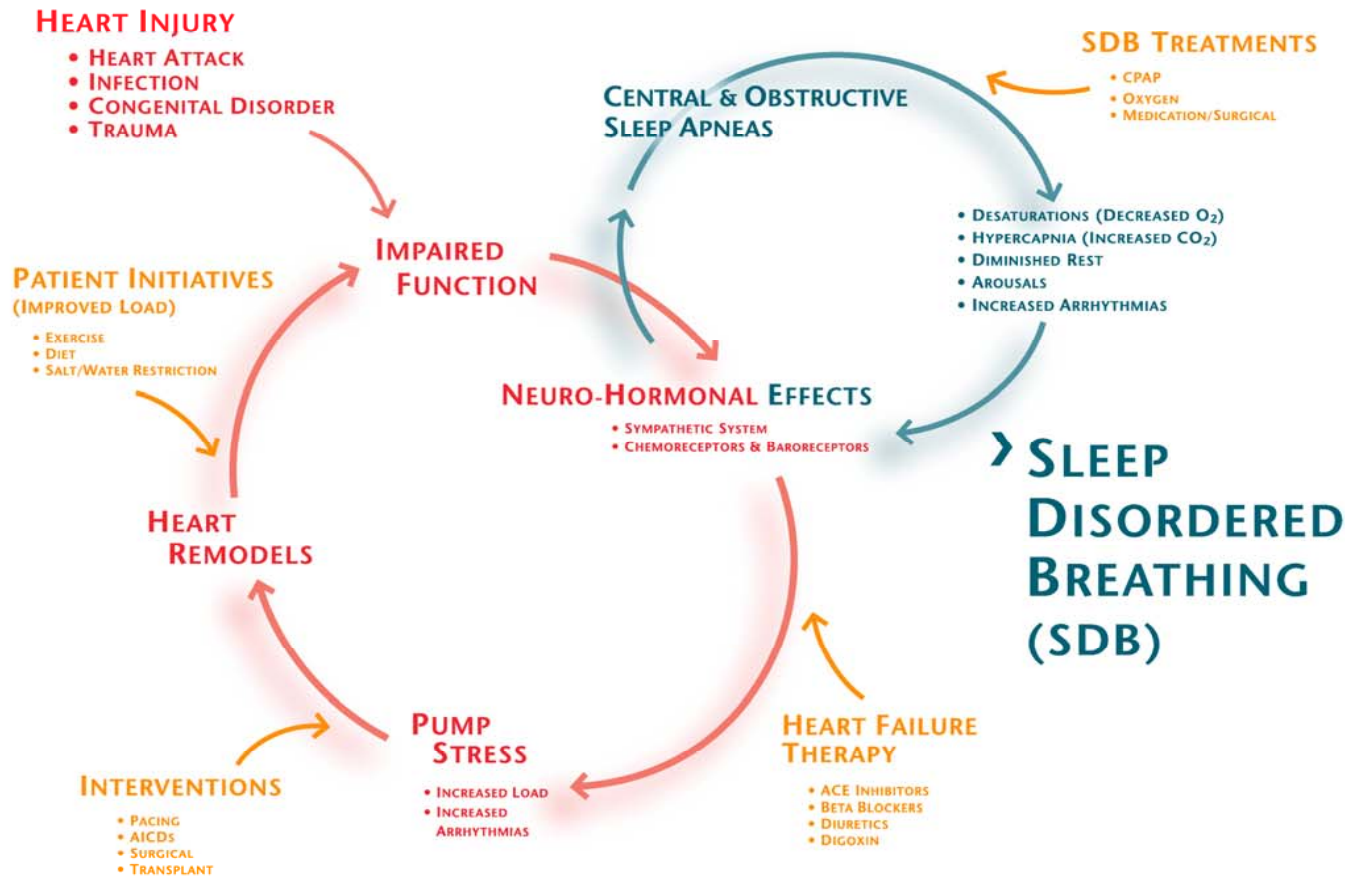


# HEART FAILURE



## CARDIAC AND PULMONARY

The vital need for oxygen links the cardiac and pulmonary functions. If the body experiences oxygen depletion – either through an inefficient pumping of blood, or through sleep disordered breathing – the brain triggers both the cardiac and pulmonary systems to react through neuro-hormonal signals. The result is an escalating heart failure cycle. Diagnosis, monitoring and treatment are essential to breaking the heart failure and sleep disordered breathing cycles.

## CENTRAL SLEEP APNEA (CSA)

Sleep-related cessation of breathing due to reduced signal output from the ventilatory control centers of the brain. CSA is the predominant manifestation of sleep disordered breathing in heart failure patients. This hidden disorder is difficult to differentiate from heart failure by symptoms alone.

## OBSTRUCTIVE SLEEP APNEA (OSA)

Sleep-related blockage or collapse of the upper airway, leading to an absence of airflow. OSA has been shown to occur at about the same frequency in heart failure patients as in other populations. This condition may be indicated in heart failure patients with excessive snoring, obesity and/or daytime sleepiness.