Researchers at the University of South Florida have developed a real-time respiratory monitoring device for the purpose of monitoring respiratory rates and their period rhythms or patterns in humans.

Respiration is an essential task of the human body; providing oxygen and removing carbon dioxide. In a normal state there is a consistent respiratory rate and period rhythm between the respiratory and cardiovascular systems. Monitoring the rate of respiration can give clues to the status of someone's health or the progression of their illness.

Changes in rate or breathing pattern is associated with serious personal illness. These illnesses include but are not limited to obstructive sleep apnea, cardiovascular disease, Cheyne-stroke, and heart failure. Breathing patterns can also be useful for diagnostic and therapeutic purposes. There is clearly a need for fast, reliable, and cost effective monitors of respiration.

Our researchers have invented a novel respiratory monitoring device, based on a microwire coil magneto-LC resonance sensor. This sensor detects a position varying source of a small magnetic field for real-time respiratory monitors of a patient.

**ADVANTAGES:**
- Real-time respiratory monitoring
- Monitors breathing rate
- Monitors breathing patterns and period rhythm
- Real-time eye/head motion monitoring

Display of a Healthy Man’s Respiration in Various and Controlled Modes as Monitored by Device