

**Title:           Cardiac Rate Variation Monitor for Neonatal Care**

<b>Invention Summary</b>	The statistical variability of the cardiac EKG peak-to-peak timing can be used as a measure of autonomic nervous system development. This variability is known as R-R variability (RRV). The inventor’s research has shown that autonomic development in neonates can be correlated to RRV. This invention is a monitor that provides RRV information. The information from the monitor may be provided as a power spectrum, phase shifts, tabulated statistics or any other method to convey the data.	
<b>Market Applications</b>	The improved assessment of neonatal autonomic nervous system development would aid the health-care team and family in making decisions regarding health care, feeding and human contact.	
<b>Features, Benefits &amp; Advantages</b>	<ul style="list-style-type: none"> <li>• The RRV monitor would “piggyback” with a standard EKG monitor and be interfaced in such a way that it receives a continuous signal for analysis.</li> <li>• A detailed statistical understanding of the RRV could provide both near term information on the health of the child and long term data on growth and development.</li> <li>• This could become a powerful clinical tool that would assist in identifying types of care that can promote ANS balance and function.</li> </ul>	
<b>Intellectual Property &amp; Development Status</b>	This concept-stage invention is the basis for one of the design projects for the Bioengineering 3801/4801 Design Class sequence, and will be further developed in that context. It is available for developmental research support/licensing under either exclusive or non-exclusive terms.	
<b>Related Research</b>	<a href="http://www.nurs.utah.edu/directory/faculty/smith_sandra.html">http://www.nurs.utah.edu/directory/faculty/smith_sandra.html</a>	
<b>U of U Researcher</b>	Sandra L. Smith, PhD, APRN – College of Nursing	
<b>Student Liaison</b>	Robert Hitchcock, PhD – Department of Biomedical Engineering	
<b>Licensing Contact</b>	Name: Frank Norris Email: <a href="mailto:frank@tco.utah.edu">frank@tco.utah.edu</a>	Title: Licensing Manager Direct Phone: 801-581-8057