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Semiparametric mixed models for nested repeated measures in medical monitoring studies

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The potential to characterize nonlinear progression over time is now possible in many health conditions due to advancements in medical devices and more frequent data collection. It is often of interest to investigate intervention effects using medical monitoring data collected before and after treatment; however, analytic challenges emerge. In this talk, semiparametric mixed-modeling extensions to accommodate nested repeated measurements will be presented. These extensions are well illustrated to the semiparametric mixed-model framework with an application to a prospective study of 24-hour ambulatory blood pressure monitoring in children with obstructive sleep apnea, where it is of interest to compare blood pressure patterns before and after surgical intervention.

Biography

Rhonda Szczesniak is an Assistant Professor in the Division of Biostatistics & Epidemiology and Director of the Pulmonary Biostatistics Core at Cincinnati Children's Hospital. She received her PhD from the University of Kentucky in 2007. Her primary research interests are functional data analysis, mixture models and computational medicine with applications to pulmonary diseases and disorders.

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