

John B. Bucuvalas, MD

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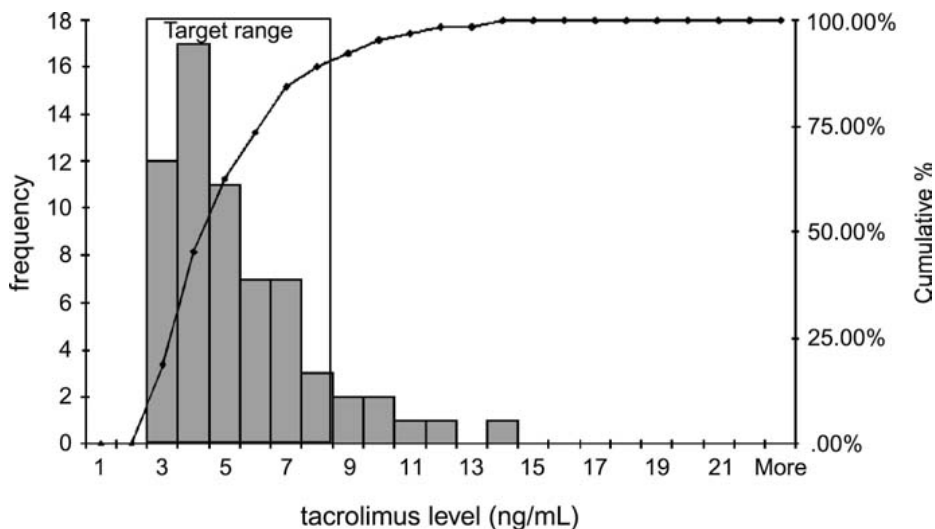
Description of Research:

Dr. Bucuvalas' research focuses on improving outcomes for children with liver disease before and after liver transplantation. He is the Steering Committee Chair for the NIH-funded Studies of Pediatric Liver Transplantation Consortium, and he is on the Executive Committee for the NIH-funded Pediatric Acute Liver Failure Consortium. In both cases, his focus has been on outcomes research. He has defined predictors of quality of life, clinical outcome and health care cost using large databases. These observational studies generate hypotheses and form the basis for translational research. More recently, he began collaboration with Dr. Campbell to study genetic predictors of post transplant calcineurin inhibitor-induced nephrotoxicity. All of these research efforts are aligned with his work in health care delivery and quality improvement and further demonstrate the close integration and interdependency of patient care and research in a population of patients with complex chronic care needs. This work has led to the development of a web-based information portal to provide pediatric liver transplant recipient, their families and health care providers inside and external to CCHMC timely access to critical clinical data so as to more effectively deliver care across the continuum of disease and over long distances. As part of this effort, he applied a novel statistical process control to increase the proportion of immunosuppressive medication blood levels in target range from 40 to 80%. These initiatives are implemented using an outcomes research platform to advance the field through innovative investigation.

Collaborations:

Dr. Bucuvalas collaborates with Dr. Campbell in studies investigating genetic predictors of renal disease following pediatric liver transplantation. These ongoing studies will greatly benefit from the biostatistical services of the DHC **Clinical Component** of the Administrative Core. He also collaborates with Dr. Bezerra on patient-based projects investigating outcome measures and clinical trials for children with biliary atresia.

Representative Figure:



Distribution of trough tacrolimus levels after implementation of the change package for the subgroup of patients >12 months after liver transplantation (n = 117). The box represents the target range for trough tacrolimus blood levels. The bars depict the frequency of the trough tacrolimus blood level. The line showing the cumulative percentage of trough tacrolimus levels blood levels is depicted by shaded diamonds. Fig. 4 from J Pediatr, 2005;146:744-50.