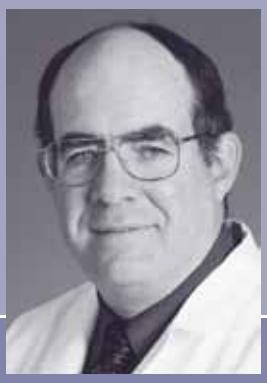
James D. Perkins, M.D.

· Clinical Outcomes Research in Transplantation

· Quality Performance Measures in Surgery



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Clinical Outcomes Research in Transplantation

Clinical outcomes research examines specific illnesses and therapies and evaluates whether current practices are truly effective. Questions are asked about such factors as medication dosages, operative techniques, information management, and infection control. Based on the results of these studies, protocols may be adjusted to give improved results. Improved results in the field of transplantation might take the form of higher patient survival rates, lower rejection rates concomitant with low infection rates, more effective use of immuosuppressive therapy, or shorter hospital stay.

Several of our recent projects have now been completed, producing useful data and publishable results, as shown in our list of Related Publications. Building on our discoveries of the clinical factors that predict the recurrence of hepatocellular carcinoma (HCC) after liver transplantation (references #4 and #5 below), we are extending these discoveries to the genomic level with the following study:

- **Identifying HCC Genomic Patterns that Predict Recurrence Following Liver Transplant** (James Perkins, M.D.; Matthew Yeh, M.D., Ph.D.; Michael Katze, Ph.D.; Cosette LeCiel, B.S., M.S.; Angela Rasmussen, Ph.D., Robert Carithers, M.D.)

Quality Performance Measures in Surgery

Related to clinical outcomes research, but at a broader perspective, is the development of relevant and accurate quality performance measures in surgery. Driven not only by the nationwide economic need to contain costs, but also by the pursuit of excellence and the emphasis on patient safety, the University of Washington Medical Center has been building computerized tracking systems to monitor events such as postoperative infections or bleeding that may signal areas in need of further attention. Such tracking systems are not simple: a complex code for illnesses, procedures, and complications, plus the training and discipline to use that code, are needed to make a tracking system work. Much time and effort could be saved if a computer could be "taught" to recognize certain phrases and record pertinent information. That is the goal of this new study:

- **Natural Language Processing to Determine Clinical Events for Quality Performance Measures** (Thomas Payne, M.D., MelihaYetisgen-Yildiz, Ph.D., James Perkins, M.D.)

Research Opportunities and Resources

The field of transplantation is rich in possibilities for both basic science and clinical research. We are most fortunate in the Division of Transplantation at the University of Washington to have not only interesting questions to pursue, but also available resources and an environment conductive to investigation. Our statistical expertise, together with our custom-designed clinical transplantation database, allows us to perform multiple clinical outcomes research projects as ideas are developed. Our transplant fellows are afforded an excellent opportunity to learn research methods and receive guidance and encouragement through faculty mentorship.

In the area of health care quality, the current economic and social environment provides the sense of urgency and the motivation needed to find better ways of doing things, ultimately leading to higher proficiency in the performance of surgery. Patients will be the beneficiaries of improvements we make relative to safety, performance measures, and optimum outcomes.

Our most valuable resources are our people – our gifted faculty and fellows who ask important questions and persevere until they find answers. We look forward to the answers our research will bring in order to improve the lives of patients who can benefit from transplantation and from the surgical care that we deliver.

RELATED PUBLICATIONS

1. Perkins JD, Levy AE, Duncan JB, Carithers RL. Using root cause analysis to improve survival in a liver transplant program. *J Surg Res* 129:6-16, 2005.
2. Chan EY, Larson AM, Gernsheimer T, Kowdley K, Carithers RL, Reyes JD, Perkins JD. Recipient and donor factors influence the incidence of graft-versus-host disease in liver transplant patients. *Liver Transpl* 13:516-522, 2007.
3. Chan EY, Olson LC, Kisthard JA, Perkins JD, Bakthavatsalam R, Halldorson JB, Reyes JD, Larson MA, Levy AE. Ischemic cholangiopathy following liver transplantation from donation after cardiac death donors. *Liver Transpl* 14:604-610, 2008.
4. Chan EY, Larson AM, Fix OK, Yeh MM, Levy AE, Bakthavatsalam R, Halldorson JB, Reyes JD, Perkins JD. Identifying risk for recurrent hepatocellular carcinoma after liver transplantation: implications for surveillance studies and new adjuvant therapies. *Liver Transpl* 14:956-965, 2008.
5. Lao OB, Weissman J, Perkins JD. Pre-transplant therapy for hepatocellular carcinoma is associated with a lower recurrence after liver transplantation. *Clin Transplant* 23:874-881, 2009.
6. Lao OB, Healey PJ, Perkins JD, Reyes JD, Goldin AB. Outcomes in children with intestinal failure following listing for intestinal transplant. *J Pediatr Surg* 45:100-107, 2010.
7. Spitzer AL, Dick AA, Bakthavatsalam R, Halldorson JB, Salvalaggio PR, Reyes JD, Perkins JD. Intraoperative portal vein blood flow predicts allograft and patient survival following liver transplantation. *HPB (Oxford)* 12:166-173, 2010.
8. Spitzer AL, Lao OB, Dick AA, Bakthavatsalam R, Halldorson JB, Yeh, MM, Upton MP, Reyes JD, Perkins JD. The biopsied donor liver: incorporating macrosteatosis into high-risk donor assessment. *Liver Transpl* 16:874-884, 2010.
9. Park ES, Peccoud M, Wicks KA, Halldorson JA, Carithers RL Jr, Reyes JD, Perkins JD. Use of an automated clinical management system improves outpatient immunosuppressive care following liver transplantation. *JAMIA* 17:396-402, 2010.

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