Quantifying the ‘Assistant Effect’ in Robotic-Assisted Radical Prostatectomy
Measures of Technical Performance

Mitchell G. Goldenberg1,2, Hossein Saadat1, Antonio Finelli1, Jason Y. Lee1, Teodor P. Grantcharov2, Rajiv K. Singal1
1Division of Urology, Department of Surgery, University of Toronto, Toronto, Canada
2International Centre for Surgical Safety, Keenan Research Institute, St. Michael’s Hospital, Toronto, Canada

Background
While robotic-assisted surgery (RAS) provides several advantages to the surgeon, it includes an increased reliance on the assistant role to complete important technical manoeuvres during a procedure. Despite the importance of this role, our ability to assess and understand the impact of the assistant’s technical skill on the surgeon’s performance during RAS remains limited.

Objectives
1. Provide validity evidence for a modified global rating scale, assessing bedside assistant skill in robotic surgery
2. Quantify the effect of assistant skill on surgeon technical performance during robotic-assisted radical prostatectomy (RARP)

Methods
1. Video from RARP cases prospectively collected at 3 hospitals
2. Dissection of the prostatic pedicle and neurovascular bundle step (NVB) was selected for analysis
3. Each video rated by at least 2 experts analysts

Validity Evidence for aOSATS

Conclusions
1. First study to investigate the relationship between assistant technical skill and surgeon performance during RARP
2. Validity evidence established for aOSATS tool – accuracy and reliability for assessing assistant skill in RAS
3. Surgeons with greater experience (> 100 cases) are disproportionately affected by technical ability of bedside assistant during NVB Step