

(MP34-16) MOTION ANALYSIS IN ENDOSCOPIC SURGERY: DEVELOPMENT OF AN ENHANCED SIMULATION PLATFORM TO AID IN RESIDENT TRAINING

Sylvia Koo^{2,3}, **Kai-Ho Fok**¹, Nuley Seo^{1,2}, Bader Alsaikhan^{1,2},
Brian Carrillo, Monica A. Farcas^{1,2,4}



UNIVERSITY OF
TORONTO

Division of Urology

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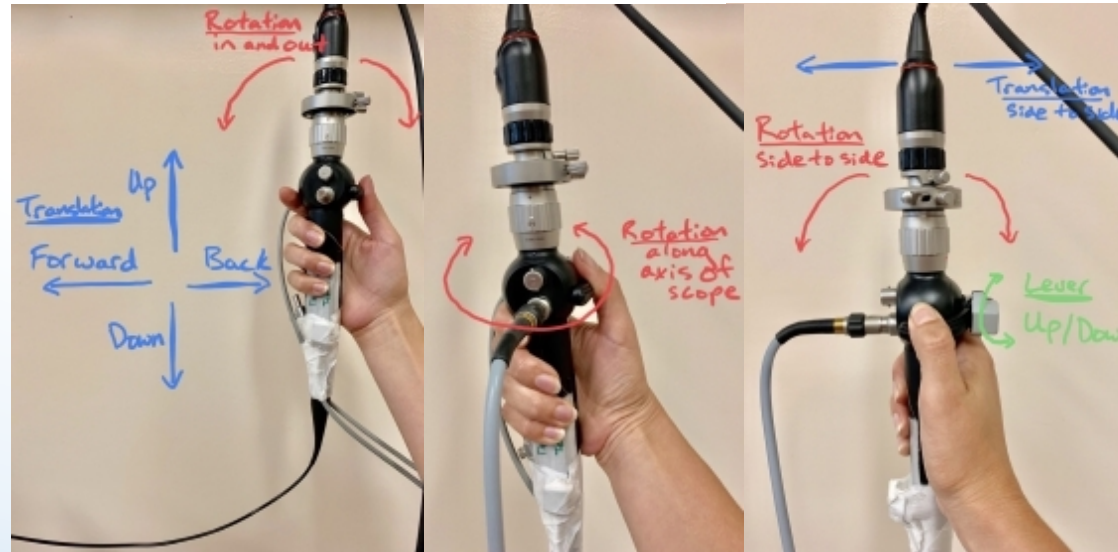
Introduction/Methods

- Motion tracking during surgical simulation training can provide valuable information to the trainee and for assessment.
- Motion analysis has been well-studied in laparoscopic surgery but not in endoscopic surgery.
- In this study, we developed a ureteroscopic surgery simulation with motion tracking capabilities and established motion analysis parameters

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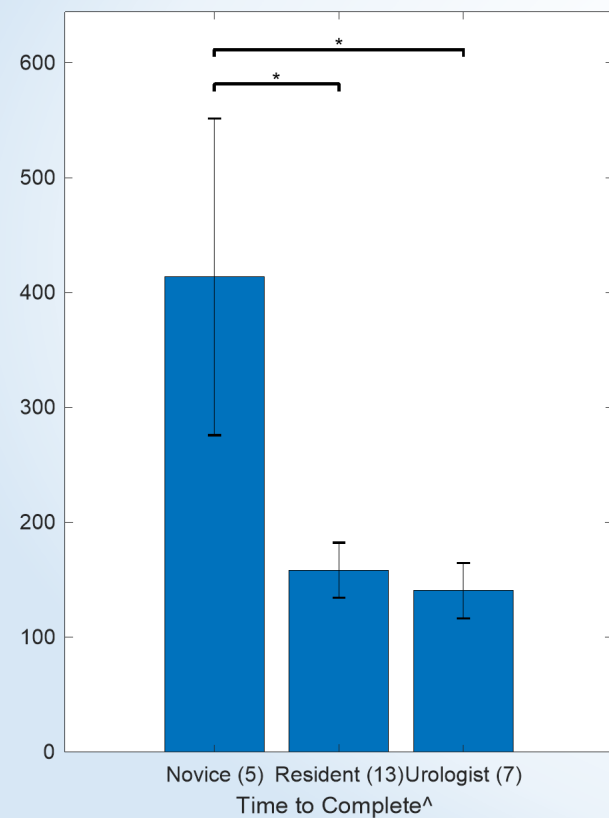
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Degrees of Freedom:

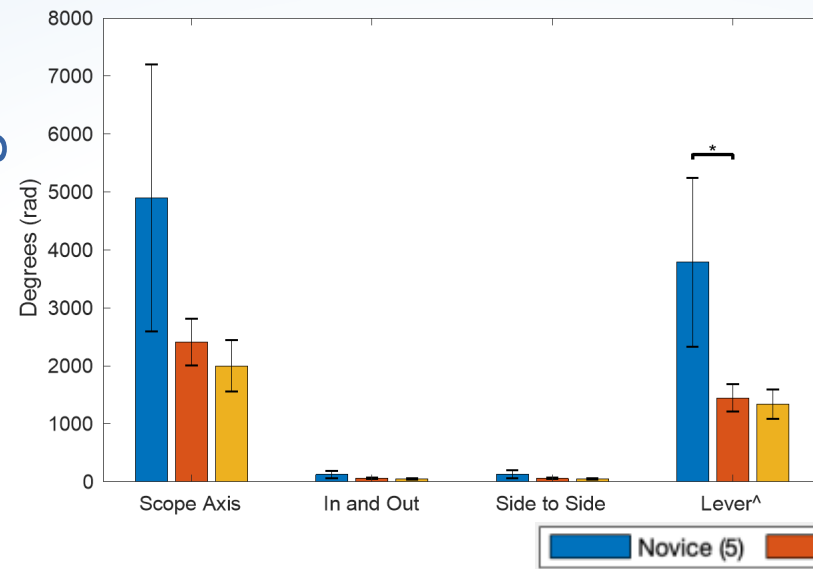
- Translational movement
 - Scope forward and back
 - Scope side to side
 - Scope up and down
- Rotational movement
 - Rotation along axis of scope
 - Rotation side to side
 - Rotation in and out
- Lever movement up and down

Time to Complete Task

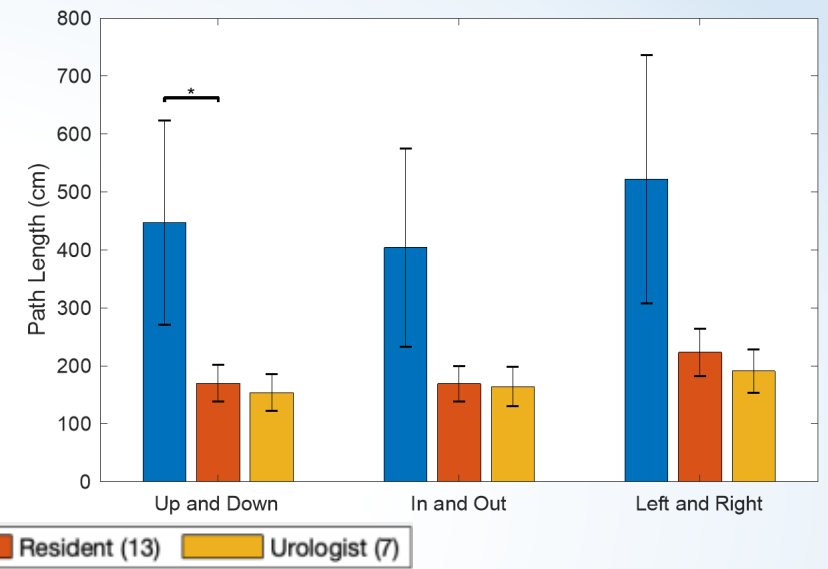


Rotational

Path Length



Translational



of direction changes

