

## EXTERNAL VALIDATION OF THE PARK SCORE FOR BOWEL PREPARATION CLEANLINESS DURING CAPSULE ENDOSCOPY

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**Background:** Capsule endoscopy is the test of choice for small intestinal diseases although it can be limited by poor bowel preparation. The Park score measures small intestinal cleanliness based on the % of mucosa visualized and % of view obstructed and is a promising tool for assessing small bowel preparation although further validation is required before it can be routinely used.

**Aims:** The objective of this study was to externally validate the Park score among a large number of readers with varying levels of expertise in capsule endoscopy.

**Methods:** A total of 20 readers consisting of 4 capsule endoscopists, 4 GI fellows, 4 internal medicine residents, 4 medical students, and 4 nurses were invited to participate in the study. All readers completed a web-based Training Module on the Park score followed by an Assessment Module which was repeated 4 weeks later. The Assessment Module consisted of 1,233 images derived from 25 randomly selected capsule videos. Images were selected at 5 minute intervals between the first duodenal and first cecal images of each video and readers rated the % of the mucosa visualized and the % of view obstructed as defined by the Park score. The primary outcome was inter-observer and intra-observer agreement for the total score and secondary outcomes included stratification by subscores and reader group. Agreement was determined based on intraclass correlation coefficients.

**Results:** The mean inter-observer and intra-observer agreement for the total Park score between all readers was 0.81 (95% CI 0.70-0.87) and 0.92 (0.87-0.94). Stratified by sub-scores, the mean inter and intra-observer agreement for % visualized mucosa was 0.79 (0.67-0.85) and 0.91 (0.86-0.93) and for % of view obstructed was 0.77 (0.64-0.84) and 0.91 (0.87-0.94). The agreement between capsule endoscopists and GI fellows, internal medicine residents, medical students, and nurses were 0.93 (0.88-0.97), 0.90 (0.82-0.95), 0.90 (0.82-0.95), 0.85 (0.74-0.92), respectively.

**Conclusions:** The Park score is a simple and reliable scoring system to measure small intestinal cleanliness with excellent agreement between a wide range of readers with varying levels of experience with capsule endoscopy.

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