Learning Curve in Single-Port Robotic Rectal Cancer Surgery: A Single Surgeon's Experience with 117 Consecutive Cases

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Methods and procedures: single-port robotic rectal cancer surgery performed by a single surgeon between July 2020 and July 2023. 118 consecutive patients who received sphincter-preserving TME

The learning curve was assessed using the Cumulative Sum (CUSUM) methodology, evaluating variations in total operative and console times across the sequence of cases.

Phase I (learning)	Phase II (proficiency)	Phase III (mastery)
Case 1 - 12	Case 13 - 33	Case 34 – 117

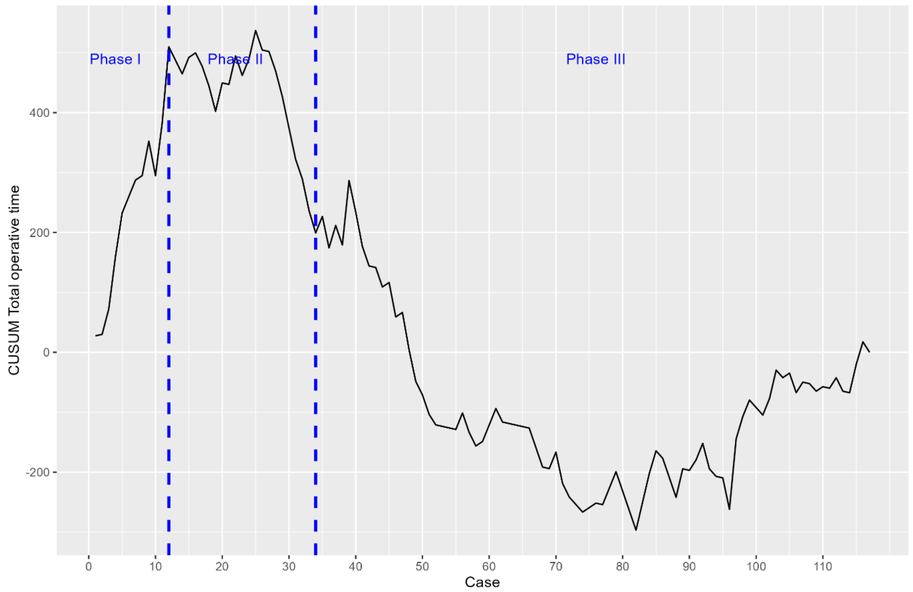


Figure 1. Three phases of total operative time in terms of the cumulative sum learning curve

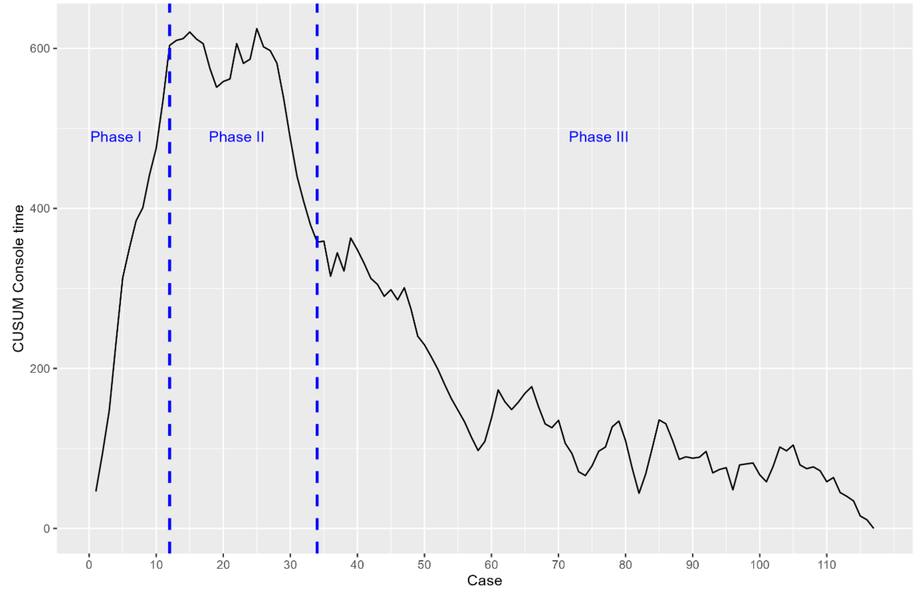


Figure 2. Three phases of console time in terms of the cumulative sum learning curve

Conclusions: The CUSUM analysis identifies three distinct phases in the learning curve for single-port robotic TME. For surgeons with prior experience in robotic surgery, proficiency in single-port robotic rectal cancer surgery is estimated to be attained after 12 cases.