

Standardized Documentation In Rectal Cancer Surgery To Improve Patient Safety

Timothy Browne, MS and Benjamin Delano, MD, FASCRS
University of Colorado School of Medicine, Colorado Springs Branch

Background

- Colorectal cancer is the third most common cancer worldwide. It is also the third deadliest cancer.¹
- In 2020, colorectal cancer is projected to cause 53,200 deaths in the United States.¹
- The annual incidence of colorectal cancer is 147,950 new cases; of those, 30% are localized to the rectum.¹

| Treatment of colorectal cancer by stage | |
|---|--|
| Stage I | Surgery |
| Stage II | Surgery +/- chemotherapy or radiation |
| Stage III | Chemotherapy +/- radiation and surgery |
| Stage IV | Chemotherapy +/- radiation and surgery |

- Implementation of checklists is credited with significant reductions in rates of inpatient complications and perioperative mortality.²
- Synoptic reporting is an important component of quality improvement and outcomes monitoring to document critical surgical elements and for future use in analysis and quality improvement.³

Project Aim

By April 1, 2020, 100% of patients who are treated for rectal cancer with surgery at Penrose Hospital will have standardized synoptic documentation in their operative note to describe critical elements of their surgery.

Description

There are three main components to this project:

- Retrospective EHR review of narrative operative notes for the essential elements of rectal cancer operative notes as described by the ASCRS.
- We will create and implement a standardized synoptic operative note template that incorporates all essential elements
- Following this implementation, we will evaluate the operative notes using the same standards as the narrative notes.

Results

ASCRS Critical Surgical Elements For Synoptic Report

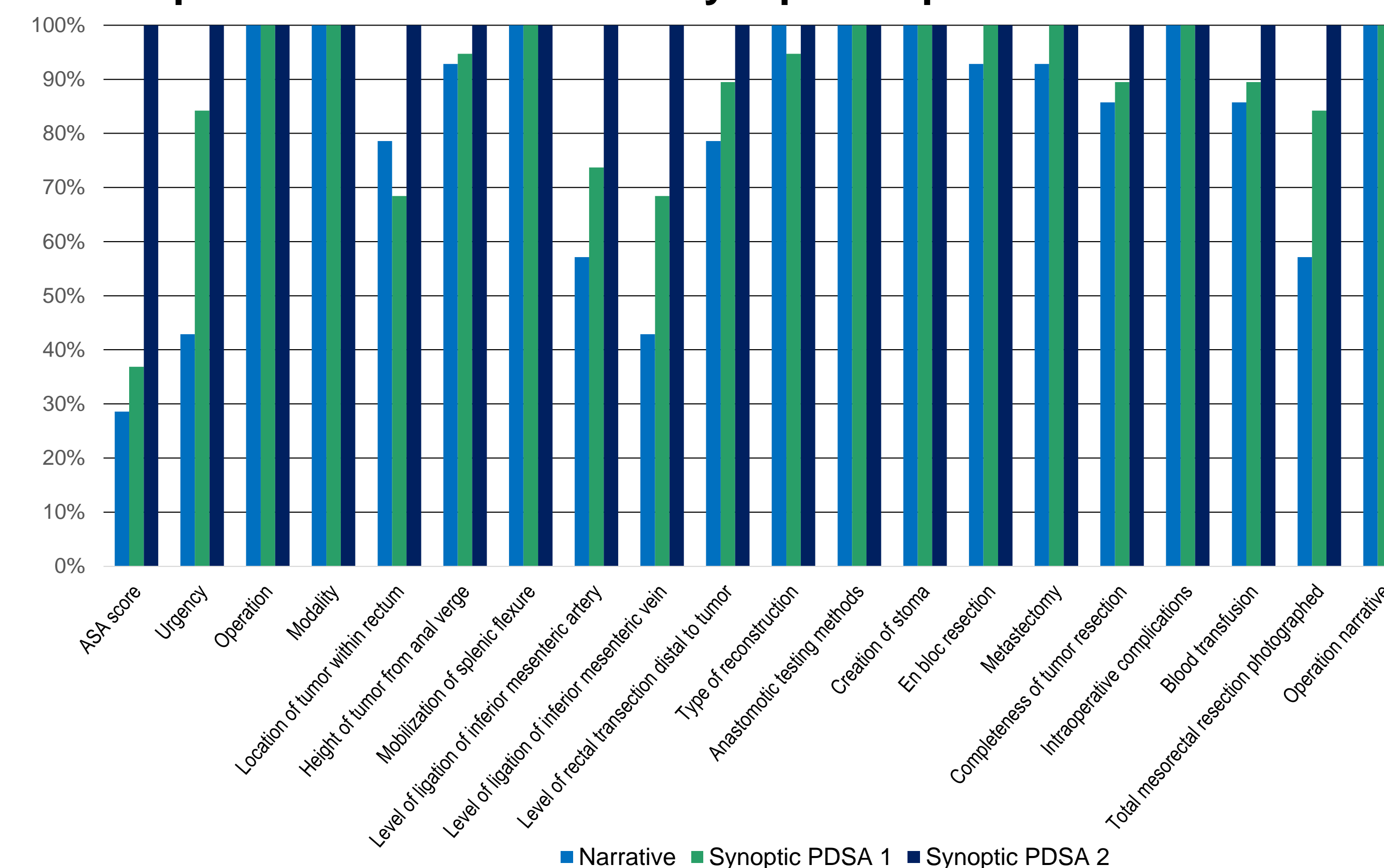
| | |
|---|---|
| ASA score | Type of reconstruction |
| Urgency | Anastomotic testing methods |
| Operation | Creation of stoma |
| Modality | En bloc resection |
| Location of tumor within rectum | Metastectomy |
| Height of tumor from anal verge | Completeness of tumor resection |
| Mobilization of splenic flexure | Intraoperative complications |
| Level of ligation of inferior mesenteric artery | Blood transfusion |
| Level of ligation of inferior mesenteric vein | Total mesorectal resection photographed |
| Level of rectal transection distal to tumor | Operation narrative |

Overview of EHR Charts Reviewed

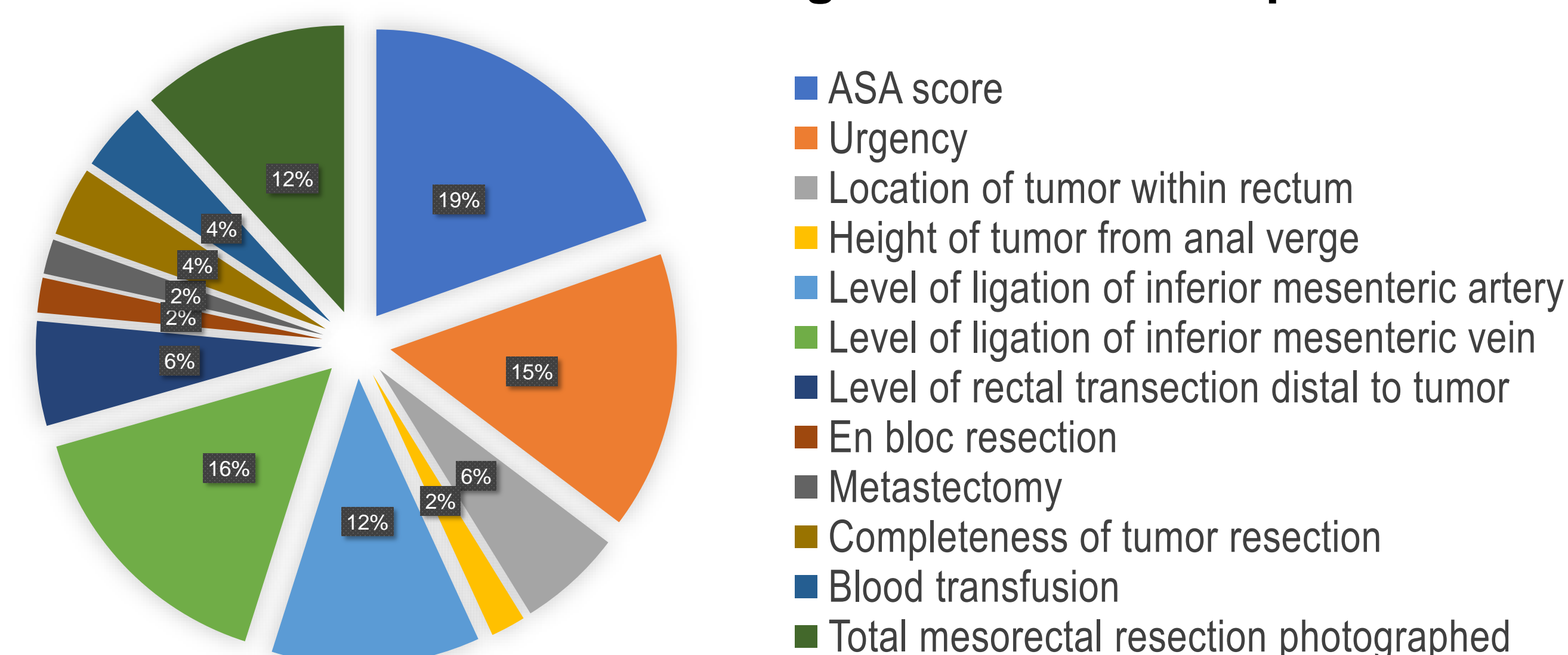
| | Narrative | Synoptic PDSA 1 | Synoptic PDSA 2 | Total |
|--------------------------|-----------|-----------------|-----------------|-------|
| Number of Patients | 14 | 19 | 3 | 36 |
| Reports Missing Elements | 11 (78%) | 7 (36%) | 0 (0%) | 18 |
| Emergent/Urgent | 0 | 2 | 0 | 2 |
| Complications (any)‡ | 8 | 10 | 1 | 19 |

‡ Some patients had more than one complication

Comparison of Narrative and Synoptic Reports Critical Elements



Most Common Elements Missing From Narrative Operative Note



Discussion

- EHR review identified missing components in 78% of narrative notes, 36% of dictated synoptic notes, and 0% of smart phrase synoptic notes.
- The smart phrase synoptic note intervention was effective in increasing the percentage of ASCRS critical surgical elements included in the operative notes
- This project filled a gap in rectal cancer surgery that will allow future quality improvement to patient safety and treatment outcomes.
- This documentation method will provide accessible data for future patient outcomes analysis. We have begun multivariate analysis of outcomes with our initial data.
- We will be able to perform automated chart extraction of synoptic reports and this will provide a robust dataset to analyze.

Conclusions

Synoptic operative reporting can be successfully implemented with an EHR smart phrase that contains appropriate essential surgical elements. This approach allows the physician to document more completely and has been shown in other studies to reduce errors and improve outcomes. This method, however, has limitations such as its scalability to other procedures.

Future Directions

In PDSA 3, we plan to implement improved Smart Lists for documenting elements more precisely and quickly.

References

- American Cancer Society. Cancer Facts and Figures 2020. Atlanta, Ga.
- Haynes AB et al. A surgical safety checklist to reduce morbidity and mortality in a global population. N Engl J Med. 2009;360:491– 499.
- Eryigit, Ö. et al. A Systematic Review on the Synoptic Operative Report Versus the Narrative Operative Report in Surgery. World J Surg 43, 2175–2185 (2019).