Cancer
Surgery
Standards
PROGRAM
AMERICAN COLLEGE OF SURGEONS

CoC Operative Standard 5.7: Total Mesorectal Excision

December 7, 2020

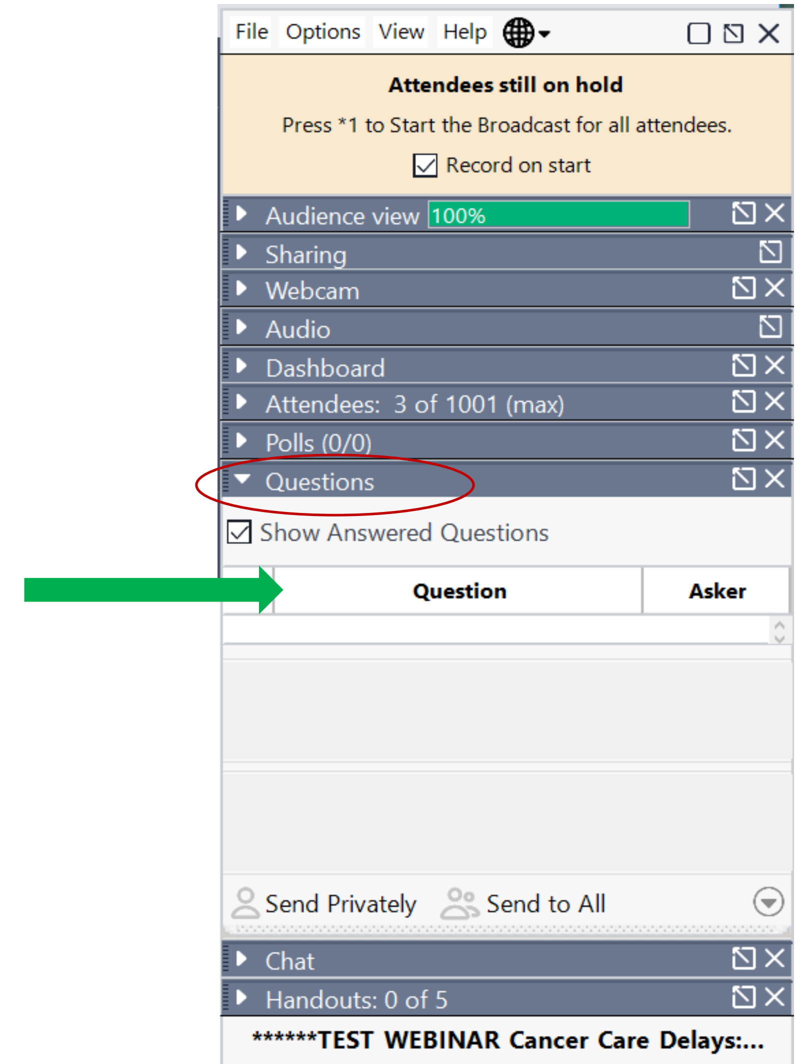
Presentation created by CSSP Education Committee

100+years

AMERICAN COLLEGE OF SURGEONS
Inspiring Quality:
Highest Standards, Better Outcomes

Webinar Logistics

- All participants are muted during the webinar
- Questions – including technical issues you may be experiencing – should be submitted through the question pane
- Questions will be answered as time permits
- Please complete the post-webinar evaluation you will receive via email



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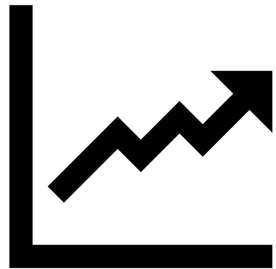
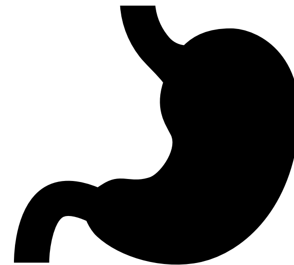
Cancer Surgery Standards Program (CSSP)

- The ACS launched the CSSP in June 2020, recognizing growing evidence that adherence to specific operative techniques leads to:

Longer survival | **Better surgical outcomes** | **Improved quality of life**





- Shift from standards based in facilities/equipment to **outcomes-based standards**

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Cancer Surgery Standards Program (CSSP)

- Mission: To **improve the quality of care** for persons with cancer

- Goals:
  - **Set evidence-based standards** for the technical conduct of oncologic surgery
  - **Educate surgeons** on the key technical aspects of oncologic procedures
  - **Create tools** which support implementation and adherence to the standards
    - Synoptic operative report templates
    - Integrated documentation in the Electronic Medical Record (EMR)

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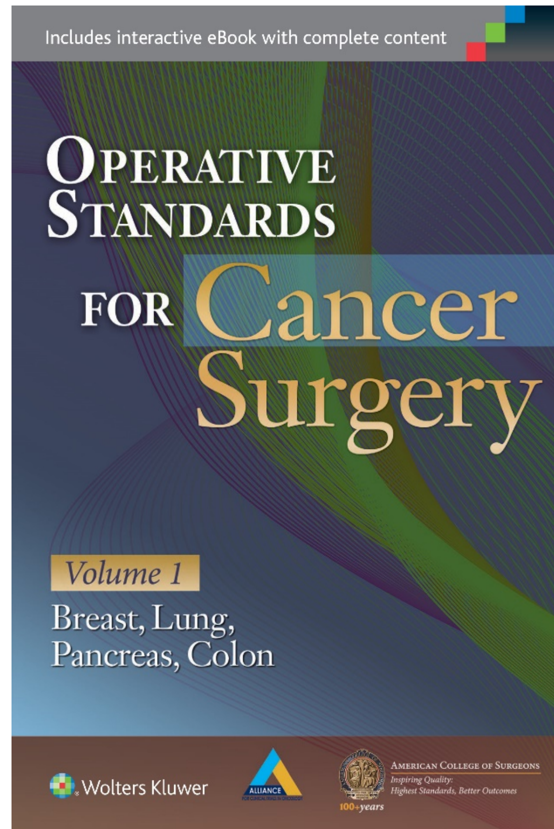
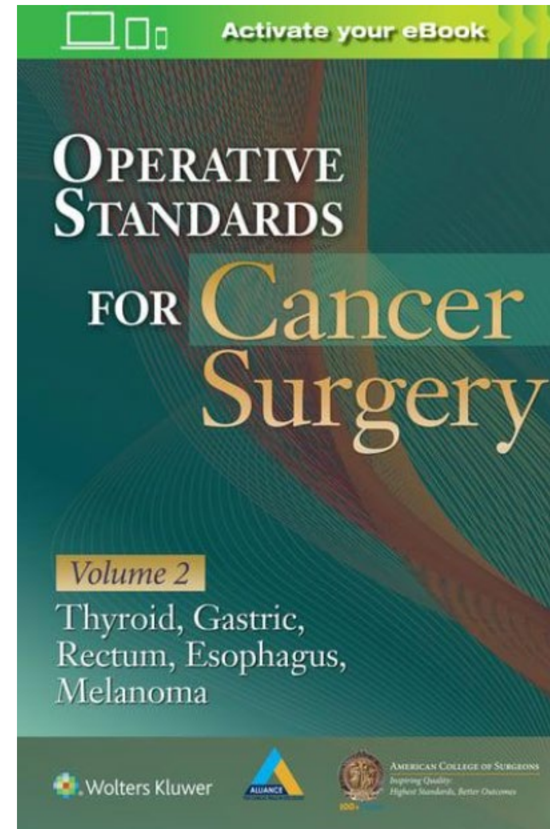
Operative Standards for Cancer Surgery





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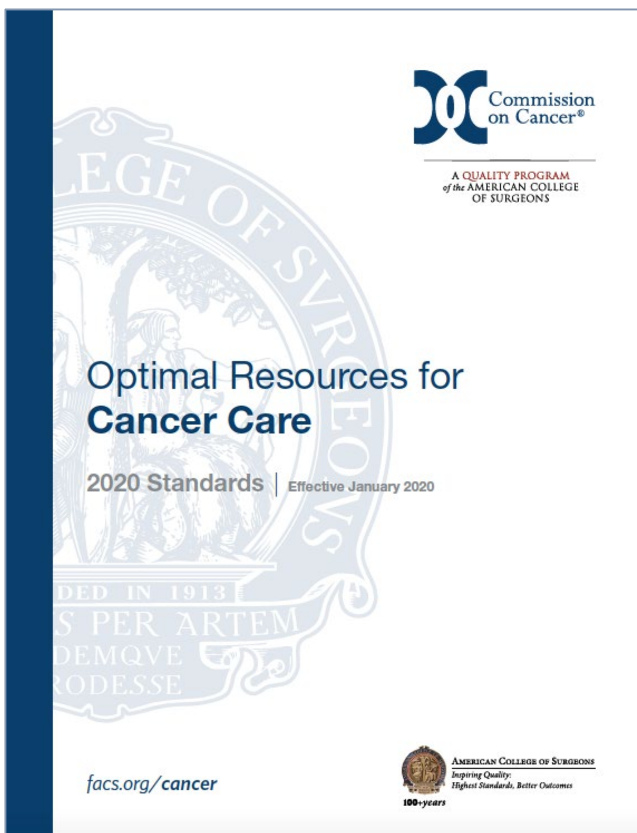
The CoC Operative Standards (2020)



Standard	Disease Site	Procedure	Documentation
5.3	Breast	Sentinel node biopsy	Operative report
5.4	Breast	Axillary dissection	Operative report
5.5	Melanoma	Wide local excision	Operative report
5.6	Colon	Colectomy (any)	Operative report
5.7	**Rectum**	**Mid/low resection (TME)**	**Pathology report (CAP)**
5.8	Lung	Lung resection (any)	Pathology report (CAP)

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Multidisciplinary panel

James Fleshman, MD, FACS, FASCRS

Patricia Sylla, MD, FACS, FASCRS

Mariana Berho, MD

Anthony Villano, MD

Jennie Jones, MSHI-HA, CHDA, CTR

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CoC Compliance Measures: Standard 5.7

1) TME is performed for patients undergoing radical surgical resection of mid to low rectal tumors

2) TME should result in a **complete or near-complete** total mesorectal excision

3) Pathology reports for resections of rectal adenocarcinoma **document the quality of TME resection** (complete, near-complete, or incomplete) **in synoptic format**.

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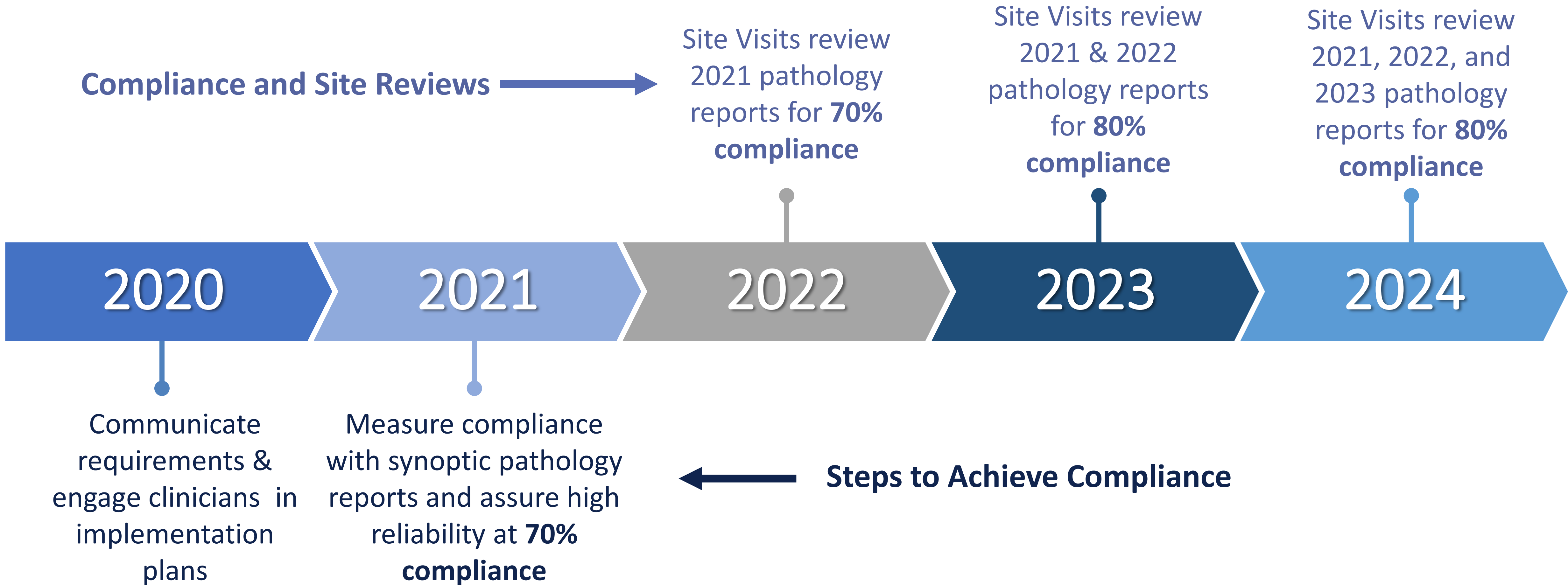
Timeline to Achieve Compliance: Standard 5.7



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facs.org/cssp

Cancer Surgery Standards PROGRAM AMERICAN COLLEGE OF SURGEONS

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Complete TME as an Operative Standard

- TME **minimizes** potential operative morbidity
- High quality TME **improves oncologic outcomes**
- TME has been accepted as **standard of care** across multiple societies: ASCRS, NCCN, NAPRC

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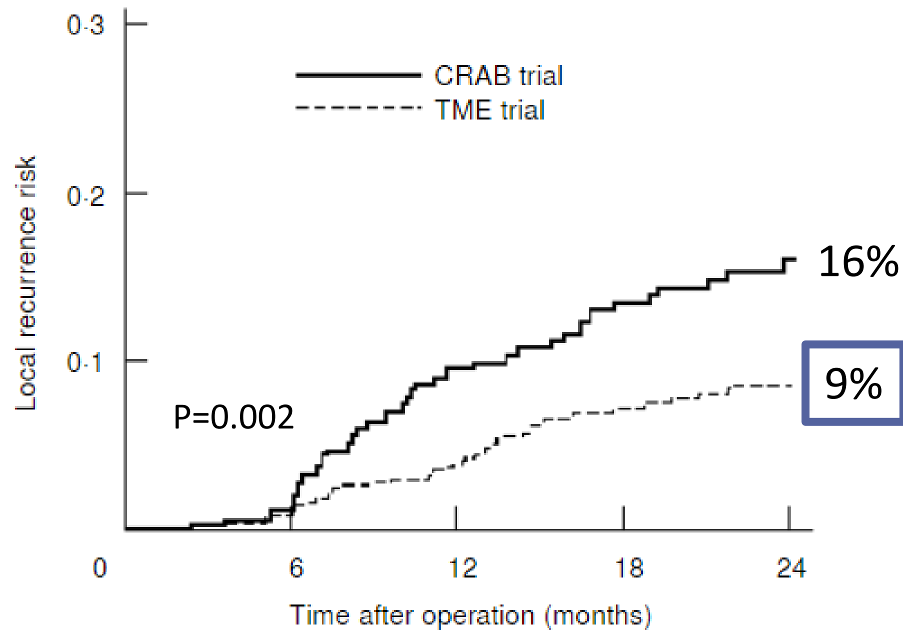
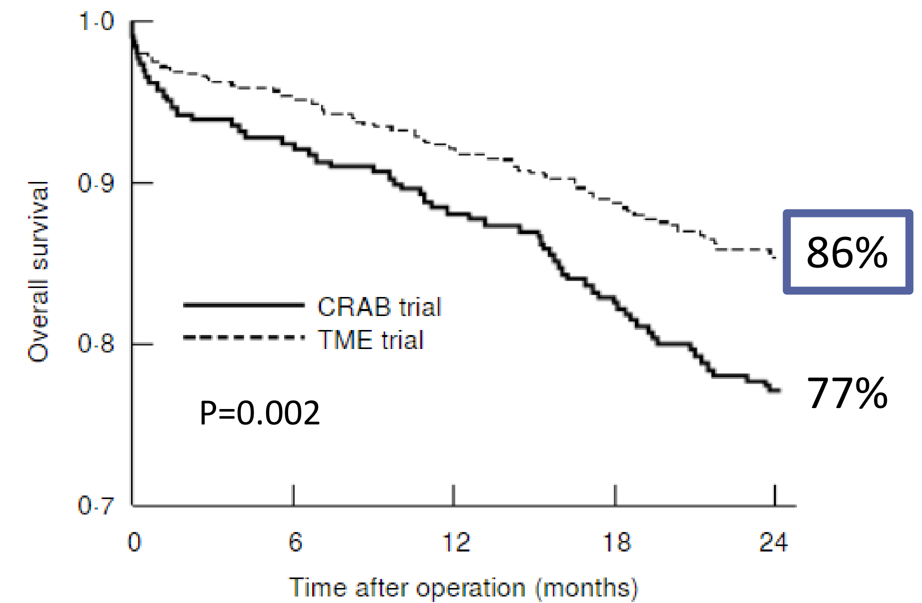
TME Improves Oncologic Outcomes

Lower recurrence



Prolonged overall survival



Kapiteijn E et al 2002. *J Clin Oncol.*

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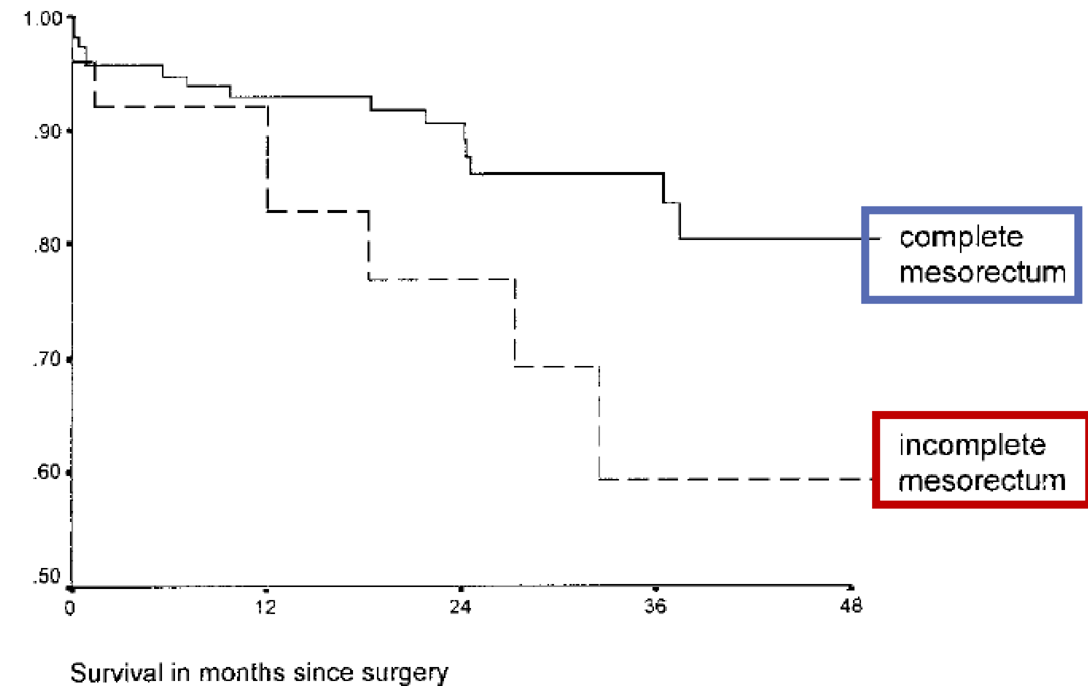
Technique Matters: Incomplete TME yields worse oncologic outcomes

Outcome	Complete TME	Incomplete TME	P-value
Overall recurrence (%)	14.9%	28.6%	0.03
Local recurrence (%)	5.5%	11.4%	0.09
Distant recurrence (%)	12.2%	19.2%	0.11
2-year overall survival (%)	90.5%	76.9%	<0.05



Nagtegaal et al 2002. *J Clin Oncol*

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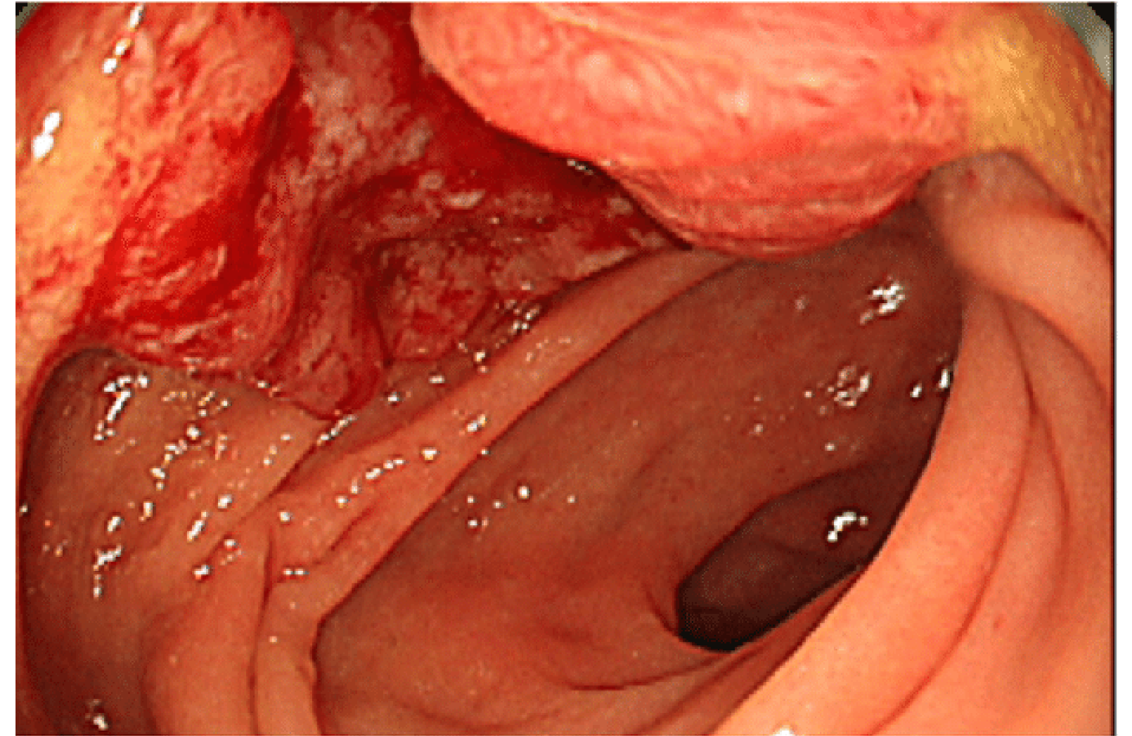
Case Presentation: Mid/Low Rectal Cancer

- 67 year old man with anemia, referred by his PCP after colonoscopy
- Mass found at 8cm from the anal verge → biopsy shows adenocarcinoma, locally advanced but resectable
- Undergoes neoadjuvant chemoradiation → stable disease after restaging
- Referred for low anterior resection with total mesorectal excision (TME)



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Total Mesorectal Excision (TME): Rationale

- Leverages existing tissue planes → promotes safe dissection, avoiding critical neurovascular structures/adjacent organs
- Allows for complete tumor resection and associated draining lymph nodes
- Optimizes the probability for negative margins

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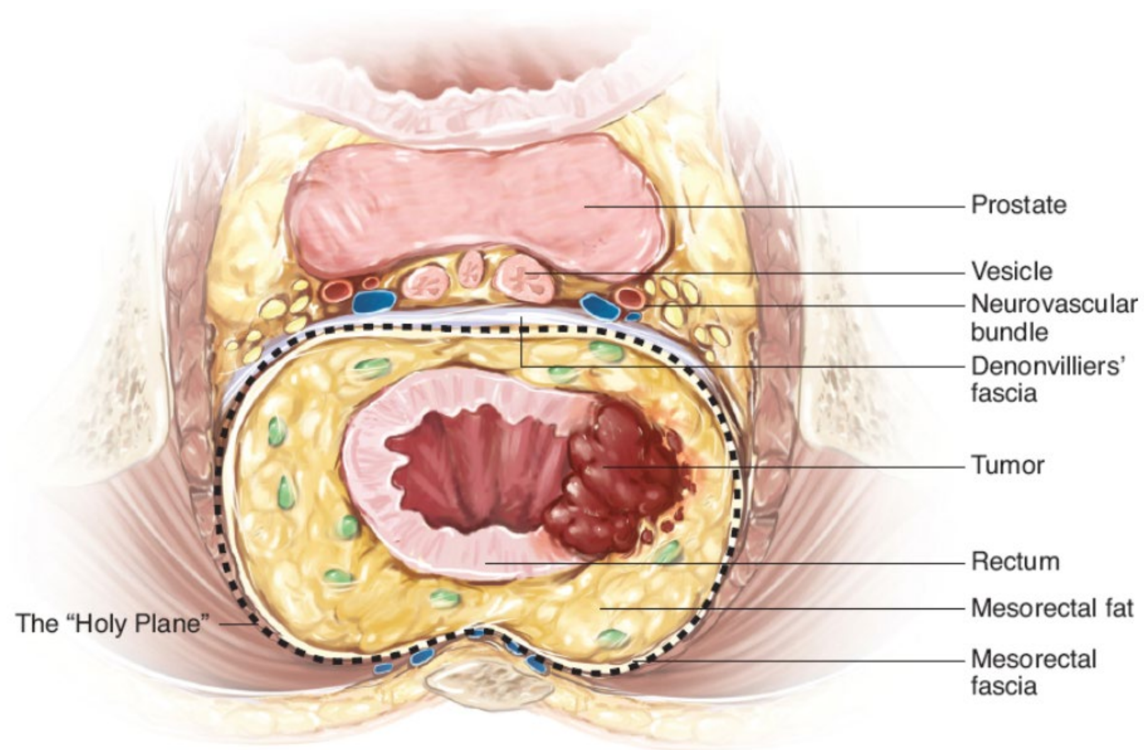
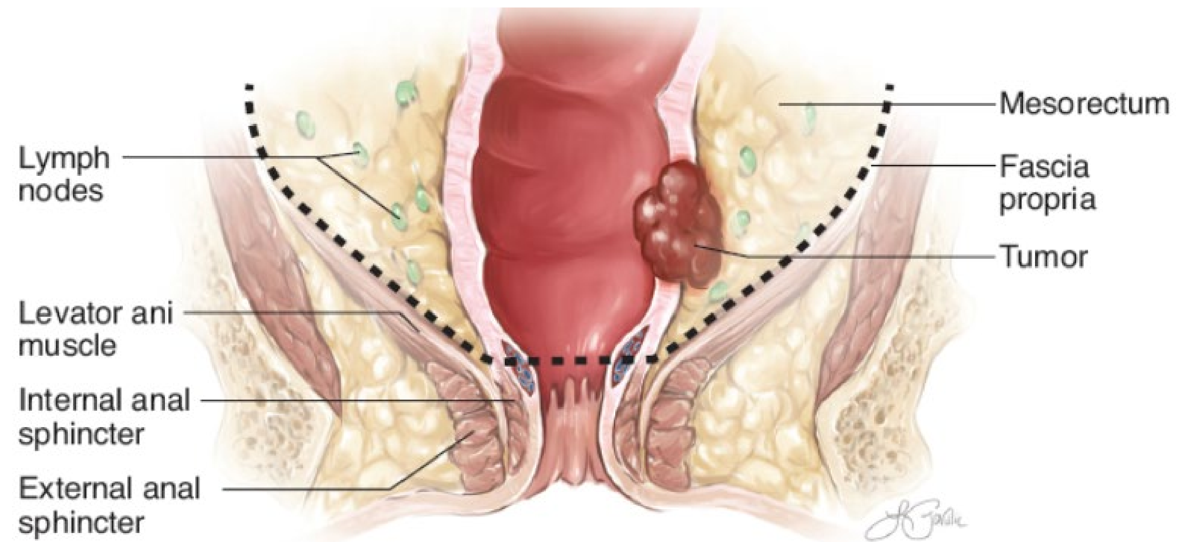
Total Mesorectal Excision (TME): Technique





Katz et al. 2018, Operative Standards for Cancer Surgery: *Volume 2*

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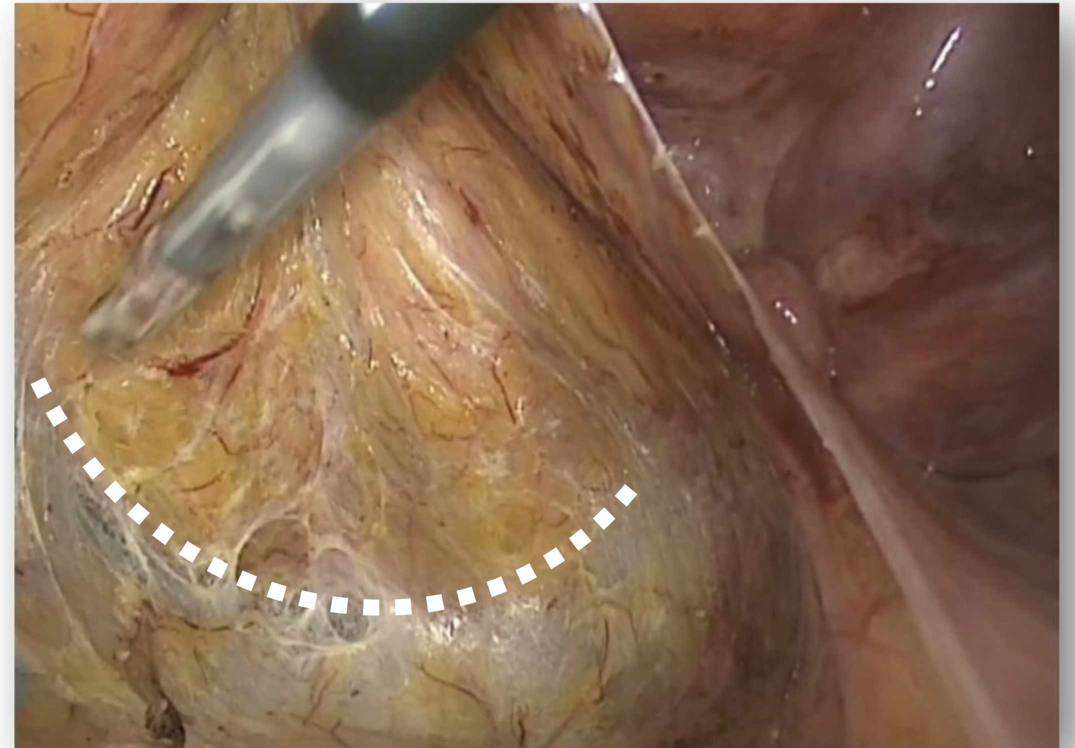
Total Mesorectal Excision (TME): Technique

- High ligation of the inferior mesenteric artery (IMA)
- The **posterior mesorectal dissection** lends itself to a readily identifiable, loose areolar tissue plane
- Autonomic nerves coalesce just posterior to this space and are avoided



Picture courtesy of Dr. Patricia Sylla

Katz et al. 2018, Operative Standards for Cancer Surgery: *Volume 2*

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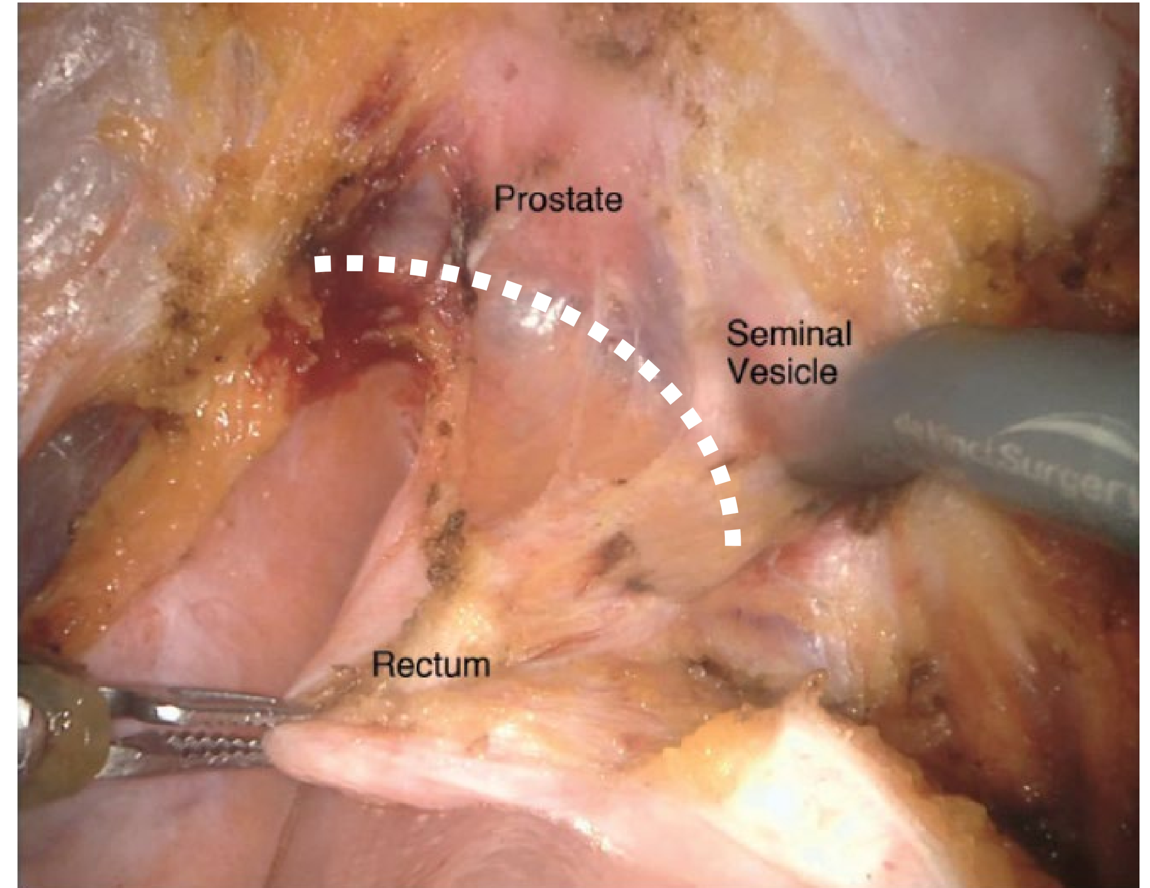
Total Mesorectal Excision (TME): Technique

- The **anterior mesorectal dissection** is a tighter space, but when in the correct plane yields a similar areolar dissection

- Care to protect the immediately superficial structures (prostate in men, uterus in women) is critical



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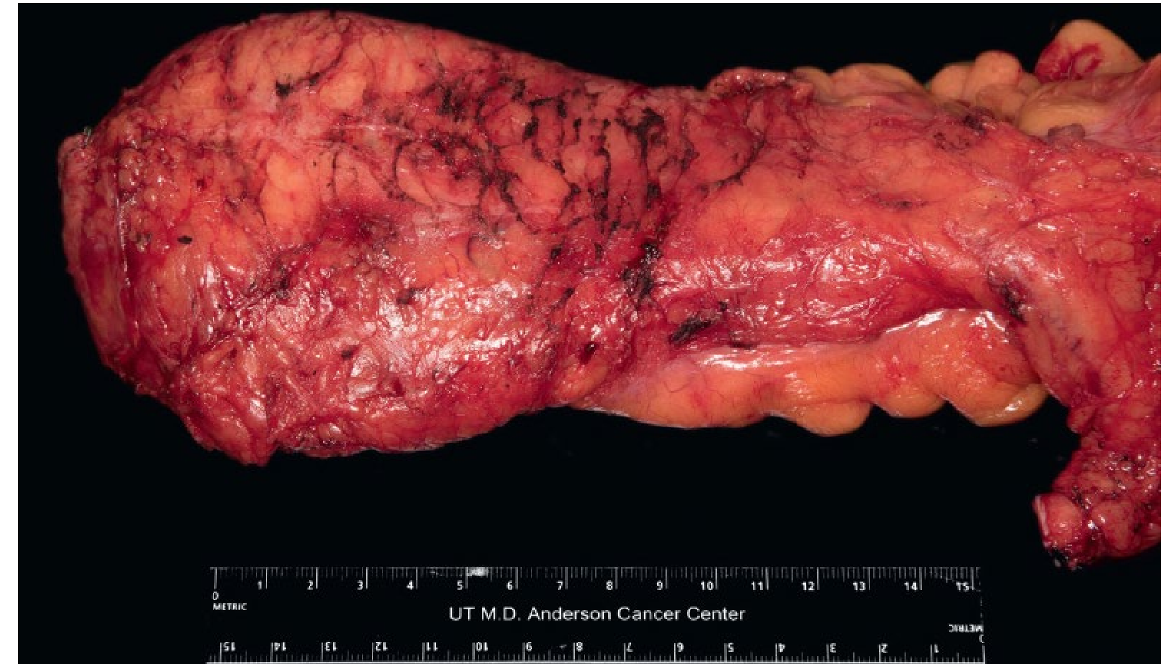
Total Mesorectal Excision (TME): Technique

- A **complete mesorectal dissection** should yield:
  - Intact mesorectal envelope with smooth border
  - No visible defects >5mm depth
  - No coning effect of the distal specimen
  - No visible muscularis propria



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CoC Compliance Measures: Standard 5.7

1) TME is performed for patients undergoing radical surgical resection of mid to low rectal tumors

2) TME should result in a **complete or near-complete** total mesorectal excision

3) Pathology reports for resections of rectal adenocarcinoma **document the quality of TME resection** (complete, near-complete, or incomplete) **in synoptic format**.

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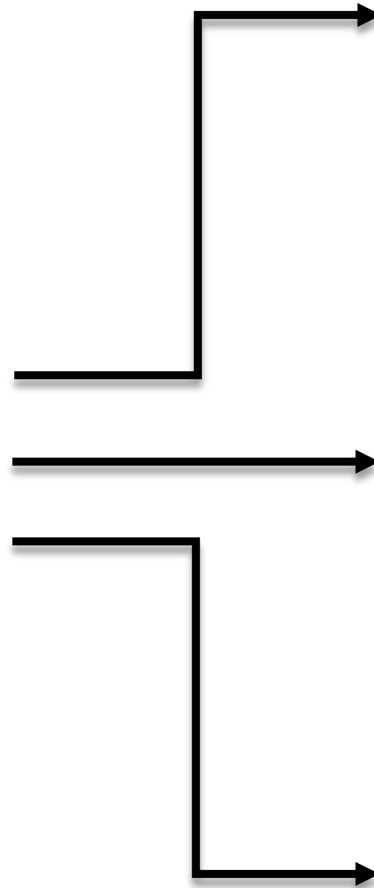
How will compliance be assessed?

- TME quality **scored by pathologist** on CAP standardized synoptic report
- Score based on **worst area of specimen**, not the specimen as a whole



Complete

- Intact bulky mesorectum w/ smooth surface, minor irregularities
- No surface defects >5mm
- No coning towards distal specimen

Near-complete

- Moderate bulk to mesorectum
- Irregular mesorectal surface, + defects >5mm
- No visible muscularis propria except at insertion of levator muscles

Incomplete

- Little bulk to mesorectum
- Defects down to muscularis propria
- Circumferential margin w/ irregular borders

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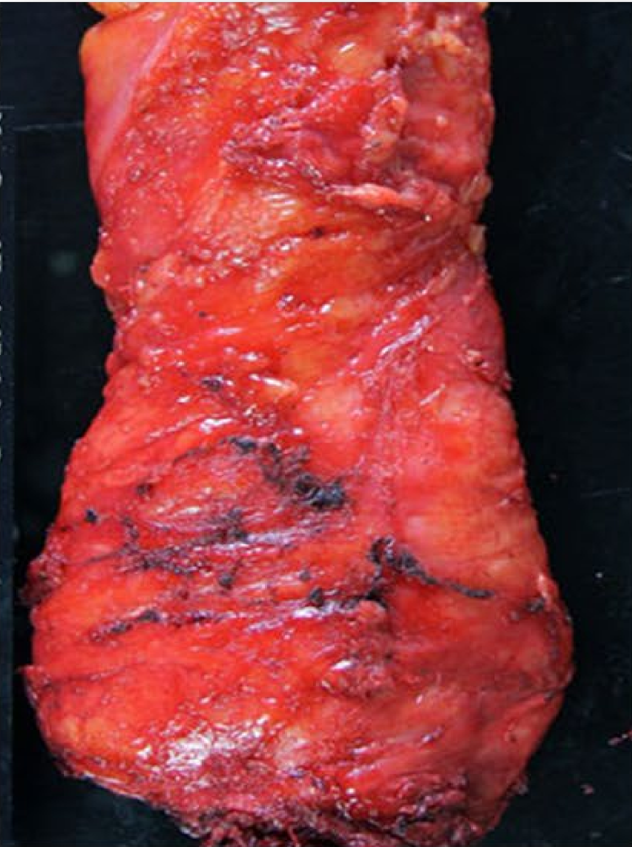
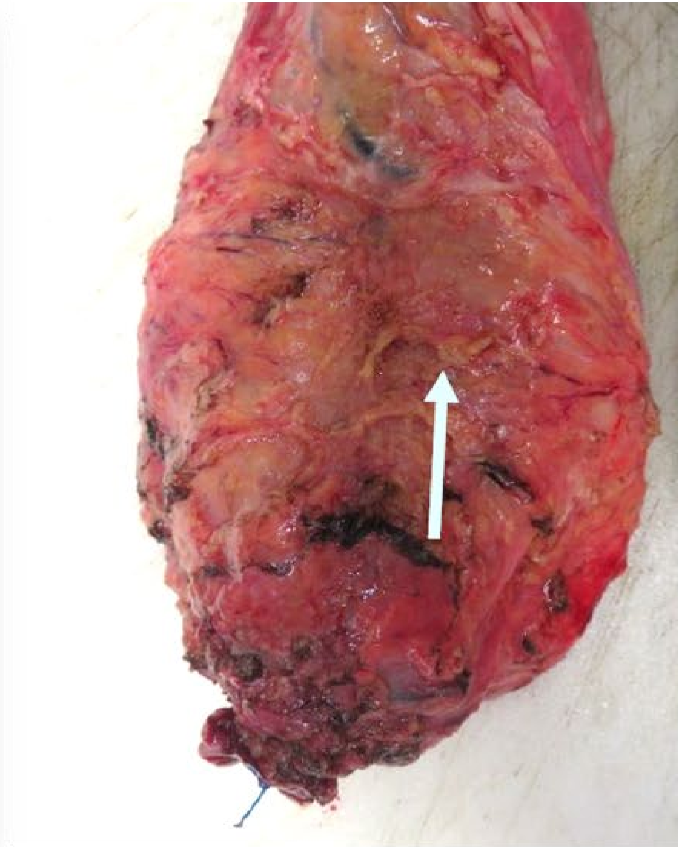
Complete, near complete and incomplete TME



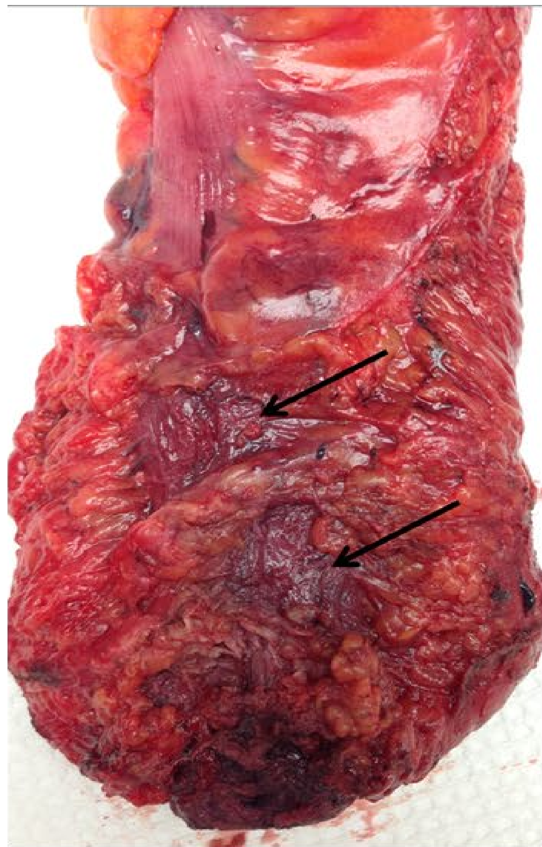
Complete
Optimal quality

- Good bulk of mesorectum, smooth surface, good clearance anteriorly, no defects in mesorectum.



Near Complete
Moderate quality

- Moderate bulk of mesorectum but some irregularity, moderate coning distally may be present.



Incomplete
Poor quality

- Irregular mesorectum with defects more than 1 cm^2 or incision down to the muscularis propria, little bulk of mesorectum, little clearance anteriorly.

Photo courtesy of Dr. Patricia Sylla and Dr. Mariana Berho

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Example of a CAP Rectal Synoptic Report

Macroscopic Evaluation of Mesorectum (required for rectal cancers) (Note C)
___ Complete
___ Near complete
___ Incomplete
___ Cannot be determined

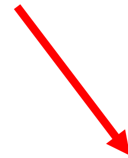
Histologic Type (Note D)
___ Adenocarcinoma
___ Mucinous adenocarcinoma
___ Signet-ring cell carcinoma (poorly cohesive carcinoma)
___ Medullary carcinoma
___ Serrated adenocarcinoma
___ Micropapillary carcinoma
___ Adenosquamous carcinoma
___ Undifferentiated carcinoma
___ Carcinoma with sarcomatoid component
___ Large cell neuroendocrine carcinoma
___ Small cell neuroendocrine carcinoma
___ Mixed neuroendocrine-non-neuroendocrine neoplasm (specify components):
____
___ Other histologic type not listed (specify) ________________________
___ Carcinoma, type cannot be determined

Histologic Grade (Note E)
___ G1: Well differentiated
___ G2: Moderately differentiated
___ G3: Poorly differentiated
___ G4: Undifferentiated
___ Other (specify): __________________________
___ GX: Cannot be assessed
___ Not applicable

Tumor Extension
___ No evidence of primary tumor
___ No invasion (high-grade dysplasia)
___ Tumor invades lamina propria/muscularis mucosae (intramucosal carcinoma)
___ Tumor invades submucosa
___ Tumor invades muscularis propria
___ Tumor invades through the muscularis propria into pericolorectal tissue
___ Tumor invades the visceral peritoneum (including tumor continuous with serosal surface through area of inflammation)
___ Tumor directly invades adjacent structures (specify: _________________)
___ Cannot be assessed

Margins (Note F)
Note: Use this section only if all margins are uninvolved and all margins can be assessed.
___ All margins are uninvolved by invasive carcinoma, high grade dysplasia / intramucosal carcinoma, and low grade dysplasia
Margins examined: __________
Note: Margins may include proximal, distal, radial (circumferential) or mesenteric, deep, mucosal, and others.
+ Distance of invasive carcinoma from closest margin (millimeters *or* centimeters): ___ mm *or* ___ cm
+ Specify closest margin: ________________________

\+ Data elements preceded by this symbol are not required for accreditation purposes. These optional elements may be clinically important but are not yet validated or regularly used in patient management.



Macroscopic Evaluation of Mesorectum (required for rectal cancers) (Note C)
_X_ Complete
___ Near complete
___ Incomplete
___ Cannot be determined

www.cap.org

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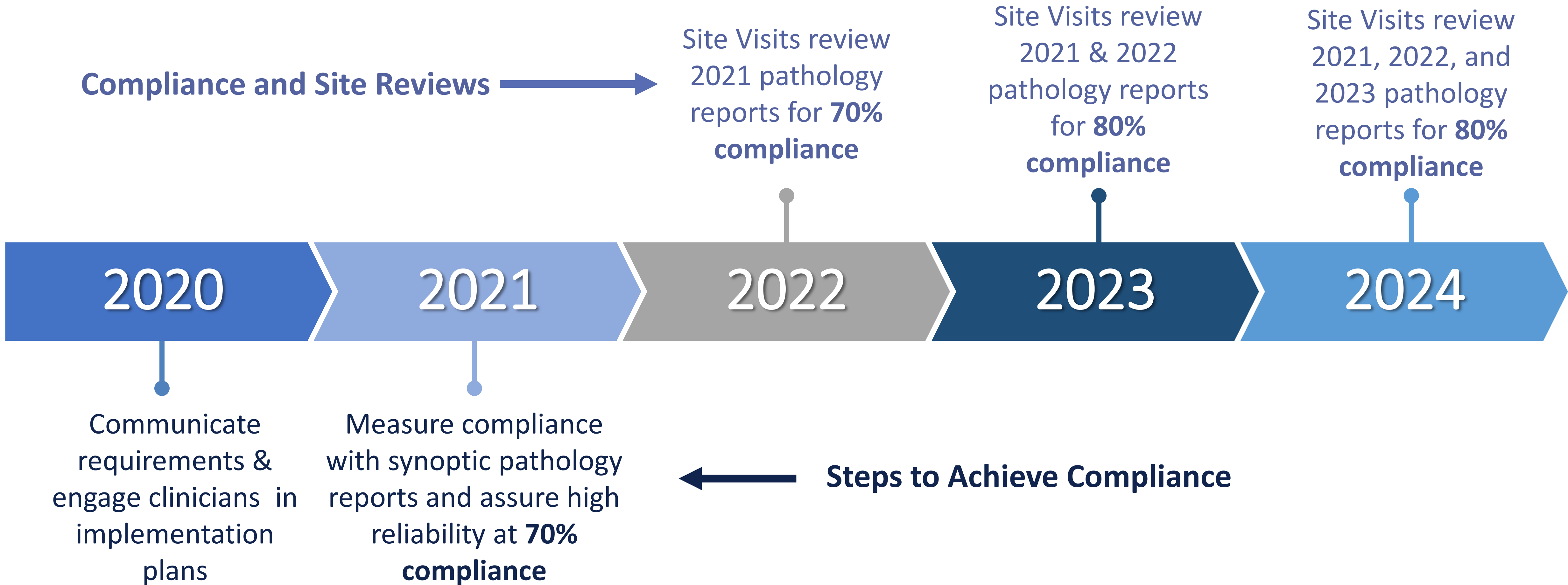
Timeline to Achieve Compliance: Standard 5.7



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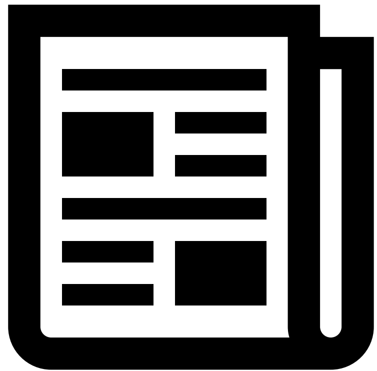
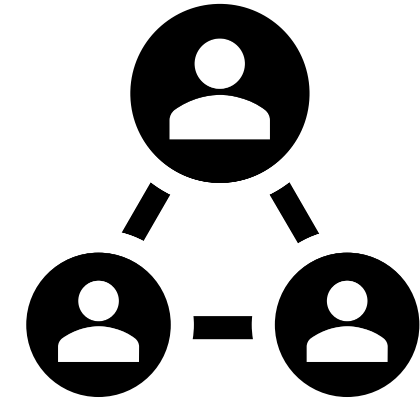
How Can Programs Optimize Compliance?



Ensure institution is utilizing **standardized CAP reports** for all rectal cancer procedures

Document performance of TME and indication (low-mid rectal tumor) **clearly** in operative notes



Encourage communication amongst surgeons, pathologists, & registrars

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Panel discussion

James Fleshman, MD, FACS, FASCRS

Patricia Sylla, MD, FACS, FASCRS

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Jennie Jones, MSHI-HA, CHDA, CTR

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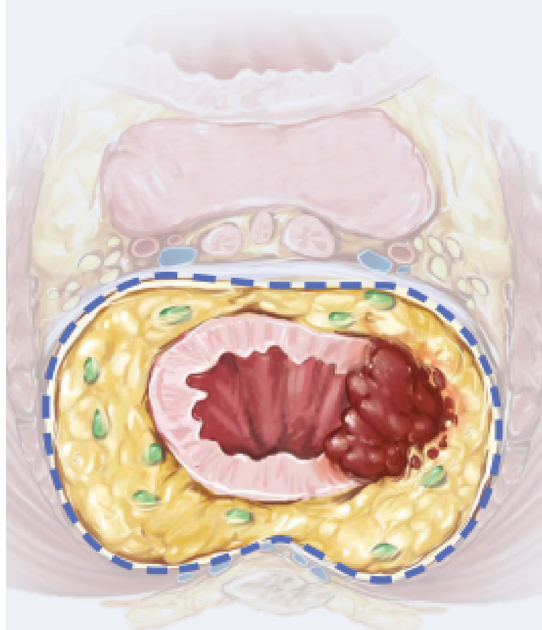
Commission on Cancer Operative Standards 2020

Standard 5.7: Total Mesorectal Excision

Summary

Operation	Maintain the 'Holy Plane'	Pathology Documentation	When?
Total mesorectal excision (TME) is performed for mid and low rectal tumors, resulting in **complete** or **near-complete** TME Keep fascia propria of rectum intact, operate in plane between rectum and presacral fascia - *Ensures negative margins* - *Protects neurovascular structures*		Quality of TME documented in synoptic report: ☑ Complete ○ Near-Complete ○ Incomplete	2021: **Implementation** 2022 site visits: **70% Compliance**

Commission on Cancer®
Commission on Cancer® National Accreditation Program for Rectal Cancer
Cancer Surgery Standards PROGRAM
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Special thanks

Moderator:
James Fleshman, MD, FACS, FASCRS

Panelists:
Mariana Berho, MD
Jennie Jones, MSHI-HA, CHDA, CTR
Patricia Sylla, MD, FACS, FASCRS
Anthony M. Villano, MD

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Questions? *cssp@facs.org*

Resources

ACS Cancer Surgery Standards Program (CSSP)

www.facs.org/cssp

National Accreditation Program for Rectal Cancer (NAPRC)

https://www.facs.org/quality-programs/cancer/naprc

College of American Pathologists (CAP) protocol

www.cap.org

Rectal Cancer Synoptic Operative Report

available in Appendix of NAPRC 2020 Standards

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References

1) Chang G, Cleary RK, Dietz E, et al. 2018. Chapter 4: Proctectomy. In Hunt KH, Katz MH, Veeramachaneni, et al. *Operative Standards for Cancer Surgery*: *Volume 2* (190-205). Philadelphia, PA: Wolters Kluwer.
2) Kapiteijn E, Putter H, van de Velde CJ; Cooperative investigators of the Dutch ColoRectal Cancer Group. Impact of the introduction and training of total mesorectal excision on recurrence and survival in rectal cancer in The Netherlands. Br J Surg. 2002 Sep;89(9):1142-9.
3) Nagtegaal ID, van de Velde CJ, van der Worp E, Kapiteijn E, Quirke P, van Krieken JH; Cooperative Clinical Investigators of the Dutch Colorectal Cancer Group. Macroscopic evaluation of rectal cancer resection specimen: clinical significance of the pathologist in quality control. J Clin Oncol. 2002 Apr 1;20(7):1729-34.
4) Monson JR, Weiser MR, Buie WD, Chang GJ, Rafferty JF, Buie WD, Rafferty J; Standards Practice Task Force of the American Society of Colon and Rectal Surgeons. Practice parameters for the management of rectal cancer (revised). Dis Colon Rectum. 2013 May;56(5):535-50.

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