CoC Operative Standard 5.7: Total Mesorectal Excision

December 7, 2020

Presentation created by CSSP Education Committee
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
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
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)
<table>
<thead>
<tr>
<th>Standard</th>
<th>Disease Site</th>
<th>Procedure</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3</td>
<td>Breast</td>
<td>Sentinel node biopsy</td>
<td>Operative report</td>
</tr>
<tr>
<td>5.4</td>
<td>Breast</td>
<td>Axillary dissection</td>
<td>Operative report</td>
</tr>
<tr>
<td>5.5</td>
<td>Melanoma</td>
<td>Wide local excision</td>
<td>Operative report</td>
</tr>
<tr>
<td>5.6</td>
<td>Colon</td>
<td>Colectomy (any)</td>
<td>Operative report</td>
</tr>
<tr>
<td>5.7</td>
<td>Rectum</td>
<td>Mid/low resection (TME)</td>
<td>Pathology report (CAP)</td>
</tr>
<tr>
<td>5.8</td>
<td>Lung</td>
<td>Lung resection (any)</td>
<td>Pathology report (CAP)</td>
</tr>
</tbody>
</table>
Multidisciplinary panel

James Fleshman, MD, FACS, FASCRS
Patricia Sylla, MD, FACS, FASCRS
Mariana Berho, MD
Anthony Villano, MD
Jennie Jones, MSHI-HA, CHDA, CTR
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.
Timeline to Achieve Compliance: Standard 5.7

Steps to Achieve Compliance

2020
- Communicate requirements & engage clinicians in implementation plans

2021
- Measure compliance with synoptic pathology reports and assure high reliability at 70% compliance

2022
- Site Visits review 2021 pathology reports for 70% compliance

2023
- Site Visits review 2021 & 2022 pathology reports for 80% compliance

2024
- Site Visits review 2021, 2022, and 2023 pathology reports for 80% compliance
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
TME Improves Oncologic Outcomes

Technique Matters: Incomplete TME yields worse oncologic outcomes


<table>
<thead>
<tr>
<th>Outcome</th>
<th>Complete TME</th>
<th>Incomplete TME</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall recurrence (%)</td>
<td>14.9%</td>
<td>28.6%</td>
<td>0.03</td>
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<tr>
<td>Local recurrence (%)</td>
<td>5.5%</td>
<td>11.4%</td>
<td>0.09</td>
</tr>
<tr>
<td>Distant recurrence (%)</td>
<td>12.2%</td>
<td>19.2%</td>
<td>0.11</td>
</tr>
<tr>
<td>2-year overall survival (%)</td>
<td>90.5%</td>
<td>76.9%</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>
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)
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
Total Mesorectal Excision (TME): Technique

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

*Katz et al. 2018, Operative Standards for Cancer Surgery: Volume 2*
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
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.
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
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 cm² or incision down to the muscularis propria, little bulk of mesorectum, little clearance anteriorly.

Photo courtesy of Dr. Patricia Sylla and Dr. Mariana Berho
Timeline to Achieve Compliance: Standard 5.7

Steps to Achieve Compliance

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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.
Panel discussion

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**Standard 5.7: Total Mesorectal Excision**

**Operation**
- 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.

**Maintain the ‘Holy Plane’**

**Pathology Documentation**
- Quality of TME documented in synoptic report:
  - Complete
  - Near-Complete
  - Incomplete

**When?**
- **2021:** Implementation
- **2022** site visits: **70% Compliance**

[Link: facs.org/cssp]
Special thanks

**Moderator:**
James Fleshman, MD, FACS, FASCRS

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Mariana Berho, MD
Jennie Jones, MSHI-HA, CHDA, CTR
Patricia Sylla, MD, FACS, FASCRS
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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

Questions? cssp@facs.org
References


