TAMIS is designed to resect benign polyps and well selected malignancies in the distal and mid-rectum using new advanced access platforms combined with standard laparoscopic instrumentation.

In collaboration with Dr. Matthew Albert and other leading surgeons, Applied Medical is pleased to offer TAMIS workshops using GelPOINT path transanal access platform. Based on materials from these workshops, this quick reference guide was created to give you an overview of the surgical techniques using TAMIS. As this guide is just a summary of some key points from the workshops, Applied Medical recommends all surgeons be adequately trained at a TAMIS workshop before performing this technique.

Any content and views expressed therein are those of Dr. Albert and not of Applied Medical.
The GelPOINT® path transanal access platform is indicated for multiple instrument or camera access through the anus for rectal procedures such as transanal endoscopic microsurgery, flap revision and fistula repair.
GelPOINT® Path
TRANSANAL ACCESS PLATFORM

Removable cap provides simple specimen removal, versatility in sleeve placement and maintenance of pneumorectum using renowned GelSeal® technology.

Suture tabs for added security.

4x5.5cm access channel provides maximum working space and dilation.

Interchangeable insufflation/smoke evacuation ports.

Self-retaining sleeves allow the exchange of 5-10mm instruments.

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<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNO11</td>
<td>GelPOINT Path</td>
<td>4cm x 5.5cm</td>
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GelPOINT Path Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Size</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>GelSeal Cap</td>
<td>7.5cm diameter</td>
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<tr>
<td>Access Channel with Introducer</td>
<td>4cm x 5.5cm</td>
<td>1</td>
</tr>
<tr>
<td>Self-Retaining Sleeves</td>
<td>10mm</td>
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<tr>
<td>Obturator</td>
<td>10mm</td>
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GELPOINT PATH SPECIFICATIONS
LAPAROSCOPE
- 5 or 10 mm/30° or 45° angled laparoscope
- Angled light cord adaptor
- Angled/reticulating instruments
  - Rat tooth graspers, scissors, needle driver

ENERGY DEVICES
- Suction irrigator with cautery tip
  - Evacuates smoke in short burst during cauterization
  or
- Monopolar cautery or other energy devices
  - Needle tip accumulates less char on tip than spatula
SUTURE

- Absorbable suture
- Ethicon 3-0 PDS™, VICRYL™
- Covidien V-Loc™ or Angiotech Quill™ suture

SUTURING DEVICES

- Up to 10mm suturing device

Extracorporeal

- Knotpusher

Intracorporeal

- Covidien Endo Stitch™ suturing device
- LSI RD180™ Running Device

Suture clips

- Ethicon LAPRA-TY™
- LSI TK Ti-KNOT™ device
- Richard Wolf TEM suture clips
PREOPERATIVE PREPARATIONS

- Complete mechanical bowel preparation
- Preoperative antibiotics per Surgical Care Improvement Project (SCIP)
  - Cefotan 2 g, Metronidazole 500 mg
- Perianal skin preparation and sterile draping per standard proctologic surgery protocol

ANESTHESIA

- General endotracheal anesthesia per standard OR protocols
  - Patient must be FULLY PARALYZED to maintain rectal distention
Unlike traditional TEM procedures, TAMIS procedures do not require positioning based on tumor location, however following are some recommendations on patient positioning and their potential benefits.

**TRADITIONAL LITHOTOMY POSITION**
- Facilitates comfortable sitting position for the surgeon
- Most advantageous for anesthesiologist
- Legs should be abducted and flexed past 90 degrees at the hips to provide optimal exposure of the perianal region and create sufficient space for instrument manipulation

**MODIFIED PRONE POSITION**
- May be helpful for anterior lesions
- Degree of upper-body downward tilt depends on patient’s body habitus and circulatory status
- Legs should be abducted and flexed at the hips

**RIGHT OR LEFT LATERAL DECUBITUS POSITION**
- May be advantageous for obese patients to facilitate pneumorectum
- Legs should be abducted and flexed at the hips, upper leg is secured to contoured rest on anterior side of table while lower leg is placed on leg rest of table and angled forward beneath the hip

**STEPS: PATIENT POSITIONING**
1. Apply generous lubrication to access channel and introducer. Pre-dilate the anus using standard transanal surgery techniques.

2. Manually (A) or using forceps (B), compress access channel in a folded form and place into anus until flange is securely seated behind levator sling (C).

3. Introducer may be inserted to aid in placing the access channel into position (D).

4. Hold access channel in place while suturing through suture tabs to secure (E).

5. Access channel is now fully placed (F).

**STEPS: INSERTING THE ACCESS CHANNEL**
CAUTION:
TO AVOID POSSIBLE INJURY TO RECTAL WALL,
INSERT TROCARS INTO GELSEAL CAP PRIOR TO
PLACING GELSEAL CAP ONTO ACCESS CHANNEL.

1. Using the 10mm obturator, place the (3) 10mm sleeves, in a triangular fashion (A), see red X for position, through the gel in the GelSeal cap. Ensure sleeves are at least 1cm from the cap's plastic perimeter and the insufflation and smoke evacuation ports (B).

2. Apply downward force to the sleeve until the sleeve tip and flange have passed through the GelSeal cap (C). Remove obturator.

3. Attach the GelSeal cap to the access channel by sliding the blue tab located on the bottom of the GelSeal cap under the access channel’s upper ring (D).

4. Push the upper ring against the inner portion of the GelSeal cap. Secure the opposite side of the access channel by closing the lever and locking the GelSeal cap in place (E).

5. Cap is now fully attached and ready for use (F).

STEPS: INSERTING TROCARS & ATTACHING CAP
1. Attach insufflation tubing to either one of the stopcock ports located on the GelSeal cap (A).

2. With high flow setting, start pressure at 8mm mercury and increase to 15-20 as needed for desired rectal distention.

3. If rectum pulsates or collapses:
   - First check with anesthesiologist to ensure patient is fully paralyzed!
   - If not resolved, check smoke evacuation port is in closed position
   - Check seal on trocar ports

4. To evacuate smoke during the procedure, move the stopcock valve on the designated smoke evacuation port to the open position. After smoke evacuation, move the stopcock valve to the closed position (B).
- Posterior lesion
  - Camera at top of triangle (A)
- Anterior lesion
  - Camera at bottom of triangle (B)
- Angle the scope to be out of your way!
- Bariatric length scopes and port changes may be helpful
1. Mark out resection plane with series of coagulation points with monopolar needle electrode around the tumor (A).
   - Maintain a 10mm safety margin when marking
   - Confirm sufficient access to all portions of bowel wall prior to excising

2. Following markings, begin resection by incising to perirectal fat on distal side of lesion. Proceed in layers with stepwise division of the rectal wall along the pre-placed coagulation marks (B). Pneumorectum facilitates resection.

3. Remove specimen as soon as excised (C).
   - Avoids proximal migration
   - Allows for immediate inspection of margins (D)

NOTE:
INITIAL EPINEPHRINE INJECTION BEFORE START OF CASE CAN LIFT LESION TO AIDE IN DISSECTION AND HELP AVOID VESSELS.
Lowering insufflation pressure will help reapproximate a larger defect.

Monofilament absorbable suture
- 3-0 PDS, VICRYL
- V-Loc or Quill barbed suture may facilitate suture retention
- Knots can be used, however, LAPRA-TY or similar suture clips on ends may enhance progression

Rectal wall defect may be closed with standard suturing technique, using preferred suturing device up to 10mm, running continuous.

Large rectal wall defects may be closed beginning from the center to transform large round defect into two smaller, more manageable gaps (A).

Fully closed defect (B)

NOTES:
The goal is to fully reapproximate the bowel wall without narrowing the lumen. If defect is very distal may remove GelPoint path and close transanally.

ENTRY INTO PERITONEAL CAVITY
Resection of anterior lesion located approximately 9cm or greater from anal verge may result in inadvertent entry into peritoneal cavity during full thickness excision, requiring suture closure of the peritoneum and rectal wall.

STEPS: SUTURING/DEFECT CLOSURE
Don’t panic!
Maintain visualization (use short bursts of suction with minimal irrigation)
Attempt compression with grasper prior to blind electrocautery
Utilization of a bipolar energy device may quickly resolve the problem (Covidien LigaSure™, Ethicon ENSEAL™, Ethicon HARMONIC™)

Tip: Initial epinephrine injection at start of case can lift lesion to aid in dissection and minimize major vessel bleeding.

NOTES:
OCCASIONAL VESSELS MAY BE ENCOUNTERED IN THE DISSECTION THROUGH THE RECTAL WALL AND MESORECTUM CAUSING SUDDEN BLEEDING.
WHEN BLEEDING DOES OCCUR REMEMBER THE FOLLOWING:
EARLY POSTOPERATIVE CARE

- Resumption of regular diet per standard protocol
- Discharge may be within 24 hours
- Contrast enema on postoperative day ONE if intraperitoneal entry was made during procedure

ONCOLOGIC FOLLOW-UP

- Follow standard recommendations of the professional societies and NCCN guidelines
- If postoperative histology shows positive margins, poor pathologic features or more advanced tumor stage, standard oncologic resection or alternative treatment options should be considered
GelPOINT Path Transanal Access Platform

The information contained in this document is provided for general coding example purposes only. The GelPOINT path is indicated for multiple instrument or camera access through the anus for rectal procedures such as TEMS (Transanal Endoscopic Microsurgery), flap revision, and fistula repair. The coding options listed below are only examples of surgical procedures that may use the GelPOINT path transanal access platform.

CODING EXAMPLES OF DIAGNOSES AND SURGERIES

<table>
<thead>
<tr>
<th>CPT CODING</th>
<th>ICD-9 CODE EXAMPLES</th>
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<tbody>
<tr>
<td><strong>CPT Code Examples</strong></td>
<td><strong>ICD-9-CM DIAGNOSIS Code Examples</strong></td>
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<tr>
<td>0184T*</td>
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<td>45171</td>
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</table>

| ICD-9-CM PROCEDURE Code Examples | 48.35 | Local excision of rectal lesion or tissue |

*CPT Code 0184T is considered a CPT Category III code.

“Codes within this category are temporary codes for emerging technology, services and procedures. Category III codes allow for the collection of specific data. If a Category III code is available, this code must be reported instead of a Category I unlisted code. This is an activity that is critically important in the evaluation of health care delivery and the formation of public and private policy. The use of the codes in this section allows physicians and other qualified health care professionals, insurers, health services researchers, and health policy experts to identify emerging technology, services, and procedures for clinical efficacy, utilization, and outcomes.” (http://www.ama-assn.org/ama1/pub/upload/mm/362/cptcat3codes.pdf)

**All above referenced codes are examples only – code according to the patient’s medical condition and procedure(s) performed.**