

Transanal Total Mesorectal Excision- State of the Art

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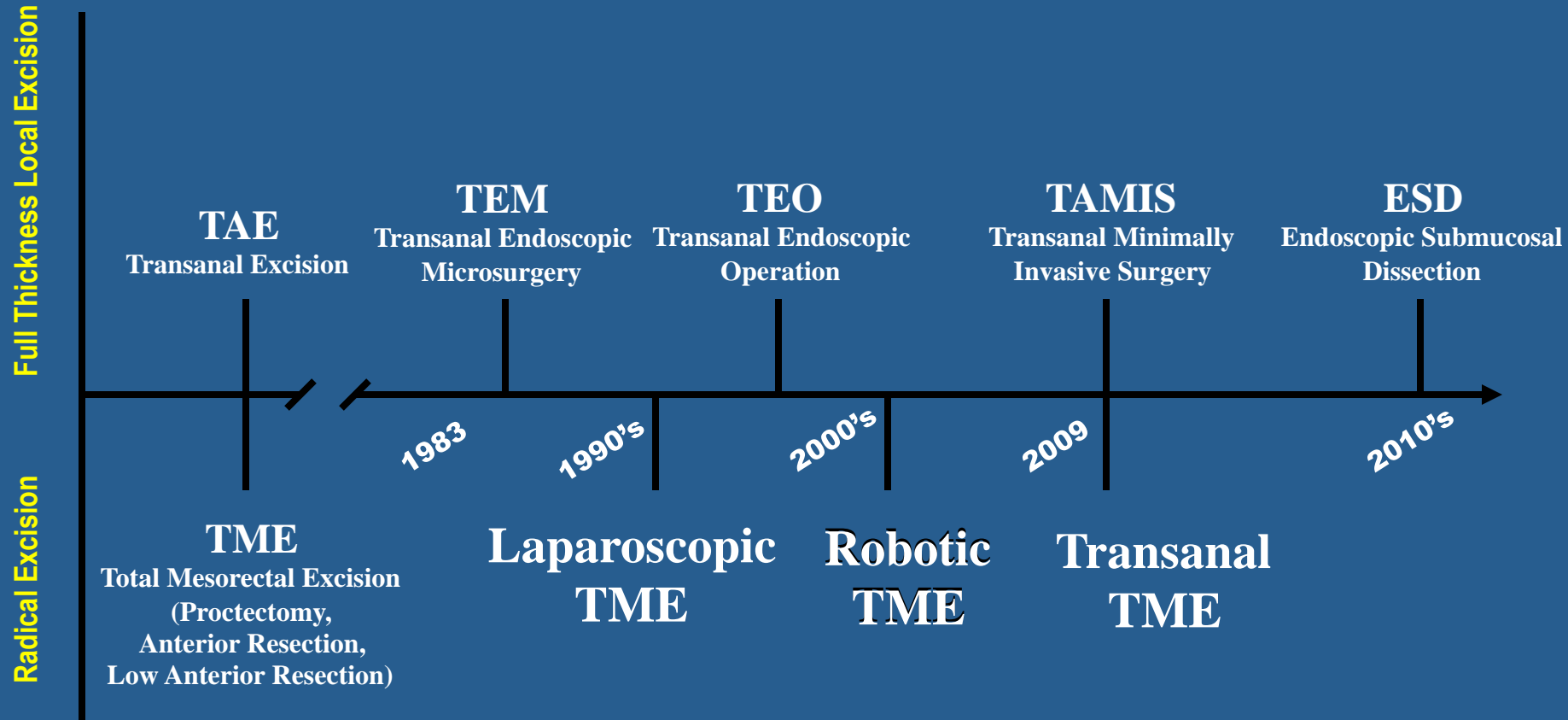


Disclosures

- Consultant: Intuitive Surgical, Covidien

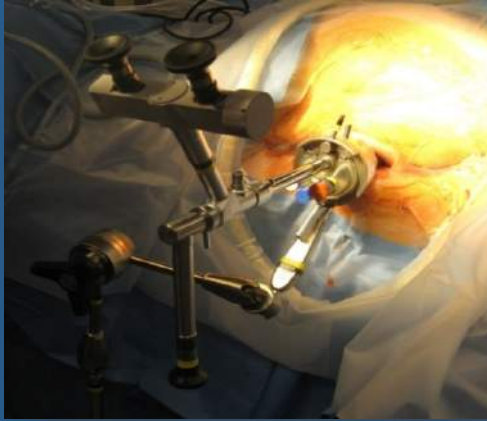


Evolution of Transanal Endoluminal Surgery

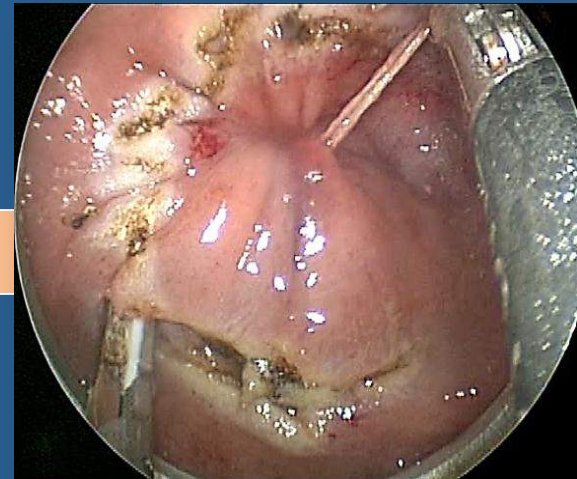
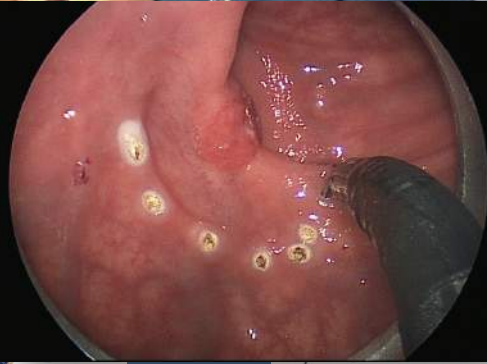


From TEM/TAMIS to Transanal NOTES

TAMIS



TEM



NOTES

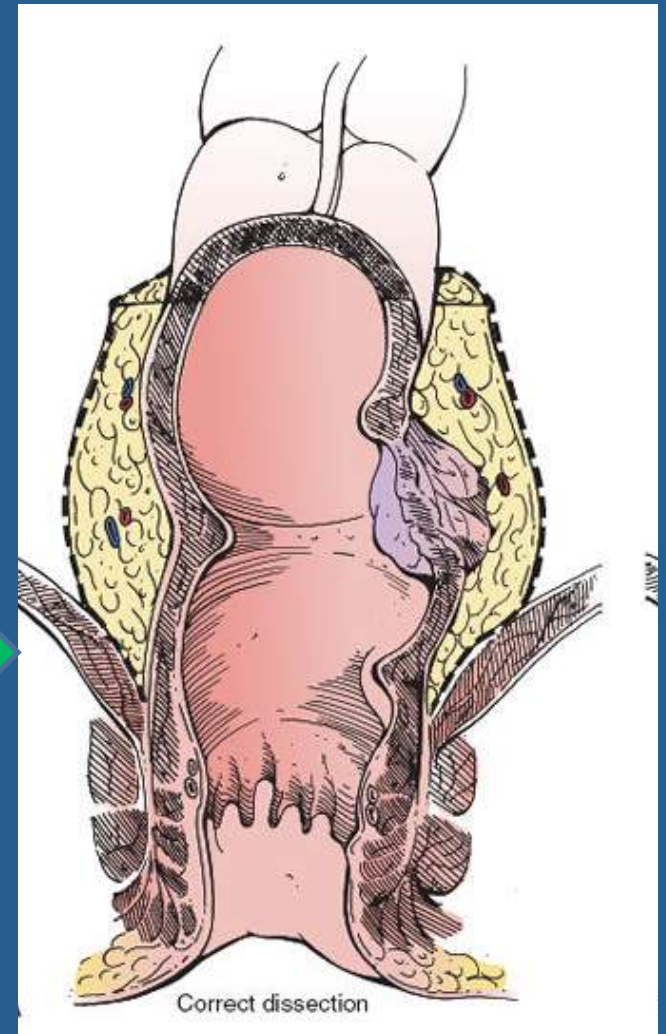


Why Transanal TME (taTME)

Dissection of Low Rectum is Difficult

Greater difficulty in Male
Obese patients

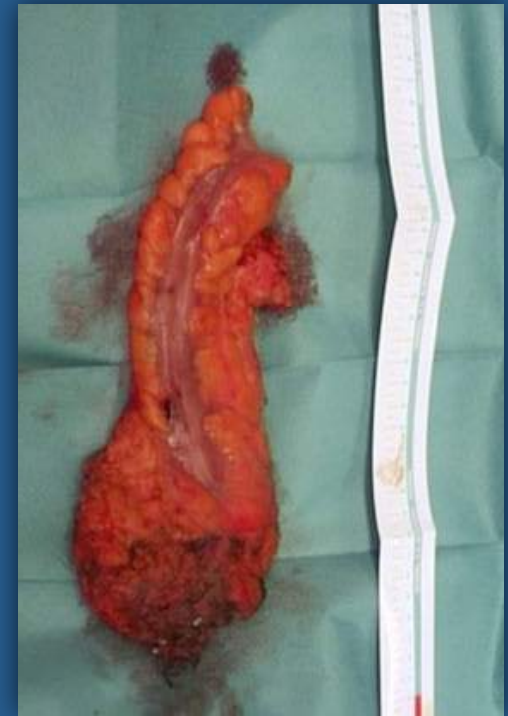
Higher Risk of Margin Positivity
Conversion



Trans-anal LAR Using TEM

Sylla P, Rattner DW, Delgado S, Lacy AM

- **1st Clinical Case**
 - 76 year old F
 - uT2N2M0 Rectal Ca
- **TEM & Laparoscopic Multi-port Assistance**
 - Cephalad TA-TME dissection
 - Transected at level of left colon with high ligation of IMA / IMV
 - End to end anastomosis & diverting ileostomy
- Ileostomy reversal after adj chemo
- NED 3-year follow up



Surg Endo 2010 24:1205 - 1210



Transanal TME (taTME): *Surge In Investigative Publications*

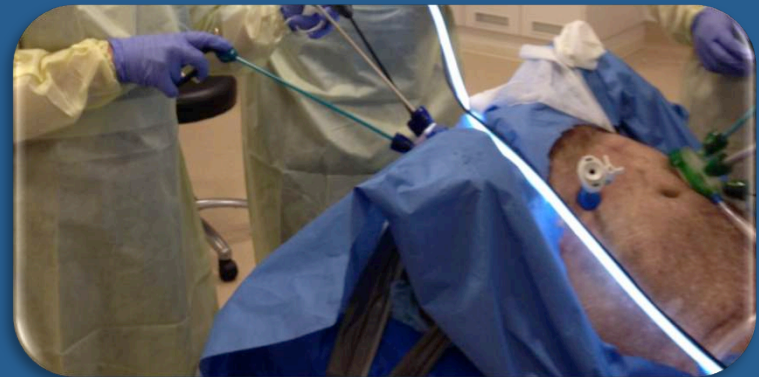
Animal Model

- Whiteford MH et al. *Surg Endo* 2007
- Sylla P et al. *J Gastro Surg* 2008
- Trunzo JA et al. *Surg Innovation* 2010
- Sylla P et al. *Surg Endo* 2010
- Fajardo AD et al. *Surg Endo* 2010
- Sohn DK et al. *Endoscopy*. 2011



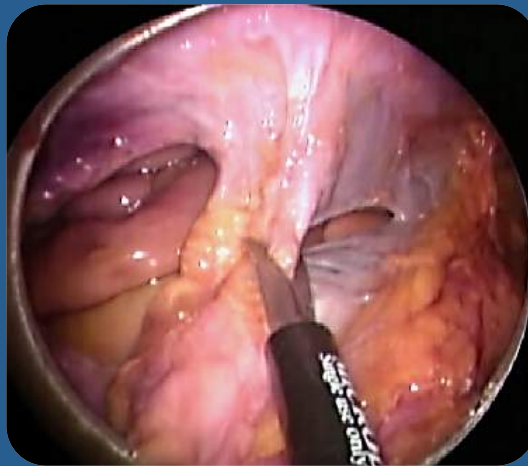
Human Cadaveric Model

- Denk PM et al. *Gastro Endo* 2008
- Fajardo AD et al. *Surg Endo* 2010
- Bhattacharjee HK et al. *JLAST* 2011
- Telem Da et al. *Surg Endo* 2012
- McLemore EC et al. *Surg Endos* 2013



Human Cadavers Large Series

Large Cadaver Series



- 32 human cadavers
 - 19 TA only
 - 8 Lap-assisted TA
 - 5 TG + TA
- Specimen exteriorized: 15-91.5cm
- OR time: 3-8 hours
- Intact mesorectum 100%
- 9 bowel perforations
- Complicating factors (pure NOTE)
 - obesity, adhesions,
 - Limited instruments

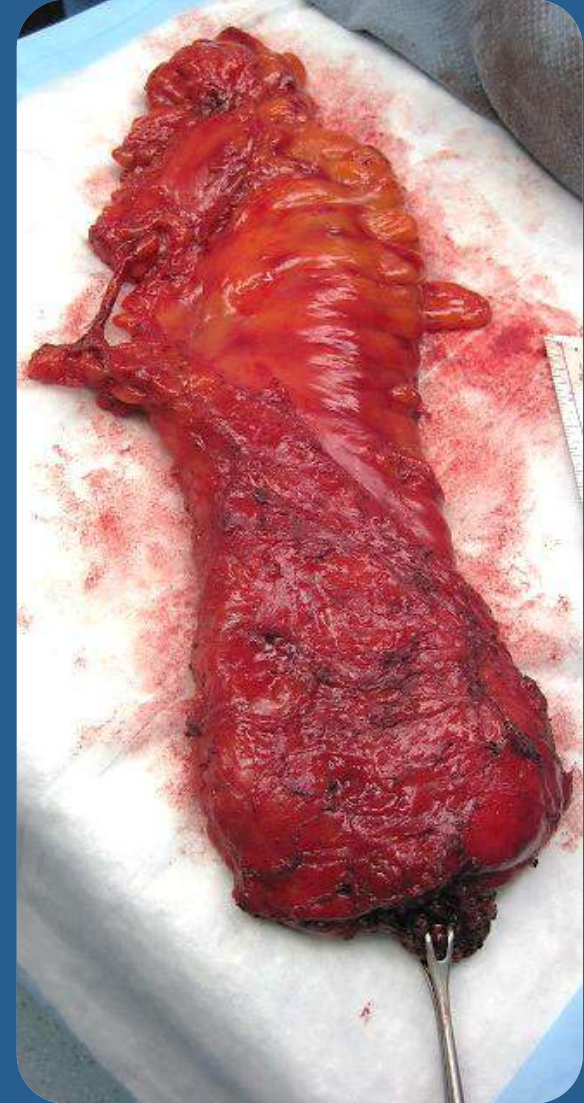


UCSD TAMIS asst. Single Incision LAR for Rectal Cancer

- Phase I Clinical Trial: *First 3 Cases Completed 8/13, 8/20, 12/3/2013*
 - Safety and oncologic outcomes: further investigation in the setting of multicenter clinical trials
 - Appropriate training is essential for safe adoption of this technique
 - Poor quality TME is not acceptable:
 - Increased local recurrence rates and
 - Earlier cancer related mortality



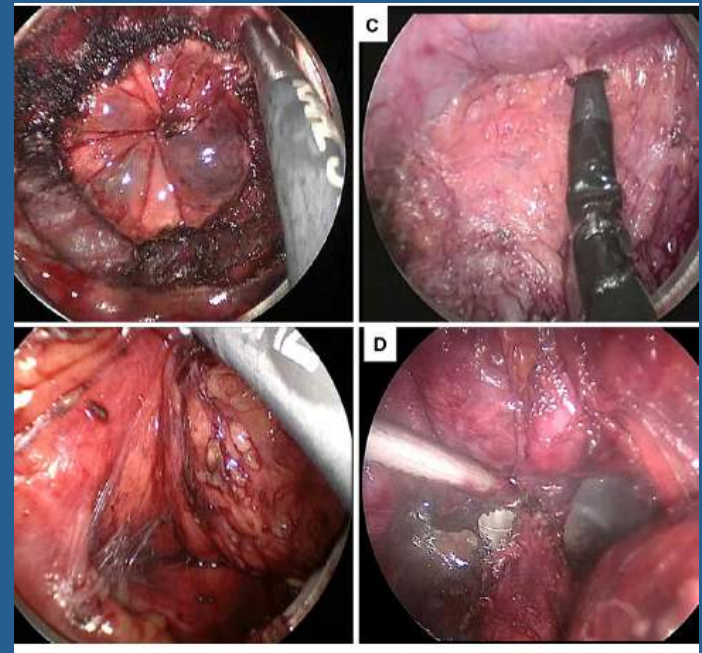
Can Adequate TME be Achieved ?



A pilot study of natural orifice transanal endoscopic total mesorectal excision with laparoscopic assistance for rectal cancer

Patricia Sylla • Liliana G. Bordeianou • David Berger • Kyung S. Han •
Gregory Y. Lauwers • Dushyant V. Sahani • Mohammed A. Sbeih •
Antonio M. Lacy • David W. Rattner

- Five patients with node negative rectal cancer
- 4-12 cm from anal verge
- Mean OR time 274 minutes
- Partial Intersphincteric resection in 3
- LOS 5.2 days
- 2 cases of urinary dysfunction



Surg Endosc (2013) 27:3396–3405



Transanal Total Mesorectal Excision in Rectal Cancer: Short-term Outcomes in Comparison With Laparoscopic Surgery.

- 37 ta TME vs 37 Lap TME
- OR time shorter in ta-TME (215 vs 252 min)
- Distal Margin greater in ta-TME (2.7 vs 1.8 cm)
- Coloanal anastomosis 43 % in ta-TME vs 16 % LAP
- Early readmission higher in LAP TME (22 vs 6%)

Ann Surg Sept 2014



Time for a Color III trial?

GRECCAR 11

Groupe de REcherche Chirurgicale sur le CAncer du Rectum

Patients with low lying rectal cancer
cT1-3 N0-2
requiring manual colo-anal anastomosis

Randomisation

Transanal TME

Laparoscopic TME

Number of patient 226 (113 for each arm)

Sites 19 centers are planned to participate.

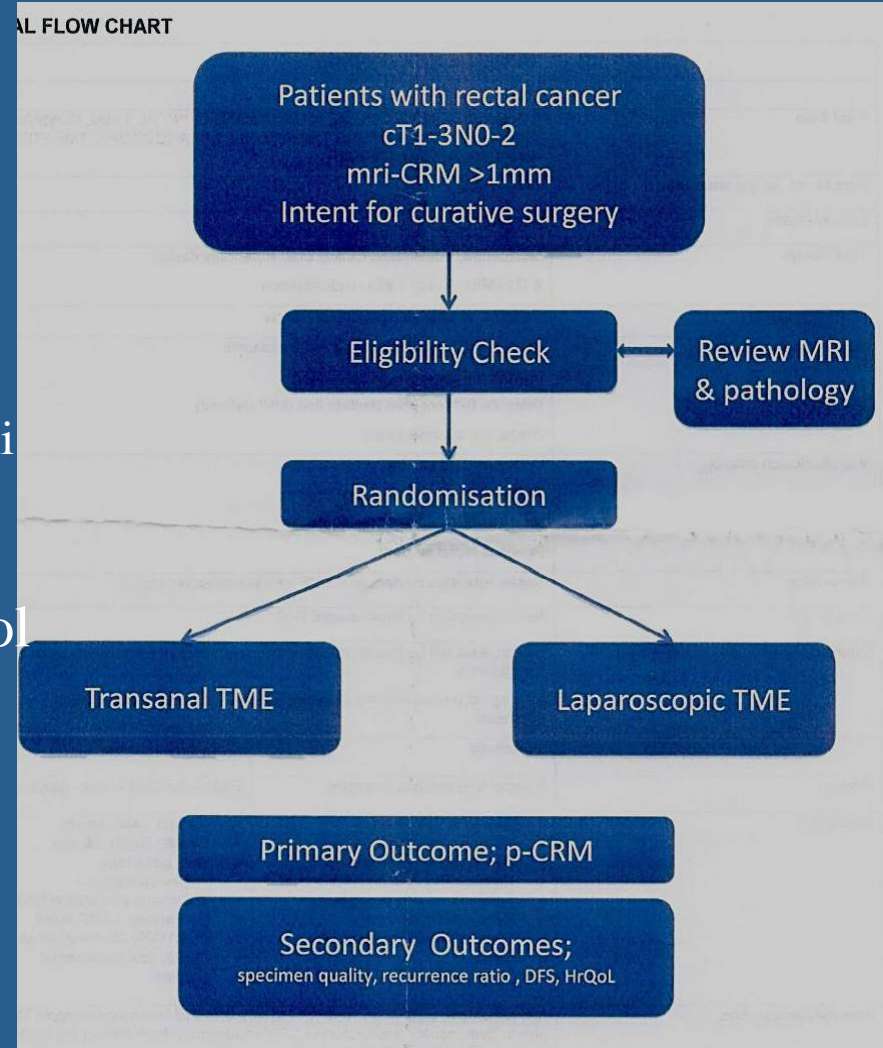
Study Duration Accrual period: 3-year enrolment period
Study follow-up: 3 years
Study duration: 6 years.



Time for a Color III trial ?

Pre-Trial Standardization process

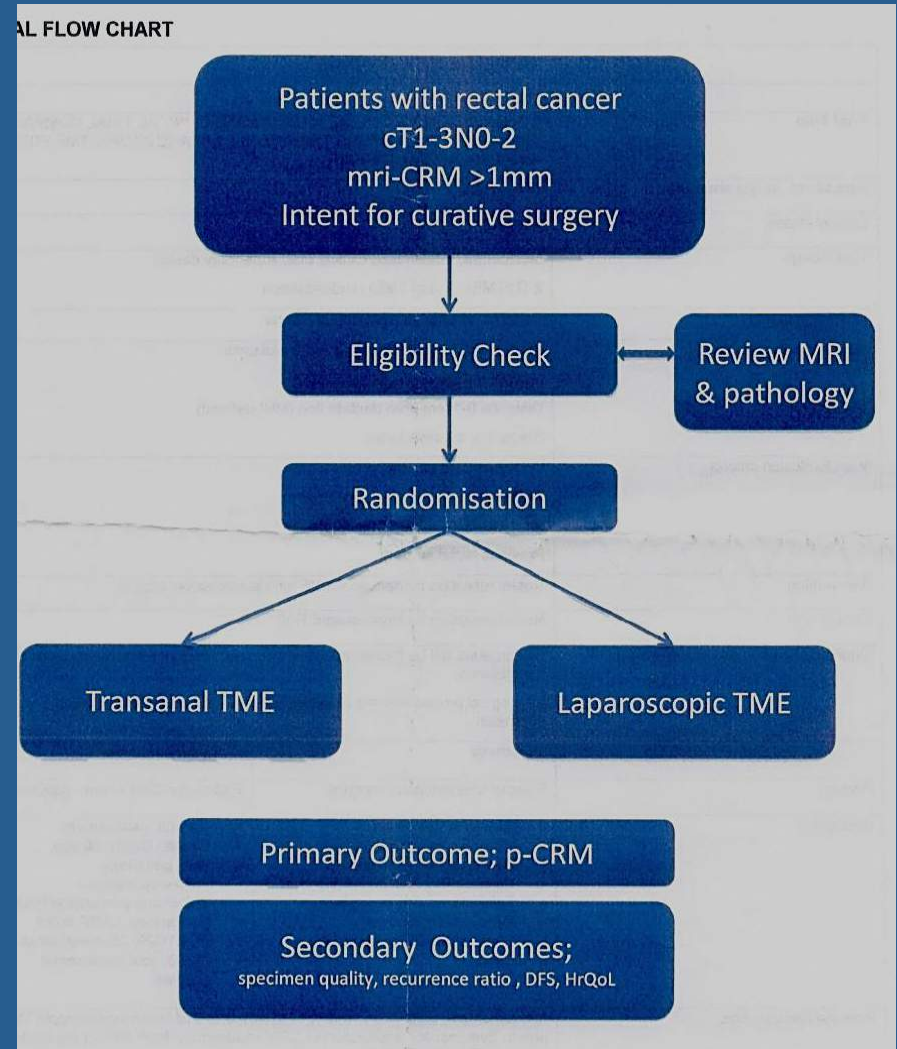
1. Develop operation manual
Aim: consensus on steps of operation
Methods: case observation, interviews, Delphi
Use: technical protocol, basis for assessment
3. Technical competency assessment tool
Aim: video-based valid tool for objective assessment of technical competency
Method: interviews, Delphi for reliability
Use: pre-trial entry and monitor adherence to trial protocol



Time for a Color III trial ?

Superiority trial

- rectal cancer 0-10cm from AV
- excluded: +CRM, T4
- randomization 2:1 ratio
- hypothesis: 5% +CRM
- 935:312 patients
- Duration: 5 yrs



taTME: US Initiative



ASCRS

American Society of Colon & Rectal Surgeons



- Pending Funding for MCT
 - > under auspices of ASCRS Research Foundation
 - 10 centers of expertise in lap/robotic TME and TEM/TAMIS
 - primary outcome: Quality of TME
 - secondary outcomes: Perioperative outcomes, short and long-term oncologic outcomes, functional results



Lap-Transanal TME



Combined Lap Transanal-Robotic Transabdominal Tme: Lacy/Pigazzi





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