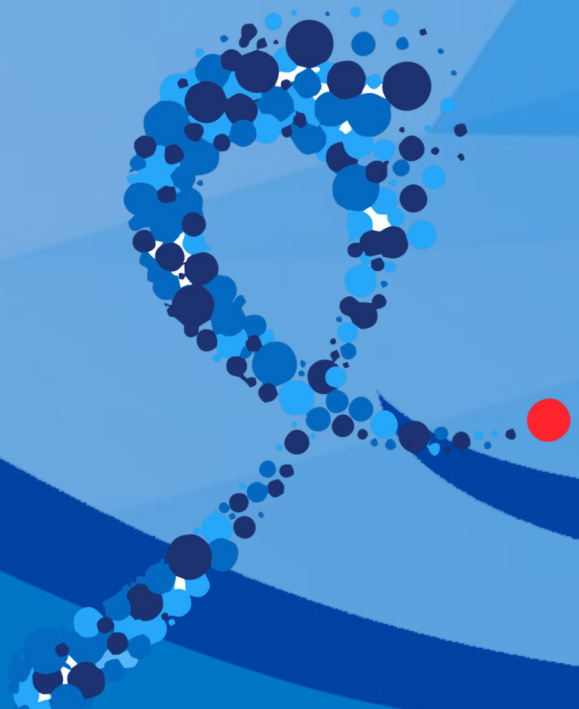
CHENNAI ASICON – 21 AUG 2022

RECTAL CANCER – RADICALITY APPROACH



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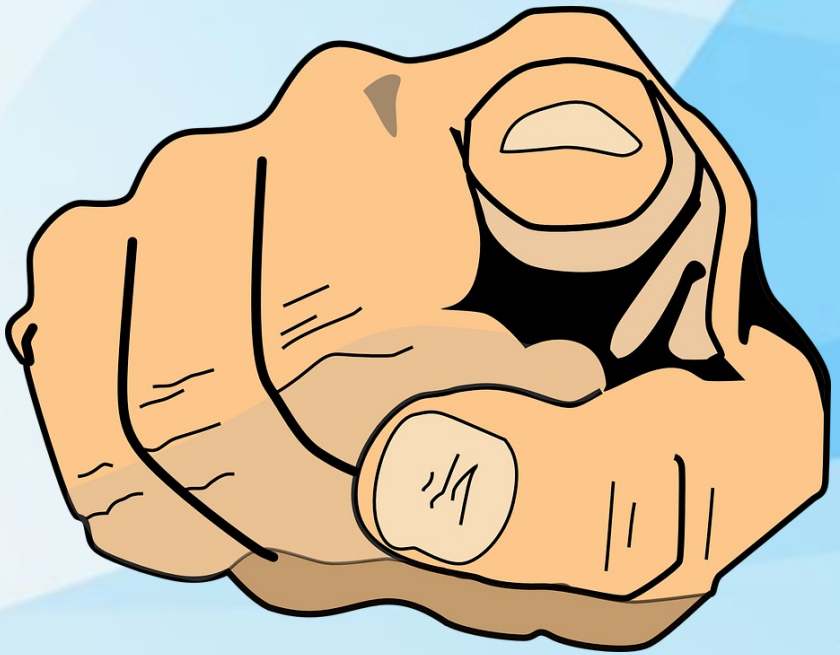
COLORECTAL CANCER - RIBBON

Fact should know FIRST

- I am a Colo rectal surgeon
- When treating the rectal cancer what should I know about to achieve long term quality life?

YOUR **RESPONSIBILITY**



OPERATING SURGEON

YOUR **AIM**

1. NOT ONLY ,CURE THE CANCER
2. TO ACHIEVE THE **QUALITY OF LIFE**

YOUR **AIM**

COLOSTOMY TO BE AVOIDED

successful results depends on three main factors:

- Sound knowledge of the disease
- Wise selection of the modality of treatment
- Accurate and skillful surgical technique

Stanford Cade

Sequence of the treatments will affect the prognosis


YES

LESSON LEARNED

- UPTO the 1990s, Surgery and postoperative adjuvant chemoradiotherapy (CRT) for locally advanced rectal tumors was the gold standard treatment regimen

- High Local recurrence (LR) rates despite the use of adjuvant CRT

LOCAL RECURRENCE
Based on modality of treatments

- Surgery only
- Surgery + adjuvant irradiation
- Neoadjuvant RT + Surgery
- Neoadjuvant chemo irradiation + Surgery

Reduction in
local recurrence

RECOMMENDATION

Neoadjuvant chemo irradiation + Surgery

ULTIMATE **AIM**

SPHINTER SAVING PROCEDURE

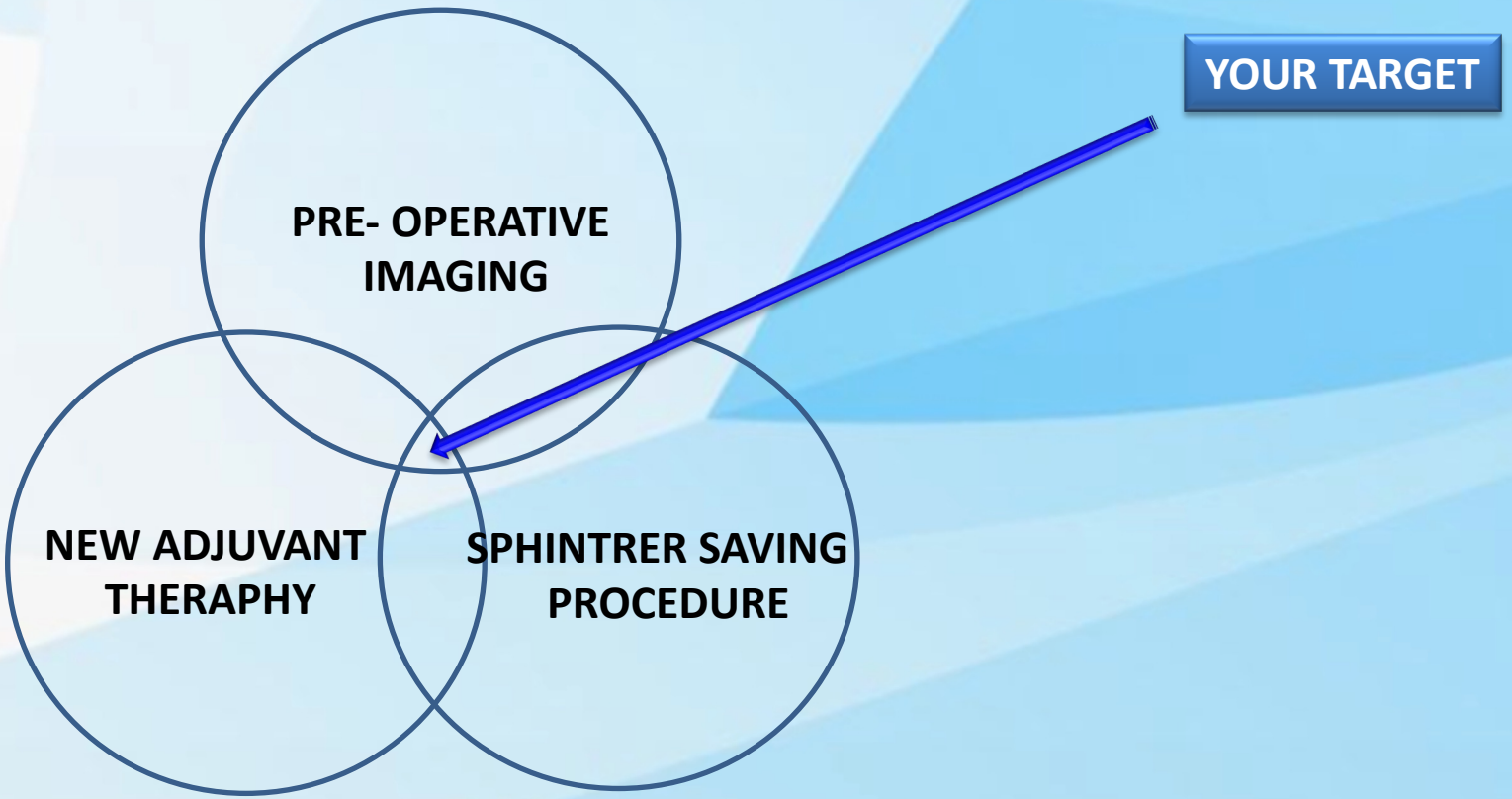
In rectal cancer try to

- Preserve sphincter
- Without compromising clearance

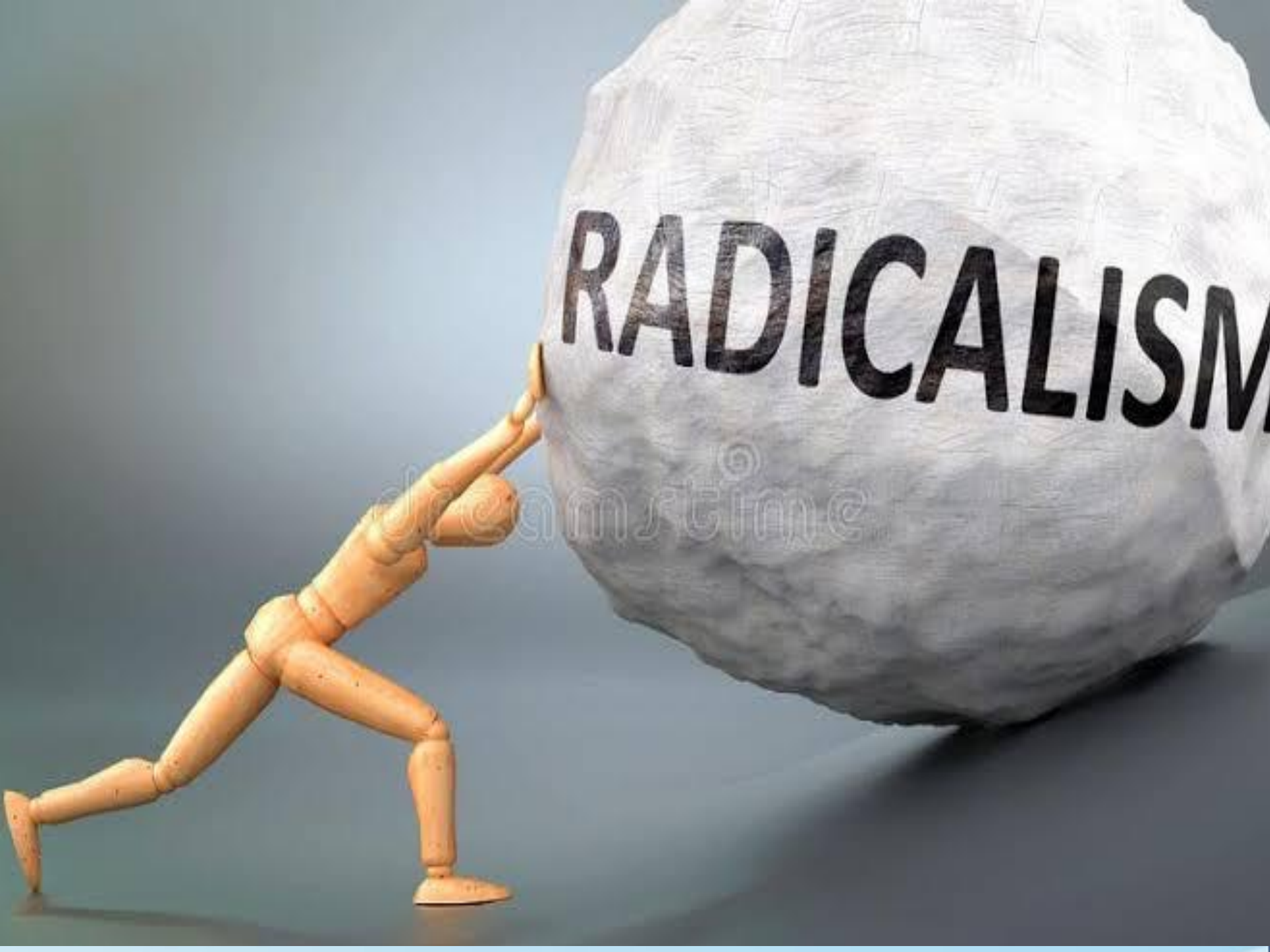
by

- Neo adjuvant chemoirrdiation
- Stapler
- Colo – anal anastamosis

How should I plan to get best results


YOUR TARGET
PRE- OPERATIVE IMAGING
NEW ADJUVANT THERAPHY
SPHINTRER SAVING PROCEDURE

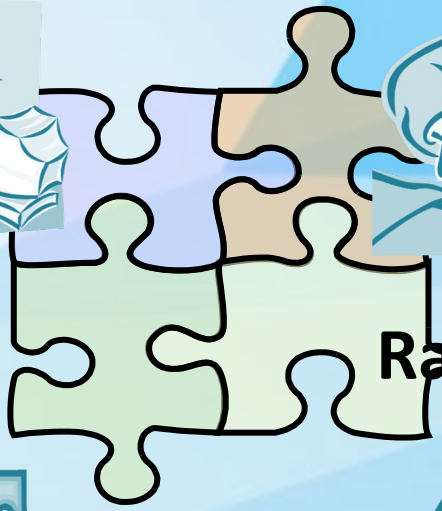
WHAT SHOULD DO FIRST ?


RADICALISM

HOW TO FIT ?

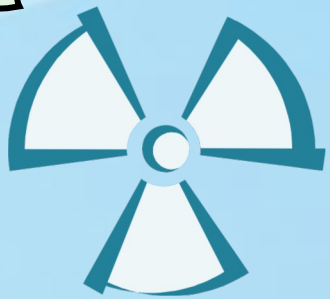
Pre-op imaging and staging

Surgery



Chemotherapy

Radiotherapy



FACTORS FOR - TREATMENT **SEQUENCE**

Depends on

Site of lesion – Upper, Middle, Lower

Lateral spread – Fixity, Adjutant organ invasion, Nodes

Distal Spread – Lung & Liver involvement.

TREATMENT **CONCEPT**

- **T1, T2,** Lesion - Upper 1/3, Middle 1/3
  - Only surgery

- **T1, T2,** - Lesion Lower 1/3
  - Surgery & Chemo radiation

- **T3 or N1, N2 Lesion**
  - Surgery & Chemo iradiation

- T4 – Adjacent organ invasion
  - Ultra Radical Surgery & Chemo iradiation

- LIMITED METASTASIS -Less than 3 in Liver, Single Lung metastasis
  - Metastatectomy + Local Treatment

- Metastasis More than 3 in Liver, Multiple Lung metastasis
  - Palliative Treatment

ONLY SURGERY

T1 ,T2 lesion in upper and middle rectum

SURGERY AND CHEMOIRRADIATION

1. T3 , T4 ,
2. Node positive
3. Lower rectal cancer
4. After conservative surgery
5. Before exenteration

FACT 1

SURGERY AND CHEMOIRRADIATION

WHICH MODALITY TO BE GIVEN FIRST

PRE-OPERATIVE VS POST-OPERATIVE

WHAT EVIDENCES SAYS

Study	NO	Main results
Swedish rectal cancer trial	908	High-dose pre-op radiation therapy reduced local recurrence and improved survival
Dutch colorectal cancer group	1805	Pre-op radiation therapy decreased local recurrence following total mesorectal excision
German rectal cancer study group	823	Pre-op chemoradiation therapy improved local control but did not improve overall survival compared to post-op chemoradiatoin therapy

WHAT NCCN GUIDELINE SAYS

- For T3, N0 or T any N1-2 lesions
  - should be treated by preop CRT unless medically contraindicated
- Then undergo resection 6 wks after completion of neoadjuvant therapy
- Post-op adjuvant chemotherapy for 6months

POTENTIAL ADVANTAGES

- **Reduction in tumour size**

  Improve respectability
  Increase sphincter preservation

- **Decrease risk of Local recurrence**
- Better Radial margins - Decreases the chances of Local recurrence.

POTENTIAL ADVANTAGES

- **Decrease risk of toxicity**

  Small bowel moexcluded from the radiation field in preoperative setting

- **Less bowel dysfunction**

  Colon used for reconstruction is not in the radiation field

- **No delay of therapy in patients with operative morbidity**

- **RT in Better oxygenated tissue - result in increased sensitivity**

FACT 2

RT VS CHEMO RT

CHEMO RT VS RADIOTHERAPY

Local control in T3/T4 rectal cancer

TRIALS	PRE-OP CHEMO RT	PRE-OP RT
EORTC 22921	8.7%	17.1%
FFCD 9203	8%	16.5%
GERMAN-94	6%	

PATHOLOGICAL REMISSION RATES

- 20 to 26 % in chemo radiotherapy
- 6 to 12 % with radiotherapy alone.

FACT 3

RT & TOXICITY

CONVENTIONAL VS IMRT

TOXICITY

- Chemoradiotherapy is more toxic than radiotherapy alone.

- To reduce toxicity:-

  Preoperative rather than post op

  Radiation volume

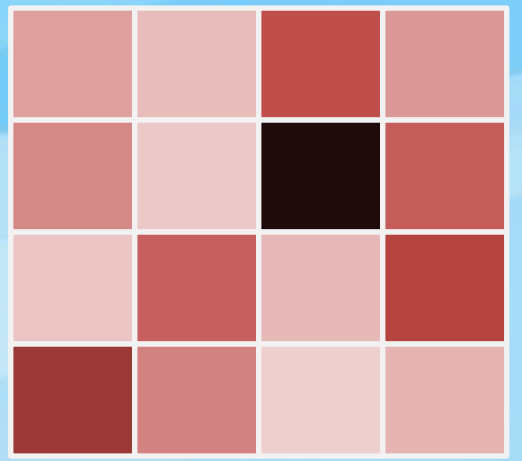
  Dose, fractionation and time

  Radiation techniques IMRT

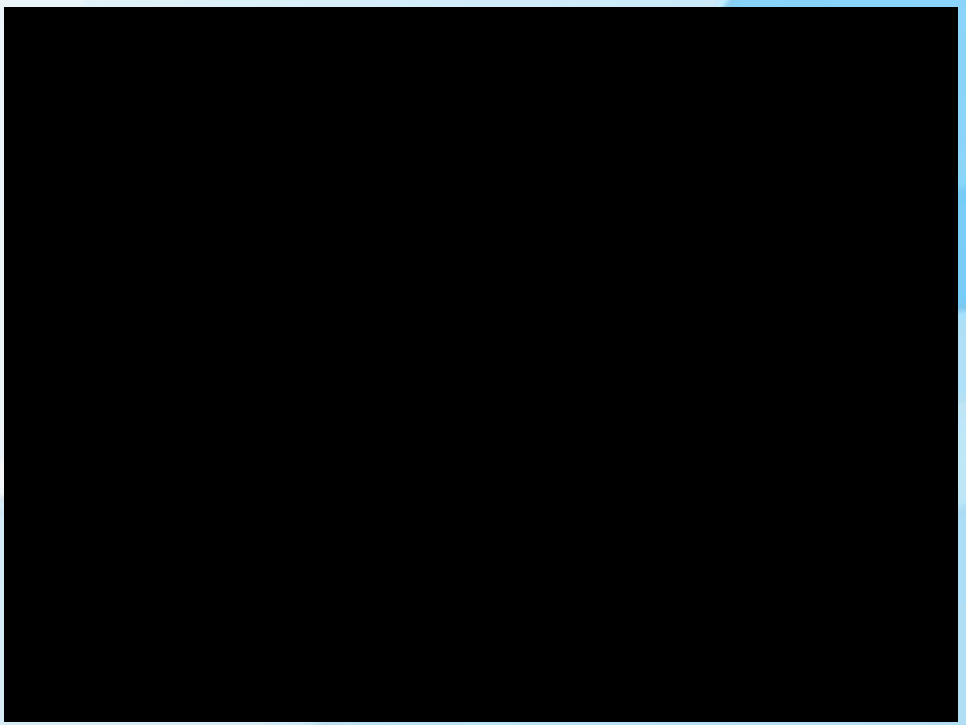
INTENSITY

CONVENTIONAL

IMRT



MULTILEAF COLLIMATOR



FACT 4

RADIOTHERAPY

SHORT COURSES VS LONG COURSES

WHAT IT IS..

long course preoperative chemoradiotherapy

- Doses of RT (2 gy per fraction)
- Over 5-6wks
- Total dose of 45-50.4gy
- With administration of concurrent 5-fluorouracil-based chemotherapy

short course preoperative radiotherapy

- RT over 5days
- (5gy/day for 5days)
- Without chemo,
- Followed by surgery within 10 days of first session of RT
- aim: sterilize resection margin

SPHINTER PRESERVATION

Long course

- Localy advanced lesions and for sphincter preserving surgery

FIELD STERILIZATION

Short course

- T3 and
- N1 lesion

FACT 5

CHEMOTHERAPY

CHEMOIRRADIATION

Regimen 5FU + leucovarin once in 28 days

- **Dose 5FU – 425mg/m2 D1 to D5**
- **Leucovarin – 20mg/m2 D1 to D5**

TAB CEPECITABINE 1000mg BD 14 days

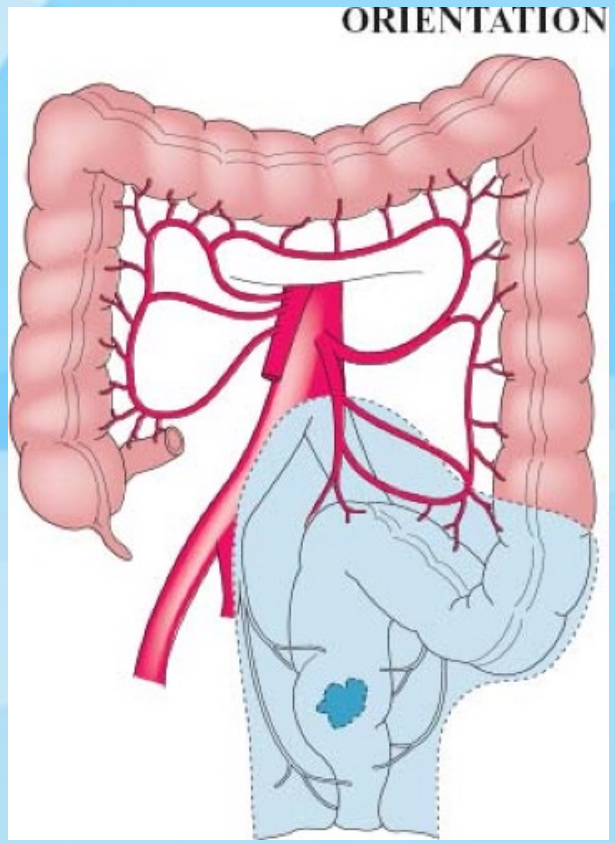
SURGERY PRINCIPLE

ABSOLUTE INDICATIONS FOR APR

- Involvement of Sphincter Complex.
- Extension of the tumor below the Dentate line.

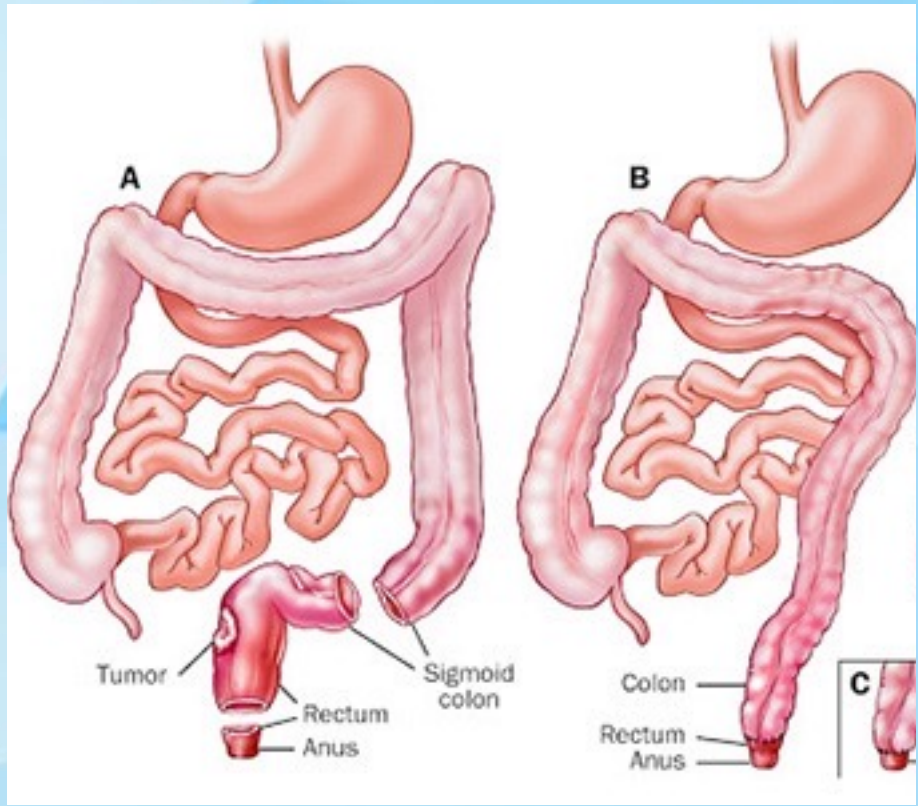
CONCEPT OF APR

- It is a enbloc resection of rectum, anal canal and mesorectum
- With end colostomy.



CONCEPT OF AR

- It is a enbloc resection of rectum, mesorectum
- With internal anastomosis.



ONCO PRINCIPLES

- Margins
- Surgical planes
- Node count
- Ligating artery at its origin

FACT 6

DONT'S

- Tumor spill
- Crushing of lymph node

MARGIN

LINEAR MARGINS

1. PROXIMAL – 5 CM
2. DISTAL - ?

CRM – LATERAL MARGIN

- CRM is the closest radial margin between the deepest penetration of the tumor and the edge of resected soft tissue around the rectum and should be measured in millimeters (mm).

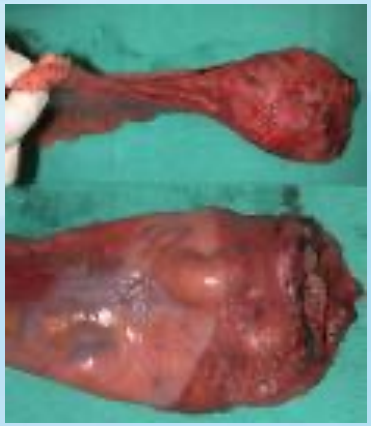
LATERAL MARGINS

1. MESORECTAL EXCISION

2. LYMPHADENECTOMY

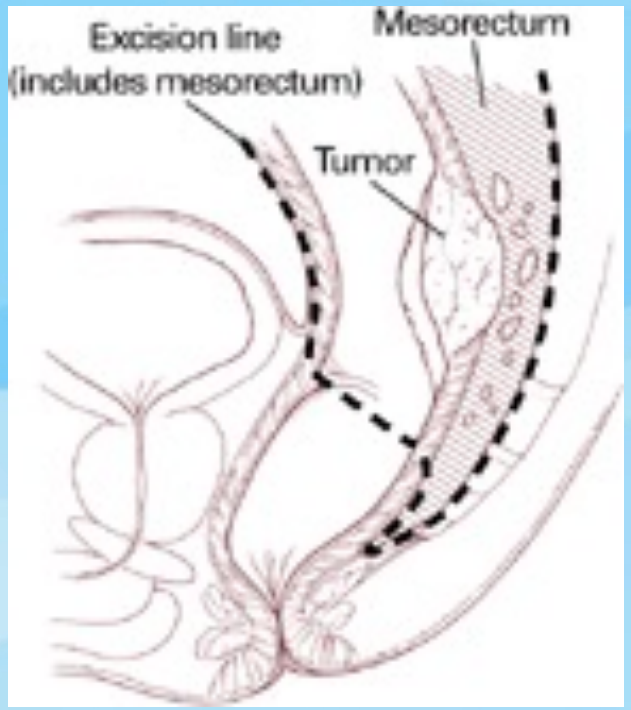
MESORECTUM

- Describes by Heald
- It is a cushion of fatty tissue,that surrounds the rectum posterolaterally and is covered by a membrane called fascia propria
- Majority of + ve ,lymph nodes present here



WHAT'S TME?

- TME is precise sharp dissection around the fascia propria so that mesorectum can be removed in toto along with the rectum



TOTAL MESORECTAL EXCISION

- Commonest cause of local recurrence in rectal cancer is incomplete excision of mesorectum
- So total mesorectal excision [TME] with circumferential clearance of rectal cancer is the procedure of choice
- TME is mandatory in lower and middle third rectal cancer
- In upper third cancer, 5cm clearance of mesorectum from lower margin of the cancer is enough

FACT 7

LINEAR MARGIN

LINEAR MARGINS

1. PROXIMAL – 5 CM
2. DISTAL - ?

DISTAL MARGIN – NEW CONCEPT

- It should be negative margin

FACT 8

LYMPH NODE DISSECTION

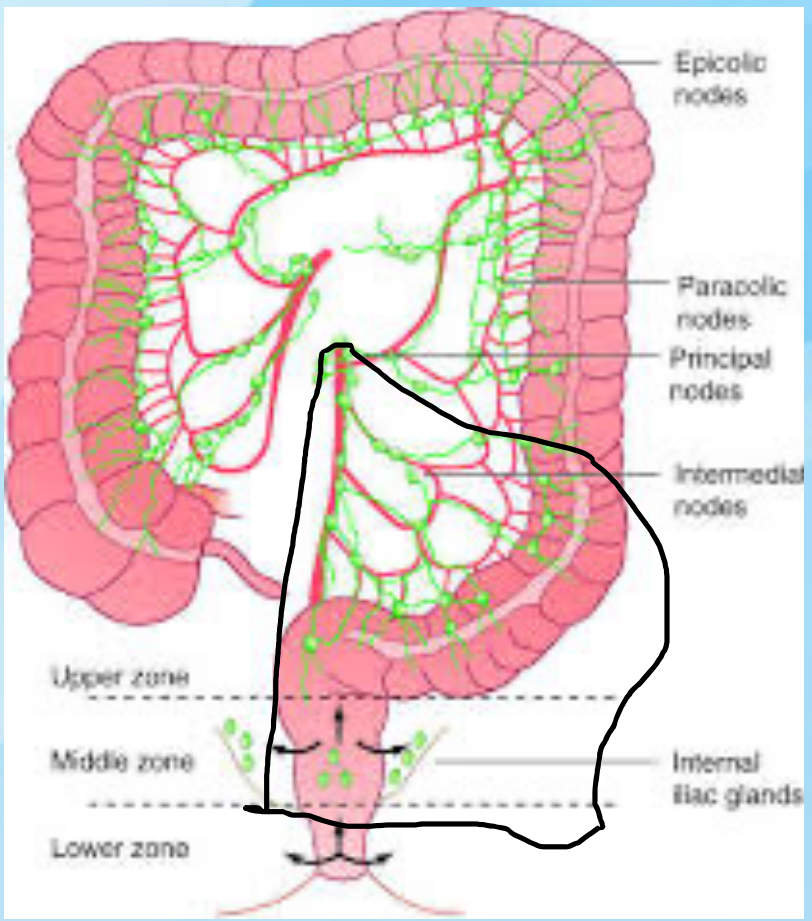
COLON LYMPHATIC DRAINAGE

First tier -Epicolic nodes
adjacent to colon

Second tier – Para colic
along the marginal vessels

Third tier – intermediate nodes
along the named branch

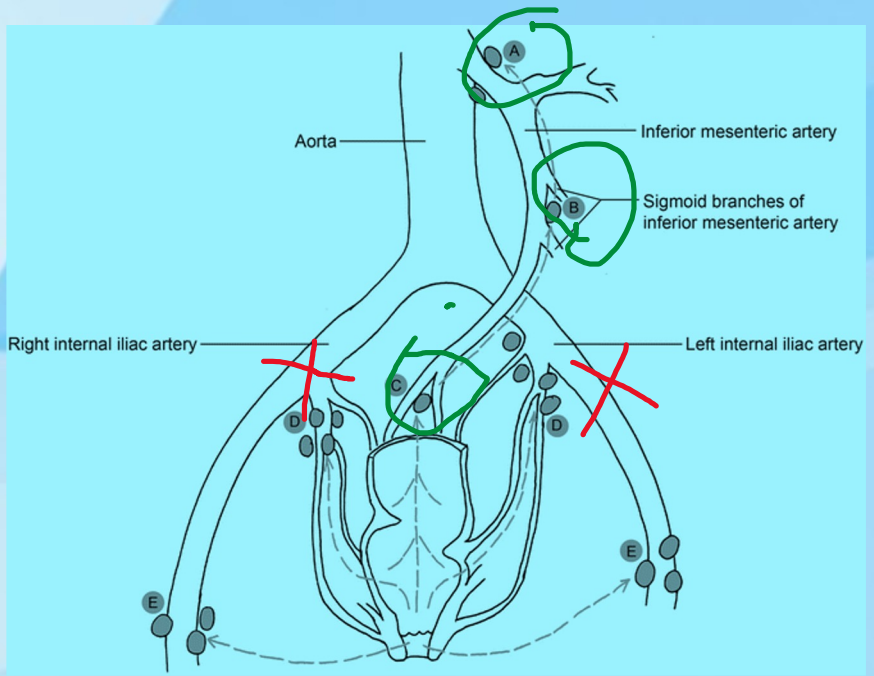
Fourth tier – Principle node
along the S.M.A, I.M.A



- The panel does not recommend extension of nodal dissection beyond the field of resection

(eg, into the distribution of iliac lymph nodes) unless

these nodes are clinicallysuspicious.

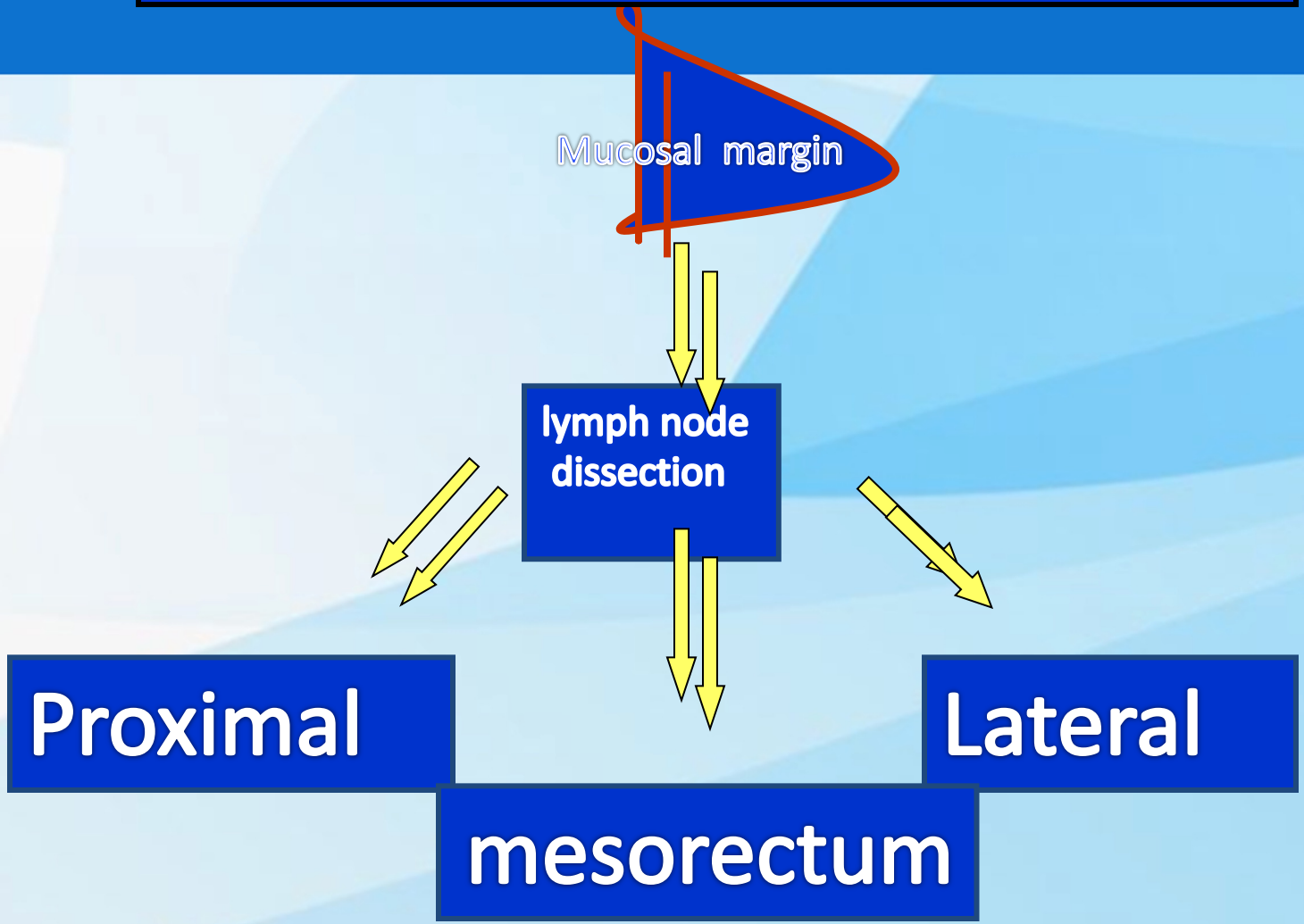


ADEQUATE LYMPHADENECTOMY HOW MANY NODES?

- **Colon - 12 nodes**

FACT 9

What follows is.....



ANATOMICAL PLANES

WHAT IS PLANE

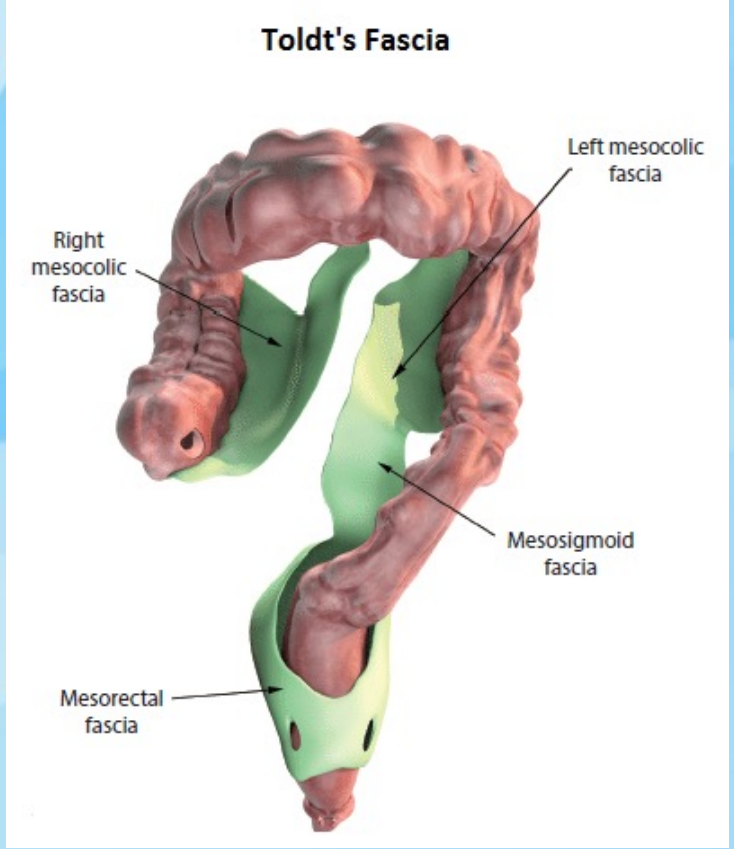
- It is a avascular area
- Dissection of this plane resulted in Good oncological clearance
- There is no bleeding in this plane.

FACT10

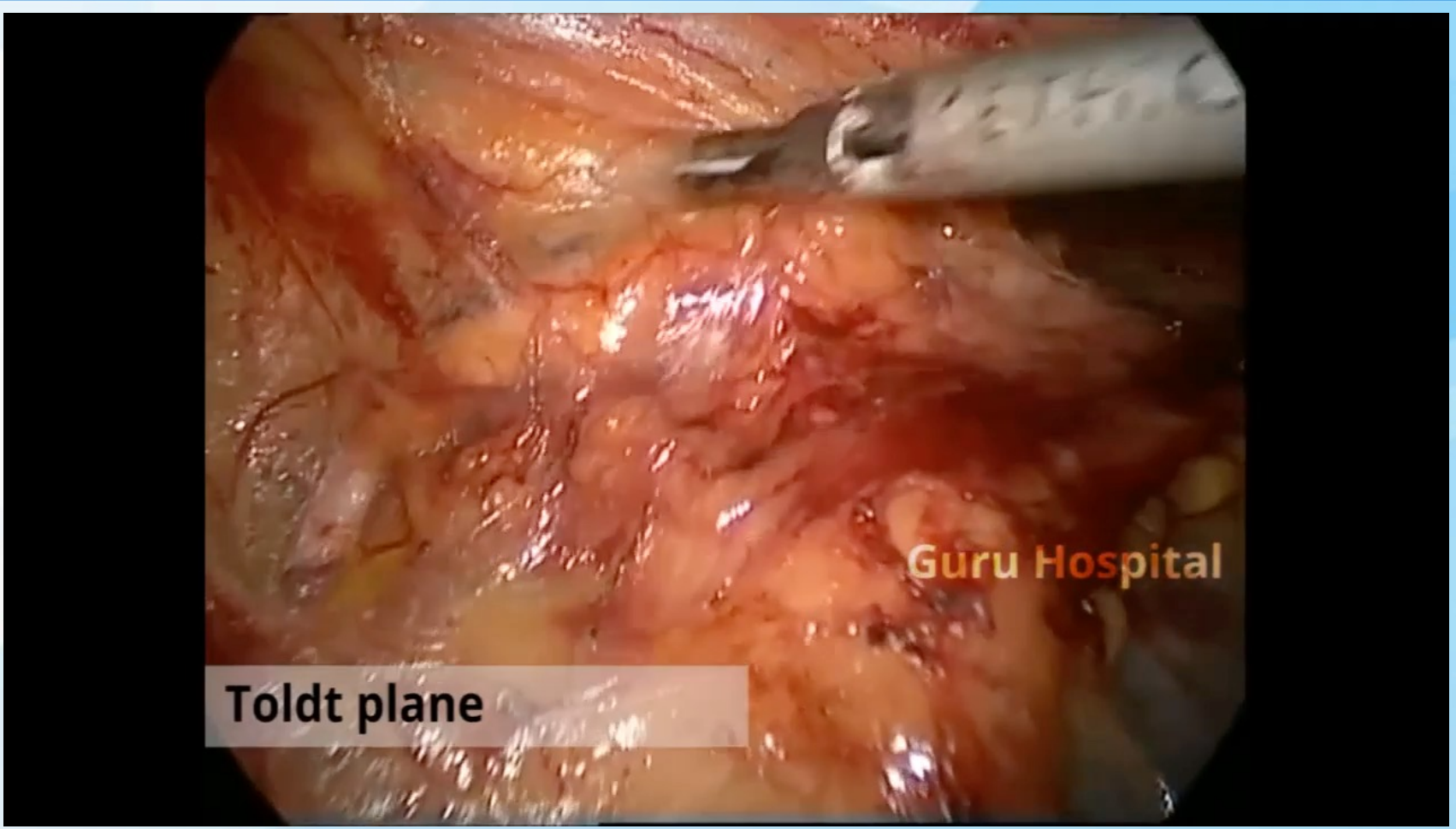
PLANE 1 - TOLDTS FASCIA PLANE

- fascial plane which was formed by the fusion of the visceral peritoneum with the parietal peritoneum.

- It is found between the two mesothelial layers that separate the mesocolon from the underlying retroperitoneum.

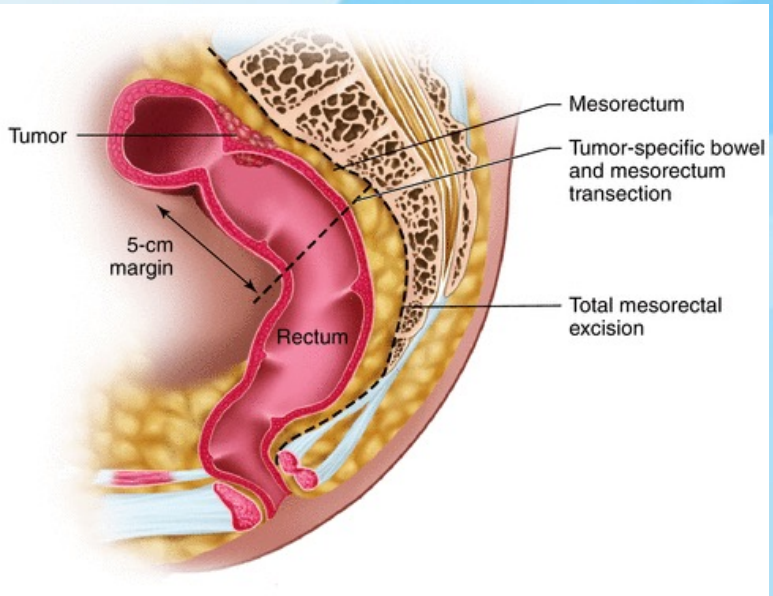


TOLDTS FASCIA & PARIETAL PERITONEUM

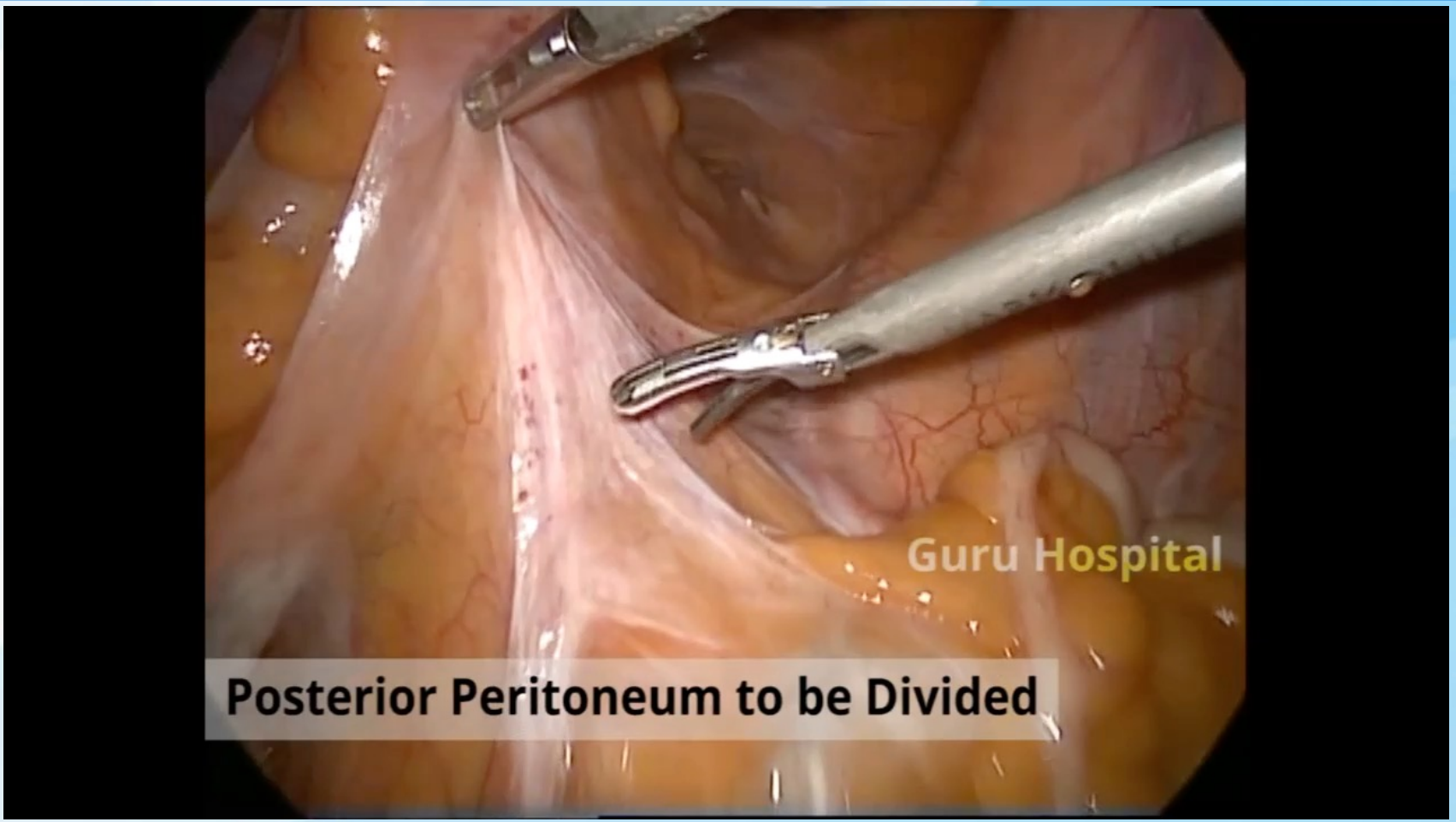


PLANE 2 - HEALD PLANE

THE ‘HOLY PLANE’ OF RECTAL SURGERY

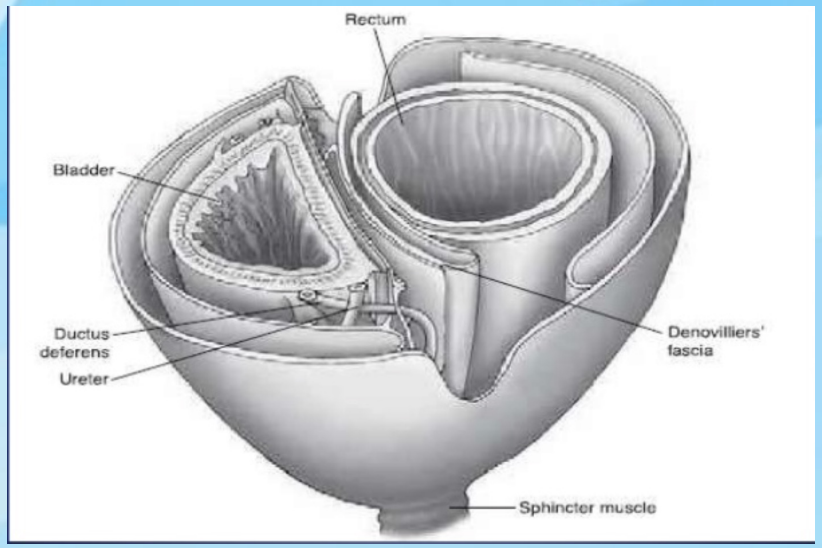


PLANE 2 - HEALD PLANE

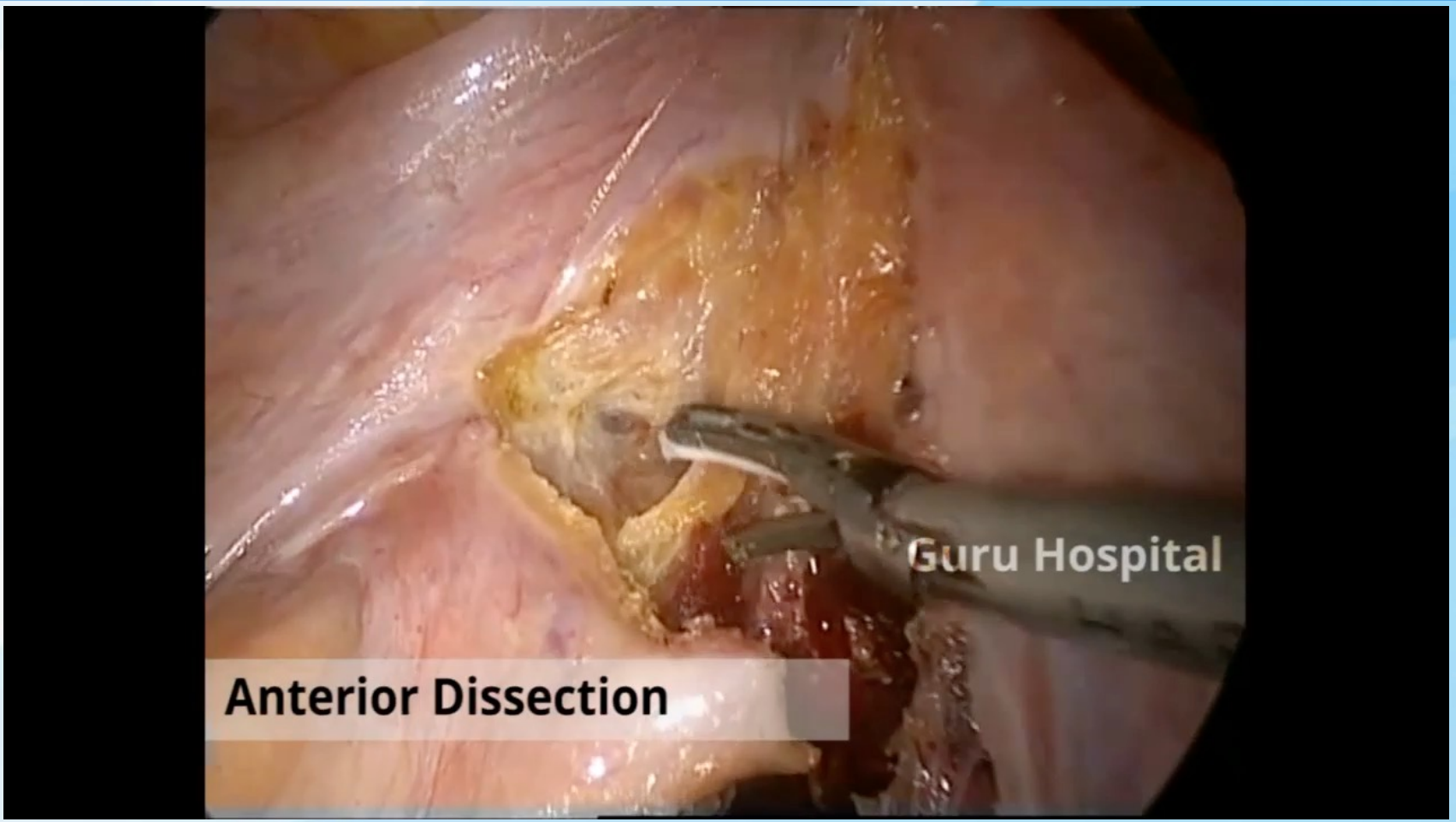


PLANE 3. - ANTERIOR PLANE

ANT . DENOVILLIERS. &
POST . DENOVILLIERS.



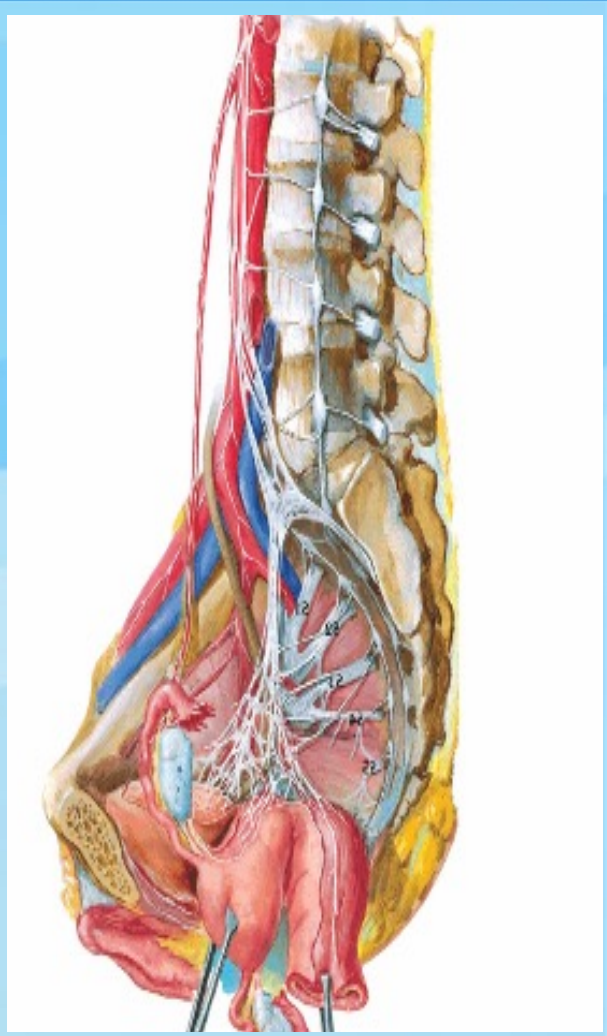
ANT. DENOVILLIERS & POST. DENOVILLIERS



TRICK OF SURGERY

NERVE TO BE PRESERVED

- Sympathetic – Hypogastric nerve
- **superior pelvic plexus**
  - at sacral promontary
  - single midline
- **Inferior pelvic plexus**
  - At lateral wall of the rectum with Para sympathetic –Nervi ergentis
  - Laterally two



- Radical treatment of rectal cancer results in high rate of impotence in male
- In rectal surgery, posterior plane of dissection is in-between the mesorectum and presacral fascia. It is an avascular plane and contains hypogastric nerve
- Hypogastric nerve should be dissected off from mesorectum by sharp dissection

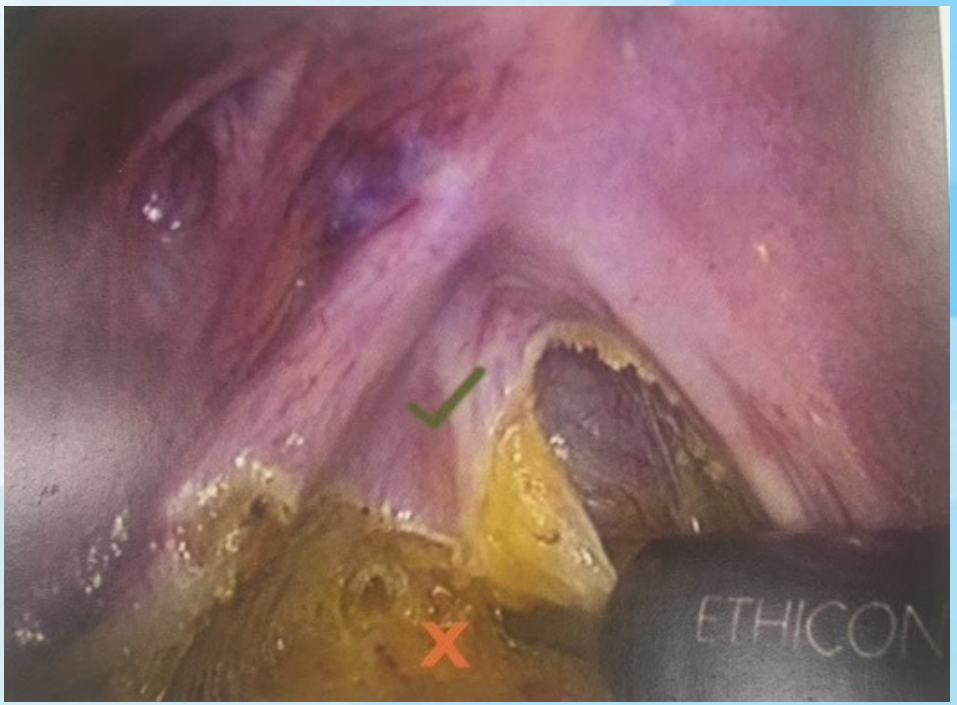
FACT 11

- After APR if post operative RT is planned, pelvic cavity has to be filled with omentum or any material like implants in order to prevent small intestine to enter into pelvic cavity to avoid radiation enteritis

FACT 12

ANTERIOR PLANE – BLADER / RECTUM

FAT BELONGS TO RECTUM



FACT 13

ADJACENT ORGAN INVOLVEMENT

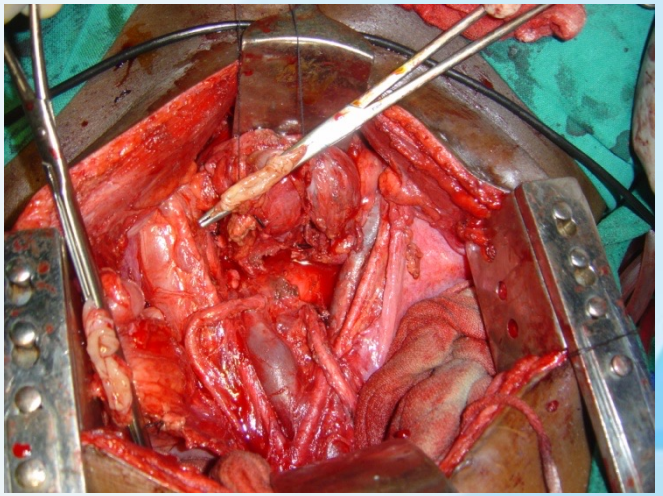
ADJACENT ORGAN INVOLVEMENT
IS IT AN ADVANCED STAGE ?

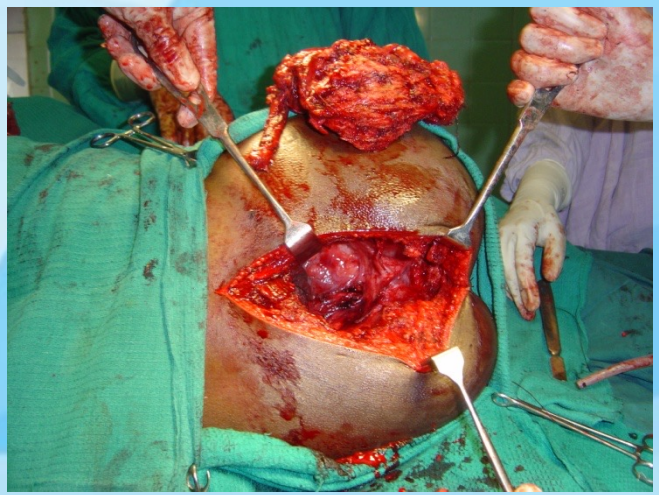
NO

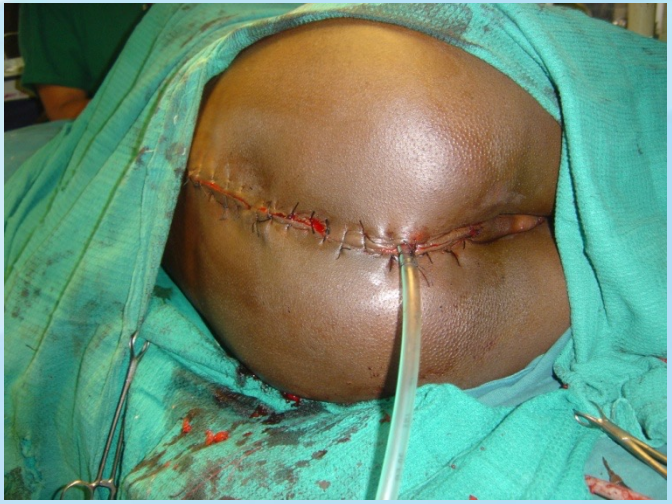
- Extraperitoneal adjacent organ involvement is T4 and is still staged as IIB(T4 N0M0). Not a advanced stage.
- Ultra Radical procedures with neo adjuvant chemoradiation curative intent is a worthwhile option

FACT 14

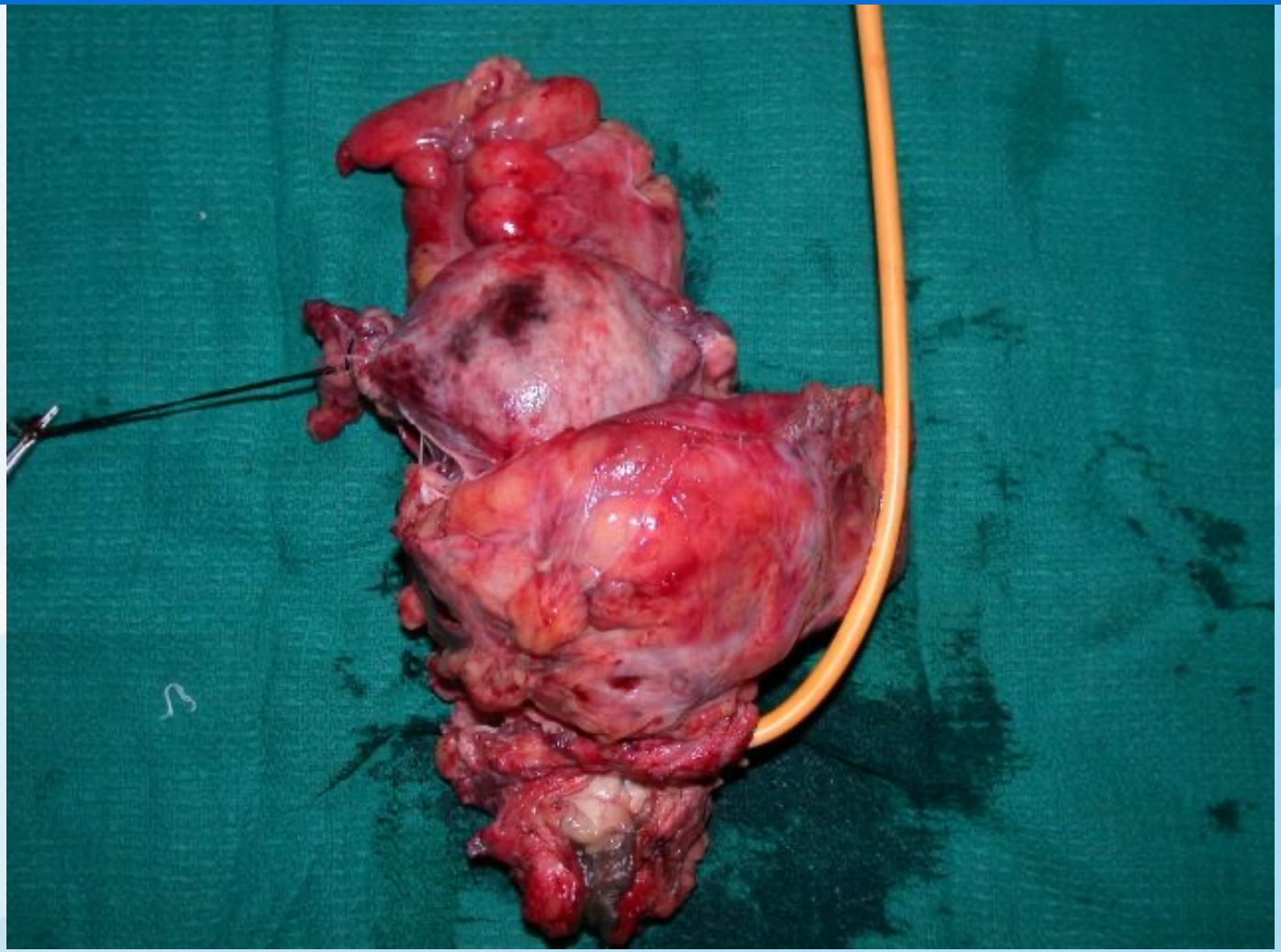
RECTAL CANCER ENBLOC SACRAL RESECTION







PELVIC EXENTERATION



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A Review of Neoadjuvant Chemoradiotherapy for Locally Advanced Rectal Cancer

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Abstract

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Neoadjuvant chemoradiotherapy has become the standard treatment for locally advanced rectal cancer. Neoadjuvant chemoradiotherapy not only can reduce tumor size and recurrence, but also increase the tumor resection rate and anus retention rate with very slight side effect. Comparing with preoperative chemotherapy, preoperative chemoradiotherapy can further reduce the local recurrence rate and

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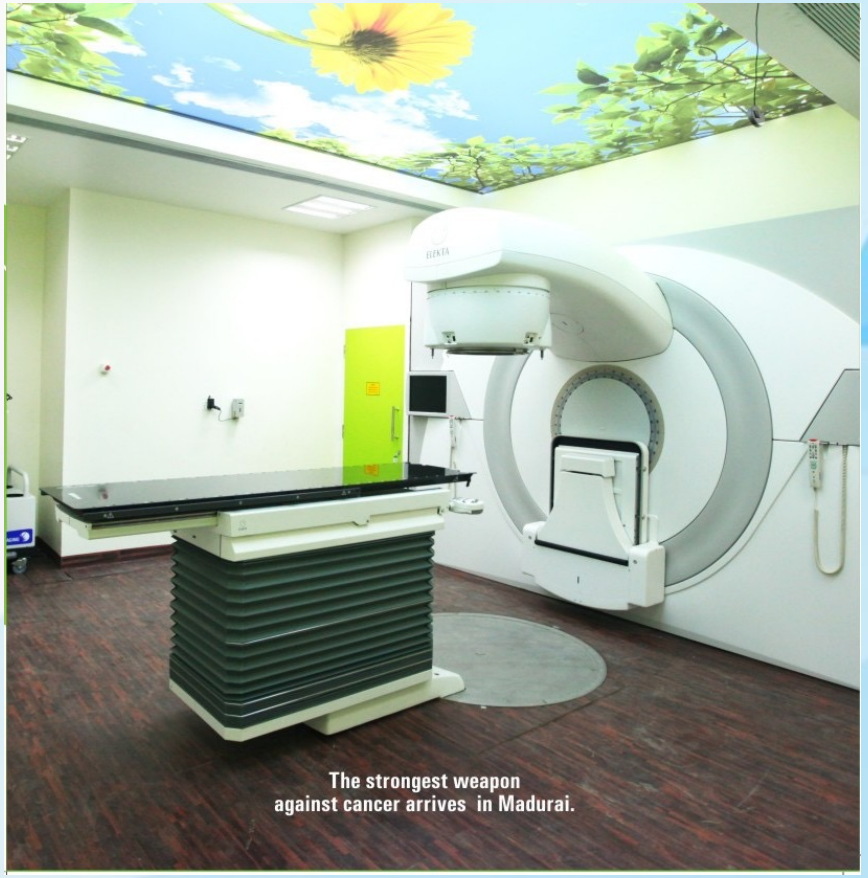
BEING SURGEON …

DO NOT

DO DIRECT SURGERY

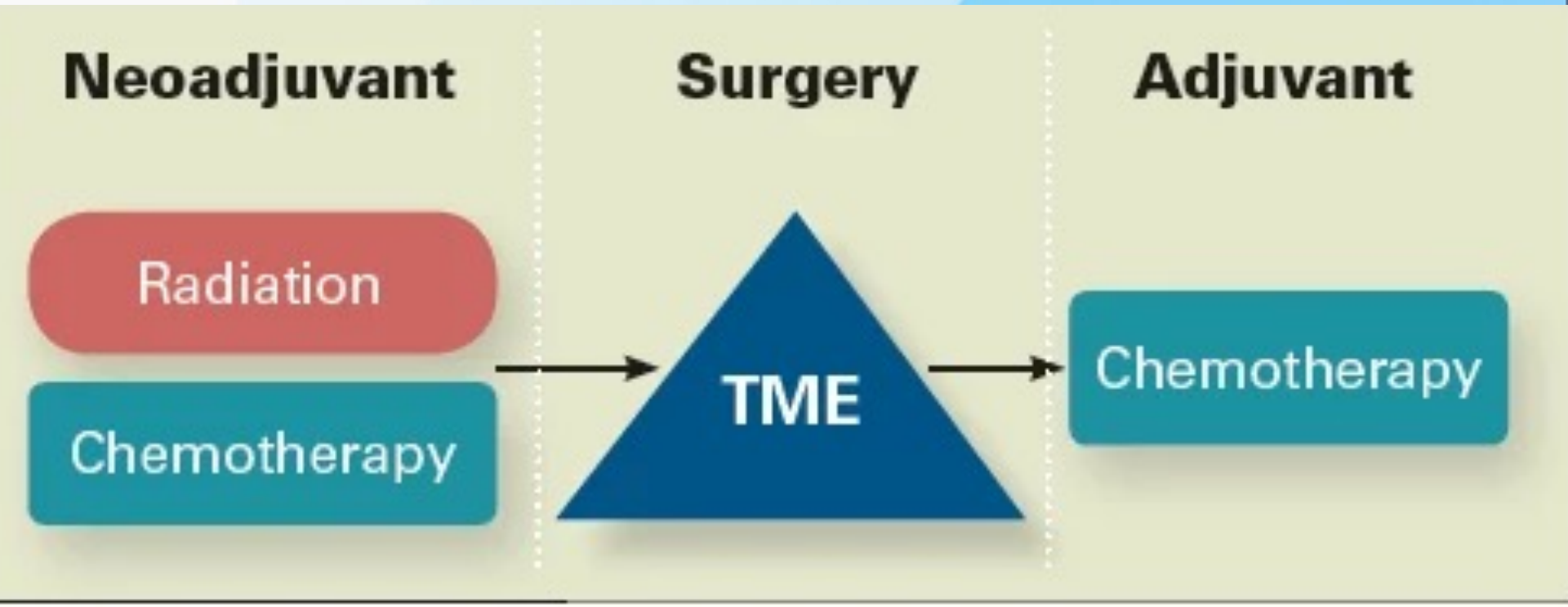
IN ALL CASES



The strongest weapon
against cancer arrives in Madurai.

Dear surgeon,
Please do not
reject me

BEING SURGEON …



FACT 15

MY WISHES TO ALL TO ACHIVE QUALITY CARE

THANK YOU