Direct to surgery pathway in Rectal cancer.

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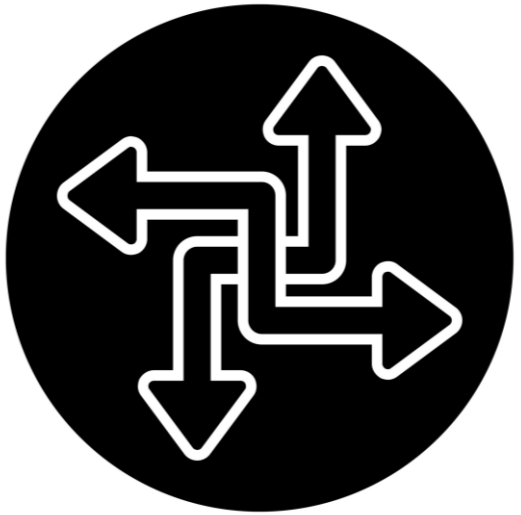
Four pathways for rectal cancer patients

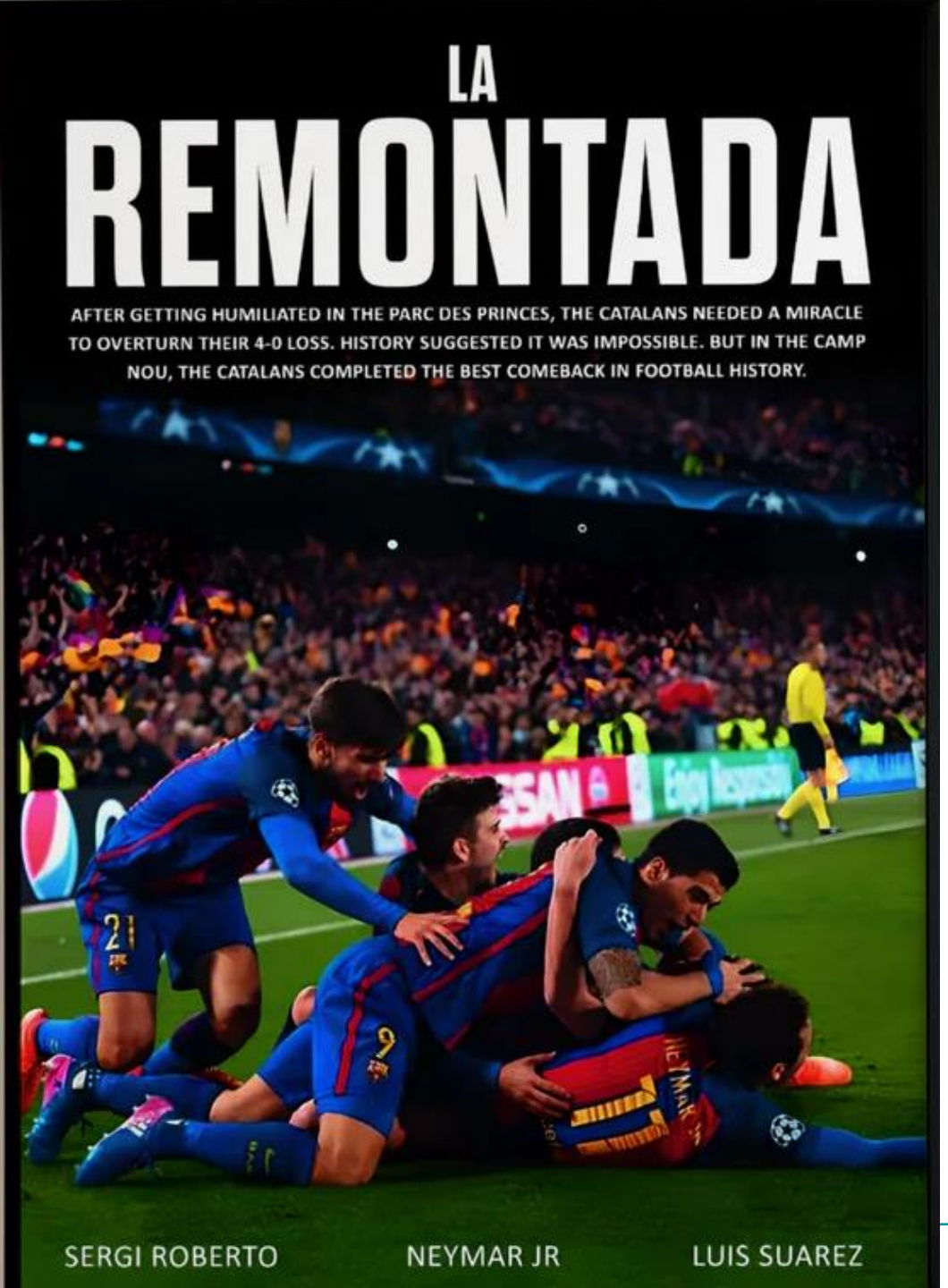
1-TNT, Induction pathway Chemo-Radiotherapy

2-TNT, Consolidation pathway Radio-Chemotherapy

3- Watch and Wait (NO surgery)

4- Direct to surgery



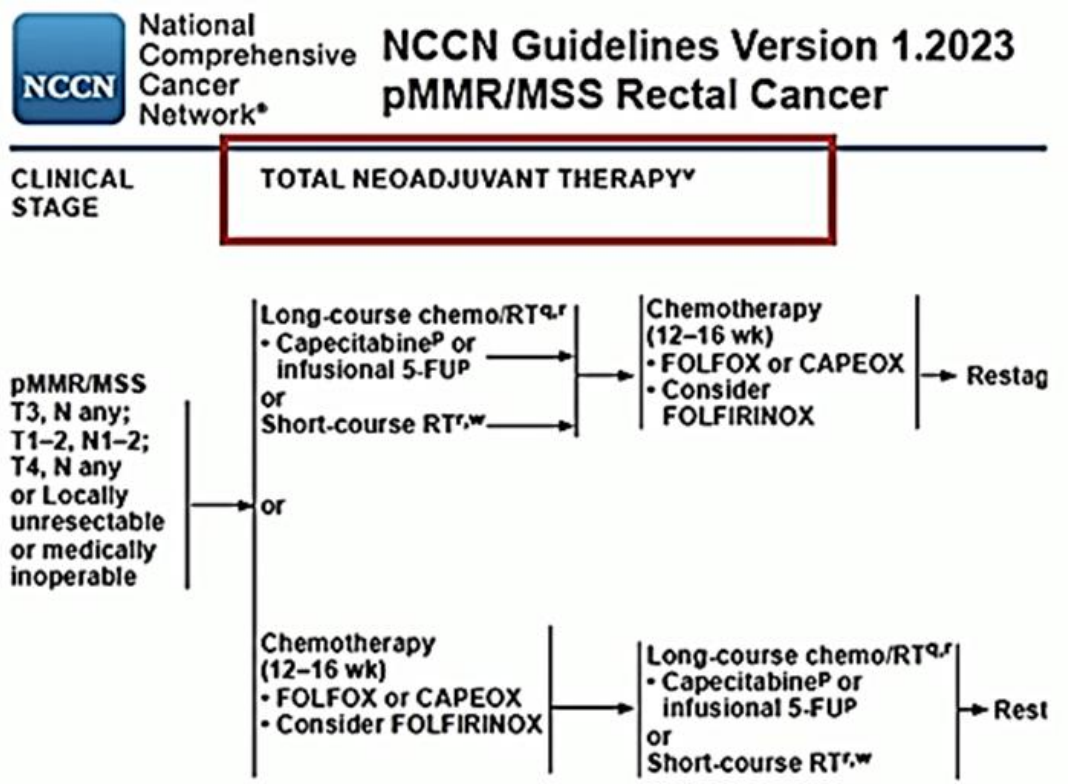


Direct to surgery pathway

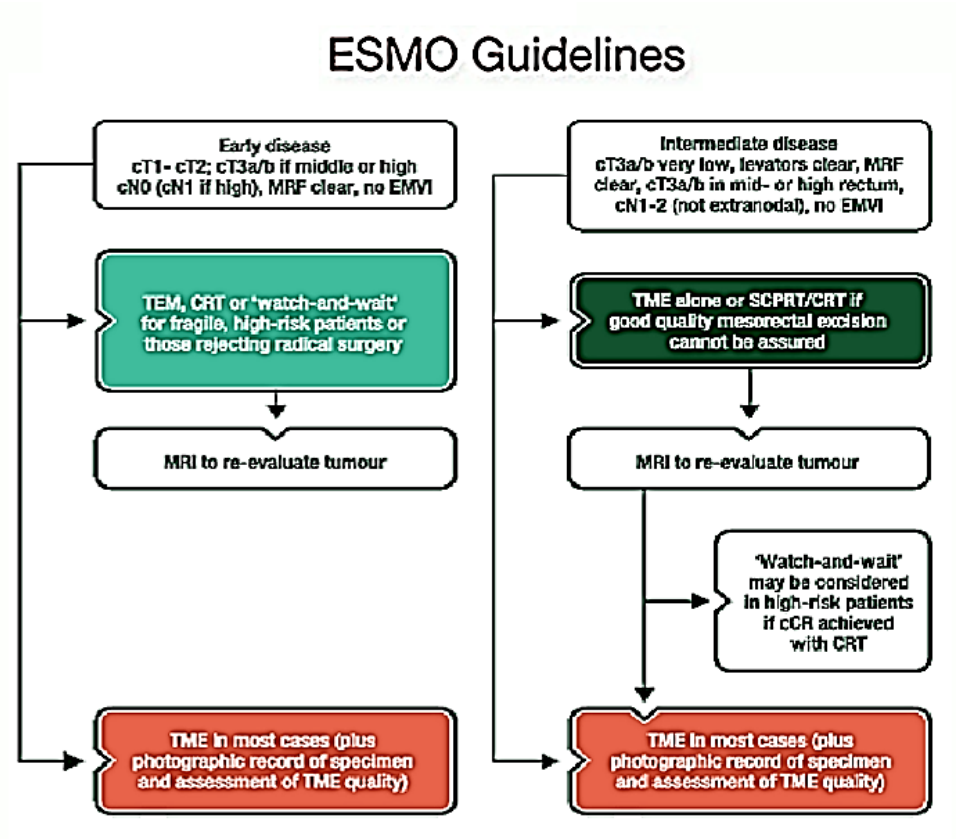
Most important factor in curing rectal cancer ?

- Biology of cancer
- Surgeon's technical ability to achieve R0 resection and minimal morbidity
- "Adjuvant therapies" to curative surgery

TNT


National Comprehensive Cancer Network®
NCCN Guidelines Version 1.2023
pMMR/MSS Rectal Cancer
CLINICAL STAGE
TOTAL NEOADJUVANT THERAPY[v]
pMMR/MSS T3, N any; T1–2, N1–2; T4, N any or Locally unresectable or medically inoperable
Long-course chemo/RT[q,r]
• Capecitabine[p] or infusional 5-FU[p]
or
Short-course RT[r,w]
Chemotherapy (12–16 wk)
• FOLFOX or CAPEOX
• Consider FOLFIRINOX
Restag
or
Chemotherapy (12–16 wk)
• FOLFOX or CAPEOX
• Consider FOLFIRINOX
Long-course chemo/RT[q,r]
• Capecitabine[p] or infusional 5-FU[p]
or
Short-course RT[r,w]
Rest

Early and Intermediate disease TME in most cases plus photographic record of the specimen and assessment of TME quality

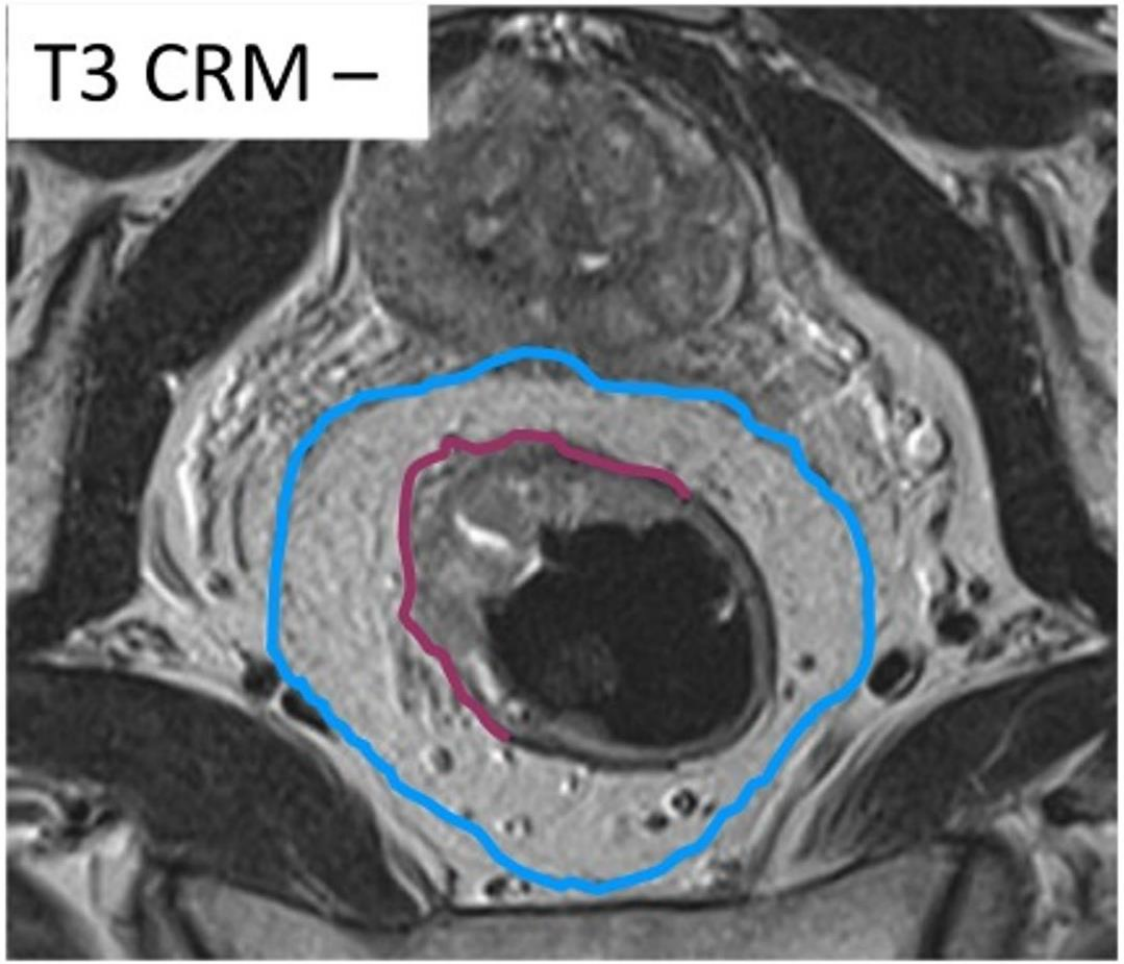


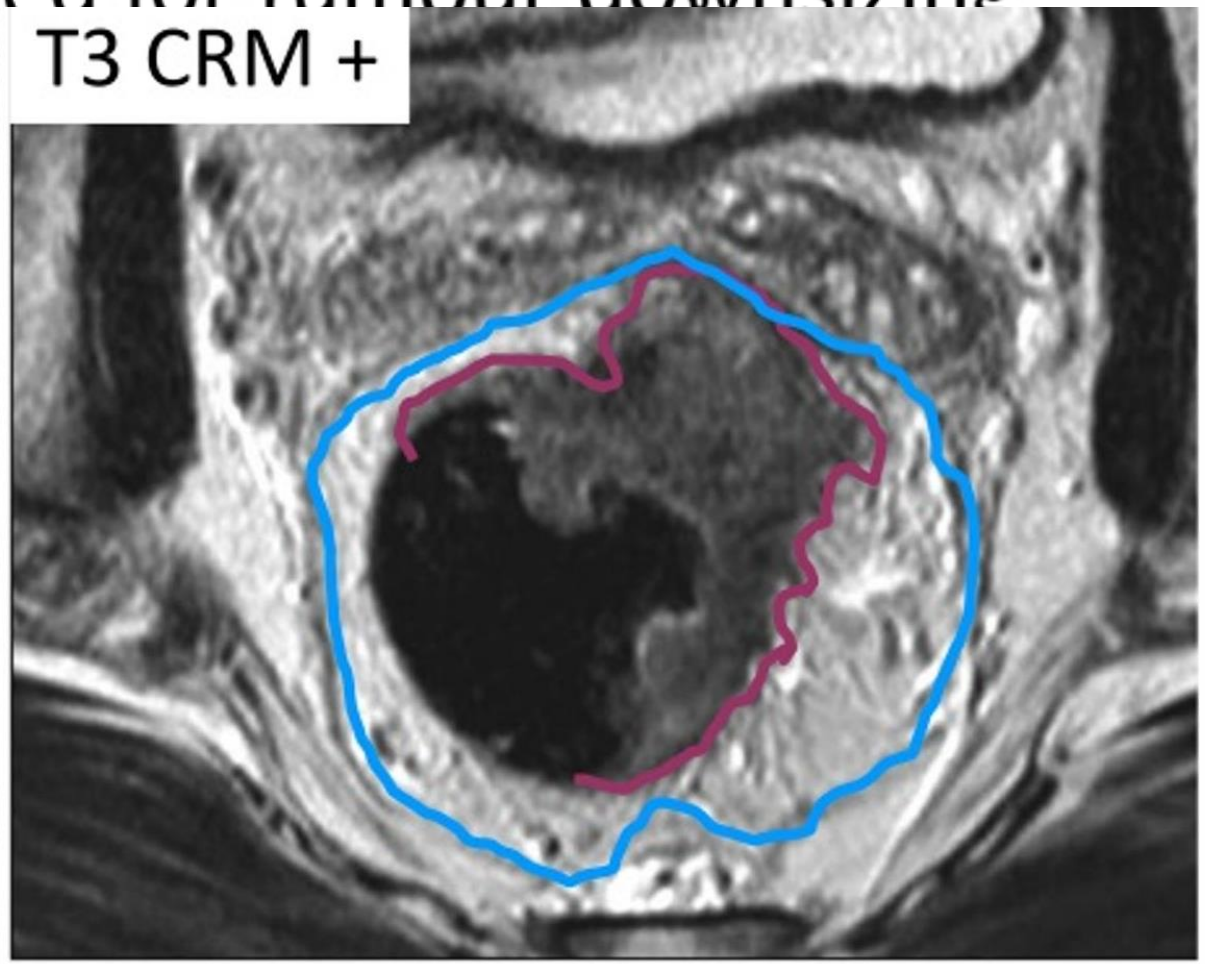
Non of the TNT trials showed survival benefit

Neoadjuvant chemo-radiation + Adjuvant Chemo may reduce local recurrence but has no benefit in survival

Trials	Neadjuv Radiotherapy	Adjuvant Chemotherapy	Reduced Local Recur	Survival Benefit
FFCD 2006	RT (no chemo) LCRT		YES	NO
DUTCH 2011	SCRT + SURGERY		YES	NO
CR07 2008	SCRT + SURGERY		YES	NO
EORTC 2014	RT (no chemo) LCRT	LCRT + ADJUV CT	YES	NO
CHRONICLE 2014	LCRT	FUFOL / CAP		NO
I-CNR-RT 2014	LCRT	CAPOX		NO
PROCTOR/SCRIPT 2014	LCRT	FUFOL		NO

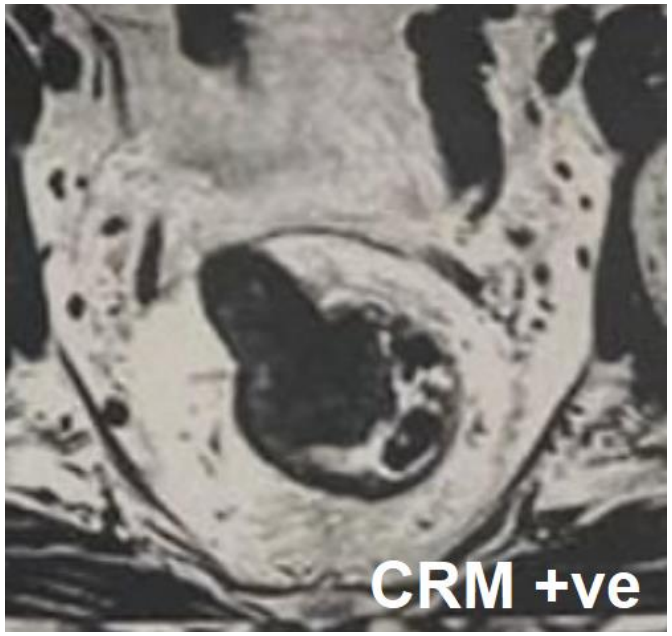
No need for tumour downsizing

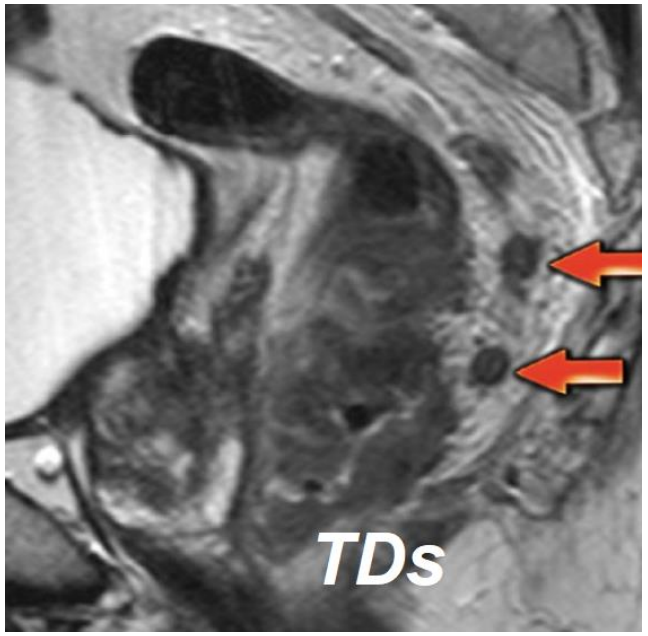


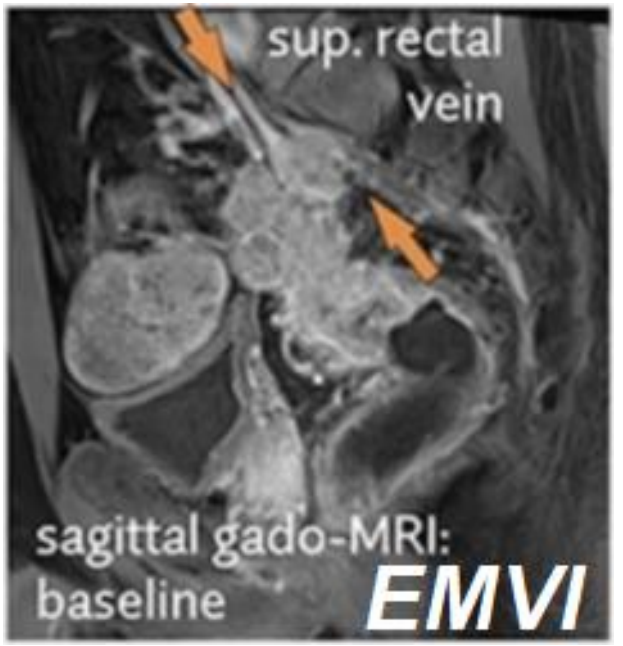


Sab/ N0/ 1)

The high-risk group, with the most chance of benefiting from preoperative treatment.





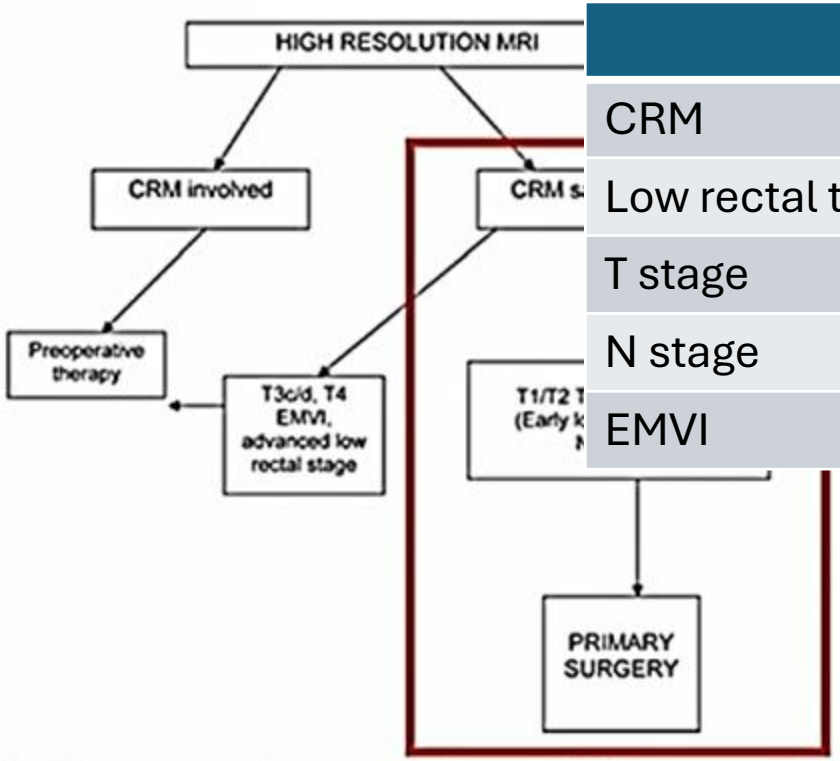


ORIGINAL ARTICLES

Preoperative High-resolution Magnetic Resonance Imaging Can Identify Good Prognosis Stage I, II, and III Rectal Cancer Best Managed by Surgery Alone

A Prospective, Multicenter, European Study

Rectal Cancer
Upfront TME



	Good Prognosis
CRM	> 1mm clear
Low rectal tumor	Clear intersphinceric plane
T stage	T1 T2 T3a T3b
N stage	Any N
EMVI	Negative

TME upfront

FIGURE 2. Treatment plans according to MRI prognosis.

Assessment of the 2020 NICE criteria for preoperative radiotherapy in patients with rectal cancer treated by surgery alone in comparison with proven MRI prognostic factors: a retrospective cohort study

Lancet Oncol 2022

	Crude local recurrence		Crude distant recurrence	
	Patients (%)	p value	Patients (%)	p value
T stage on MRI				
T1–T2 on MRI (n=167)	7 (4%)	0·15	48 (23%)	0·0016
T3–T4 on MRI (n=211)	15 (7%)	..	18 (11%)	..
Lymph node metastases on MRI				
Negative (n=252)	12 (5%)	0·14	40 (16%)	0·16
Positive (n=126)	10 (8%)	..	26 (21%)	..
EMVI status on MRI				
Negative (n=288)	15 (5%)	0·14	32 (11%)	<0·0001
Positive (n=90)	7 (8%)	..	34 (39%)	..
Tumour deposits on MRI				
Negative (n=300)	17 (6%)	0·44	39 (13%)	<0·0001
Positive (n=78)	5 (7%)	..	27 (36%)	..
CRM status on MRI				
Safe (n=354)	19 (5%)	0·10	58 (17%)	0·027
Threatened (n=24)	3 (13%)	..	8 (33%)	..

EMVI=extramural venous invasion. CRM=circumferential resection margin.

Table 3: **MRI prognostic factors and association with crude local and distant recurrence**

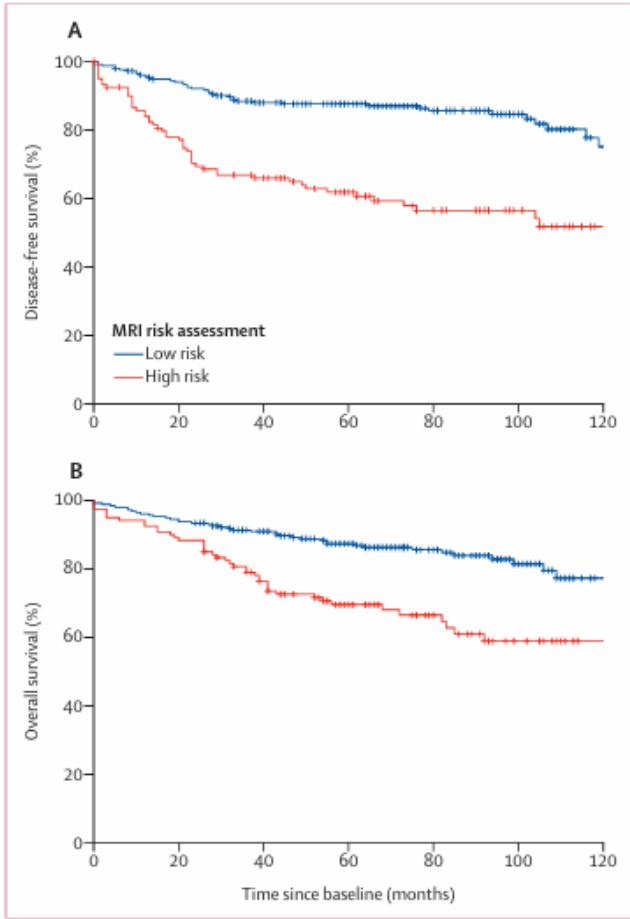


Figure 2: **Disease-free survival (A) and overall survival (B) according to MRI risk assessment**

Crosses denoted censored patients.

Assessment of the 2020 NICE criteria for preoperative radiotherapy in patients with rectal cancer treated by surgery alone in comparison with proven MRI prognostic factors: a retrospective cohort study

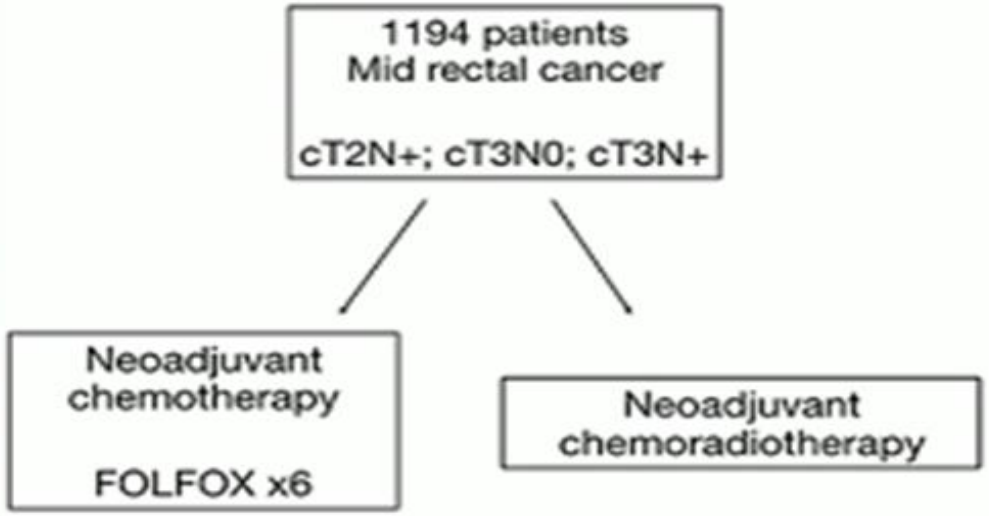
Lancet Oncol 2022

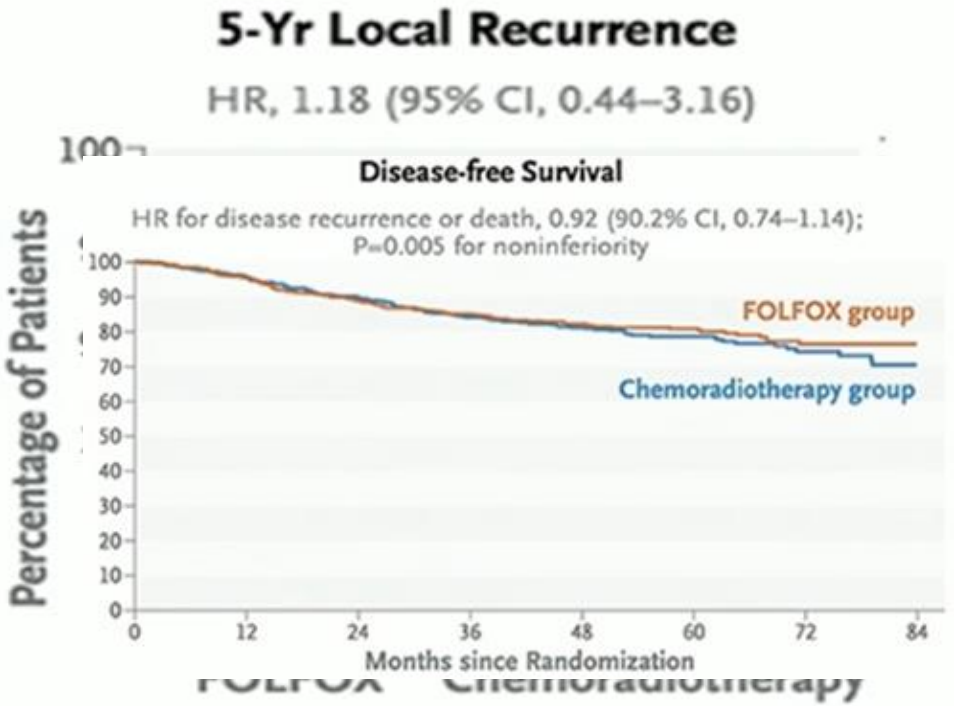
- Nice criteria : All patients receive preoperative radiotherapy except for those with radiologically staged T1–T2, N0 tumors.
- Overuse of radiotherapy could occur with this unselective approach.
- The high-risk group, with the most chance of benefiting from preoperative radiotherapy, is not well selected on the basis of NICE 2020 criteria and is better identified with proven MRI prognostic factors

The NEW ENGLAND JOURNAL of MEDICINE 2023

Preopertaive treatment of locally advanced rectal cancer

Rectal Cancer
Upfront TME





Radiotherapy role regression

In patients with locally advanced rectal cancer who were eligible for sphincter-sparing surgery, preoperative FOLFOX was noninferior to preoperative chemoradiotherapy with respect to disease-free survival.

JAMA Oncology | Original Investigation

Abandonment of Routine Radiotherapy for Nonlocally Advanced Rectal Cancer and Oncological Outcomes 2024

2011	2016

Cross-sectional study suggest that an absolute 50% reduction in **radiotherapy** use for **nonlocally advanced rectal cancer** did not compromise **cancer**-related **outcomes** at a national level.

4y LRFS	5.8%	5.5%
4y OS	79.6%	86.4%

50% reduction in use of Radiotherapy in NL

Conclusion

- **Hight quality MRI** image is mandatory
- If you can resect safely and re anastomosis either T2 , early T3, especially high and mid tumors, without poor MRI prognostic criteria then go **direct to surgery**.
- Chemotherapy and radiotherapy **can't compensate** for bad surgery
- It true that there is chance 30-40% of CR with TNT, but there is chance 60-70% of operation, and the operation is hard and bad.