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MANAGEMENT OF Ultra LOW RECTAL CANCER · FUNCTIONAL OUTCOME SESSION

ISR vs. CRA vs. W&W: Function vs. Dogma

Surgical and Non-Surgical Strategies: Balancing Oncologic Control and Function

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The Clinical Problem

- Ultra-low rectal cancer => abdominoperineal resection (APR) and a permanent stoma.
- The modern goal: oncologic radicality sphincter/organ preservation
- Three pathways now compete for these patients:
CRA, ISR + coloanal anastomosis, and Watch & Wait.
- **Every pathway => "hidden" functional cost — mapping oncology against function.**

$\leq 5 \text{ cm}$

from the anal verge

defines the "ultra-low" rectal cancer challenge:
the point where oncologic clearance and
sphincter anatomy begin to compete directly.



The Spectrum of Options



SURGICAL

CRA

Reconstruction via Colorectal Anastomosis

Standard low anterior resection with TME; anastomosis constructed above the sphincter complex.



SURGICAL — SPHINCTER-SPARING

ISR + CAA

Intersphincteric Resection & Coloanal Anastomosis

Resection extended into/through the intersphincteric plane; sphincter-preserving alternative to APR, guided by the Rullier classification.



NON-SURGICAL

W&W

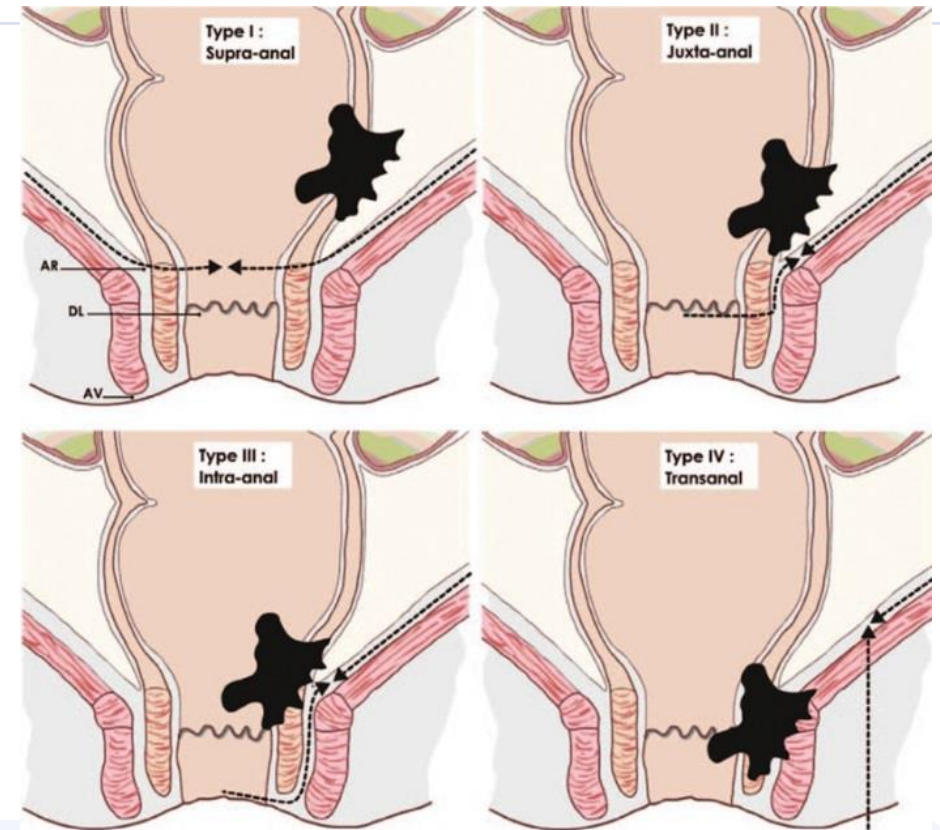
Watch & Wait

No resection after a (near-)complete clinical response to chemoradiation; organ preservation with structured surveillance.



Rullier Classification

Type	Definition	Surgical Implication
I — Supra-anal	Tumor > 1 cm above the anorectal ring	Standard CRA usually feasible
II — Juxta-anal	≤ 1 cm from the anorectal ring; no sphincter invasion	Partial / subtotal ISR + CAA
III — Intra-anal	Internal anal sphincter (IAS) invasion	Total ISR + CAA
IV — Transanal	External sphincter (EAS) or levator (LAM) invasion	ISR + partial EAS resection, or APR if not achievable

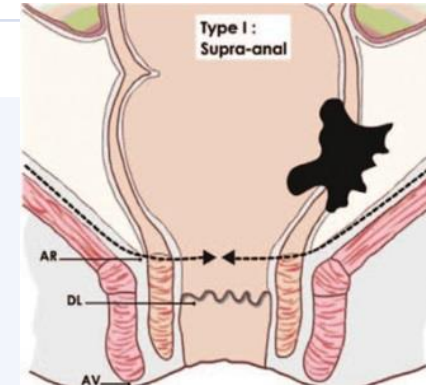


Limitation: this is a sagittal/frontal classification — it does not capture the circumferential ("anal clock") position of the tumor, which still matters for margin planning.



CRA — Colorectal Anastomosis

- TME to the level of the tumor with a straight, colonic J-pouch, or side-to-end anastomosis.
- Appropriate for Rullier Type I, and select Type II tumors where an adequate distal margin is achievable.
- Preserves the entire sphincter complex and, usually, the anorectal ring itself.
- **Represents the best functional baseline among the sphincter-sparing options — the benchmark the other pathways are measured against.**

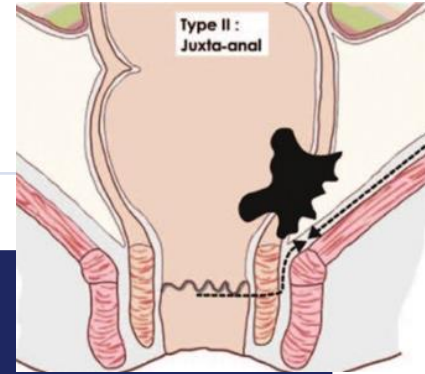


Rullier Type I (± select Type II)

*Anastomosis constructed above the sphincter complex
— the anatomic and functional reference point for this talk.*

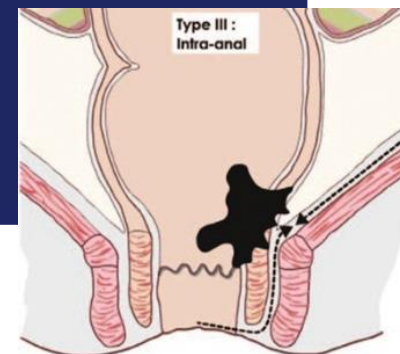
✂ ISR + Coloanal Anastomosis

- Resection plane extends into (partial/subtotal) or through (total) the intersphincteric groove — removing part or all of the internal anal sphincter.
- Extent is guided by Rullier Type II–IV.
- Hand-sewn coloanal anastomosis, almost always with a diverting stoma.
- ***Bordeaux 25-year experience (Denost et al.): oncologic outcomes are acceptable — "the risk is functional rather than oncological."***



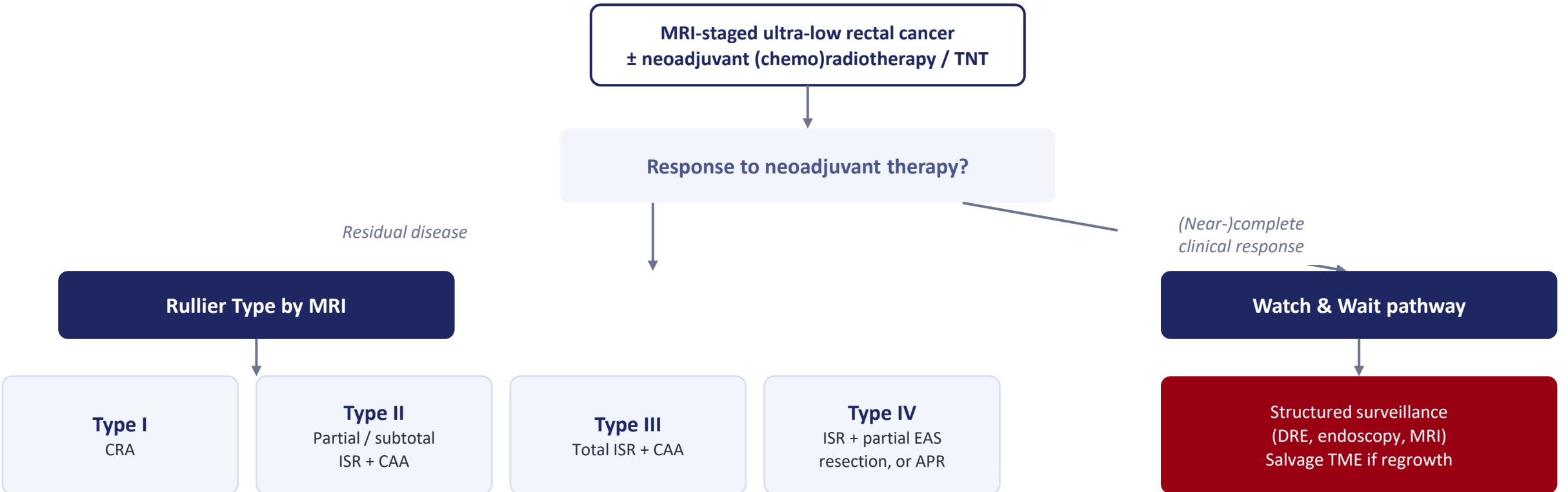
Rullier Type II–IV

Trades sphincter preservation for an extremely close margin — the functional consequences are covered in the LARS section ahead.





Decision Pathway



Both branches converge on the same question: how much function does this pathway cost the patient?



Low Anterior Resection Syndrome (LARS)

Disordered bowel function after sphincter-preserving rectal resection: urgency, frequency, clustering of stools, and incontinence to flatus or stool.

Pathophysiology

- Loss of rectal reservoir capacity
- Anal sphincter injury impairing continence
- Autonomic nerve disruption reducing sensation/motility
- Colonic dysmotility contributing to clustering

Absence of the rectoanal inhibitory reflex on manometry correlates with symptom severity.

~41%

Any LARS

pooled meta-analysis (up to 80% in some series)

~20%

Major LARS

pooled prevalence ~19.6% (up to 40–60% in some series)

LARS is common, not exceptional — every sphincter-sparing conversation should include it up front.



LARS Risk Factors — ISR vs CRA

Key risk factors

- Tumor ≤ 5 cm from the anal verge
- Straight coloanal anastomosis
- Neoadjuvant (chemo)radiotherapy
- Female sex

Propensity-matched ISR vs LAR (Tech Coloproctol, 2023)

"LAR might be preferred when negative margins and a safe anastomosis are guaranteed" — with full disclosure of functional risk when ISR is required.

Outcome	ISR	LAR (CRA)	p
Overall LARS score	15.0	13.2	0.461
Major LARS	26.6%	14.1%	0.078
Flatus incontinence	32.8%	14.0%	0.043
Stool incontinence	42.2%	21.9%	0.046
Anal pain	25.0%	7.8%	0.001



Watch & Wait

- Organ-preservation strategy for patients who achieve a (near-)complete clinical response after chemoradiation or total neoadjuvant therapy (TNT).
- **Not passive observation — a structured surveillance protocol: digital rectal exam, endoscopy, and MRI at defined intervals, most intensively in the first 1–2 years.**
- Candidate selection hinges on response category: clinical complete response (cCR) vs near-complete response (nCR) vs incomplete response.
- Salvage total mesorectal excision (TME) remains available if regrowth is detected early on surveillance.

Response categories

cCR

Clinical complete response — no visible/palpable tumor

nCR

Near-complete response — small residual signal/mucosal change

ICR

Incomplete response — residual disease → proceed to surgery

Response category is the single strongest predictor of both organ preservation and regrowth risk — see next slide.



Watch & Wait — Oncologic Outcomes

47%

3-yr organ preservation, overall cohort (OPRA)

77%

3-yr organ preservation if cCR (vs 40% if nCR)

74%

3-yr disease-free survival, overall cohort

88%

3-yr DFS if cCR (vs 69% nCR, 56% incomplete)

20% vs **49%**

Local regrowth by 2 years: cCR vs nCR patients (OPRA). Most regrowth is detected early on structured surveillance and remains salvageable by TME.

IWWD (International Watch & Wait Database), the largest real-world registry, confirms W&W as a data-informed strategy — but roughly 20–25% of all W&W patients ultimately require salvage surgery for regrowth.



The Toxicity Counterweight



CHEMOTHERAPY

Oxaliplatin Neurotoxicity

- TNT regimens commonly include oxaliplatin-based induction or consolidation chemotherapy.
- 2025 dose–response study: cumulative oxaliplatin dose correlates with chronic peripheral neuropathy severity and quality-of-life impact.
- Can be irreversible in a clinically meaningful subset of patients.



RADIOTHERAPY

Radiation-Induced Anorectal Dysfunction

- Pelvic (chemo)radiotherapy independently damages anorectal neuromuscular function — the same mechanism implicated in surgical LARS.
- Anorectal manometry in W&W cohorts shows measurable sphincter/reservoir impairment from radiation alone.
- "No resection" is not "no functional cost."



Every Pathway Has a Price

Pathway	Oncologic Trade-Off	Functional / Toxicity Trade-Off
CRA	Least flexibility on distal margin — not usable for the lowest tumors	Best functional baseline; LARS risk still present, especially with pelvic CRT
ISR + CAA	Extends sphincter preservation to very low tumors with acceptable oncologic outcomes	Higher incontinence & pain vs CRA (flatus 33% vs 14%; stool 42% vs 22%)
Watch & Wait	~20–25% regrowth risk requiring salvage surgery	Chronic chemo-induced neurotoxicity + radiation-induced anorectal dysfunction

Every strategy trades an oncologic parameter for a functional one — none is "function-free."



The Talk at a Glance

Topic	What We Covered	Key Data Point
Ultra-low rectal cancer	Tumor at/near the anorectal ring — CRA, ISR + CAA, and W&W now compete as management options	≤ 5 cm from the anal verge
Rullier classification	MRI-based system guiding CRA vs. partial/total ISR vs. APR by relation to the sphincter complex	Types I–IV
CRA	Standard sphincter-sparing resection above the sphincter complex — the functional reference point	Best functional baseline
ISR + coloanal anastomosis	Extends sphincter preservation to very low tumors; oncologically sound, functionally costly	Stool incontinence 42% vs 22% (CRA)
LARS	Disordered bowel function after any sphincter-sparing resection; worsened by CRT, low anastomosis, ISR	~41% any / ~20% major
Watch & Wait	Organ preservation after (near-)complete response; response category drives both preservation and regrowth risk	47% 3-yr organ preservation; 20–25% regrowth
W&W toxicity	Oxaliplatin neurotoxicity + radiation-induced anorectal dysfunction — W&W is not treatment-free	Chronic/permanent neuropathy risk



Take-Home Messages

1

The Rullier classification structures the CRA vs ISR decision for ultra-low tumors.

2

ISR extends sphincter preservation but at a measurable continence cost vs CRA — consent patients accordingly.

3

Watch & Wait is a legitimate organ-preservation option in selected complete/near-complete responders — but it carries regrowth risk and real treatment toxicity, not "no treatment."

4

Assess and discuss bowel function across ALL pathways, not only after resection.

5

Individualize: tumor response, anatomy, and patient priorities should drive shared decision-making.

References

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