

**6. Ulusal CERRAHI ONKOLOJİ KONGRESİ**  
24 - 27 Şubat 2022 | Gloria Golf Resort - ANTALYA

**Doç. Dr. Erman Aytaç, EBSQ-c, FASCRS**  
*Acıbadem Üniversitesi*  
**Rektum kanserinde fonksiyonel sonuçlarını nasıl iyileştirebiliriz ?**

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**Rektum kanseri tedavisinde fonksiyonel sonuçlarını etkileyen faktörler ?**

- Hastalık ile ilişkili
- Hasta ile ilişkili
- Tedavi yaklaşımı ile ilişkili

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**Rektum kanseri tedavisinde fonksiyonel sonuçlarını etkileyen faktörler ?**

- Hastalık ile ilişkili
- Tümörün evresi
- Tümörün lokasyonu

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**Rektum kanseri tedavisinde fonksiyonel sonuçlarını etkileyen faktörler ?**

- Hasta ile ilişkili
- Demografi
- Preop anorektal fonksiyonlar
- Geçmiş ameliyat ve hastalıklar

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**Rektum kanseri tedavisinde fonksiyonel sonuçlarını etkileyen faktörler ?**

- Tedavi yaklaşımı ile ilişkili
- Kemoterapi
- Radyoterapi
- Cerrahi (Lokal eksizyon, sfinkter koruyucu, APR)

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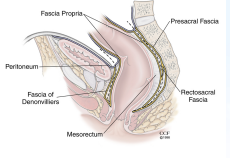

**Lokal İleri Rektum Kanserinde Standart Tedavi**

T3-4 ve N pozitif

**Radyo/kemoterapi → TME → Adjuvan kemoterapi**

**Mezorektal eksizyon**

**The mesorectum in rectal cancer surgery—the clue to pelvic recurrence?**

**R. J. HEALD, E. M. HUSBAND AND R. D. H. RYALL**  
 Bowlapex Bowel Cancer Clinic, Bowdipnke  
 Dornan Hospital, Bowdipnke, Hampshire.

Heald, J Br J Surg, 1982

**Total mezorektal eksizyon**



Riccardi R, Dis Colon Rectum, 2007

**Total mezorektal eksizyon**

**Low anterior rezeksiyon sendromu**

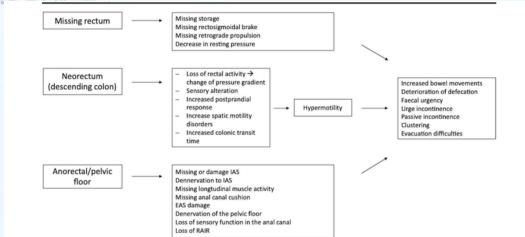


**Low anterior rezeksiyon sendromu**

Sfinkter koruyucu rezeksiyonlardan sonra görülen

- Rektum hacminin azalması
- Sfinkter kaslarının ve sinir hasarı oluşması
- Kolon boyunun kısalması

**Injury levels, anorectal and bowel dysfunctions and subsequent symptoms after anterior resection (AR)**



**Missing rectum** → Missing storage, Missing retrograde propulsion, Decrease in resting pressure

**Noorectum (descending colon)** → Loss of rectal activity → change of pressure gradient, Sensory alteration, Increased postprandial response, Increase spastic motility disorders, Increased colonic transit time

**Anorectal/pelvic floor** → Missing or damage IAS, Denervation to IAS, Missing longitudinal muscle activity, Missing anal canal cushion, IAS damage, Denervation of the pelvic floor, Loss of sensory function in the anal canal, Loss of bulk

→ **Hypermotility** → Increased bowel movements, Denervation of defecation, Faecal urgency, Urge incontinence, Passive incontinence, Clustering, Evacuation difficulties

Fig 1 Injury levels, anorectal and bowel dysfunctions and subsequent symptoms after anterior resection (AR)  
 Nocera Langenbeck's Archives of Surgery 2021

**Risk factors for Low Anterior Resection Syndrome (LARS) in patients undergoing laparoscopic surgery for rectal cancer**

- Retrospektif, gözlemsel çalışma, prospektif veri tabanı
- 2013 -2018 / Laparoskopik low anterior rezeksiyon
- n=153 & LARS 35.9% (55/153)
- Radyoterapi, p = 0.03 ve distal lokasyon, p = 0.014
- LARS ile bağımsız olarak ilişkili

Nicotera Surg Endosc. 2022

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ESSE

## Low anterior resection syndrome-Causes and treatment approaches

- En önemli faktör **uzun rektal kalıntı**

Stelzner Chirurg 2021

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ESSE

## Functional outcomes after lateral pelvic lymph node dissection for rectal cancer: a systematic review and meta-analysis

- Üriner, seksüel ve defekasyon disfonksiyonları
- Cerrahi öncesi ve sonrası kıyaslanmış
- 21 çalışma, non-randomize 10 tanesi karşılaştırmalı
- Erkek seksüel disfonksiyonu standart cerrahi olanlara göre daha belirgin

RR 1.68 (95% CI 1.41-1.99, P < 0.001)

Cribb Int J Colorectal Dis 2021

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ESSE

## Low anterior rezeksiyon sendromu Nasıl korunabilir

- Ameliyatsız tedavi
- Radyoterapisiz tedavi
- Direk uç kolostomi
- Parsiyel mezorektal eksizyon
- Cerrahi Teknik (TaTME, laparoskopi, robot)

Nocera Langenbeck's Archives of Surgery 2021

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## Neoadjuvan tedaviden cerrah ne bekler

- **Evrenin gerilemesi**
- **Tam yanıtın gelişmesi**
- **Aşağı yerleşimli kanserde sfinkter koruyucu cerrahi yapabilmek**
- Rekürrens riskini azaltmak

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## Tam yanıt neden önemli

- Radikal cerrahi uygulanan hastalarda iyi prognostik faktör
- Organ koruyucu ve ameliyatsız tedavi için adaydırlar

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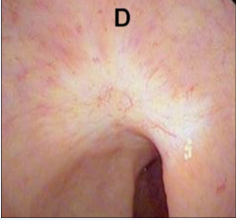
## Tam yanıt

- Neoadjuvan tedavi sonrası
- Klinik (Rektal muayene)
- Endoskopik
- Radyolojik olarak tam tümör yanıtı gelişmesi ve geride kanser bulgusu kalmaması

Habr-Gama, Clinics in Colon and Rectal Surgery 2017

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**Yanıtın değerlendirilmesi**



**D**

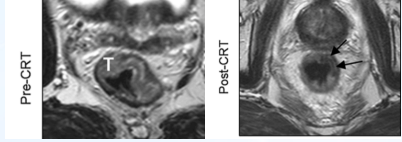
**Endoskopik**

- Düz beyaz skar
- Telanjiektazi
- Nodüler görünüm ya da ülser olmaz

Maas Ann Surg Oncol (2015)

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**Yanıtın değerlendirilmesi**



Pre-CRT

Post-CRT

Maas Ann Surg Oncol (2015)

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**Rektum kanserlerinde neoadjuvan tedavi sonrası alınan yanıt şekli cerrahiye ne yönde etkiledi?**

- Organı koruyalım mı ?
- Hiç ameliyat etmeyelim mi ?
- Ne zaman ameliyat edelim ?
- Hangi ameliyatı yapalım ?

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**Ameliyatsız tedavi**

İyi cerrah nasıl ameliyat yapacağını,  
daha iyi cerrah ne zaman ameliyat yapacağını,  
en iyi cerrah ne zaman ameliyat yapmayacağını bilir

Kocher kuralı

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**Organ koruyucu yaklaşım**

- Lokal eksizyon
- Ameliyatsız tedavi (NOM)

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**Lokal eksizyon**

- Düşük riskli
- iyi diferansiye
- LVI olmayan
- sm1



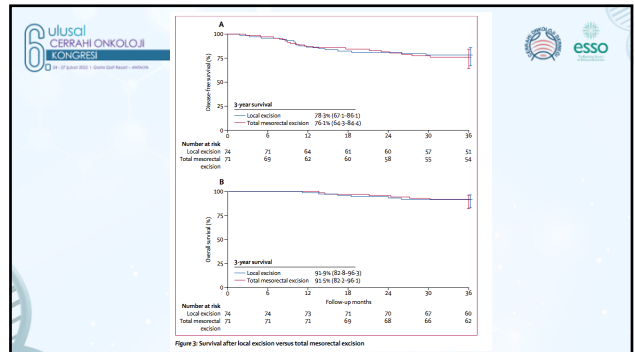
T1 sm1

ESCP research Committee 2017

**Organ preservation for rectal cancer (GRECCAR 2): a prospective, randomised, open-label, multicentre, phase 3 trial**

Eric Rullier, Philippe Rouquet, Jean-Jacques Turchi, Alain Valverde, Bernard Lafong, Michel Rivine, Jean-Luc Faucheron, Mehرداد Jafari, Guillaume Parisse, Bernard Meunier, Igor Skazneff, Michel Prud'homme, Frédéric Marchal, Marc Pocard, Denis Pizat, Anne Rullier, Véronique Vendrye, Quentin Demot, Julien Asselineau, Adèleide Doussau

- Mart 2007-Eylül 2012, klinik yanıt olan (s2cm) n=145 analiz edildi
- Lokal eksizyon (n=74) vs TME (n=71)
- Lokal eksizyon Tamamlayıcı TME (n=26)



**Organ preservation for rectal cancer (GRECCAR 2): a prospective, randomised, open-label, multicentre, phase 3 trial**

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- Bu çalışma lokal eksizyonun TME ye üstünlüğünü hastaların %37' sinin radikal cerrahi gerektirmesi nedeniyle gösterememiştir

**Ameliyatsız tedavi**

- Neoadjuvan tedavi sonrası tam tümör yanıtı gelişen hastalarda
- Prospektif olarak bir çalışma kapsamında ya da etik kurul onayı olan bir veri tabanında klinik bilgiler kayıt altına alınarak uygulanabilir

Habr-Gama, Clinics in Colon and Rectal Surgery 2017

**Watch and wait or surgery for clinical complete response in rectal cancer: a need to study both sides**

Kat L Parmar,<sup>1,2,3</sup> Lee Malcomson,<sup>1,2,3</sup> Andrew G Renehan,<sup>1,2,3</sup>

In patients with rectal cancer who achieve clinical complete response (cCR) after neoadjuvant chemoradiotherapy (ncRT), watch and wait (W&W) is a novel management strategy with the potential to avoid major surgery [1]. W&W is not yet standard of care, nor is it offered routinely. The 2019 UK National Institute for Health and Care Excellence (NICE) guidelines [2] recommend that deferral of surgery in this setting should be in the context of a clinical trial or national registry.

National Institute for Health and Care Excellence | Colorectal cancer (update) | NICE guideline NG151 | Evidence review January 2020

doi: 10.1111/CODI.14912

NCCN National Comprehensive Cancer Network®

In those patients who achieve a complete clinical response with no evidence of residual disease on digital rectal examination, rectal MRI, and direct endoscopic evaluation, a "watch and wait", **nonoperative** management approach may be considered in centers with experienced multidisciplinary teams. The degree to which risk of local and/or distant failure may be increased relative to standard surgical resection has not yet been adequately characterized. Decisions for non-operative management should involve a careful discussion with the patient of his/her risk tolerance.

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**ESMO** GOOD SCIENCE BETTER MEDICINE BEST PRACTICE

If no tumour can be detected and/or no visible tumour cells are found after CRT (i.e. a cCR or pCR is achieved), no further therapy is provided (organ preservation) and the patient is monitored closely for at least 5 years

It is then assumed that potential lymph node metastases have been eradicated in conjunction with the excellent response of the tumour

This strategy has not yet been subjected to properly controlled prospective studies

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**ORIGINAL CONTRIBUTION**

**Nodal Disease in Rectal Cancer Patients With Complete Tumor Response After Neoadjuvant Chemoradiation: Danger Below Calm Waters**

- 42,257 evre II-III hasta neoadjuvan tedavi sonrası radikal cerrahi uygulanıyor
- %9,9** ypT0-nod + (klinik ve endoskopik tam yanıt)
- Cerrahi öncesi görüntüleme nod - olup patolojik incelemede nod + olan hasta **%6,2**

Baucom DCR 2017

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**Original Article**

**Impact of radiotherapy on anorectal function in patients with rectal cancer following a watch and wait programme**

Marit E. van der Sande<sup>1</sup>, Britt J.P. Hupkens<sup>1,2,3,4</sup>, Maaike Berbé<sup>5</sup>, Sander M.J. van Kuijk<sup>1</sup>, Monique Maas<sup>6</sup>, Jarno Melenhorst<sup>7</sup>, Geeraard L. Beets<sup>1,2,3,4</sup>, Stéphanie O. Breukink<sup>1,2,3,4</sup>

<sup>1</sup>The Netherlands Cancer Institute, Department of Surgery, Amsterdam; <sup>2</sup>Maastricht University Medical Center, Department of Surgery; <sup>3</sup>Maastricht University Medical Center, Department of Radiology; <sup>4</sup>CRUK School for Oncology and Developmental Biology; <sup>5</sup>Department of Radiation Oncology, Middelburg Clinic; <sup>6</sup>Maastricht University Medical Center, Department of Clinical Epidemiology and Medical Technology Assessment; and <sup>7</sup>The Netherlands Cancer Institute, Department of Radiology, Amsterdam, the Netherlands

**Table 3**  
Vaiety score items (n = 33)

	Never	Rarely	Sometimes	Weekly	Daily
Incontinence for solid stool, n (3)	28 (85)	– (0)	4 (12)	– (0)	1 (3)
Incontinence for liquid stool, n (5)	21 (64)	7 (21)	4 (12)	1 (3)	– (0)
Incontinence for gas, n (3)	11 (40)	11 (33)	5 (15)	1 (3)	3 (9)
Alterations in lifestyle, n (3)	27 (81)	3 (10)	2 (6)	– (0)	1 (3)
	No	Yes			
Need to wear a pad/plug, n (3)	32 (97)	1 (3)			
Use of constipating agents, n (5)	32 (97)	1 (3)			
Unable to order defecation for 15 min, n (3)	17 (54)	15 (46)			

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<sup>1</sup>The Netherlands Cancer Institute, Department of Surgery, Amsterdam; <sup>2</sup>Maastricht University Medical Center, Department of Surgery; <sup>3</sup>Maastricht University Medical Center, Department of Radiology; <sup>4</sup>CRUK School for Oncology and Developmental Biology; <sup>5</sup>Department of Radiation Oncology, Middelburg Clinic; <sup>6</sup>Maastricht University Medical Center, Department of Clinical Epidemiology and Medical Technology Assessment; and <sup>7</sup>The Netherlands Cancer Institute, Department of Radiology, Amsterdam, the Netherlands

**Fig. 2.** SAS scores, answers per question. Q1: Do you ever have occasions when you cannot control your flatus? Q2: Do you ever have any accidental leakage of liquid stool? Q3: How often do you experience bowel SF? Do you ever have to open your bowels again within one hour of the last bowel opening? Q4: Do you ever have such a strong urge to open your bowels that you have to rush to the toilet?

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- 1/3 hastada major LARS, 2 yıllık takip
- Takip süresi uzadıkça ve yüksek doz radyoterapi alan hastalarda fonksiyonel sonuçlar kötüleşiyor

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**Quality of Life in Rectal Cancer Patients After Chemoradiation: Watch-and-Wait Policy Versus Standard Resection – A Matched-Controlled Study**

Britt J.P. Hupkens, M.D.<sup>1,2,3</sup>, Milou H. Martens, M.D., Ph.D.<sup>1,2,3</sup>, Jan J.E. Smeets, M.D., Ph.D.<sup>1,2,3</sup>, Maaike Berbé, M.D., Ph.D.<sup>1,2,3</sup>, Jarno Melenhorst, M.D., Ph.D.<sup>1</sup>, Regina G. Beets-Tan, M.D., Ph.D.<sup>1,2,3,4</sup>, Geeraard L. Beets, M.D., Ph.D.<sup>1,2,3,4</sup>, Stéphanie O. Breukink, M.D., Ph.D.<sup>1,2,3,4</sup>

**SF-36'da Fiziksel fonksiyon, fiziksel rol W&W de daha iyi / Genel sağlık TME'de daha iyi / Duygusal rol W&W de daha iyi**

**FIGURE 2.** SF-36. \*Significant results. PF = physical functioning; RP = role-physical; BP = bodily pain; GH = general health; VT = vitality; SF = social functioning; RE = role emotional; MH = mental health; SF-36 = Short-Form 36; TME = total mesorectal excision; W&W = watch and wait.

**Quality of Life in Rectal Cancer Patients After Chemoradiation: Watch-and-Wait Policy Versus Standard Resection – A Matched-Controlled Study**

Britt J.P. Hupkens, M.D.<sup>1,2</sup> • Mlou H. Martens, M.D., Ph.D.<sup>1,2,3</sup>  
 Jan H. Smeets, M.D., Ph.D.<sup>4</sup> • Maniké Berbee, M.D., Ph.D.<sup>1,2</sup> • Janna Melenhorst, M.D., Ph.D.<sup>1</sup>  
 Regina G. Beets-Tan, M.D., Ph.D.<sup>1,2</sup> • Gerard L. Beets, M.D., Ph.D.<sup>1,2</sup>  
 Stéphanie O. Breukink, M.D., Ph.D.<sup>1,2</sup>

**EORTC-QLQ-C30'da / Fiziksel fonksiyon, fiziksel rol, algı fonksiyonu W&W'de daha iyi / Maddi zorluklar TME'de daha çok**

**FIGURE 3.** EORTC-QLQ-C30. \*Significant result. A = functional scales, higher scores means better results; B = symptom scales, lower scores mean better results. Q1 = global health-related quality of life; Q2 = physical functioning; Q3 = role functioning; Q4 = emotional functioning; Q5 = cognitive functioning; Q6 = social functioning; Q7 = pain; Q8 = performance; Q9 = appetite loss; Q10 = constipation; Q11 = diarrhea; Q12 = sexual function; Q13 = bowel control; Q14 = stool frequency; Q15 = stool consistency; Q16 = stool urgency; Q17 = fecal incontinence; Q18 = rectal bleeding; Q19 = rectal pain; Q20 = rectal urgency; Q21 = rectal tenesmus; Q22 = rectal discomfort; Q23 = rectal discharge; Q24 = rectal prolapse; Q25 = rectal narrowing; Q26 = rectal obstruction; Q27 = rectal fistula; Q28 = rectal abscess; Q29 = rectal cancer; Q30 = rectal surgery; Q31 = rectal reconstruction; Q32 = rectal cancer; Q33 = rectal surgery; Q34 = rectal reconstruction; Q35 = rectal cancer; Q36 = rectal surgery; Q37 = rectal reconstruction; Q38 = rectal cancer; Q39 = rectal surgery; Q40 = rectal reconstruction; Q41 = rectal cancer; Q42 = rectal surgery; Q43 = rectal reconstruction; Q44 = rectal cancer; Q45 = rectal surgery; Q46 = rectal reconstruction; Q47 = rectal cancer; Q48 = rectal surgery; Q49 = rectal reconstruction; Q50 = rectal cancer; Q51 = rectal surgery; Q52 = rectal reconstruction; Q53 = rectal cancer; Q54 = rectal surgery; Q55 = rectal reconstruction; Q56 = rectal cancer; Q57 = rectal surgery; Q58 = rectal reconstruction; Q59 = rectal cancer; Q60 = rectal surgery; Q61 = rectal reconstruction; Q62 = rectal cancer; Q63 = rectal surgery; Q64 = rectal reconstruction; Q65 = rectal cancer; Q66 = rectal surgery; Q67 = rectal reconstruction; Q68 = rectal cancer; Q69 = rectal surgery; Q70 = rectal reconstruction; Q71 = rectal cancer; Q72 = rectal surgery; Q73 = rectal reconstruction; Q74 = rectal cancer; Q75 = rectal surgery; Q76 = rectal reconstruction; Q77 = rectal cancer; Q78 = rectal surgery; Q79 = rectal reconstruction; Q80 = rectal cancer; Q81 = rectal surgery; Q82 = rectal reconstruction; Q83 = rectal cancer; Q84 = rectal surgery; Q85 = rectal reconstruction; Q86 = rectal cancer; Q87 = rectal surgery; Q88 = rectal reconstruction; Q89 = rectal cancer; Q90 = rectal surgery; Q91 = rectal reconstruction; Q92 = rectal cancer; Q93 = rectal surgery; Q94 = rectal reconstruction; Q95 = rectal cancer; Q96 = rectal surgery; Q97 = rectal reconstruction; Q98 = rectal cancer; Q99 = rectal surgery; Q100 = rectal reconstruction.

**Quality of Life in Rectal Cancer Patients After Chemoradiation: Watch-and-Wait Policy Versus Standard Resection – A Matched-Controlled Study**

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 Stéphanie O. Breukink, M.D., Ph.D.<sup>1,2</sup>

**LARS ve Vaizey defekasyon skorları TME'de kötü**

**FIGURE 5.** Defecation problems. \*Significant result. LARS = low anterior resection syndrome; TME = total mesorectal excision; W&W = watch and wait.

**Comparative Quality of Life in Patients Following Abdominoperineal Excision and Low Anterior Resection for Low Rectal Cancer**

P. How, M.R.C.S., B.Sc.<sup>1</sup> • S. Stelmer, F.R.C.S.<sup>2</sup> • G. Branagan, F.R.C.S.<sup>3</sup>  
 K. Bundy, M.Sc.<sup>4</sup> • K. Chandrakumar, F.R.C.S.<sup>5</sup> • R. J. Heald, M.Chir.<sup>1</sup>  
 B. Moran, M.B., B.Chir., F.R.C.S.<sup>1</sup>

**DESIGN:** Data were collected prospectively on 62 patients undergoing low anterior resection (32) and abdominoperineal excision (30) for low rectal adenocarcinoma within 6 cm of the anal verge. Patients with metastatic disease were excluded. Quality of life was assessed by the use of the European Organization for Research and Treatment of Cancer's QLQ-C30 and QLQ-CR39 modules and Coloplast stoma quality-of-life questionnaire. Bowel function was assessed by using the St Mark's bowel function questionnaire. Quality of life in patients who had low anterior resection was compared with those who had abdominoperineal excision both preoperatively and 1 year after surgery.

**RESULTS:** Patients undergoing low anterior resection were younger (median age, 59.5 vs 67,  $p = 0.03$ ) with higher tumors (4 vs 3,  $p < 0.001$ ) and less likely to receive neoadjuvant therapy ( $p = 0.02$ ). At 1 year postoperatively, global quality-of-life ratings were comparable, but patients undergoing abdominoperineal excision reported better cognitive (100 vs 83,  $p = 0.018$ ) and social (100 vs 67,  $p = 0.012$ ) function, and less symptomatology with respect to pain (0 vs 17,  $p = 0.027$ ), sleep disturbance (0 vs 33,  $p = 0.013$ ), diarrhea (0 vs 33,  $p = 0.017$ ), and constipation ( $p = 0.021$ ). Patients undergoing low anterior resection reported better sexual function (53 vs 0,  $p = 0.006$ ), but 72% experienced a degree of fecal incontinence.

**CONCLUSION:** Abdominoperineal excision should not be regarded as an operation that is inferior to low anterior resection in the management of low rectal cancer on the basis of quality of life alone.

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**RESULTS:** Patients undergoing low anterior resection were younger (median age, 59.5 vs 67,  $p = 0.03$ ) with higher tumors (4 vs 3,  $p < 0.001$ ) and less likely to receive neoadjuvant therapy ( $p = 0.02$ ). At 1 year postoperatively, global quality-of-life ratings were comparable, but patients undergoing abdominoperineal excision reported better cognitive (100 vs 83,  $p = 0.018$ ) and social (100 vs 67,  $p = 0.012$ ) function, and less symptomatology with respect to pain (0 vs 17,  $p = 0.027$ ), sleep disturbance (0 vs 33,  $p = 0.013$ ), diarrhea (0 vs 33,  $p = 0.017$ ), and constipation ( $p = 0.021$ ). Patients undergoing low anterior resection reported better sexual function (33 vs 0,  $p = 0.006$ ), but 72% experienced a degree of fecal incontinence.

**Comparative Quality of Life in Patients Following Abdominoperineal Excision and Low Anterior Resection for Low Rectal Cancer**

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**TABLE 3.** EORTC-QLQ-CR39 scores between LAP and APE patients at 3 different time points: preoperatively (baseline), at 1 year postoperatively, and at 2 years postoperatively

Symptom scale	Preoperative score		1 year postoperative score		2 year postoperative score	
	LAP (n = 32)	APE (n = 30)	LAP (n = 32)	APE (n = 30)	LAP (n = 30)	APE (n = 31)
Functional scales						
Global health	82 (33-100)	100 (100-100)	83 (60-100)	81 (60-100)	75 (51-100)	75 (50-100)
Physical functioning	67 (0-100)	100 (100-100)	63 (0-100)	67 (0-100)	67 (0-100)	67 (0-100)
Role functioning	23 (0-40)	100 (100-100)	23 (0-40)	23 (0-40)	23 (0-40)	23 (0-40)
Social functioning	50 (0-100)	100 (100-100)	13 (0-100)	13 (0-100)	13 (0-40)	13 (0-40)
Emotional functioning	22 (0-100)	100 (100-100)	22 (0-100)	22 (0-100)	22 (0-100)	22 (0-100)
Cognitive functioning	14 (0-70)	100 (100-100)	14 (0-70)	14 (0-70)	14 (0-70)	14 (0-70)
Symptom scales						
Pain	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)
Sleep disturbance	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)
Diarrhea	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)
Constipation	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)	0 (0-33)
Sexual dysfunction	33 (0-100)	0 (0-100)	33 (0-100)	33 (0-100)	33 (0-100)	33 (0-100)
Fecal incontinence	72 (0-100)	0 (0-100)	72 (0-100)	72 (0-100)	72 (0-100)	72 (0-100)

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**ORIGINAL ARTICLE**

**Robotic versus transanal total mesorectal excision in sexual, anorectal, and urinary function: a multicenter, prospective, observational study**

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**Abstract**  
**Purpose** Improved long-term survival after low anterior resection (LAR) for rectal cancer highlights the importance of functional outcomes. Urge-related and anorectal dysfunction is frequently reported after conventional LAR. Advanced minimally invasive techniques such as robotic (RoTME) and transanal total mesorectal excision (TaTME) might improve functional results by precisely dissecting and preserving autonomic nerves. We compared functional outcomes after RoTME or TaTME in a multicenter study.  
**Methods** One hundred twenty patients (55 RoTME/65 TaTME) were prospectively included in four participating centers. Anorectal (Wexner and low anterior resection syndrome (LARS) Score), urinary (International Consultation on Incontinence—Male/Female Lower Urinary Tract Symptoms Score (ICIQ-MLUTS/ICIQ-FULTS) and International Prostate Symptom Scale (IPSS)), and sexual (International Index of Erectile Function (IIEF), Female Sexual Function Index (FSFI)) outcomes at 12 months after surgery were compared to preoperative scores. The response rate to the 1-year postoperative functional assessment by questionnaire was 79.5%.  
**Results** RoTME enabled better anorectal function compared to TaTME (LARS score 4.3 ± 2.2 vs. 9.3 ± 1.5, p = 0.008, respectively). TaTME proved superior at preserving male urinary function, while female urinary function was comparable in both groups, with only mild postoperative impairment (RoTME vs. TaTME, respectively: ICIQ-MLUTS 13.8 ± 4.9 vs. 1.8 ± 5.8, p = 0.008; ICIQ-FULTS Incontinence Score = 6.2 ± 1.9 vs. 12.2 ± 0.9, p = 0.044). Both techniques demonstrated comparable male (RoTME = 13.4 ± 2.7 vs. TaTME = 11.7 ± 3.4, p = 0.615) and female (RoTME = 5.2 ± 4.6 vs. TaTME = 10.3 ± 6.4, p = 0.254) sexual function.  
**Conclusion** After adjustment for risk factors, RoTME provided better anorectal functional results, whereas TaTME was better at preserving male urinary function. Overall, both techniques demonstrated only mild postoperative functional impairment.

	RoTME (n=55)	TaTME (n=65)	p value
Operative time (min)	247.0 ± 88.0	297.8 ± 85.0	<b>0.001</b>
Estimated blood loss (ml)	38.9 ± 25.2	113.2 ± 292.2	<b>0.043</b>
Procedure			
LAR	46 (87.3)	65 (100.0)	<b>0.003</b>
APR	7 (12.7)	0 (0.0)	
Major complication (Clavien Dindo 1–2)	8 (14.5)	21 (32.3)	<b>0.024</b>
Major complication (Clavien Dindo ≥ 3)	5 (9.1)	0 (0.0)	<b>0.013</b>
Anastomotic leakage	4 (8.3)	1 (1.5)	0.117
Resection margin			
RO	54 (98.2)	65 (100.0)	0.275
Abnormal RO	55 (100.0)	65 (100.0)	
Abnormal margin (mm)	22.5 ± 20.6	18.9 ± 12.3	<b>&lt;0.001</b>
CRM RO	54 (98.2)	65 (100.0)	0.275
CRM margin (mm)	19.0 ± 15.5	4.2 ± 1.3	<b>&lt;0.001</b>
Quality of mesorectal excision			
Grade 1	36 (90.9)	56 (87.3)	0.333
Grade 2	3 (7.5)	8 (12.3)	
Grade 3	1 (2.5)	0 (0.0)	
Length of hospital stay (d)	8.5 ± 4.4	7.3 ± 4.5	0.166
ICU days (d)	0.5 ± 0.8	0.2 ± 0.5	<b>0.001</b>
Readmission (d)	7 (12.7)	3 (4.6)	0.109

Numbers indicated as absolute numbers and percentage or mean ± standard deviation; p-values in bold indicate statistical significance between surgical techniques  
 APR, abdominoperitoneal rectal resection; CRM, circumferential resection margin; d, days; ICU, intensive care unit; LAR, low anterior resection; no, none; ml, milliliter; n, number; p, p-value; RoTME, robotic total mesorectal excision; TaTME, transanal total mesorectal excision  
 \*Percentage of restorative surgery



**Table 3** Adjusted model for score differences of anorectal and urogenital function

	Difference (mean ± SD)	95% CI	Difference (mean ± SD)	95% CI	p-value	Range	Optimum
<b>Anorectal function</b>							
Wexner score	1.0 ± 0.7	-0.485–2.545	2.7 ± 0.5	1.726–3.623	0.095	0–20	■
LARS score	4.3 ± 2.2	0.035–8.604	9.3 ± 1.7	6.992–12.766	<b>0.008</b>	0–42	■
<b>Male urinary function</b>							
ICIQ-MLUTS	13.8 ± 4.9	4.008–23.694	1.8 ± 5.5	-9.789–13.793	<b>0.008</b>	1–84	■
IPSS	5.1 ± 0.9	3.267–6.928	0.3 ± 1.0	-1.077–2.376	<b>&lt;0.001</b>	0–25	■
<b>Female urinary function</b>							
ICIQ-FULTS—Filling Score	1.4 ± 1.7	-2.100–4.933	-1.1 ± 1.6	-4.499–2.293	0.050	0–15	■
ICIQ-FULTS—Voiding Score	-1.0 ± 0.7	-1.631–1.440	0.7 ± 0.8	-0.868–2.294	0.185	0–12	■
ICIQ-FULTS—Incontinence Score	-0.3 ± 1.0	-2.347–2.099	-0.2 ± 0.9	-2.155–1.664	0.944	0–20	■
IPSS	0.1 ± 2.2	-4.513–4.745	0.0 ± 1.9	-3.972–4.041	0.961	0–35	■
<b>Male sexual function</b>							
IIEF—erectile function	-1.5 ± 1.2	-3.818–0.881	-1.7 ± 1.4	-4.462–1.162	0.802	0–30	■
IIEF—orgasmic function	-3.8 ± 0.6	-4.968–2.609	-2.7 ± 0.8	-4.162–1.115	0.120	0–10	■
IIEF—sexual desire	-1.9 ± 0.5	-2.859–1.008	-1.5 ± 0.6	-2.462–0.465	0.441	0–10	■
IIEF—satisfaction sexual intercourse	-3.7 ± 0.7	-5.139–2.313	-2.7 ± 0.9	-4.481–0.900	0.236	0–15	■
IIEF—sexual intercourse	-2.4 ± 0.5	-3.349–1.419	-1.8 ± 0.6	-3.033–0.719	0.588	0–10	■
IIEF—total score	-13.4 ± 2.7	-18.826–7.782	-11.7 ± 3.4	-13.911–0.652	0.615	0–75	■

**Low anterior rezeksiyon sendromu tedavi yaklaşımı**

- Farmakolojik tedavi (psyllium, loperamide, 5HT3 probiyotik)
- Pelvik taban rehabilitasyonu
- Transanal irrigasyon
- Nöromodülasyon

**Pelvic Floor Rehabilitation After Rectal Cancer Surgery: A Multicentre Randomised Clinical Trial (FORCE Trial)**

- Multisentrik, randomize, 17 Merkez
- 1:1 standart takip ve pelvik taban rehabilitasyonu
- Ölçümler cerrahiden 3 ay sonra ve stoma kapatılmasından 6 hafta sonra
- Primer olarak Wexner skoru / Sekonder olarak FIQL, kolorektal-spesifik QoL ve LARS skoru
- 2017 ve 2020, n=128 den n= 106 hasta çalışmaya alındı

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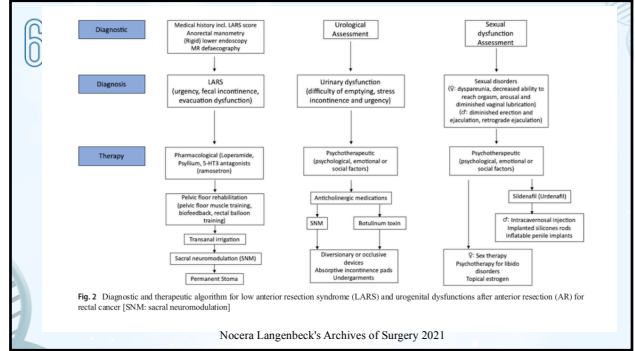
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### Pelvic Floor Rehabilitation After Rectal Cancer Surgery: A Multicentre Randomised Clinical Trial (FORCE Trial)

- PTR n = 51, kontrol n = 55; PTR n = 44, kontrol n = 51) son analiz
- Wexner skoru: (PTR: -2-3, 95% CI -3-3 to -1-4, kontrol: -1-3, 95% CI -2-2 to -0-4, **p = 0-13**)
- Urgency skoru (OR 0-22, 95% CI 0-06 to 0-86).
- İnkontinansını kaybetmemiş hastalara Wexner skoru iyileşmiş PTR (PFR: -2-1, 95% CI -3-1 to -1-1, kontrol: -0-7, 95% CI -1-6 to 0-2, p = 0-045)
- **PTR kısmi iyileşme sağlıyor genel olumlu etkisi saptanmadı**

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### Çıkarım

- Lokal eksizyon ve ameliyatsız tedavinin etkinliğinin ortaya çıkması için klinik kanıtı ihtiyaç var
- İntestinal devamlılığın sağlandığı hastaların risk faktörlerinden haberdar olması gerekmektedir
- Yan-uç anastomozun olumlu etkisi olabilir
- Operatif noromonitörizasyonunun etkininin klinik kanıtı ihtiyacı var
- Minimal invaziv tekniklerin vaka serilerinde olumlu etkileri var
- Nöromodülasyonun olumlu etkisi var

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