

# Watch & Wait

## Pro's-Con's

**Dieter Hahnloser**

[dieter.hahnloser@chuv.ch](mailto:dieter.hahnloser@chuv.ch)

CHUV  
University Hospital Lausanne  
Switzerland

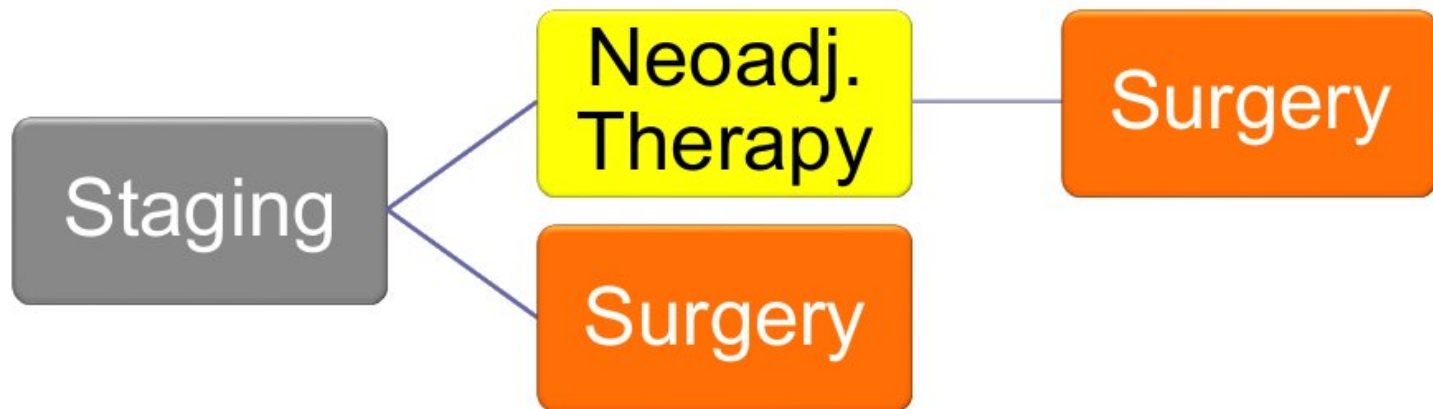
- **No disclosures**



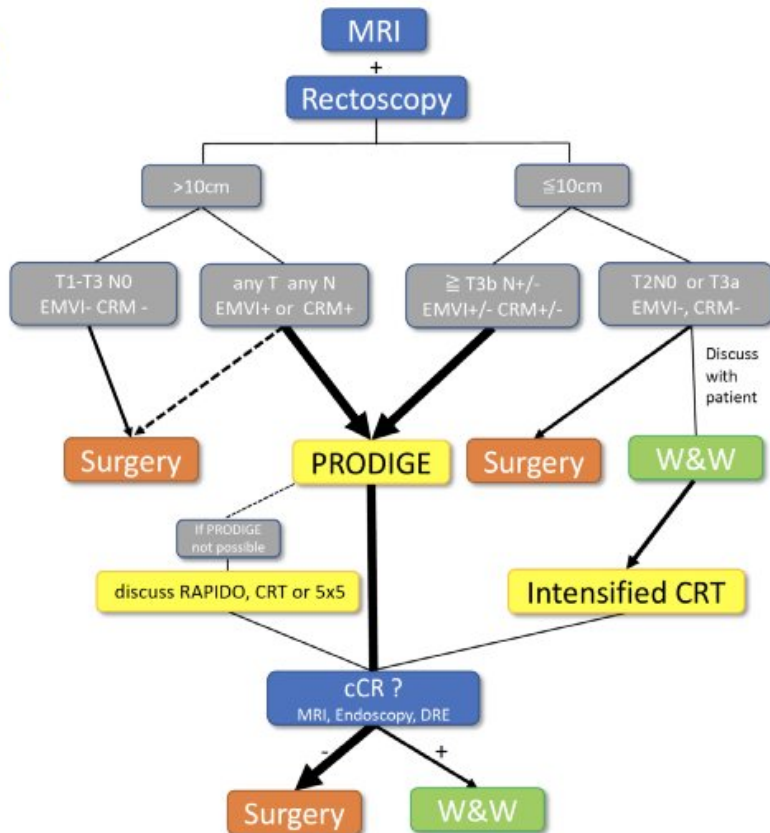
# Surgeon`s view.....



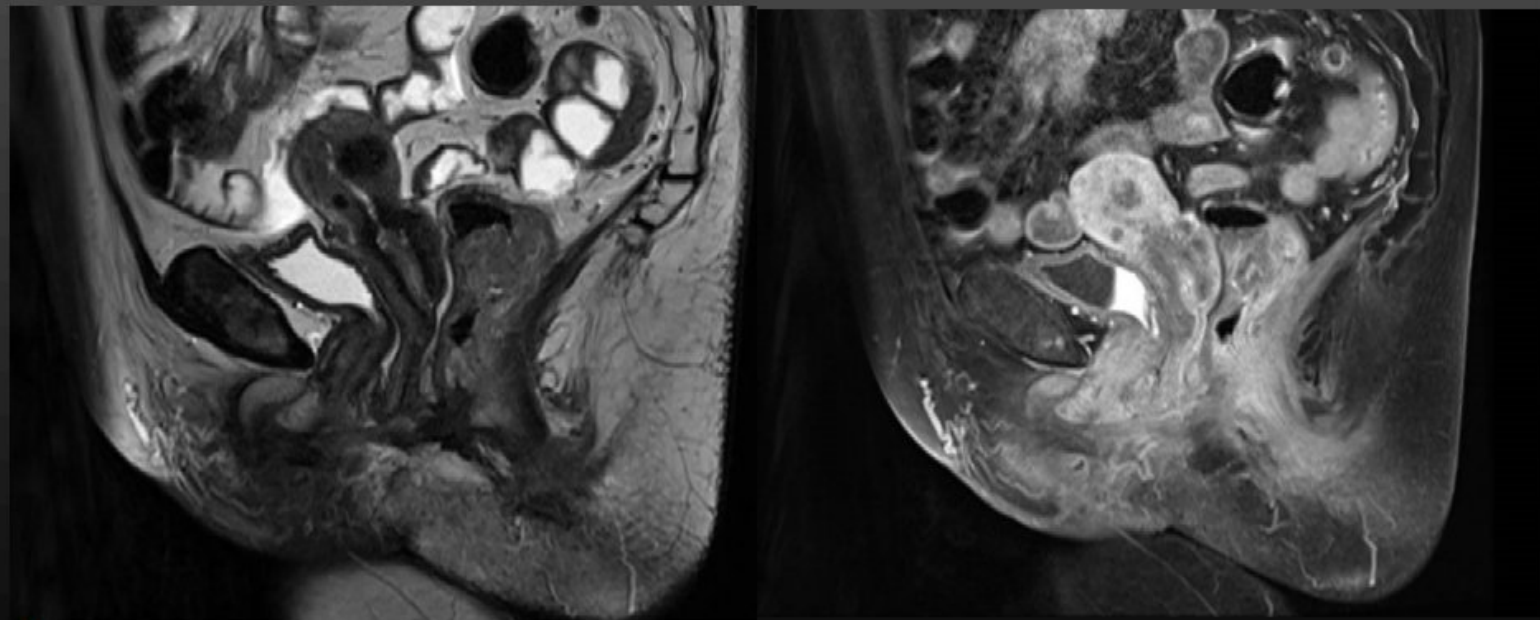
## From traditional....



...to more personalized



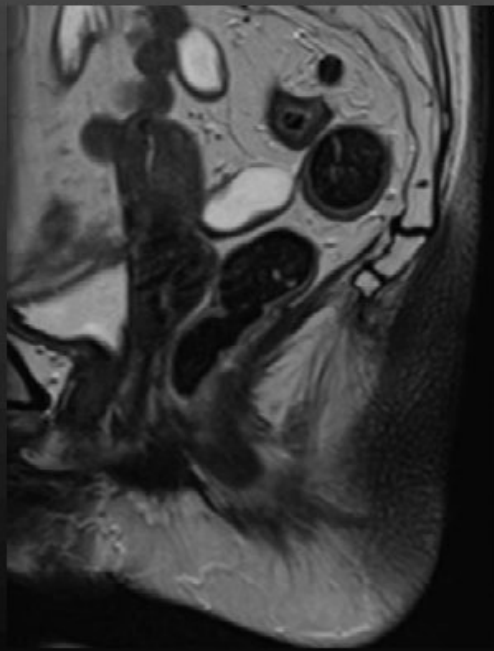
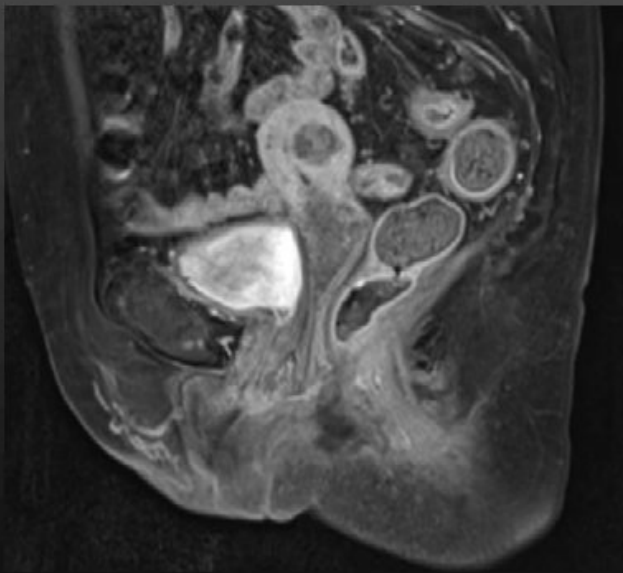
# Ms GP 81y old



$T_0$



# Ms GP 81y old



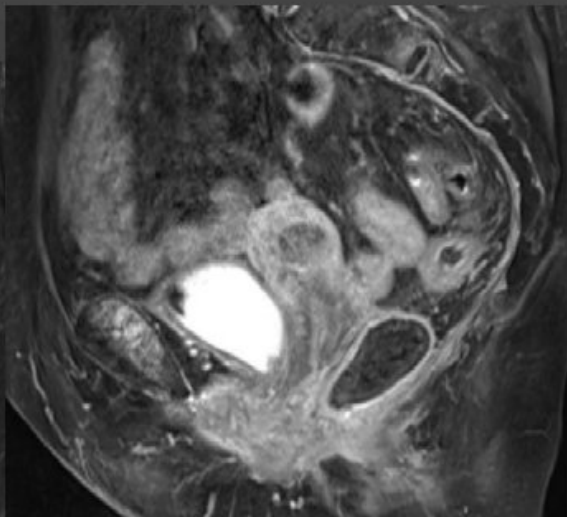
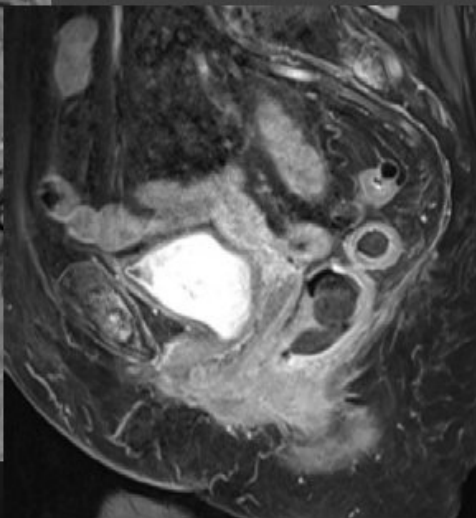
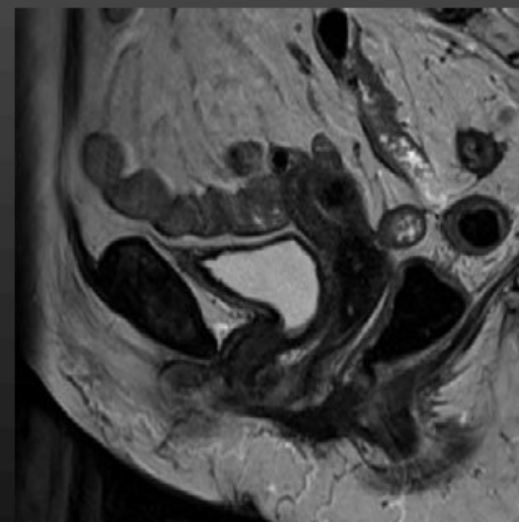
$T_0$

$T_{6w}$





# Ms GP 81y old



$T_0$

$T_{6w}$

$T_{12m}$



# Ms GP 81y old

- $T_{12m}$ : No sign of tumor
- $T_{19m}$ : No sign of tumor on MRI, but on rectoscopy



$T_0$

$T_{6w}$

$T_{12m}$

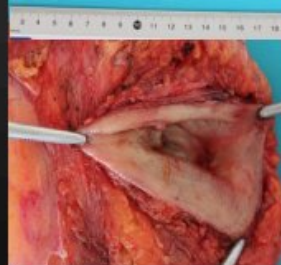
$T_{19m}$



# Ms GP 81y old



pT1 pNx L0 Pn0 V0



TME + colo-anal  
anastomosis  
(or APR & colostomy)

T<sub>0</sub>

T<sub>6w</sub>

T<sub>12m</sub>

T<sub>19m</sub>



# What happened ?

- „Accidental“ cCR
- Watch & Wait
- Re-growth
- Salvage Surgery : Local excision
- Organ preserving treatment

**Why ?**

# What is important to...

**TABLE 3.** Comparison of the order of mean utility scores between groups

| <i>Treatment outcome<sup>a</sup></i>     | <i>Patients<br/>n = 103</i> | <i>Surgeons<br/>n = 87</i> | <i>Medical oncologists<br/>n = 97</i> | <i>Radiation oncologists<br/>n = 80</i> |
|------------------------------------------|-----------------------------|----------------------------|---------------------------------------|-----------------------------------------|
| Cancer recurrence in the pelvis          | 1                           | 1                          | 1                                     | 1                                       |
| Fecal incontinence                       | 2                           | 2                          | 2                                     | 2                                       |
| Permanent colostomy                      |                             |                            |                                       |                                         |
| Bladder problems                         |                             |                            |                                       |                                         |
| Frequent hospital visits for chemo/radio |                             |                            |                                       |                                         |
| Pain in pelvis                           |                             |                            |                                       |                                         |
| Perianal soreness                        |                             |                            |                                       |                                         |
| Bowel frequency                          |                             |                            |                                       |                                         |
| Sexual problems                          |                             |                            |                                       |                                         |

chemo/radio = chemotherapy/radiotherapy.

<sup>a</sup>Utility ranking are in ascending order based on patients' utilities

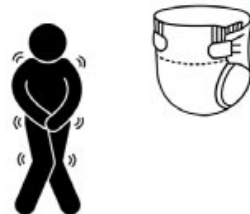
# Low colo-rectal/anal anastomosis

## FUNCTION

- |                 |        |
|-----------------|--------|
| • Bowel/24h     | 1.7-5  |
| • Urgency       | 19-58% |
| • Leakage day   | 15%    |
| • Leakage night | 20%    |
| • Wexner Score  | 6-12   |

Review, n=612, 13 studies  
*Tilney HS. Colorectal Dis 2007*

- Bowel dysfunction
- Incontinence
- Urgency
- Frequent bowel movements
- Fragmentation



**LARS**

**(Low Anterior Resection Syndrome)**

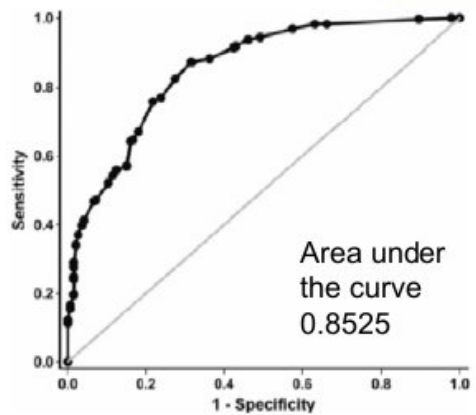




# LARS

→ Major LARS in 50-60%  
→ Strong correlation with QoL

Sweden, Spain, Germany, Denmark Juul T. DCR 2014

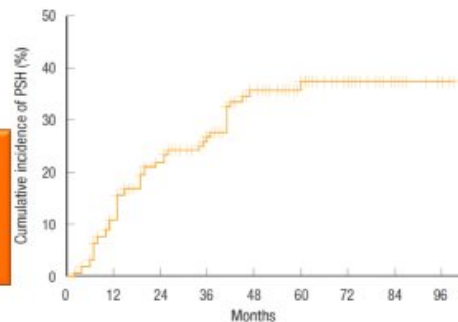
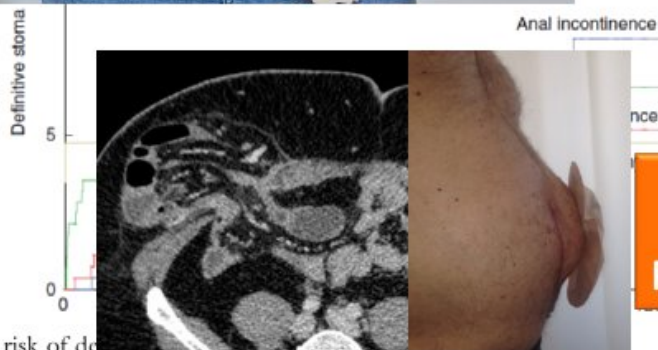
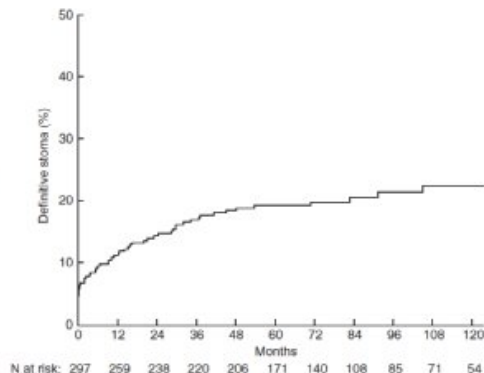


n=961, mean FU 55 month  
Emmertsen KJ. Ann Surg 2012





**20% Stoma rate  
@ 10 yrs**



The risk of do and ultralow anterior resection for rectal cancer

*Colorectal Dis 2016*

**B. Celerier<sup>\*,†</sup>, Q. Denost<sup>\*,†</sup>, B. Van Geluwe<sup>\*,†</sup>, A. Pontallier<sup>\*,†</sup> and E. Rullier<sup>\*,†</sup>**

<sup>\*</sup>Department of Digestive Surgery, CHU Bordeaux-Saint André Hospital, Bordeaux, France and <sup>†</sup>Université Bordeaux Segalen, Bordeaux, France

*Sohn J Korean Soc Coloproctol 2013*

# Risk factors for LARS

- **Radiotherapy (OR 2.41), TME vs. PME (OR 2.81)**
- Gender, leakage, lap. vs. open, neo-reservoir = no risk factors

N=260 @3 and 12 month post surgery *Emmertsen KJ. BJS 2013*

- **Radiotherapy (OR 2.48), TME vs. PME (OR 2.31),  
Leakage (OR 2.06), <64yrs (OR 1.9), female (OR 1.35)**
- Time since surgery (OR 0.78), neo-reservoir (OR 0.96)

N=938, FU median 54 month *Bergendahl S. Colorectal Dis 2013*

Comparing surgery alone, CRT, NC, and TNT

- **Radiotherapy + distance tumor ( $p < 0.05$ ) = worse function**

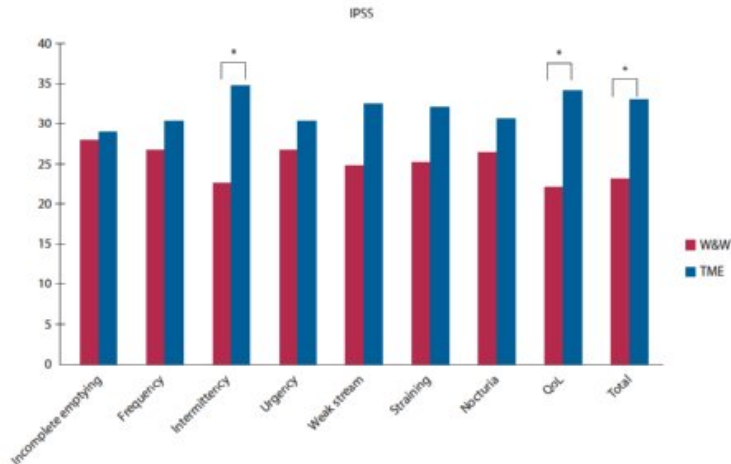
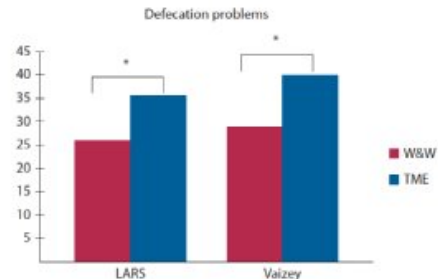
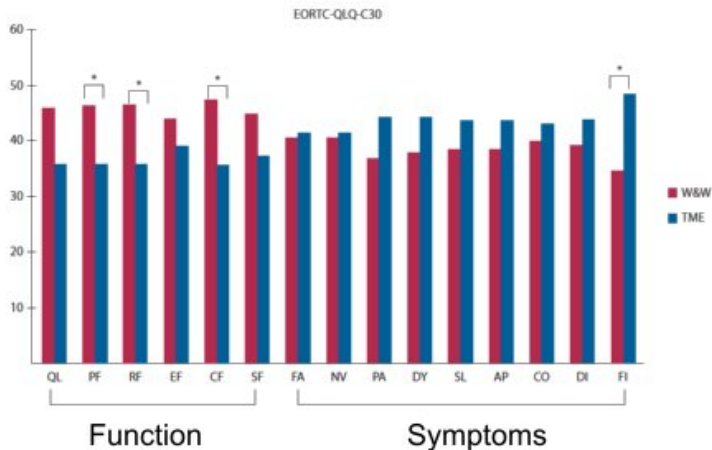
N=176, <10cm, MSKCC bowel function score *Bquezada-Diaz F. J Gastrointes Surg 2019*

**Radiotherapy and TME (distance of anastomosis from AV)**

# Organ preservation

## 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 H. Stoot, M.D., Ph.D.<sup>4</sup> • Maaike Berbee, M.D., Ph.D.<sup>5</sup> • Jarno Melenhorst, M.D., Ph.D.<sup>1</sup>  
 Regina G. Beets-Tan, M.D., Ph.D.<sup>3,6</sup> • Geerard L. Beets, M.D., Ph.D.<sup>3,7</sup>  
 Stéphanie O. Breukink, M.D., Ph.D.<sup>1</sup>



41 watch and wait vs. 41 CRT +TME

DCR 2017

**How ?**

## pCR

24.4 % standard CRT *Martin ST. BJS 2012*

22.4% TNT *28 studies*  
n= 2688 treated with TNT (CRT +neoadj  
/ consolidation chemo and n=891 standard CRT  
*Petrelli F Ann Surg 2020*

27.8% PRODIGE23

28.4% RAPIDO

## Organ preservation

~50% OPRA

67% Brazil

*Ann Surg 2020*

87% Registry

*Lancet Oncol 2021*

All Cancers



Advanced Cancers

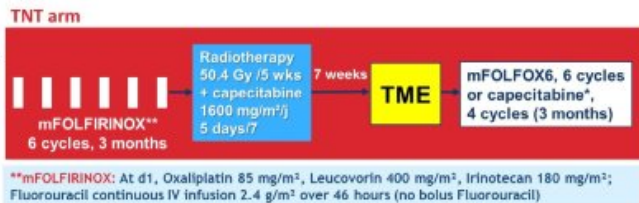


Selected Cancers

# TNT (Total Neoadjuvant Therapy)

## PRODIGE 23

*Lancet Oncol 2021*



**pCR**

**27.8%**

## RAPIDO

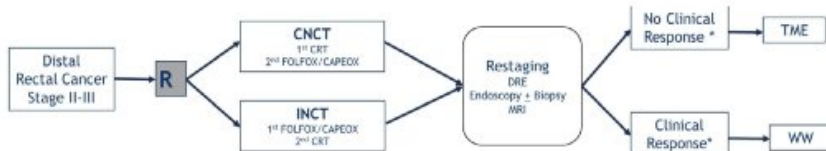
*Lancet Oncol 2021*



**28.4%**

## OPRA

*J Clin Oncol 2021*



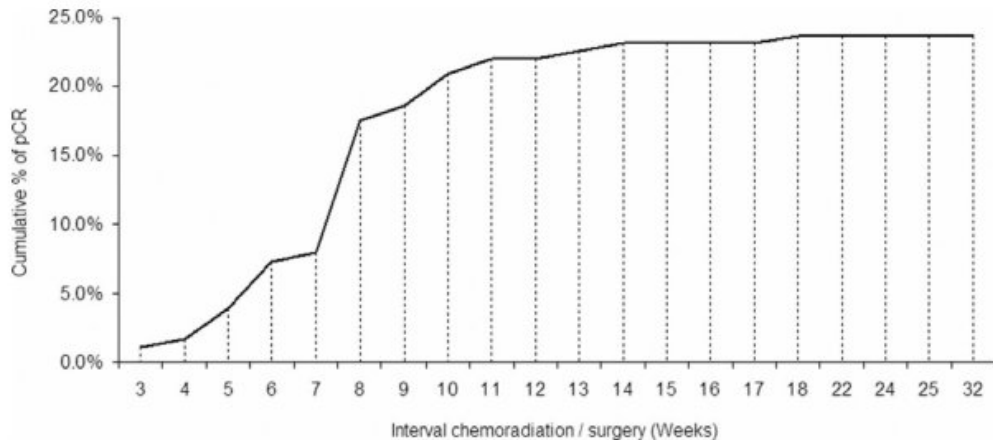
**Organ Preservation**

**~50%**

# Predictive Factors of Pathologic Complete Response After Neoadjuvant Chemoradiation for Rectal Cancer

Wait longer

Matthew F. Kalady, MD,\*† Luiz Felipe de Campos-Lobato, MD,\* Luca Stocchi, MD,\* Daniel P. Geisler, MD,\*  
David Dietz, MD,\* Ian C. Lavery, MD,\* and Victor W. Fazio, MD\*



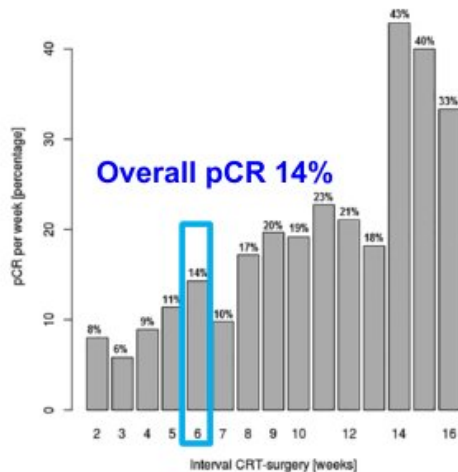
N=242

1997-2007

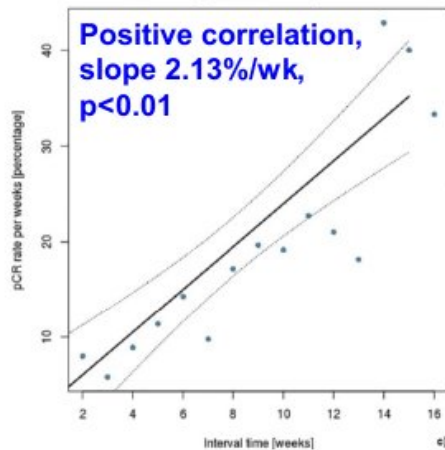
Ann Surg 2009

# Longer interval increases response

pCR distribution along the time

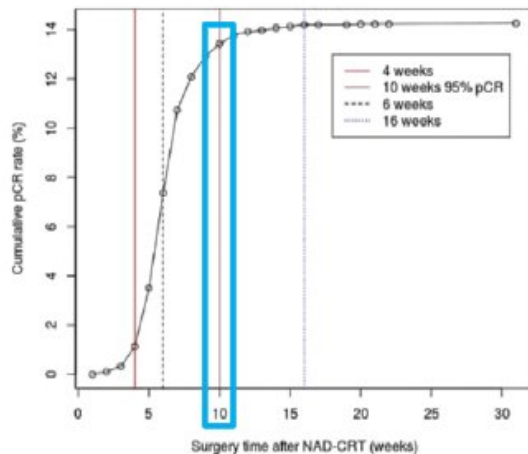


Linear regression model pCR vs SI



**95% of all pCR by 10<sup>th</sup> wk**

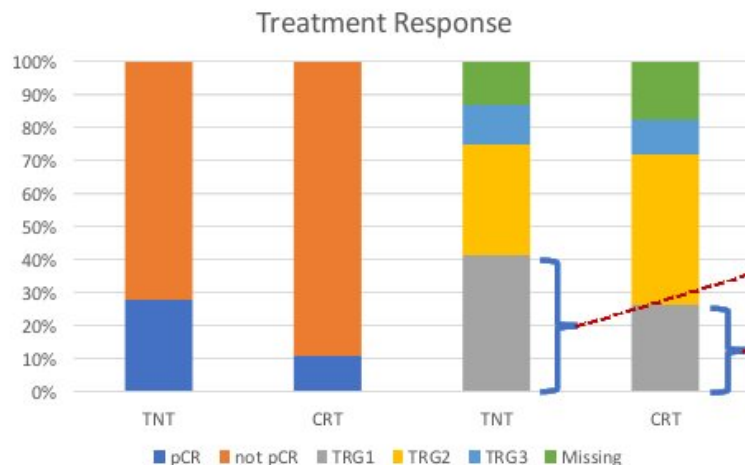
Cumulative pCR along time



N=3085, 7 RCTs, Accord12/0405, EORTC22921, FFCD9203, CAO/ARO/AIO-94, INTERACT, TROG01.04  
Median interval to surgery 6 weeks, pCR 14%



# Treatment response is improved with TNT: PRODIGE 23



| Parameter                                                 | TNT<br>N=213 | CRT<br>N=218) | P       |
|-----------------------------------------------------------|--------------|---------------|---------|
| Grade 1 modified Dworak's TRG (complete or near complete) | 47.6%        | 31.8%         | 0.0035  |
| ypT0                                                      | 28.3%        | 12.6%         | 0.0018  |
| ypN0                                                      | 82.6%        | 67.4%         | 0.0010  |
| ypT0N0                                                    | 27.8%        | 12.1%         | <0.0001 |

**Wait longer**

**Wait longer  
&  
Watch**

cCR complete CR  
nCR nearcomplete  
iCR incomplete

cCR

nCR

iCR

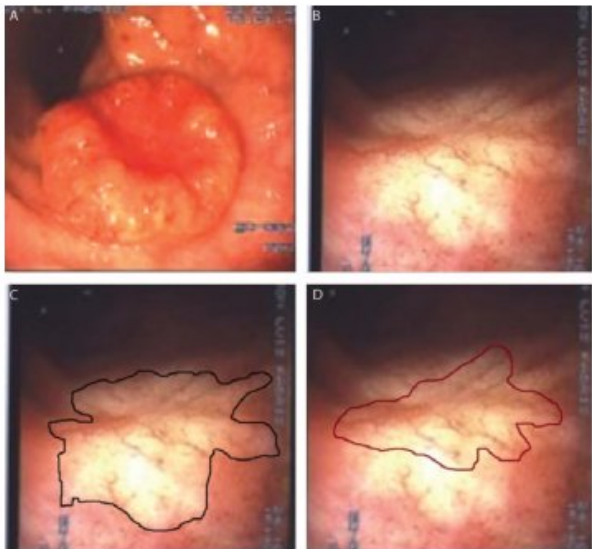
Wait longer  
&  
Watch

OPRA

| 3-year rates by 3-tier clinical response assessment. |             |         |            |        |            |         |         |
|------------------------------------------------------|-------------|---------|------------|--------|------------|---------|---------|
|                                                      | cCR (n=124) |         | nCR (=113) |        | iCR (n=57) |         | p-value |
|                                                      | Estimate    | 95% CI  | Estimate   | 95% CI | Estimate   | 95% CI  |         |
| Organ Preservation                                   | 79%         | 72-87%  | 52%        | 42-63% | 9%         | 4-21%   | <0.0001 |
| Disease-Free Survival                                | 84%         | 77-92%  | 76%        | 67-86% | 52%        | 37-72%  | <0.0001 |
| TME-Free Disease-Free Survival                       | 72%         | 64-81%  | 44%        | 35-55% | 4%         | 1-14%   | <0.0001 |
| Overall Survival                                     | 97%         | 93-100% | 93%        | 87-99% | 90%        | 79-100% | 0.11    |

CI=Confidence Interval.

# Wait longer & Watch



- Whitening
- Teleangiectasia
- Loss of pliability of rectum (insufflation)
- **No palpable ulcer/nodule/mass**
- No radiological evidence of extrarectal disease

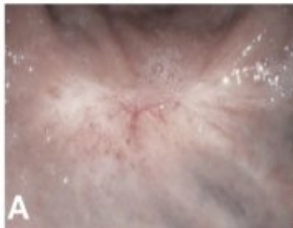
# Predictive Value of Endoscopic Features for a Complete Response After Chemoradiotherapy for Rectal Cancer

Marit E. van der Sande, MD,\*✉ Monique Maas, MD, PhD,† Jarno Melenhorst, MD, PhD,‡  
Stéphanie O. Breukink, MD, PhD,‡ Monique E. van Leerdam, MD, PhD,§ and Geerard L. Beets, MD, PhD\*✉

## Endoscopic patterns

### Flat scar

PPV CR 70-80%



### Small flat ulcer

PPV CR 40-50%



### Large flat ulcer

PPV CR 30%



### Adenomatous remnant

PPV CR 15-35%



### Irregular ulcer

PPV CR 5-15%



### Residual mass

PPV CR 10-15%

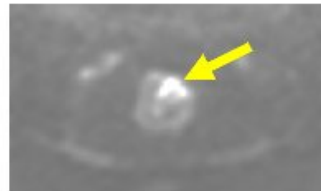
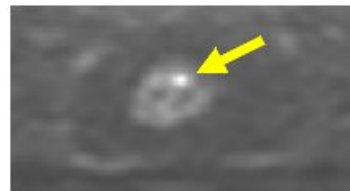
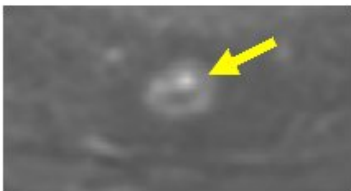
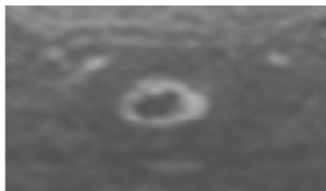
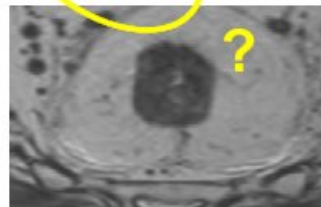
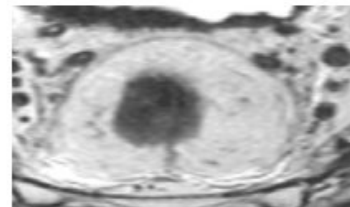
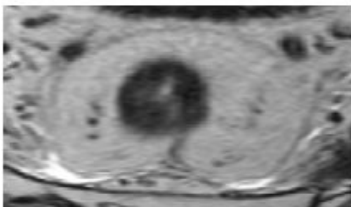
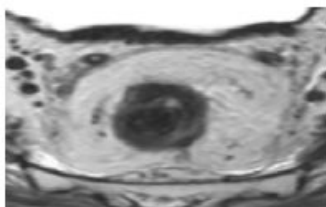
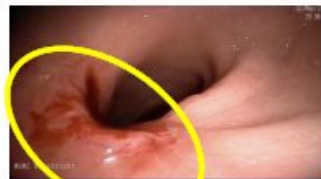
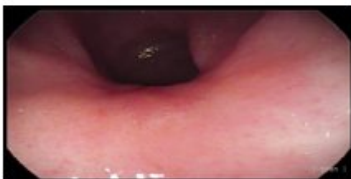


**Wait longer  
&  
Watch**

**Endoscopy**



♂ 64y/o



3 months

9 months

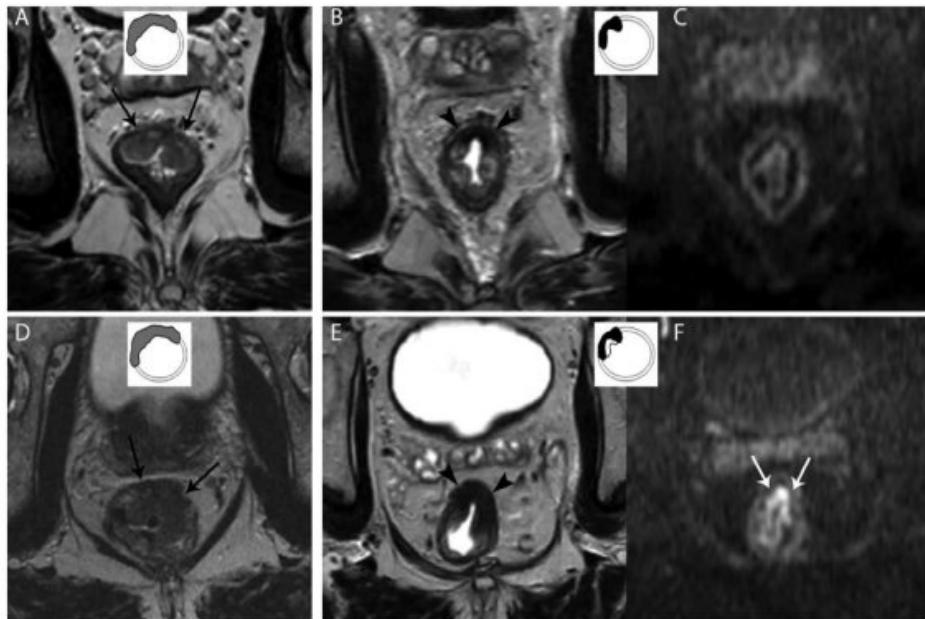
17 months

24 months



## A Pattern-Based Approach Combining Tumor Morphology on MRI With Distinct Signal Patterns on Diffusion-Weighted Imaging to Assess Response of Rectal Tumors After Chemoradiotherapy

Doenja M.J. Lambregts, M.D., Ph.D.<sup>1</sup> • Andrea Delli Pizzi, M.D.<sup>1,2</sup>  
Max J. Lahaye, M.D., Ph.D.<sup>1</sup> • Joost J.M. van Griethuysen, M.D.<sup>1,3</sup>  
Monique Maas, M.D., Ph.D.<sup>1</sup> • Geeraard L. Beets, M.D., Ph.D.<sup>3,4</sup>  
Frans C.H. Bakers, M.D.<sup>5</sup> • Regina G.H. Beets-Tan, M.D., Ph.D.<sup>1,3</sup>



**Focal DWI signal :  
>90% accurate for  
residual disease**

N=222 MRI

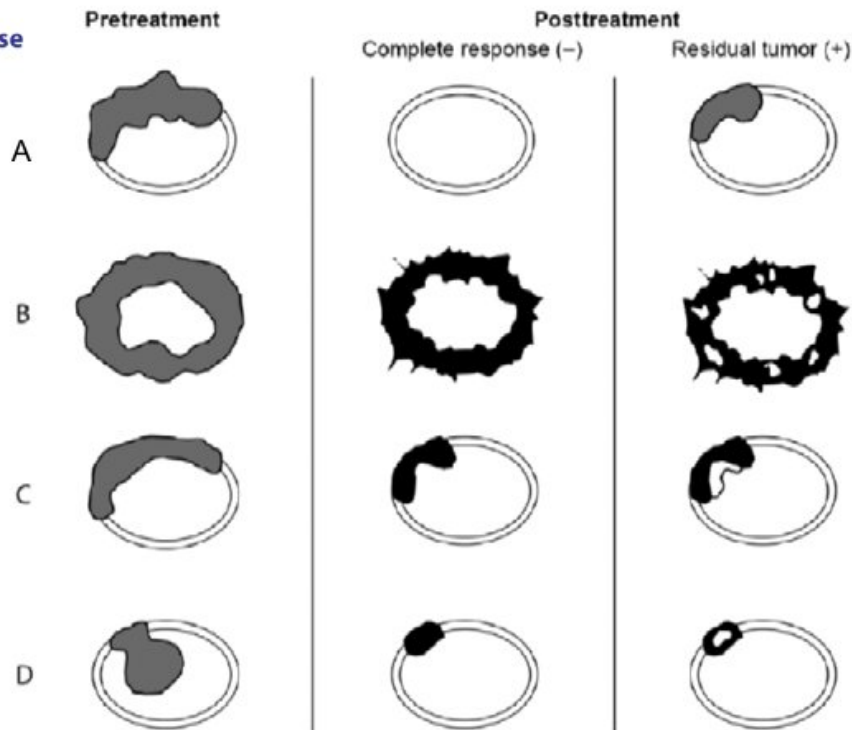
DCR 2018

# A Pattern-Based Approach Combining Tumor Morphology on MRI With Distinct Signal Patterns on Diffusion-Weighted Imaging to Assess Response of Rectal Tumors After Chemoradiotherapy

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## Accuracy

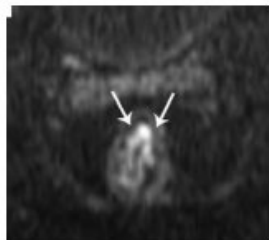
|          |             |
|----------|-------------|
| <b>A</b> | <b>100%</b> |
| <b>B</b> | <b>74%</b>  |
| <b>C</b> | <b>86%</b>  |
| <b>D</b> | <b>92%</b>  |



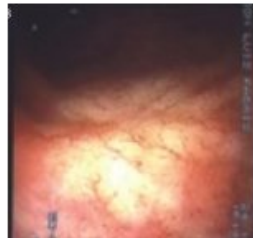
N=222 MRI

**Wait longer  
&  
Watch**

**DWI MRI**

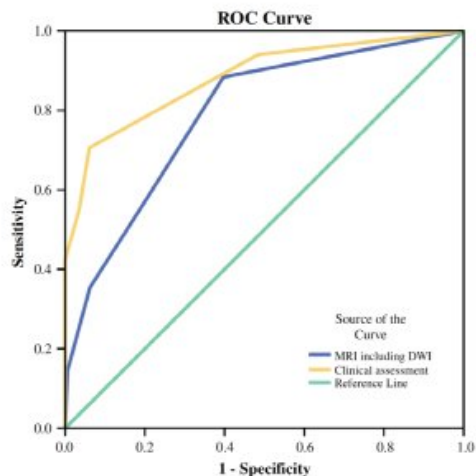


**Endoscopy**



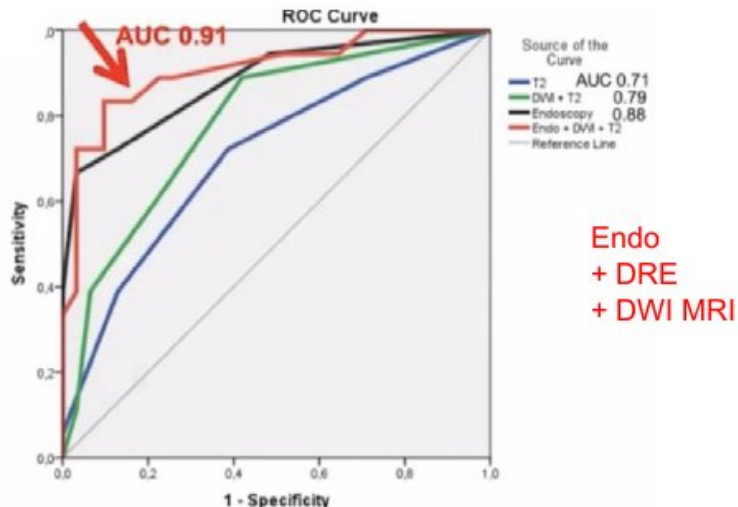
# Assessment of Clinical Complete Response After Chemoradiation for Rectal Cancer with Digital Rectal Examination, Endoscopy, and MRI: Selection for Organ-Saving Treatment

Monique Maas, MD, PhD<sup>1</sup>, Doenja M. J. Lambregts, MD, PhD<sup>1</sup>, Patty J. Nelemans, MD, PhD<sup>2</sup>, Luc A. Heijnen, MD<sup>1,3</sup>, Milou H. Martens, MD<sup>1,3</sup>, Jeroen W. A. Leijtens, MD<sup>4</sup>, Meindert Sosef, MD, PhD<sup>5</sup>, Karel W. E. Hulsewé, MD, PhD<sup>6</sup>, Christiaan Hoff, MD<sup>7</sup>, Stephanie O. Breukink, MD, PhD<sup>3</sup>, Laurents Stassen, MD, PhD<sup>3</sup>, Regina G. H. Beets-Tan, MD, PhD<sup>1</sup>, and Geerard L. Beets, MD, PhD<sup>3</sup>



N=50

Maas M. Ann Surg Oncol 2015



Beets Tan R. UEGW 2021

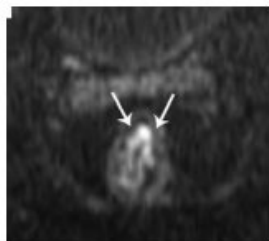


**Wait longer  
&  
Watch**

**DRE**

**DWI MRI**

**Endoscopy**



**cCR? (@10w)**

- DWI MRI
- Endoscopy/Rectoscopy
- DRE
- CT Thorax-Abdomen

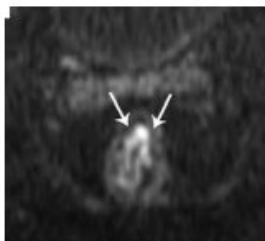
Every 4 month  
For 2 yrs

**SAME experienced TEAM !**



**DRE**

**DWI MRI**



**Wait longer  
&  
Watch**

**Endoscopy**



**Risks of W&W ?**

cCR complete CR  
nCR nearcomplete  
iCR incomplete

cCR

nCR

iCR

**Wait longer  
&  
Watch**



cCR

nCR

iCR

Wait longer  
&  
Watch



**Perfect TME**

cCR

nCR

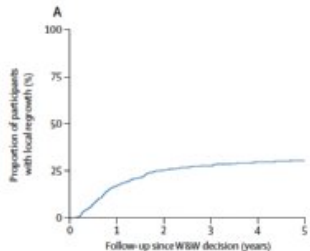
iCR

# Wait longer & Watch

Long-term outcomes of clinical complete responders after neoadjuvant treatment for rectal cancer in the International Watch & Wait Database (IWWD): an international multicentre registry study

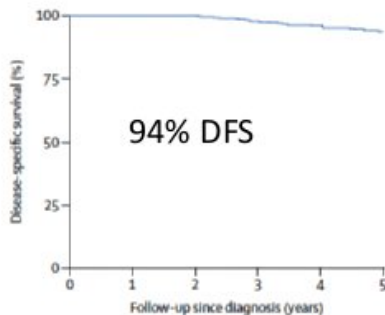
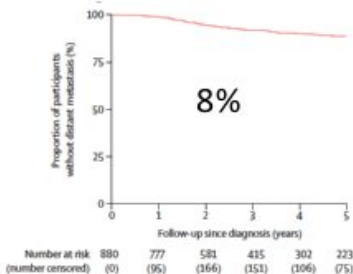
Mosconi M, van der Valk D, Doreau C, Molloy E, Fisher D, Gossard P, Chiu M, Marshall K, Kienleberg G, Gossard P, Boeris N, Kienleberg G, Angello J, de la Torre J, Rodriguez C, Pons A, Bressan G, Gossard P, de la Torre J, and the IWWD Cancer Team\*

## Re-growth



- 25.2% @2yrs
- 88% diagnosed @2yrs
- 97% in bowel wall

## Distant metastasis



### Clinical T stage baseline\*

|         |           |
|---------|-----------|
| cT1     | 14 (2%)   |
| cT2     | 226 (26%) |
| cT3     | 451 (51%) |
| cT4     | 30 (3%)   |
| Unknown | 159 (18%) |

### Clinical N stage baseline

|         |           |
|---------|-----------|
| cN0     | 309 (35%) |
| cN1     | 271 (31%) |
| cN2     | 167 (19%) |
| Unknown | 133 (15%) |

1009 patients

880 **cCR (87%)**

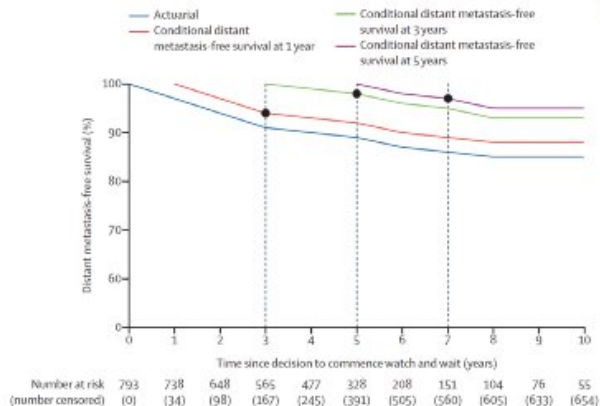
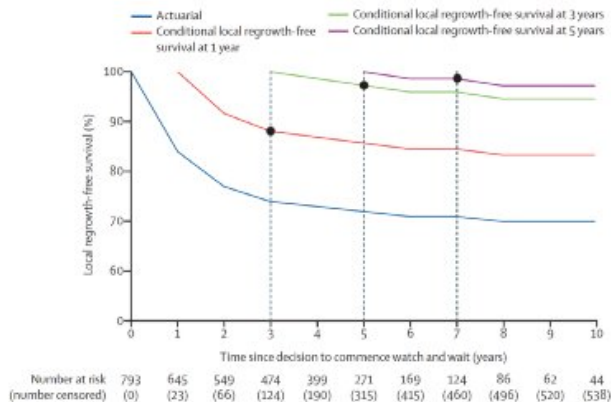
Median FU 3.3yrs

47 institutions, 15 countries

Lancet 2018

**cCR****nCR****iCR**

# Wait longer & Watch



→ If cCR >1yr : local re-growth very rare  
 → (additional treatment to reduce risk of re-growth unnecessary)

793 patients with cCR + no surgery  
 Median FU 55 months  
 47 institutions, 15 countries  
*Lancet Oncol 2021*

cCR

nCR

iCR

**Wait longer  
&  
Watch**

## Defining near-complete response following (chemo) radiotherapy for rectal cancer: systematic review

Petra A. Custers<sup>1,2</sup>, Barbara M. Geubels<sup>1,2,3</sup>, Geerard L. Beets<sup>1,2</sup>, Doenja M. J. Lambregts<sup>4</sup>, Monique E. van Leerdam<sup>4,6</sup>, Baukelien van Triest<sup>7</sup> and Monique Maas<sup>4,\*</sup>

*BJS 2023*

### **DRE**

- Minor irregularities
- Smooth induration

### **Endoscopy**

- Small ulcer

### **MRI**

- Obvious downstaging +/- fibrosis (T2 images)
- Small spot of high signal on DMI
- mrTRG1-2

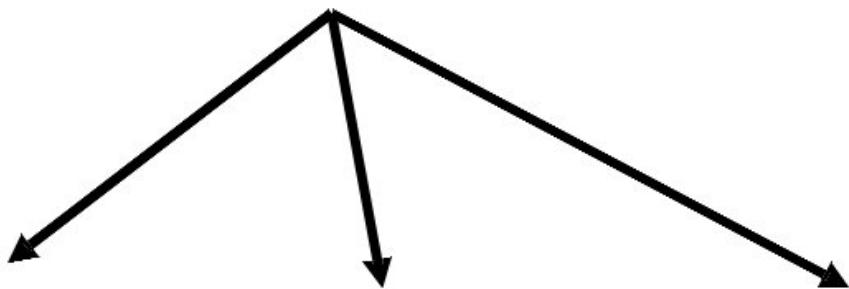
**...but heterogenous**

cCR

nCR

iCR

**Wait longer  
&  
Watch**



**Wait**

**Local excision**

**TME**

+

**Re-staging  
every 6 weeks**

cCR

nCR

iCR

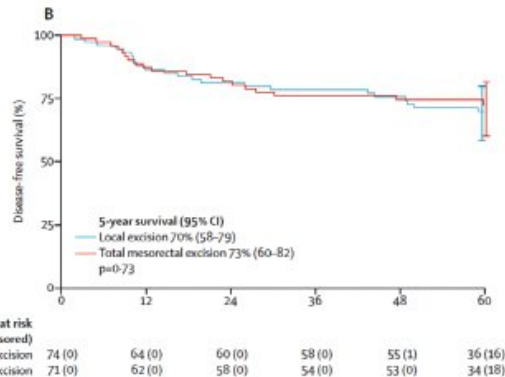
# Wait longer & Watch

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

Eric Rullier, Philippe Rouanet, Jean-Jacques Tuech, Alain Valverde, Bernard Lefong, Michel Rivoire, Jean-Luc Faucheron, Mehrdad Jafari, Guillaume Partier, Bernard Meunier, Igor Sileznief, Michel Prudhomme, Frédéric Marchal, Marc Pocard, Denis Pezet, Anne Rullier, Véronique Vendrely, Quentin Denost, Julien Asselineau, Adélaïde Doussau

*Lancet 2017*

|                    | Responders<br><2cm | Bad responders<br>>2cm |
|--------------------|--------------------|------------------------|
| Clinical response  | 75%                | 25%                    |
| Complete ypT0      | 40%                | 20%                    |
| Subcomplete ypT0-1 | 61%                | 36%                    |
| Organ preservation | 46%                | 3%                     |



*Lancet 2020*

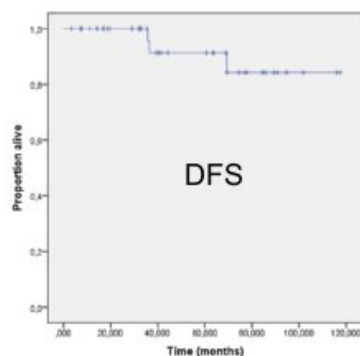
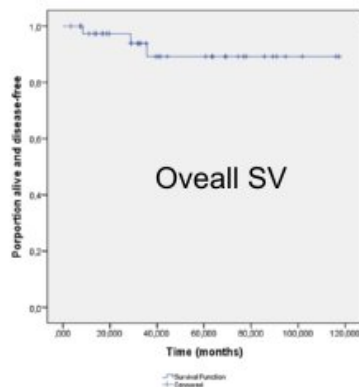
➔ In subcomplete responders  
LE is a good solution

# Long-term outcomes of transanal endoscopic microsurgery for clinical complete response after neoadjuvant treatment in T2-3 rectal cancer

Javier Ernesto Barreras González<sup>1</sup> · Haslen Cáceres Lavernia<sup>2</sup> · Jorge Gerardo Pereira Fraga<sup>1</sup> · Solvey Quesada Lemus<sup>1</sup>

**Table 3** Oncological outcomes

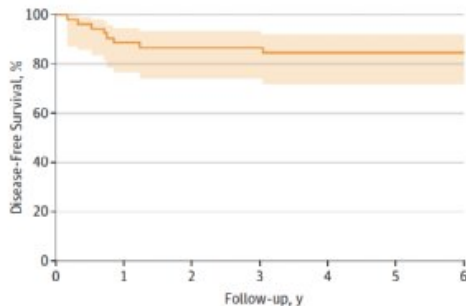
| Variables                         | N = 52                                              |
|-----------------------------------|-----------------------------------------------------|
| Final histology findings          |                                                     |
| ypT0                              | 34 (65.4%)                                          |
| ypT1                              | 7 (13.5%)                                           |
| ypT2                              | 6 (11.5%)                                           |
| ypT3                              | 5 (9.6%)                                            |
| Follow-up (months) median (range) | 86 (5–107)                                          |
| Local recurrences (%)             | 1 (2.4%)                                            |
| Distant metastases (%)            | 3 (7.3%)                                            |
| Disease-free survival (%)         | 100% (1 year)<br>95.8% (3 years)<br>91.7% (5 years) |
| Overall survival (%)              | 97.5% (1 year)<br>94% (3 years)<br>89.5% (5 years)  |



# Long-term Oncological and Functional Outcomes of Chemoradiotherapy Followed by Organ-Sparing Transanal Endoscopic Microsurgery for Distal Rectal Cancer The CARTS Study

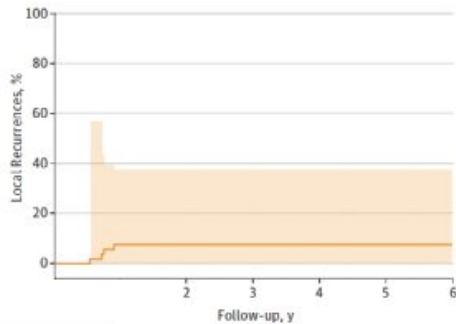
- 35/55 LE (74%) successful
- 16 TME
  - 4 inadequate response
  - 8 Completion TME
  - 4 Salvage TME

**B** Disease-free survival



No. at risk  
Patients with  
rectal cancer

**A** Local recurrence



N=55

Phase II, feasibility

T1-3N0M0

53 month FU

JAMA Surg 2018

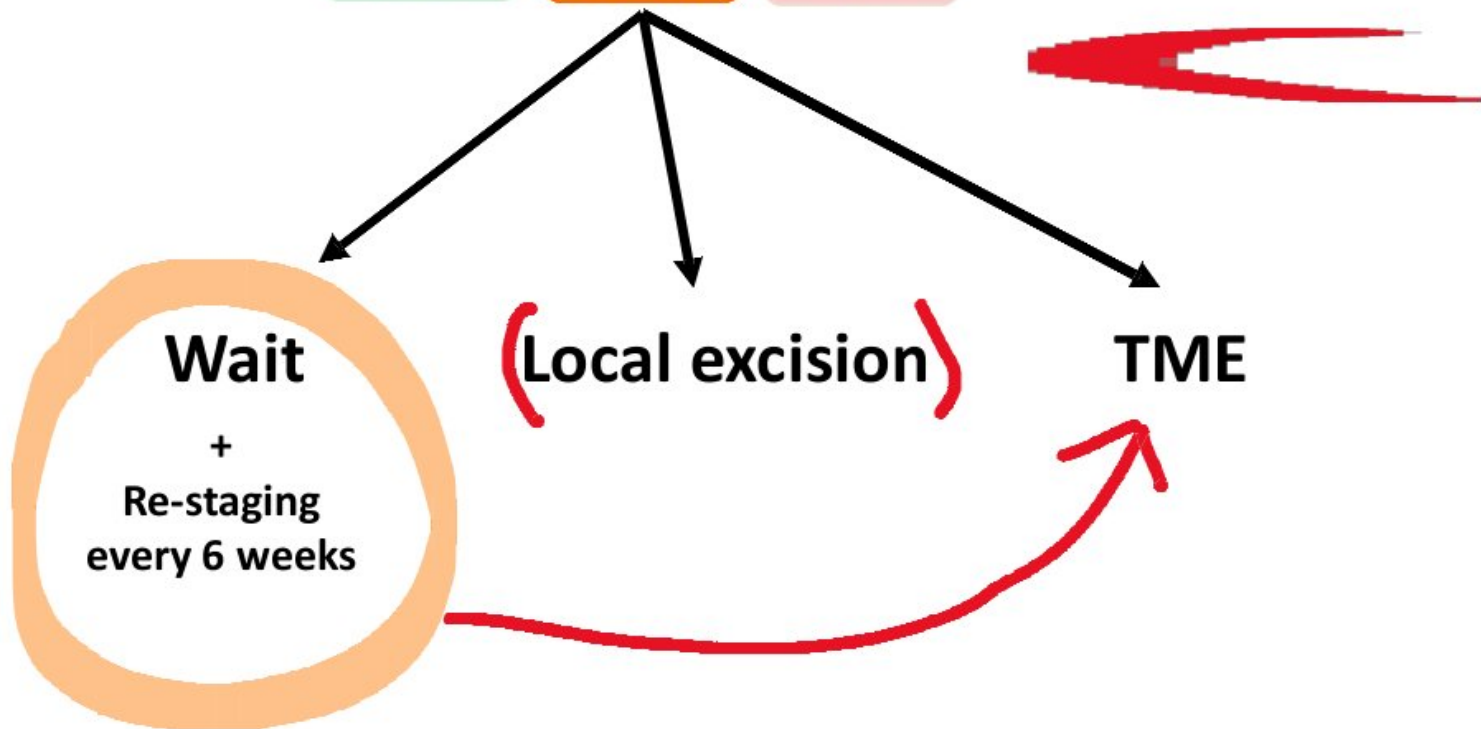
Good QoL....but **50% major LARS in Organ preservation**



cCR

nCR

iCR



**Wait**

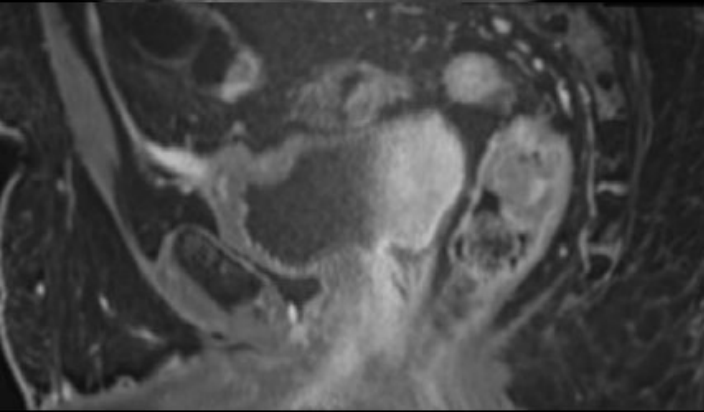
+

**Re-staging  
every 6 weeks**

**(Local excision)**

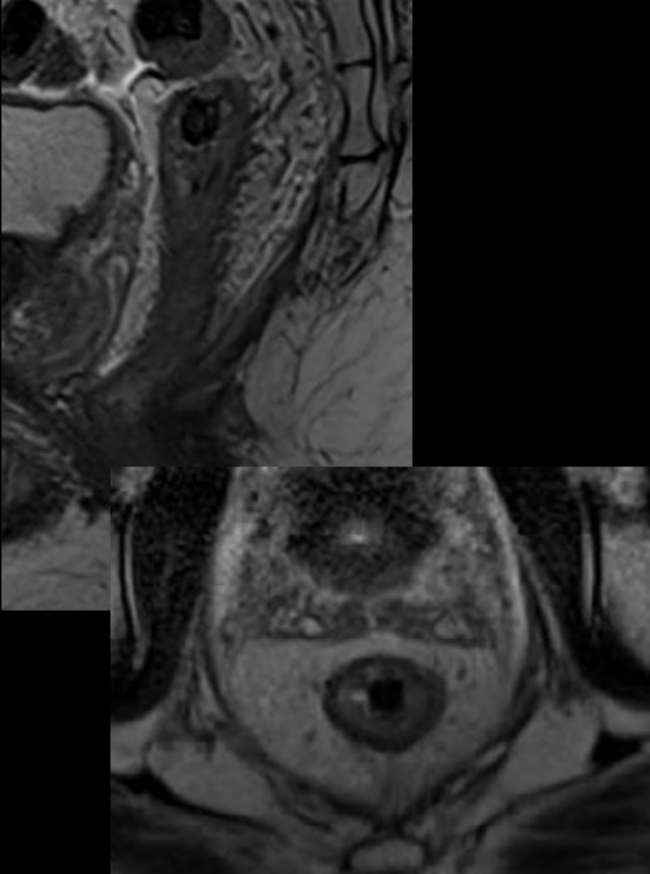
**TME**

**...and if it comes back?**



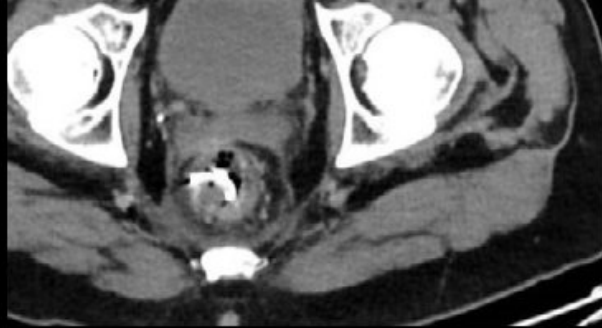
**61 years old, BMI 36 kg/m<sup>2</sup>**

- **mrT2-3a mrN+ cM0, 9cm from AV**
- **RCT (54 GY + Xeloda)**
- **@10w : cCR**
- **«Normal» FU**
- **@9 month colonoscopy: HGD**
- **@10 month MRI: no clear tumor**



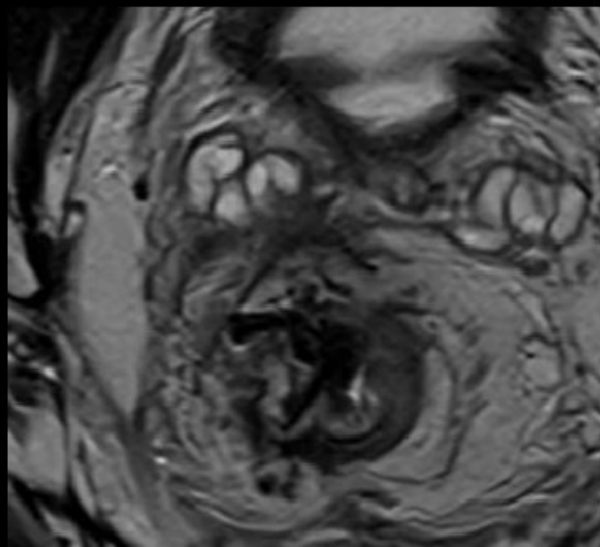
61 years old, BMI 36 kg/m<sup>2</sup>

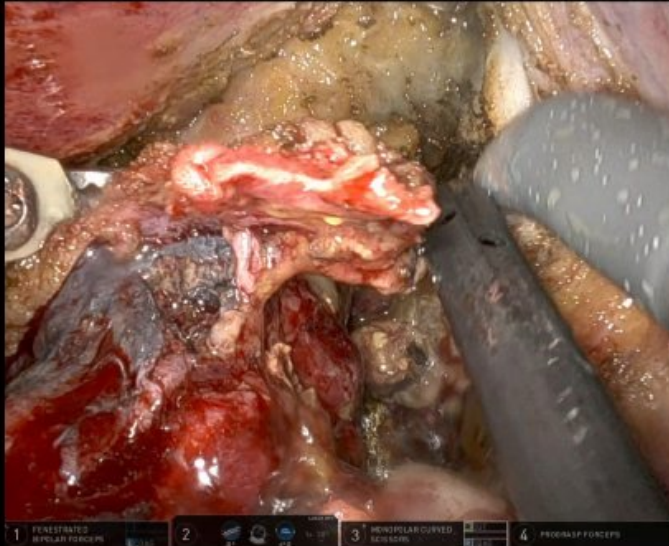
- mrT2-3a mrN+ cM0, 9cm from AV
- RCT (54 GY + Xeloda)
- @10w : cCR
- «Normal» FU
- @9 month colonoscopy: HGD
- @10 month MRI: no clear tumor
- @11 month: endoscopic resection → perforation → OVESCO
- Pathology: adenocarcinoma



61 years old, BMI 36 kg/m<sup>2</sup>

- mrT2-3a mrN+ cM0, 9cm from AV
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- @10w : cCR
- «Normal» FU
- @9 month colonoscopy: HGD
- @10 month MRI: no clear tumor
- @11 month: endoscopic resection → perforation → OVESCO
- Pathology: adenocarcinoma
- @12 month: restaging





**61 years old, BMI 36 kg/m<sup>2</sup>**

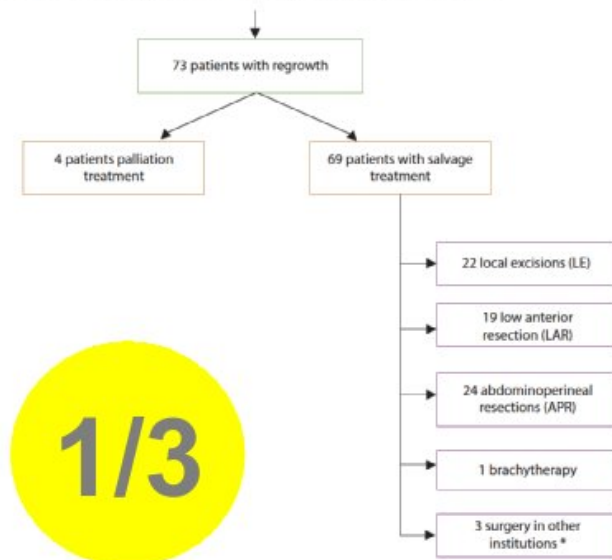
- **mrT2-3a mrN+ cM0, 9cm from AV**
- **RCT (54 GY + Xeloda)**
- **@10w : cCR**
- **«Normal» FU**
- **@9 month colonoscopy: HGD**
- **@10 month MRI: no clear tumor**
- **@11 month: endoscopic resection → perforation → OVESCO**
- **Pathology: adenocarcinoma**
- **@12 month: restaging**
- **@14 month : LAR**



# Salvage Surgery With Organ Preservation for Patients With Local Regrowth After Watch and Wait: Is It Still Possible?



Laura M. Fernandez, M.D.<sup>1</sup> • Nuno L. Figueiredo, M.D., Ph.D.<sup>1</sup>  
Angelita Habr-Gama, M.D., Ph.D.<sup>2,3</sup> • Guilherme P. São Julião, M.D.<sup>2</sup>  
Pedro Vieira, M.D.<sup>1</sup> • Bruna B. Vailati, M.D.<sup>2</sup> • Irfan Nasir, M.R.C.S.<sup>1</sup> • Oriol Parés, M.D.<sup>1</sup>  
Inês Santiago, M.D.<sup>1</sup> • Mireia Castillo-Martin, M.D., Ph.D.<sup>1</sup> • Carlos Carvalho, M.D.<sup>1</sup>  
Amjad Parvaiz, M.D, F.R.C.S.<sup>1</sup> • Rodrigo Oliva Perez, M.D., Ph.D.<sup>2-4</sup>



1/3

→ 28% regrowth

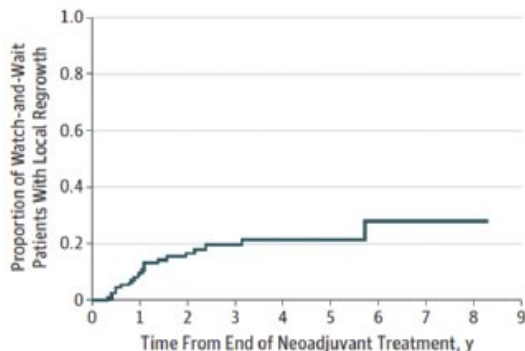
→ 95% salvagable

- 35% Local treatment
- 34% APR (stoma)
- 31% LAR





## Assessment of a Watch-and-Wait Strategy for Rectal Cancer in Patients With a Complete Response After Neoadjuvant Therapy



|                     | W&W<br>n=113 | TME pCR<br>N=136 |
|---------------------|--------------|------------------|
| Local regrowth      | 21%          | 0%               |
| Overall SV          | 73%          | 94%              |
| DFS                 | 75%          | 92%              |
| Disease specific SV | 90%          | 98%              |

|            | No LR | LR  |
|------------|-------|-----|
| Metastases | 1%    | 36% |

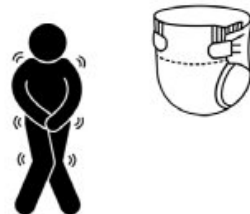
# Low colo-rectal/anal anastomosis

## FUNCTION

- |                 |        |
|-----------------|--------|
| • Bowel/24h     | 1.7-5  |
| • Urgency       | 19-58% |
| • Leakage day   | 15%    |
| • Leakage night | 20%    |
| • Wexner Score  | 6-12   |

Review, n=612, 13 studies  
*Tilney HS. Colorectal Dis 2007*

- Bowel dysfunction
- Incontinence
- Urgency
- Frequent bowel movements
- Fragmentation



**LARS**

**(Low Anterior Resection Syndrome)**



# Organ Preservation in cT2N0 Rectal Cancer After Neoadjuvant Chemoradiation Therapy



## *The Impact of Radiation Therapy Dose-escalation and Consolidation Chemotherapy*

Angelita Habr-Gama, MD, PhD,\*† Guilherme Pagin São Julião, MD,\* Bruna Borba Vailati,  
Jorge Sabbaga, MD, PhD,‡ Patricia Bailão Aguiar, MD,§ Laura Melina Fernandez, M  
Sergio Eduardo Alonso Araújo, MD, PhD,† and Rodrigo Oliva Perez, MD, PhD\*†¶

- 45Gy 11% pCR
- 50.4-54Gy 15.3% pCR

28'828 NCDB database , USA  
Ofstheyn A. J Gastrointest Surg 2020

### Standard CRT (1991-2006):

- 45 Gy pelvis + 5.4 Gy boost primary
- 5FU + Leucovorin first and last 3 days of RT
- assessed @8 weeks

### Extended CRT (> 2006)

- 45 Gy pelvis + **9 Gy** boost primary
- 5FU + Leucovorin **total 6 cycles of 3 days**
- **assessed@10 weeks**



# Organ Preservation in cT2N0 Rectal Cancer After Neoadjuvant Chemoradiation Therapy



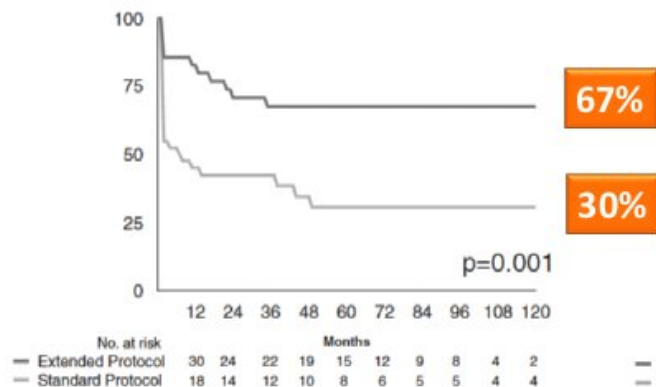
## *The Impact of Radiation Therapy Dose-escalation and Consolidation Chemotherapy*

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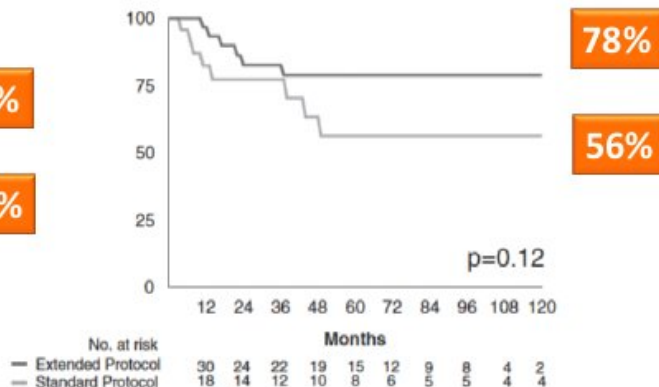
Jorge Sabbaga, MD, PhD,‡ Patricia Bailão Aguilar, MD,§ Laura Melina Fernandez, MD,\*

Sergio Eduardo Alonso Araújo, MD, PhD,† and Rodrigo Oliva Perez, MD, PhD\*†¶

### No surgery @5 yrs



### SV after cCR



# W & W



**Dedicated team**



