Sexual Dysfunction Associated With Colorectal Cancer Treatment: An Ignored Condition

O. Lenaine Westney, MD
Associate Professor
Fellowship Director, Urinary Tract and Pelvic Reconstruction
Department of Urology
## 2012 Estimated US Cancer Cases*

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate</td>
<td>29%</td>
<td>29%</td>
</tr>
<tr>
<td>Lung &amp; bronchus</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Colon &amp; rectum</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Urinary bladder</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Melanoma of skin</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Kidney &amp; renal pelvis</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Non-Hodgkin lymphoma</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Oral cavity</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Leukemia</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>All Other Sites</td>
<td>18%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: American Cancer Society, 2012

*Excludes basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.
Cancer Incidence Rates* Among Men, US, 1975-2008

*Age-adjusted to the 2000 US standard population and adjusted for delays in reporting.
Cancer Incidence Rates* Among Women, US, 1975-2008

*Age-adjusted to the 2000 US standard population and adjusted for delays in reporting.
Colorectal Cancer Survivors

Figure 1. Estimated Numbers of US Cancer Survivors by Site

As of January 1, 2014

**Male**
- Prostate: 2,975,970 (43%)
- Colon & rectum: 621,430 (9%)
- Melanoma: 516,570 (8%)
- Urinary bladder: 455,520 (7%)
- Non-Hodgkin lymphoma: 297,820 (4%)
- Testis: 244,110 (4%)
- Kidney: 229,790 (3%)
- Lung & bronchus: 196,580 (3%)
- Oral cavity & pharynx: 194,140 (3%)
- Leukemia: 177,940 (3%)
- **All sites**: 6,876,600

**Female**
- Breast: 3,131,440 (41%)
- Uterine corpus: 624,890 (8%)
- Colon & rectum: 624,340 (8%)
- Melanoma: 528,860 (7%)
- Thyroid: 470,020 (6%)
- Non-Hodgkin lymphoma: 272,000 (4%)
- Uterine cervix: 244,180 (3%)
- Lung & bronchus: 233,510 (3%)
- Ovary: 199,900 (3%)
- Kidney: 159,280 (2%)
- **All sites**: 7,607,230

As of January 1, 2024

**Male**
- Prostate: 4,194,190 (45%)
- Colon & rectum: 789,950 (8%)
- Melanoma: 698,040 (7%)
- Urinary bladder: 577,780 (6%)
- Non-Hodgkin lymphoma: 390,170 (4%)
- Kidney: 318,990 (3%)
- Testis: 308,000 (3%)
- Oral cavity & pharynx: 241,920 (3%)
- Lung & bronchus: 240,530 (3%)
- Leukemia: 230,590 (2%)
- **All sites**: 9,312,080

**Female**
- Breast: 3,951,930 (41%)
- Colon & rectum: 771,070 (8%)
- Melanoma: 696,280 (7%)
- Urinary bladder: 756,980 (8%)
- Non-Hodgkin lymphoma: 645,330 (7%)
- Kidney: 640,220 (4%)
- Lung & bronchus: 289,400 (3%)
- Cervix: 244,840 (3%)
- Ovary: 236,320 (2%)
- Kidney: 221,260 (2%)
- **All sites**: 9,602,590

*Source:* Data Modeling Branch, Division of Cancer Control and Population Sciences, National Cancer Institute.

American Cancer Society, Surveillance and Health Services Research, 2014
# Projected New Cancer Diagnoses, 2015

**American Cancer Society**  
**Estimated New Cases for the Four Major Cancers by Sex and Age Group, 2015**

<table>
<thead>
<tr>
<th></th>
<th>All ages</th>
<th>Younger than 45</th>
<th>45 and Older</th>
<th>Younger than 65</th>
<th>65 and Older</th>
</tr>
</thead>
<tbody>
<tr>
<td>All sites, men</td>
<td>848,200</td>
<td>52,580</td>
<td>795,620</td>
<td>370,130</td>
<td>478,070</td>
</tr>
<tr>
<td>All sites, women</td>
<td>810,170</td>
<td>86,520</td>
<td>723,650</td>
<td>392,100</td>
<td>418,070</td>
</tr>
<tr>
<td>Colon &amp; rectum, men</td>
<td>69,090</td>
<td>3,590</td>
<td>65,500</td>
<td>29,420</td>
<td>39,670</td>
</tr>
<tr>
<td>Colon &amp; rectum, women</td>
<td>63,610</td>
<td>3,260</td>
<td>60,350</td>
<td>22,800</td>
<td>40,810</td>
</tr>
<tr>
<td>Lung &amp; bronchus, men</td>
<td>115,610</td>
<td>1,590</td>
<td>114,020</td>
<td>38,000</td>
<td>77,610</td>
</tr>
<tr>
<td>Lung &amp; bronchus, women</td>
<td>105,590</td>
<td>1,850</td>
<td>103,740</td>
<td>33,500</td>
<td>72,090</td>
</tr>
<tr>
<td>Breast, women</td>
<td>231,840</td>
<td>24,630</td>
<td>207,210</td>
<td>132,250</td>
<td>99,590</td>
</tr>
<tr>
<td>Prostate</td>
<td>220,800</td>
<td>1,330</td>
<td>219,470</td>
<td>94,660</td>
<td>126,140</td>
</tr>
</tbody>
</table>

Projected cases are based on incidence data during 1995-2011 from 49 states and the District of Columbia, as reported by the North American Association of Central Cancer Registries (NAACCR).  
Note: Estimates should not be compared with those from previous years.
Figure 6. Colorectal Cancer Incidence Trends by Age and Sex, 2001-2010

Rates are age adjusted to the 2000 US standard population.


American Cancer Society, Surveillance Research, 2014
Rectal Cancer

This practice algorithm has been specifically developed for M. D. Anderson using a multidisciplinary approach and taking into consideration circumstances particular to M. D. Anderson, including the following: M. D. Anderson’s specific patient population; M. D. Anderson’s services and structure; and M. D. Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

**NOTE:** Consider clinical trials as treatment options for eligible patients. For adenomatous polyp with high-grade dysplasia, recommendations are the same as for colon cancer. Refer to colon consensus algorithm.

---

**EVALUATION**

Tumor within 12 cm from anal verge

- Pathology review
- CEA
- Proctoscopic evaluation by surgeon
- Endorectal ultrasound or high-resolution rectal staging MRI
- Contrast-enhanced CT scan of chest
- Contrast-enhanced CT or MRI of abdomen and pelvis
- Colonoscopy (with biopsy if no pathology or pathology nondiagnostic)

**PRIMARY TREATMENT**

- Stage I eligible for transanal excision
- Transanal excision
- Excision complete?
  - Yes
  - No
  - State I- not eligible for transanal excision?
    - Radical surgical resection: LAR\(^3\), CAA\(^3\) or APR\(^3\), with or without temporary fecal diversion (ileostomy)
    - Neoadjuvant chemoradiation therapy\(^4\) (consider clinical trial if available)
    - Radical surgical resection: LAR\(^3\), CAA\(^3\) or APR\(^3\), with or without temporary fecal diversion (ileostomy)
    - Adjuvant chemotherapy\(^5\) (consider clinical trial if available)

- Stage II and Stage III
  - Multidisciplinary management including medical oncology, surgical oncology, and radiation oncology.
  - Consider chemoradiation therapy (before or following systemic chemotherapy).

- Unresectable primary, no metastasis
  - Multidisciplinary management including surgeon, medical oncologist, and radiation oncologist recommended
  - Refer to Principles of Rectal Surgery, Chemotherapy and Radiation Therapy on pages 4-8.
  - Choice and timing of systemic chemotherapy, consideration of surgery, and radiation, are to be individualized based on multidisciplinary management discussion between the medical oncologist, surgeon and radiations oncologist. In all cases, surgical resection should be performed with the intent for cure rather than palliation.

- Metastatic disease, intact primary
  - Are primary tumor and metastases resectable?
    - Yes
      - First line chemotherapy with/without chemoradiation, refer to page 3
    - No
      - If symptomatic, consider chemoradiation therapy, endoscopic intervention (e.g. endoscopic ablation), resection of primary tumor or diverting colostomy.

---

1. Consider approved biomarkers. APPENDIX A
2. Selected patients with T1N0 or T2N0 rectal cancers may be considered for neoadjuvant chemoradiation therapy with local excision in the context of clinical trial.
3. LAR = low anterior resection
4. APR = abdominoperineal resection
5. CAA = colocolic anastomosis
6. Chemoradiation therapy may be omitted in selected patients with low risk rectal cancers.
7. Capecitabine or 5-fluorouracil/leucovorin or 5-fluorouracil/leucovorin/oxaliplatin or capecitabine/oxaliplatin.
Rectal Cancer Treatment Patterns

Figure 7. Rectal Cancer Treatment Patterns (%), by Stage, 2011

Chemo = chemotherapy and includes targeted therapy and immunotherapy drugs; RT = radiation therapy.

Source: National Cancer Data Base, 2011.38

American Cancer Society, Surveillance and Health Services Research, 2014
Rectal Cancer

This practice algorithm has been specifically developed for M. D. Anderson using a multidisciplinary approach and taking into consideration circumstances particular to M. D. Anderson, including the following: M. D. Anderson’s specific patient population; M. D. Anderson’s services and structure; and M. D. Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

NOTE: Consider clinical trials as treatment options for eligible patients. For adenomatous poly with high-grade dysplasia, recommendations are the same as for colon. Refer to colon consensus algorithm.

### CHEMOTHERAPY FOR ADVANCED OR METASTATIC DISEASE

**First – Line Therapy**
- FOLFOX with or without bevacizumab\(^1\)
- FOLFOX with or without panitumumab\(^2\)
- CapeOx with or without bevacizumab\(^3,4\)
- CapeOx with or without panitumumab\(^2\)

**Second – Line Therapy**
- FOLFIRI plus bevacizumab or afiblercept
- FOLFOX or CapeOx
- May continue bevacizumab

**Third – Line Therapy**
- Irinotecan or FOLFIRI plus cetuximab\(^2\)
- Single-agent cetuximab\(^2\)
- Single-agent panitumumab\(^2\)
- Patients that have progressive disease on 5-FU or capcitabine, oxaliplatin, irinotecan, bevacizumab, and cetuximab/panitumumab (if KRAS WT), can proceed to receive last line therapy regorafenib
- FOLFOX or CapeOx

**Patient can tolerate intensive therapy**
- FOLFIRI with or without bevacizumab\(^1\)
- FOLFIRI with or without cetuximab or panitumumab\(^2\)
- FOLFOXIRI\(^7\) with or without bevacizumab\(^5\)
- 5-FU/leucovorin with bevacizumab\(^1,6\)
- Capecitabine\(^3,4\) with bevacizumab\(^1\)

**Patient cannot tolerate intensive therapy**
- Capecitabine\(^3,4\) with or without bevacizumab\(^1\)
- Infusional 5-FU with leucovorin and bevacizumab\(^1\)

**Improve in functional status?**
- Yes → Consider first-line therapy as above
- No → Best supportive care

---

\(^1\) Bevacizumab used in combination with IV 5-FU-based chemotherapy is approved for first-line therapy. Elderly patients with a prior arterial thrombotic event are at increased risk of stroke, myocardial infarct and other arterial events. The incidence of venous thrombosis is statistically significant in colorectal cancer patients.

\(^2\) A RAS mutation indicates resistance to cetuximab and panitumumab.

\(^3\) Patients with diminished creatinine clearance 30-50 mL/minute will require dose reduction. All patients with a creatinine clearance of less than 30 mL/minute will not be eligible to receive capecitabine.

\(^4\) If the patient is taking warfarin or phenytoin while on capecitabine, the patient must be monitored regularly due to potential drug-drug interaction.

\(^5\) Best suited for surgically resectable patients. Once progresses, consider:
   - Clinical Trial
   - KRAS WT: irinotecan or FOLFIRI plus cetuximab or panitumumab
   - Regorafenib

\(^6\) Consider regimen only in patients with adequate ECOG. Check blood counts regularly. May be best used for neoadjuvant therapy.

---

FOLFOXIRI - infusional 5-FU, leucovorin, oxaliplatin, and irinotecan
FOLFOX - infusional 5-FU, leucovorin and oxaliplatin
FOLFIRI - infusional 5-FU, leucovorin and oxaliplatin
CapeOx - capecitabine\(^3,4\) and oxaliplatin

Approved by The Executive Committee of the Medical Staff on 01/28/2014

Copyright 2014 The University of Texas M.D. Anderson Cancer Center
Radiation Treatment Planning: 45 Gy
Rectal Anatomy

- High Anterior Resection
- Low Anterior Resection
- Ultralow Anterior Resection
- Abdominoperineal Resection

Colorectal or coloanal anastomosis with diverting ileostomy

Permanent Colostomy
Advances in Colorectal Surgery

• Total mesorectal excision
  – Reduced recurrence
  – Preservation of the neurovascular bundles

• Introduction of minimally invasive surgery
  – Laparoscopic
  – Robotic assisted
Sexual Dysfunction in Rectal Surgery Patients

- Persistent sexual dysfunction after multimodality treatment of rectal cancer occurs in roughly 50-70%, irrespective of gender.
  - Males: ejaculatory and erectile problems
    - APR, surgical complications, radiation therapy, stoma
  - Females: dyspareunia and vaginal lubrication
    - Radiation therapy and stoma

Factors correlating with sexual interest and function in long-term colorectal cancer survivors

- What is the general status of sexual interest/function in long-term colorectal cancer survivors?
- Patients were mailed self-administered standardized surveys:
  - European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ) Colorectal Cancer (CRC) disease specific module (CR29)
  - Quality of Life in Adult Cancer Survivors (QLACS)
- N= 771 patients; Mean time from diagnosis – questionnaire completion: 10.5 years
## Disease Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Overall</th>
<th>Old N=501</th>
<th>N</th>
<th>%</th>
<th>Young N=270</th>
<th>N</th>
<th>%</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tumor site</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.854</td>
</tr>
<tr>
<td>Colon</td>
<td>382</td>
<td>245</td>
<td>137</td>
<td>50.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rectum/Rectum sigmoid</td>
<td>379</td>
<td>249</td>
<td>130</td>
<td>48.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown (multiple or location NOS)</td>
<td>10</td>
<td>7</td>
<td>3</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Life time any XRT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.955</td>
</tr>
<tr>
<td>No</td>
<td>373</td>
<td>242</td>
<td>131</td>
<td>48.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>398</td>
<td>259</td>
<td>139</td>
<td>51.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Life time any Chemotherapy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No</td>
<td>150</td>
<td>116</td>
<td>34</td>
<td>12.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>621</td>
<td>385</td>
<td>236</td>
<td>87.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The EORTC QLQ-CR29 is psychometrically validated in patients at various stages of their treatment for colorectal cancer.

The 29 questions include four scales (urinary frequency, stool quality, stool frequency, body image) and 19 single items.

Responses to sexual interest and function questions were extracted.

### EORTC QLQ CR29: Sexual Interest/Function Questions

**During the past 4 weeks:**

<table>
<thead>
<tr>
<th></th>
<th>Not at All</th>
<th>A Little</th>
<th>Quite a Bit</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For men only:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. To what extent were you interested in sex?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>57. Did you have difficulty getting or maintaining an erection?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>For women only:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58. To what extent were you interested in sex?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>59. Did you have pain or discomfort during intercourse?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
# Overall EORTC Score

<table>
<thead>
<tr>
<th>Domain</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>767</td>
<td>0</td>
<td>100.00</td>
<td>65.04</td>
<td>66.67</td>
</tr>
<tr>
<td>Body image</td>
<td>748</td>
<td>0</td>
<td>100.00</td>
<td>78.82</td>
<td>88.89</td>
</tr>
<tr>
<td>Sexual function: men*</td>
<td>416</td>
<td>0</td>
<td>100.00</td>
<td>47.36</td>
<td>33.33</td>
</tr>
<tr>
<td>Sexual function: women*</td>
<td>297</td>
<td>0</td>
<td>100.00</td>
<td>28.28</td>
<td>33.33</td>
</tr>
<tr>
<td>Micturition problem</td>
<td>758</td>
<td>0</td>
<td>100.00</td>
<td>31.85</td>
<td>33.33</td>
</tr>
<tr>
<td>Abdominal and pelvic pain scale</td>
<td>762</td>
<td>0</td>
<td>77.78</td>
<td>9.43</td>
<td>0.00</td>
</tr>
<tr>
<td>Defaecation problems 38 39 52 53</td>
<td>123</td>
<td>0</td>
<td>58.33</td>
<td>9.21</td>
<td>8.33</td>
</tr>
<tr>
<td>Faecal Incontinence scale 49 50</td>
<td>127</td>
<td>0</td>
<td>100.00</td>
<td>29.27</td>
<td>33.33</td>
</tr>
<tr>
<td>Bloated feeling</td>
<td>768</td>
<td>0</td>
<td>100.00</td>
<td>21.35</td>
<td>0.00</td>
</tr>
<tr>
<td>Dry mouth</td>
<td>763</td>
<td>0</td>
<td>100.00</td>
<td>21.80</td>
<td>0.00</td>
</tr>
<tr>
<td>Hair loss</td>
<td>759</td>
<td>0</td>
<td>100.00</td>
<td>8.30</td>
<td>0.00</td>
</tr>
<tr>
<td>Trouble with taste</td>
<td>763</td>
<td>0</td>
<td>100.00</td>
<td>10.27</td>
<td>0.00</td>
</tr>
<tr>
<td>Sore skin 51</td>
<td>128</td>
<td>0</td>
<td>100.00</td>
<td>23.96</td>
<td>33.33</td>
</tr>
<tr>
<td>Embarrassed by bowel movement 54</td>
<td>128</td>
<td>0</td>
<td>100.00</td>
<td>34.11</td>
<td>33.33</td>
</tr>
<tr>
<td>Stoma-related problems 55</td>
<td>128</td>
<td>0</td>
<td>100.00</td>
<td>12.50</td>
<td>0.00</td>
</tr>
<tr>
<td>Impotence: men</td>
<td>406</td>
<td>0</td>
<td>100.00</td>
<td>59.28</td>
<td>66.67</td>
</tr>
<tr>
<td>Dyspareunia: women</td>
<td>236</td>
<td>0</td>
<td>100.00</td>
<td>25.14</td>
<td>0.00</td>
</tr>
</tbody>
</table>

* being scored according to the symptom scale algorithm thus a higher score is better.
### Mean Domain Score by Permanent Ostomy

<table>
<thead>
<tr>
<th>EORTC Domain</th>
<th>Permanent Ostomy</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Sexual function:men</td>
<td>48.03</td>
<td>0.5452</td>
</tr>
<tr>
<td>Sexual function:women</td>
<td>29.73</td>
<td>0.0344</td>
</tr>
<tr>
<td>Impotence</td>
<td>56.33</td>
<td>0.0045</td>
</tr>
<tr>
<td>Dyspareunia</td>
<td>22.59</td>
<td>0.0025</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sexual function:men</td>
<td>44.74</td>
<td></td>
</tr>
<tr>
<td>Sexual function:women</td>
<td>20.00</td>
<td></td>
</tr>
<tr>
<td>Impotence</td>
<td>71.11</td>
<td></td>
</tr>
<tr>
<td>Dyspareunia</td>
<td>47.22</td>
<td></td>
</tr>
</tbody>
</table>
## Mean Domain Score by Radiation Therapy

<table>
<thead>
<tr>
<th>EORTC Domain</th>
<th>Lifetime XRT</th>
<th></th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sexual function: men</td>
<td>48.90</td>
<td>46.15</td>
<td>0.3484</td>
</tr>
<tr>
<td>Sexual function: women</td>
<td>32.29</td>
<td>23.60</td>
<td>0.0079</td>
</tr>
<tr>
<td>Impotence</td>
<td>51.31</td>
<td>65.49</td>
<td>0.0003</td>
</tr>
<tr>
<td>Dyspareunia</td>
<td>19.50</td>
<td>32.67</td>
<td>0.0025</td>
</tr>
</tbody>
</table>
Mean Domain Score by Age at Diagnosis

<table>
<thead>
<tr>
<th>EORTC Domain</th>
<th>Age onset</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Young</td>
<td>Old</td>
</tr>
<tr>
<td>Sexual function: men</td>
<td>43.75</td>
<td>55.46</td>
</tr>
<tr>
<td>Sexual function: women</td>
<td>25</td>
<td>32.11</td>
</tr>
<tr>
<td>Impotence</td>
<td>64.62</td>
<td>47.65</td>
</tr>
<tr>
<td>Dyspareunia</td>
<td>20.57</td>
<td>29.47</td>
</tr>
</tbody>
</table>
What is the ideal time point for intervention?

- Prior to any therapy
- Simultaneous with chemoradiation
- Early post-operative
  - Erectile Recovery Protocol (Males)
  - Sexual Function Assessment/Rehabilitation
    - Vaginal Reconstruction
- Differences from standard RRP patients
  - Almost 100% radiated
  - Potentially either a colostomy or diverting ileostomy
Conclusions

• Increasing overall survival in colorectal patients and diagnosis in younger patients has created a more urgent need for urological support and intervention in the management of genitourinary dysfunction

• Coordination with GI radiation/medical oncologists and colorectal surgeons is required to identify patients desirous of treatment for sexual dysfunction
  – Automatic referral triggered by patient reported ROS in electronic medical record
Thank you for your attention