Background and Purpose

- Colorectal cancer (CRC) is a malignancy that begins in the colon or rectum.
- In 2016 there were 724,690 men and 727,350 women living with a history of CRC.¹
  - An estimated 135,430 new cases in 2017²
- Treatment can include local radiation, systemic chemotherapy, and/or surgery to remove the tumor, which can result in the placement of a colostomy.
- A colostomy entails a surgical resection to a portion of the lower GI tract, which creates an opening in the abdominal wall referred to as a stoma.
- Provides a new pathway for removal of gas and stool.
- Clinical Practice Guidelines for enhanced recovery protocols set a standard of perioperative procedures and practices to improve patient outcomes, lessen complications, reduce length of stay, as well as decrease overall health care costs.²
  - Early and progressive mobilization has been associated with a shorter length of stay and has a strong recommendation based on low quality evidence, 1C.²

Case Description

- 73 year-old male with stage II adenocarcinoma of the rectum
- Admitted to the hospital for elective surgery to receive a permanent colostomy
- Previous treatment: Radiation and chemotherapy
- PMH: Pre-hypertension
  - Malnutrition and dehydration 2° to cancer treatment
- Social: Retired corrections officer, lived with his wife, well respected in his community, one daughter who lived a few hours away, enjoys fishing
- Home set up: Split level 3 story home, bedroom on top floor, walk in shower
- Prior level of function: Independent with ADLs and mobility, ambulated with rolling walker, report of decreased activity tolerance due to cancer treatment which limited his ability to perform IADLs and go fishing.
- PT ordered to evaluate and treat post-operative day (POD) one.
- Systems Review revealed:
  - Global weakness
  - Fatigue
  - Stage I pressure ulcers at C6/7 and sacrum
  - Mental status: Appropriate for PT as evidenced by reports of pain.
- Evaluation and treatment focused on functional mobility with the goal of returning the patient to his pre-admission level of function.

PT Assessment and Plan of Care

- The patient presented with pain at the incision site and fatigue which was consistent with post surgery. He also had reports of prior decline in activity tolerance consistent with his cancer treatment.
- Limitations were found in all functional mobility tasks.
- He was appropriate for PT as he presented below his baseline level of function.
- Discharge to inpatient rehab was considered to help combat his prior decline.
- He was treated 5x/week until his hospital discharge on POD seven.
- Evaluation and treatment focused on functional mobility with the goal of returning the patient to his pre-admission level of function.

Outcomes

<table>
<thead>
<tr>
<th>Task</th>
<th>Initial Evaluation (POD 1)</th>
<th>Discharge (POD 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supine to side lying</td>
<td>I, with use of bed rail</td>
<td>I, no use of rail</td>
</tr>
<tr>
<td>Scooting</td>
<td>Min A, VC to bend knees and lift torso</td>
<td>Independent</td>
</tr>
<tr>
<td>Supine to sit</td>
<td>Mod A, able to move legs off bed but required assistance with lifting his torso</td>
<td>Independent</td>
</tr>
<tr>
<td>Sit to supine</td>
<td>Mod A, assistance with leg placement</td>
<td>Independent</td>
</tr>
<tr>
<td>Sit to stand</td>
<td>Min A, VC to push from the bed</td>
<td>Independent</td>
</tr>
<tr>
<td>Step Pivot</td>
<td>CGA, with RW</td>
<td>I, with RW</td>
</tr>
<tr>
<td>Stand to sit</td>
<td>CGA, VC to reach for chair</td>
<td>Independent</td>
</tr>
<tr>
<td>Ambulation</td>
<td>CGA, 150 ft, RW step through pattern, on flat level hard surface</td>
<td>S, 350 ft, RW step through pattern, on flat level hard surface</td>
</tr>
<tr>
<td>Stairs</td>
<td>Patient unable to perform</td>
<td>CG, 9 consecutive stairs up and down with bill hand rails</td>
</tr>
</tbody>
</table>

**Interventions**

- **Bed Mobility**
  - Locomotion
  - Functional Mobility
  - Transfers
- **Therapeutic Exercise**
  - LE & Trunk AROM
  - Resisted exercise
  - Mini Squats
  - Bridges
  - Side Stepping

**Patient Instruction**

- Out of bed for all meals starting POD one (CPG recommendation)
- Positioning to prevent further skin breakdown
- Ambulate 4x/day (CPG recommendation)
  - Once with PT
  - Once with OT
  - Twice with nursing or wife
- Safe transfer techniques
- Ankle pumps to encourage blood flow and prevent blood clots

Discussion

- This patient had the benefit of receiving early mobilization guided by a skilled PT.
- Due to this patient’s prior deconditioned state he may have benefited from preoperative therapy as the current CPG recommends considering pre-habilitation for patients with multiple co-morbidities or patients with significant deconditioning (weak recommendation with moderate quality evidence 2B).²
- Further research should continue to investigate how pre-habilitation affects patient outcomes and discharge placement specifically with cancer survivors.

Acknowledgements and References

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*Images courtesy of University of New England.**