Resources for Predicting Discharge Disposition

Purpose

Use these tools to help predict which patients are likely to be discharged to home settings instead of rehab or skilled nursing. Predicting the discharge setting in advance allows patients to prepare their homes and care providers, or choose the right post-acute provider if home discharge is not likely.

Overview

This resource provides two tools that organizations can implement to predict discharge disposition: the Predicting Location after Arthroplasty Nomogram (PLAN), and the Risk Assessment and Prediction Tool (RAPT).

Notes and Considerations

- We have included a list of the patient characteristics needed to complete Predicting Location after Arthroplasty Nomogram (PLAN) tool, and instructions for accessing tools to calculate the probability of home discharge.

- The Risk Assessment and Prediction Tool (RAPT) was initially developed in Australia, but has been validated in a US population. For this resource, we have used the score interpretation values validated in a US setting by Hanson et. al.

- The RAPT requires less information than the PLAN, but is also less specific for intermediate risk patients. Consider embedding the RAPT in on-demand patient education materials that patients use to learn about surgery before it is scheduled. Clinical staff should use the PLAN as soon as, if not before, surgery is scheduled to allow patients sufficient time to plan discharge setting.

- Consider refining these tools over time by collecting predictive tool scores and comparing to actual discharge location.

Predicting Location after Arthroplasty Nomogram (PLAN)

Cleveland Clinic’s Joint Replacement Discharge Prediction Tool

Patient Information to Collect

- Patient Age: _____  Patient BMI: _____
- Procedure:  □ Primary TKR  □ Primary THR  □ Revision of TKR  □ Revision of THR  □ Bilateral TKR
- Active Comorbidities
  - Heart Disease: □ No  □ Yes, Active Monitoring  □ Yes, but No Active Monitoring
  - Diabetes: □ No  □ Yes
  - Hypertension: □ No  □ Yes
  - COPD: □ No  □ Yes
  - Joint Infection □ No  □ Yes
  - Arthritis, multiple joints: □ No  □ Yes
- Pre-op ambulation: (select one of the following)
  - □ Independent Community Distances
  - □ Impaired Community Distances
  - □ Impaired Home Distances
  - □ Minimal or Wheelchair Bound
- Number of entry steps: _____
- Bathroom location: □ 1st floor  □ 2nd floor
  - Bedroom location: □ 1st floor  □ 2nd floor
- Caregiver support: □ Inconsistent/none  □ Occasional available (2-4 days/week)
  - □ Consistent/live-in (5-7 days/week)
- Home location: □ Up to 150 miles away  □ Over 150 miles away

Projected post-op weight bearing (select one)

- □ Full or weight-bearing as tolerated
- □ 50%-75%
- □ 25%
- □ Touch-down weight bearing or non-weight bearing

How to Predict Discharge Location

There are two ways users can use the information to predict post-discharge location:

- Download and print the nomogram
  - Click here to download a reprint of the nomogram
  - Print tool and map each patient characteristic to each line, drawing a straight line between the response and point score. Sum total score and draw a straight line to the probability of rehab line at the bottom.

OR

- Use the free calculator available online
  - Go to rcalc.ccf.org, scroll down and open the joint replacement calculator
  - Enter patient characteristics collected above and click "submit" to find the patient’s probability of not being discharged to home.

Risk Assessment and Prediction Tool (RAPT)

Six question tool identifies patients most suitable for home discharge

Calculating RAPT Score:
• Answer each question and enter score in the far right column, then enter total score in the bottom row.

<table>
<thead>
<tr>
<th>Question</th>
<th>Scoring</th>
<th>Enter Score Here</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your age group?</td>
<td>50-65 years: 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>66-75 years: 1</td>
<td></td>
</tr>
<tr>
<td>What is your gender?</td>
<td>Male: 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female: 1</td>
<td></td>
</tr>
<tr>
<td>How far, on average, can you walk?</td>
<td>Two blocks or more: 2</td>
<td></td>
</tr>
<tr>
<td>(A block is 200m.)</td>
<td>1-2 blocks: 1</td>
<td></td>
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<tr>
<td></td>
<td>Housebound (most of the time): 0</td>
<td></td>
</tr>
<tr>
<td>Which gait-aid do you use, more often than not?</td>
<td>None: 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single-point stick: 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crutches/frame: 0</td>
<td></td>
</tr>
<tr>
<td>Do you use community supports, e.g.,</td>
<td>None or one per week: 1</td>
<td></td>
</tr>
<tr>
<td>home help, meals-on-wheels?</td>
<td>Two or more per week: 0</td>
<td></td>
</tr>
<tr>
<td>Do you live with someone who can care for you after your operation?</td>
<td>Yes: 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No: 0</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL

Interpreting RAPT Score:
• Score interpretations below are based on Hansen VJ, et al, “Does the Risk Assessment and Prediction Tool Predict Discharge Disposition After Joint Replacement” which validates score in a US setting.
• Predictive accuracy may be low for scores between 7 and 10; consider supplementing with PLAN tool if not already

<table>
<thead>
<tr>
<th>Score</th>
<th>Time (in seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 7</td>
<td>Higher-risk patient, patient should consider post-acute rehab or SNF settings</td>
</tr>
<tr>
<td>7-10</td>
<td>Intermediate-risk, use additional tools to predict setting and reduce patient risk</td>
</tr>
<tr>
<td>&gt;10</td>
<td>Low-risk patient, should prepare for home discharge</td>
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