Emergency Management of Acute Ischemic Stroke

Update September 2023

This care process model (CPM) defines the multidisciplinary coordination required to deliver the highest standard of care in the treatment of acute ischemic stroke. Patients experience the best outcomes and fewer complications when hospitals use standardized processes designed to improve evidence-based measures of success. This CPM serves as an interprofessional agreement to deliver care that results in the best outcomes by achieving the following goals:

- Increase access to thrombolytic and thrombectomy for ischemic stroke
- Decrease time from ED arrival to intervention for ischemic stroke
- Improve safety of acute intervention for ischemic stroke by reducing variation in the delivery of care

Intermountain's quality of care for the treatment of ischemic stroke is measured against the following standards:

- **Joint Commission National Quality Measure**: STK-4 Thrombolytic Therapy
- **Vizient**: Inpatient Mortality
- **American Heart Association**: Get With the Guidelines®; Time to Intravenous Thrombolytic Therapy
- **American Heart Association**: Get With the Guidelines®; Time to Door to Start of Device

RESPONSIBILITY MATRIX

A Care Process Model is a system-wide continuous improvement project directed at improving outcomes through adherence to best practices. The Responsibility Assignment Matrix describes the commitment of different parts of the health system in this ongoing collaboration.

CPM Responsibility Matrix

Content and Updates	Measurement	Implementation and Adherence
Responsible: Neurosciences Clinical Program **Accountable:** Neurosciences Clinical Program Senior Leadership **Consulted:** • Emergency Medicine Operations Lane • Radiology Shared Services • Pharmacy Services • TeleHealth • Digital Technology Services **Informed:** • VP of Clinical Programs • Acute Care Operations	**Responsible:** • Data Analytics **Accountable:** • Neurosciences Clinical Program Senior Leadership **Consulted:** • Radiology Shared Services • Digital Technology Services **Informed:** • Vice President for Clinical Programs	**Responsible:** • Neurosciences Clinical Program • Emergency Medicine Operations Lane • TeleHealth • Transfer Center **Accountable:** • Neurosciences Clinical Program Senior Leadership • Emergency Medicine Operations Lane **Consulted:** • Acute Care Operations • Radiology Shared Services **Informed:** • Enterprise Leadership Team

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INTERMOUNTAIN GOALS AND MEASURES

- ED arrival to Stroke/TeleStroke activation. **Goal: ≤10 minutes**
- ED arrival to CT scan. **Goal: ≤15 minutes**
- ED arrival to IV thrombolytic **Goal: ≤60 minutes with stretch ≤45 minutes**
- ED arrival to deployment of endovascular therapy (EVT) device **Goal: ≤90 minutes for direct ED arrival; ≤60 minutes for transferred patients**
- Rate of symptomatic hemorrhagic conversion of ischemic stroke after intervention. **Watch metric.**

KEY SUPPORTING EVIDENCE

2019 AHA/ASA Guideline for Early Management of Acute Ischemic Stroke

CAREGIVER RESOURCES

- *Intermountain Stroke Services*
- *TeleStroke Dashboard*
- *IV Thrombolytic Exclusion Criteria*
- *NIH Stroke Scale (NIHSS)*
- *NIHSS AHA Learning Center*

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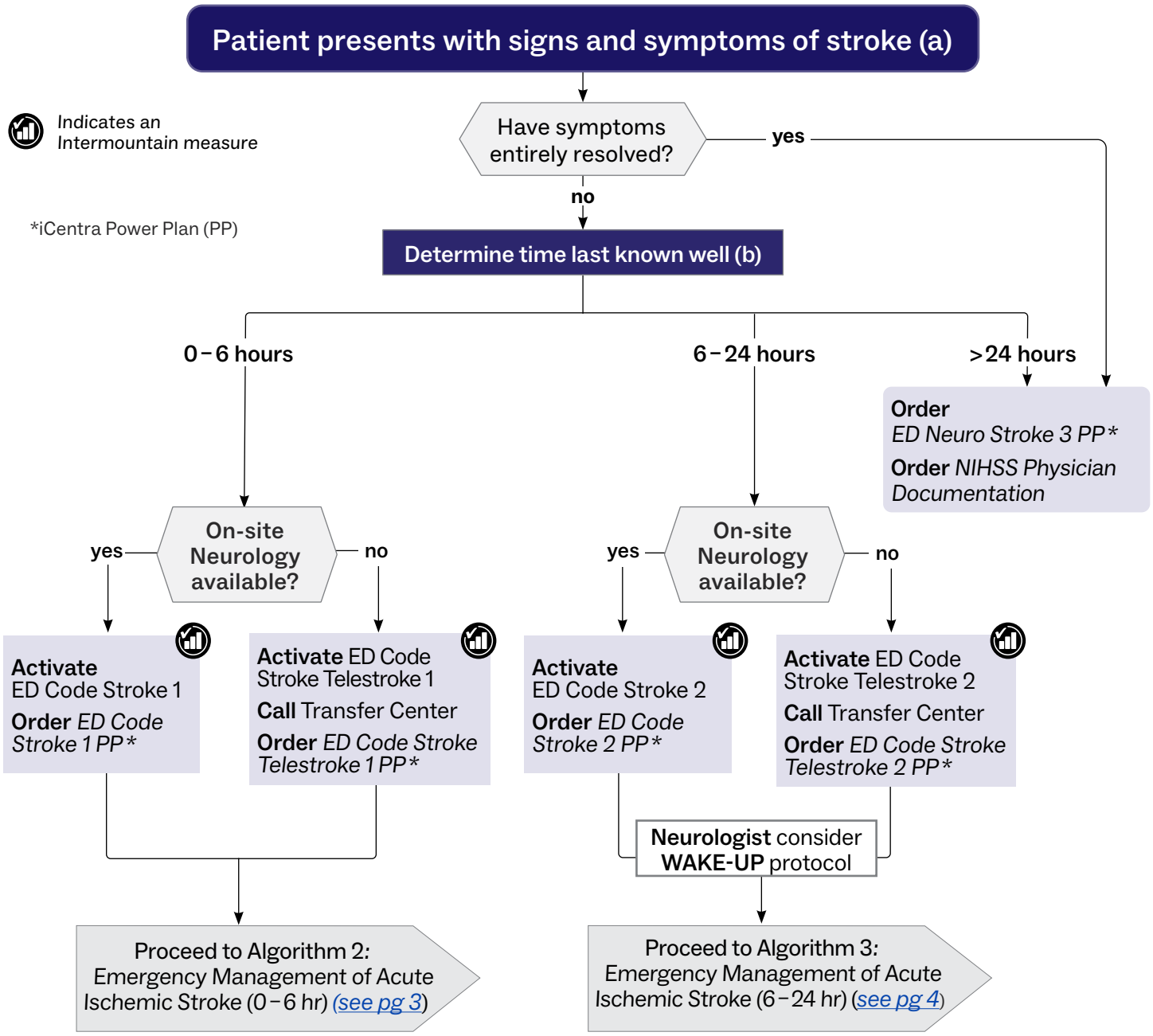
ALGORITHM 1: CLASSIFICATION



ALGORITHM NOTES

(a) Signs and symptoms

Assess using **BE FAST:**

- **B**alance: Sudden loss of balance or coordination
- **E**yes: Sudden loss of vision or double vision
- **F**ace: Sudden weakness of the face
- **A**rms: Sudden weakness of an arm or leg
- **S**peech: Sudden difficulty speaking
- **T**ime: Time the symptoms started

(b) Determine time last known well

IDENTIFY:

- Time of last normal interaction with another person
- Bedtime and when patient awoke with deficits
- Patient-reported onset time, when this is dependable despite current deficits

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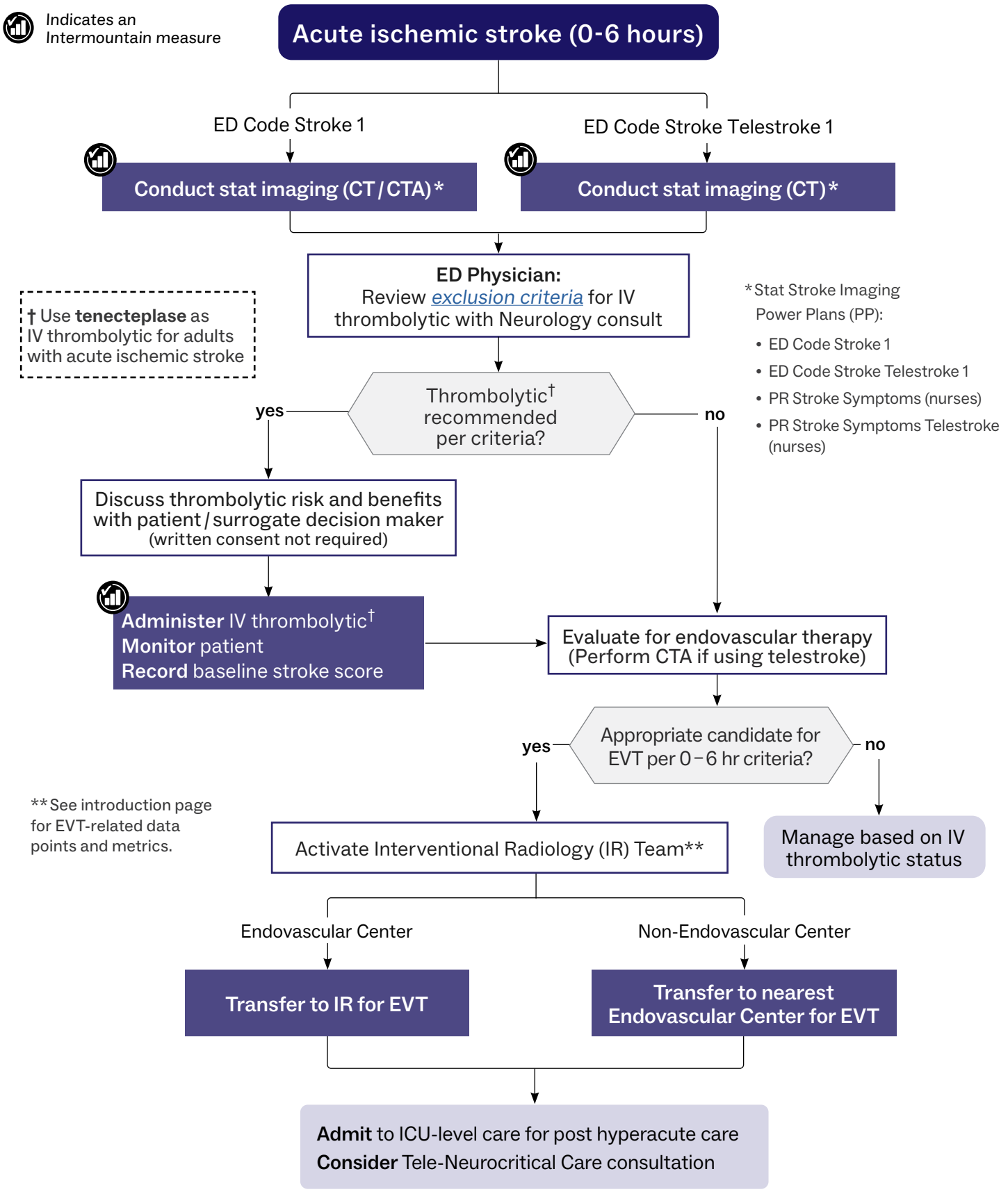
ALGORITHM 2: EMERGENCY MANAGEMENT OF ACUTE ISCHEMIC STROKE (0 – 6 HOURS)



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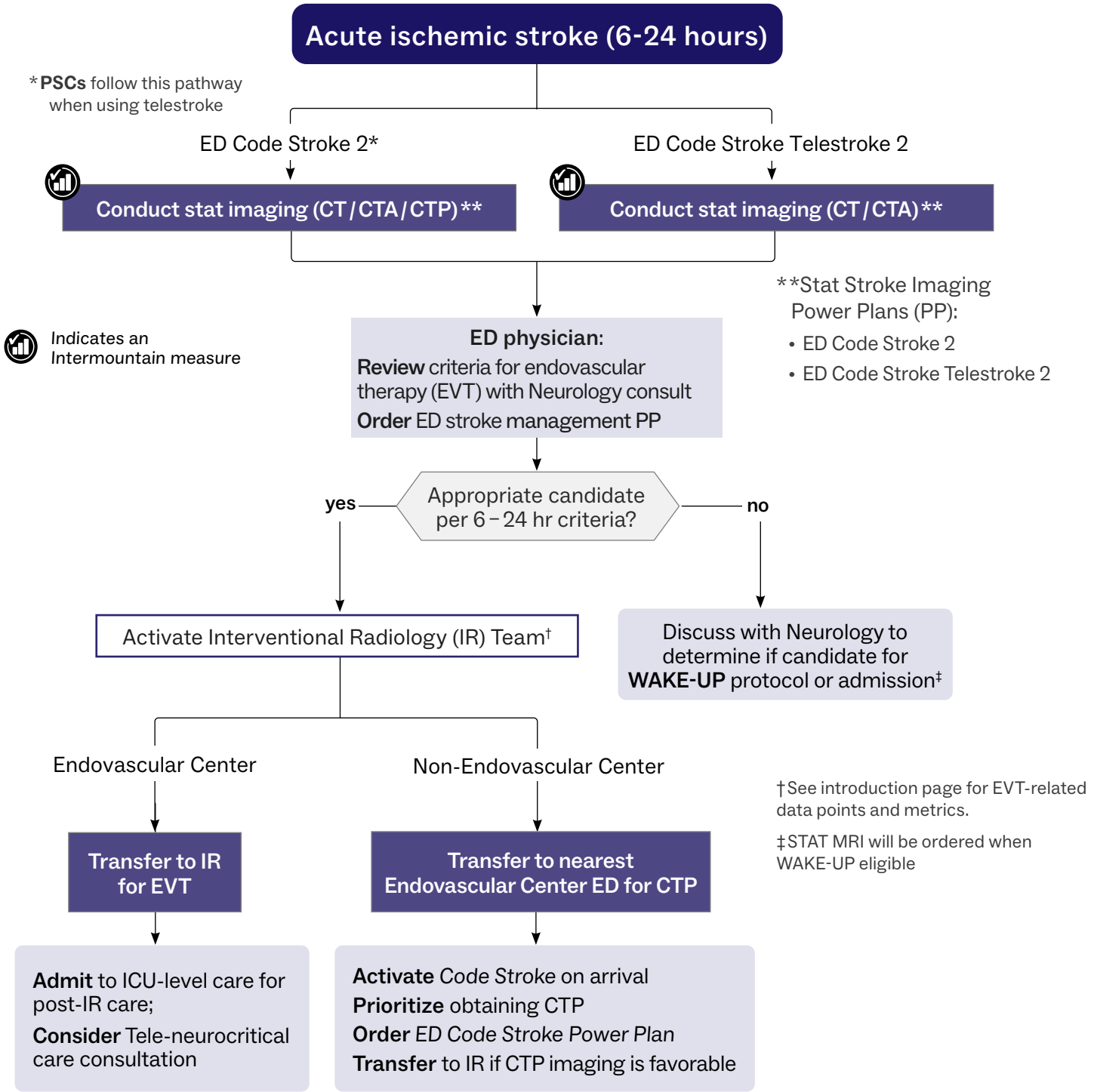
ALGORITHM 3: EMERGENCY MANAGEMENT OF ACUTE ISCHEMIC STROKE (6 – 24 HOURS)



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Note: This document presents an evidence-based model of care that is appropriate for most patients. It should be adapted to meet the needs of individual patients and situations and should not replace clinical judgment. Send feedback to Intermountain's Neurosciences Clinical Program.

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