

Balancing Act: Exploring the Benefits and Risks of Expanding Criteria for Endovascular Thrombectomy (EVT)

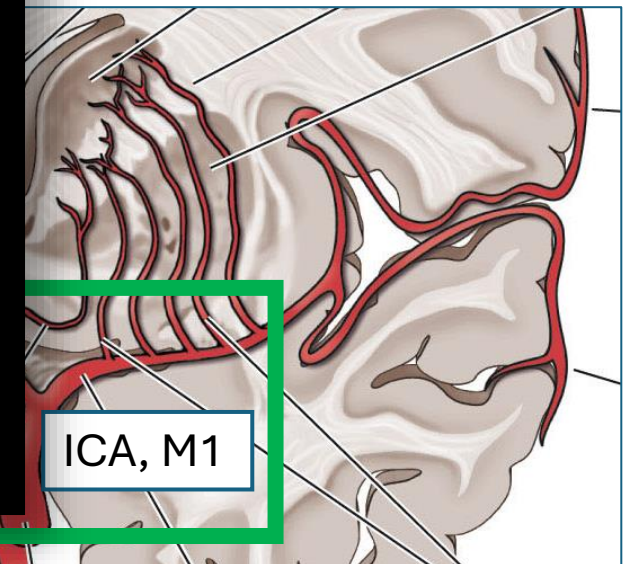
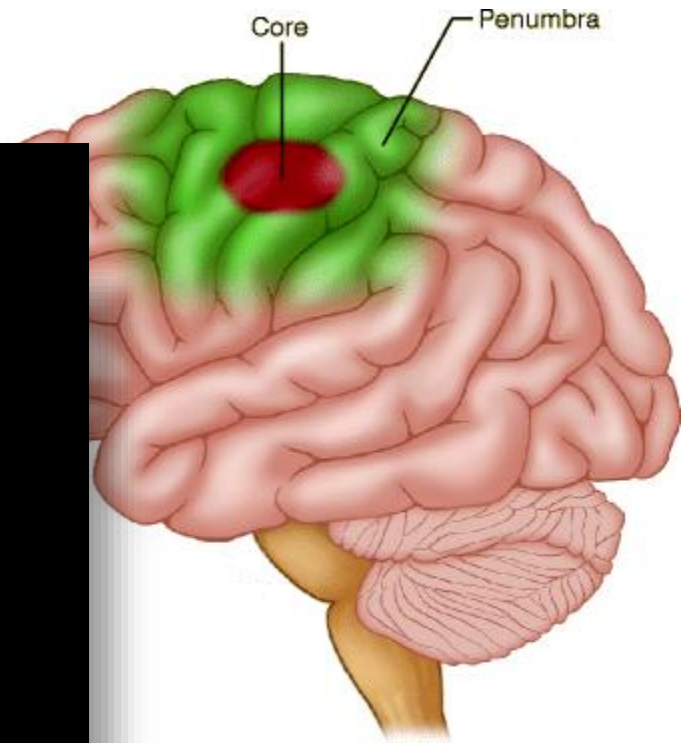
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PRESENTER DISCLOSURES

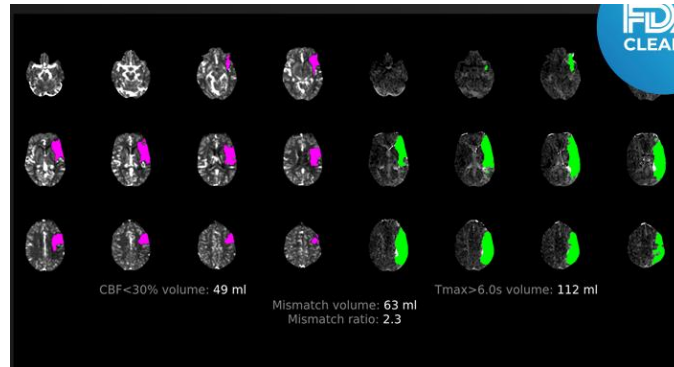
- **Presenter:** Vignan Yogendrakumar
- **Relationships with commercial interests:**
 - No financial disclosures
- Served on the core imaging lab for the SELECT2 Trial

Criterion for the Optimal Patient for EVT

- Patients with imaging consistent with **large vessel occlusion**
- **Minimal Damage to Brain**
 - Small core (permanent infarct)
 - Large penumbra (tissue at risk)
- **Disabling Deficit**
- Independent at Baseline
- **Within 6 hours of symptom onset**



Expansion of EVT Criteria



2014-2015

2018

2022-2024



Landmark EVT Trials

- EVT + Thrombolytic vs Thrombolytic alone
- Patients with proximal LVO
- Minimal Damage to Brain
- Independent at Baseline
- **Within 6 hours of symptom onset**

Extended Window EVT Trials

- EVT vs. MM
- Patients with proximal LVO
- Minimal Damage to Brain
- Independent at Baseline
- **Up to 24 Hours**
- **Use of CT Perfusion or MRI**

Large Core EVT Trials

- EVT vs. MM
- Patients with proximal LVO
- Independent at Baseline
- Variable time frames (12-24 hrs)
- **Extensive Damage to Brain**

Can we expand indications further?

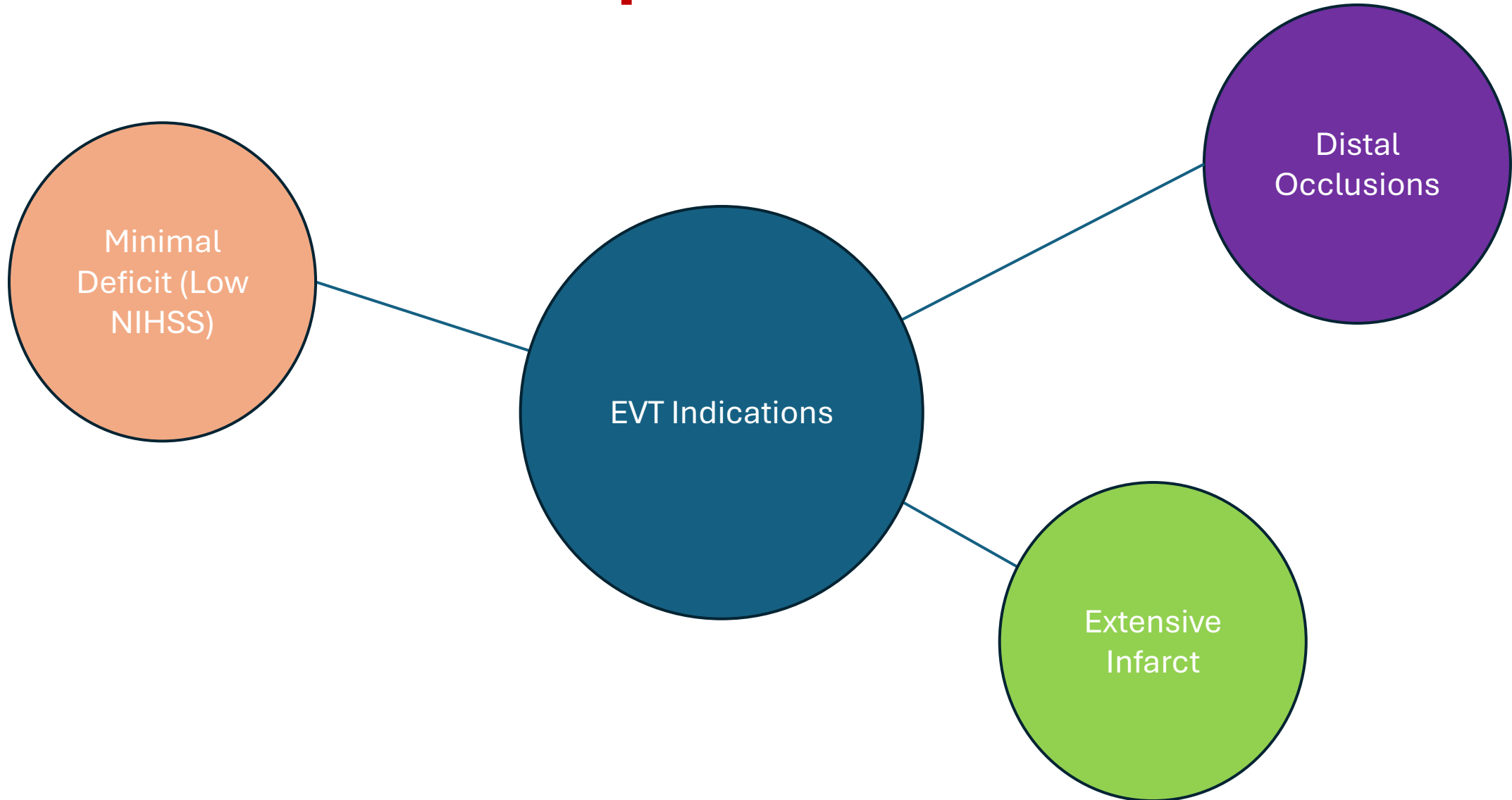
Sure, but we need to be careful.

EVT – Not a benign treatment

- Femoral Artery Puncture Complications
- Issues with sedation and/or general anesthesia
- Risks of intracranial hemorrhage, vessel rupture
- Skill based procedure – not all interventionalists are the same

**If we are to expand the indications for EVT, we should do so
being backed by proper evidence**

Where can we expand indications?



Treating Patients with No Major Deficits

- Occlusion present
- Minimally disabling or no deficits at all (low NIHSS)

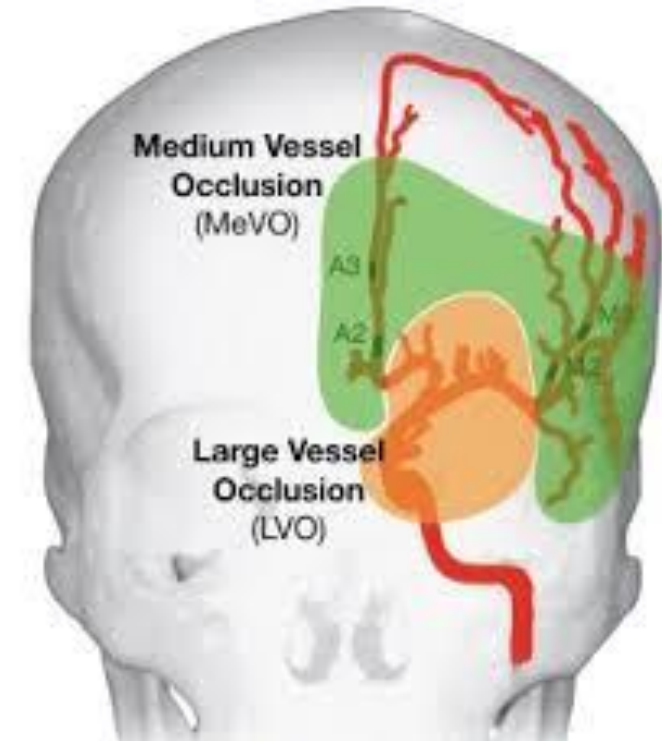
Cautionary Tale of TEMPO-2



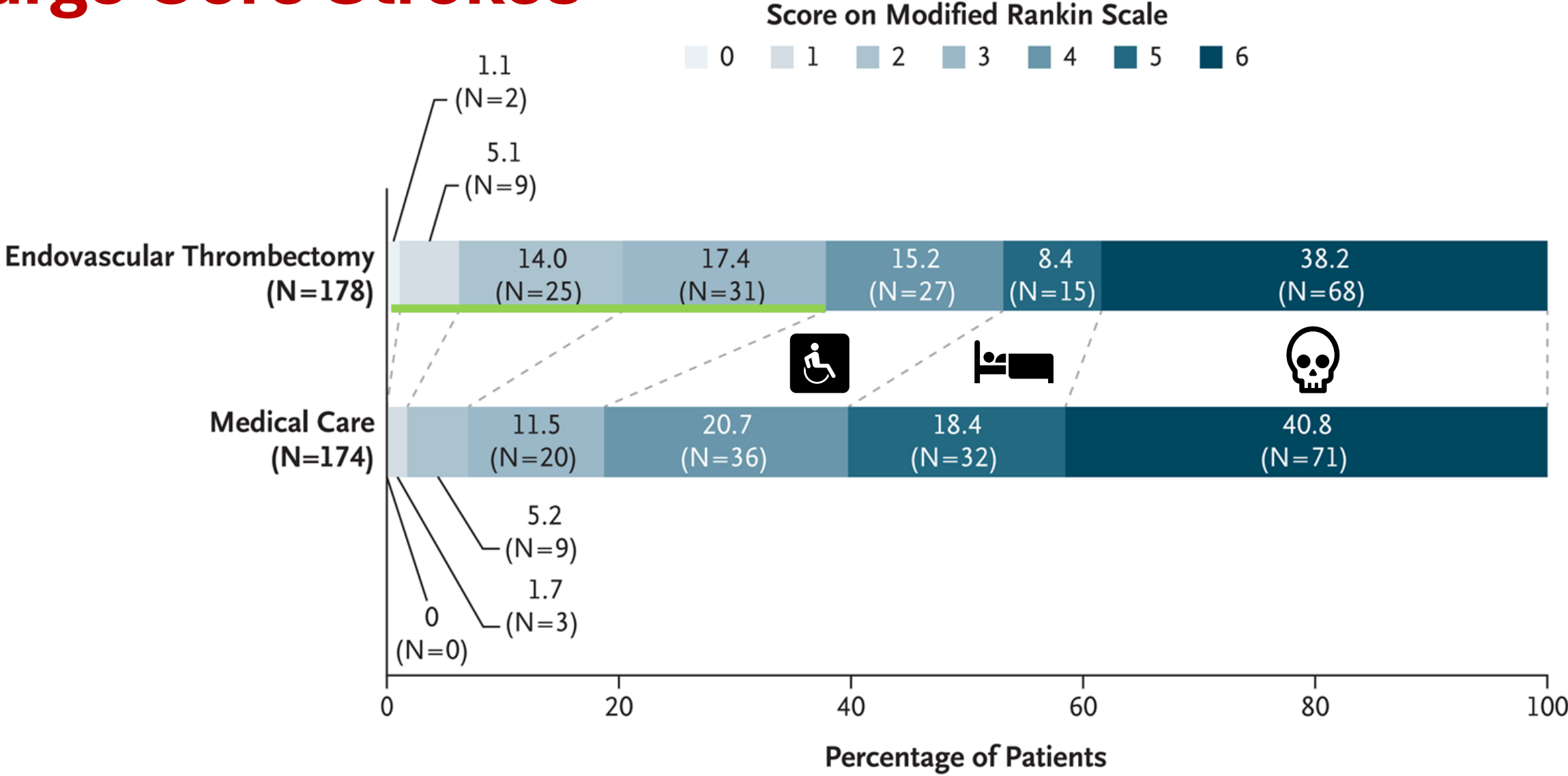
- Compared tenecteplase vs. standard of care in patients with a LVO and no deficit
- Observational data showed promise favoring thrombolysis
- **Trial stopped early due to futility and increased risk of mortality in the tenecteplase arm**

Treating Distal Occlusions

- Treating occlusions that are more distally located
- **Smaller, more tortuous vessels**
- Risk of complications can increase, even within evolving technology
- The presenting NIHSS can vary from patient to patient – running the risk of trickier procedure in patient with minimal deficit



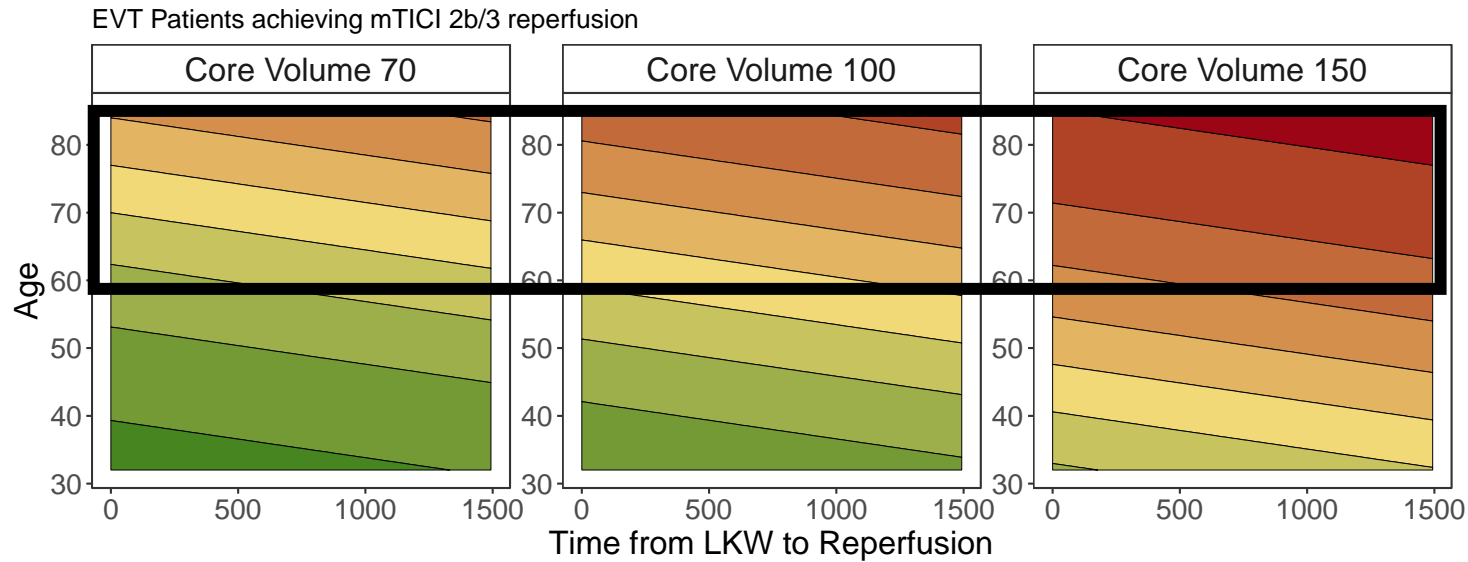
Large Core Strokes



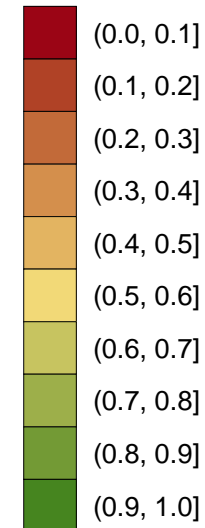
A Closer look...

- All 6 trials implemented **age cutoff (~80 to 85 years)**
- Limits generalizability
- Probability of living with only mild/moderate disability = **20%**
 - **In all comers...**





Probability of mRS 0-3



Older age and time are major factors

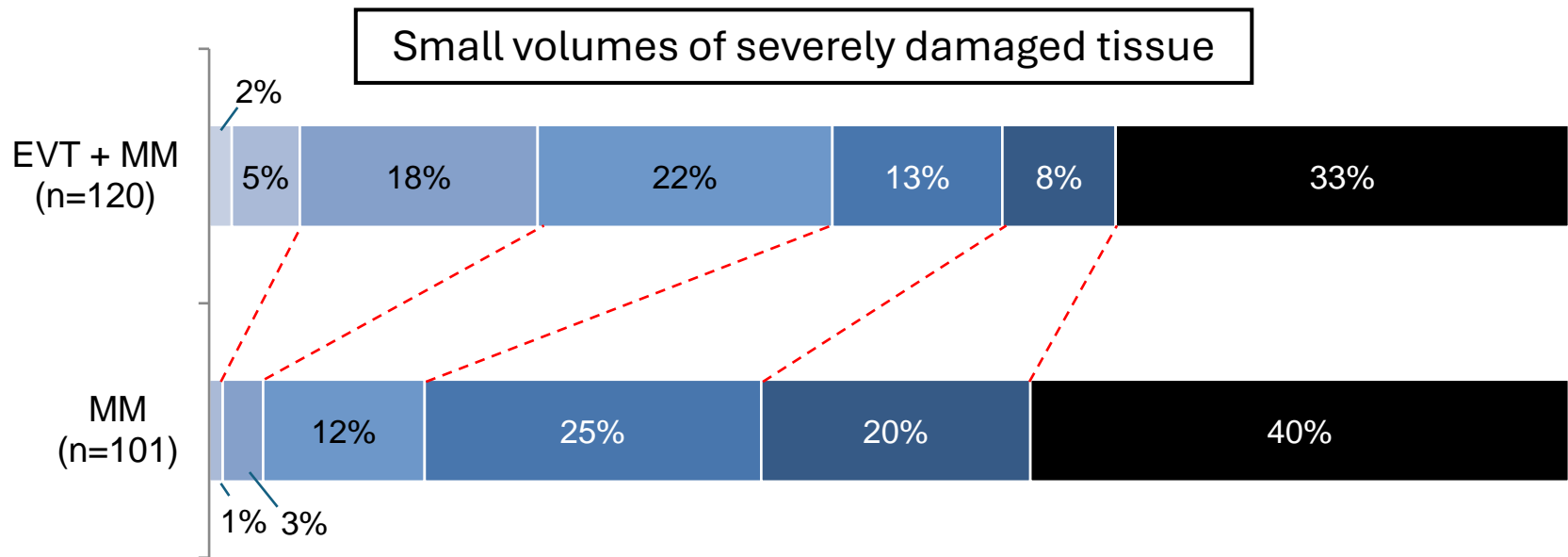
Proper counselling with families are required

Realistic expectations

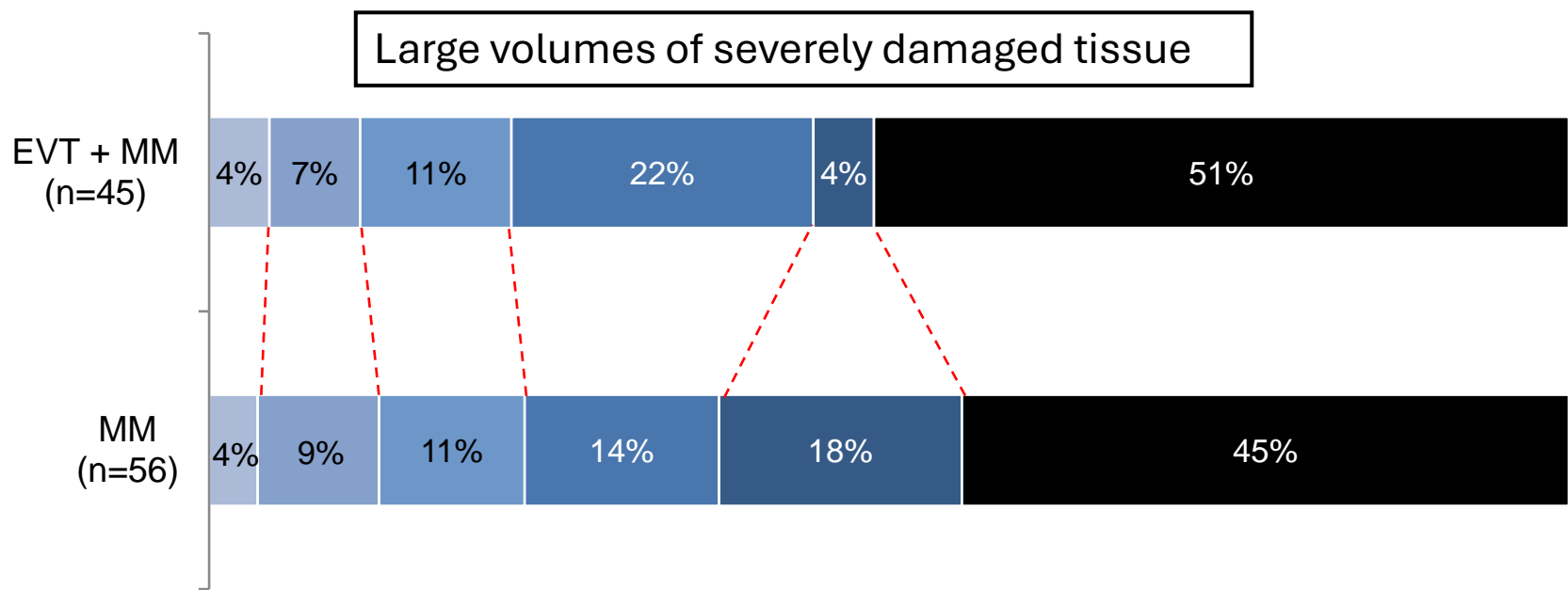
New Avenue of Research: Degree of Ischemia

- Core is often considered a dichotomous concept
- Ischemia is progressive and damage worsens with time – this can be visualized on imaging
- Influence of severity of damage on clinical outcome and EVT treatment effect under explored





acOR: 3.97 (2.27-6.95)



acOR: 1.26 (0.55-2.93)

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