Abstract O-023 Table 3 Number of centers represented in studies

Number of centers represented	Number of studies	Percent
10	2	1.0
9	1	0.5
7	3	1.5
6	2	1.0
5	4	1.9
4	15	7.3
3	31	15.0
2	51	24.8
1	97	47.1

Abstract O-023 Table 4 Level of evidence of the research studies

Level of evidence	Number of studies	Percent of total	Mean number of centers (SD)	Mean number of authors (SD)
1	3	1.5	4.0 (2.0)	6.0 (1.7)
2	7	3.4	4.6 (3.8)	8.6 (4.0)
3	9	4.4	2.0 (0.9)	6.0 (2.5)
4	97	47.1	2.2 (1.6)	7.8 (2.8)
5	90	43.7	1.7 (1.1)	5.5 (2.5)
Total	206	100	2.1 (1.6)	6.8 (2.9)

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O-024 SYSTEMS OF CARE EFFICIENCY AND INTERHOSPITAL TRANSFER DELAYS IN THE STRATIS REGISTRY

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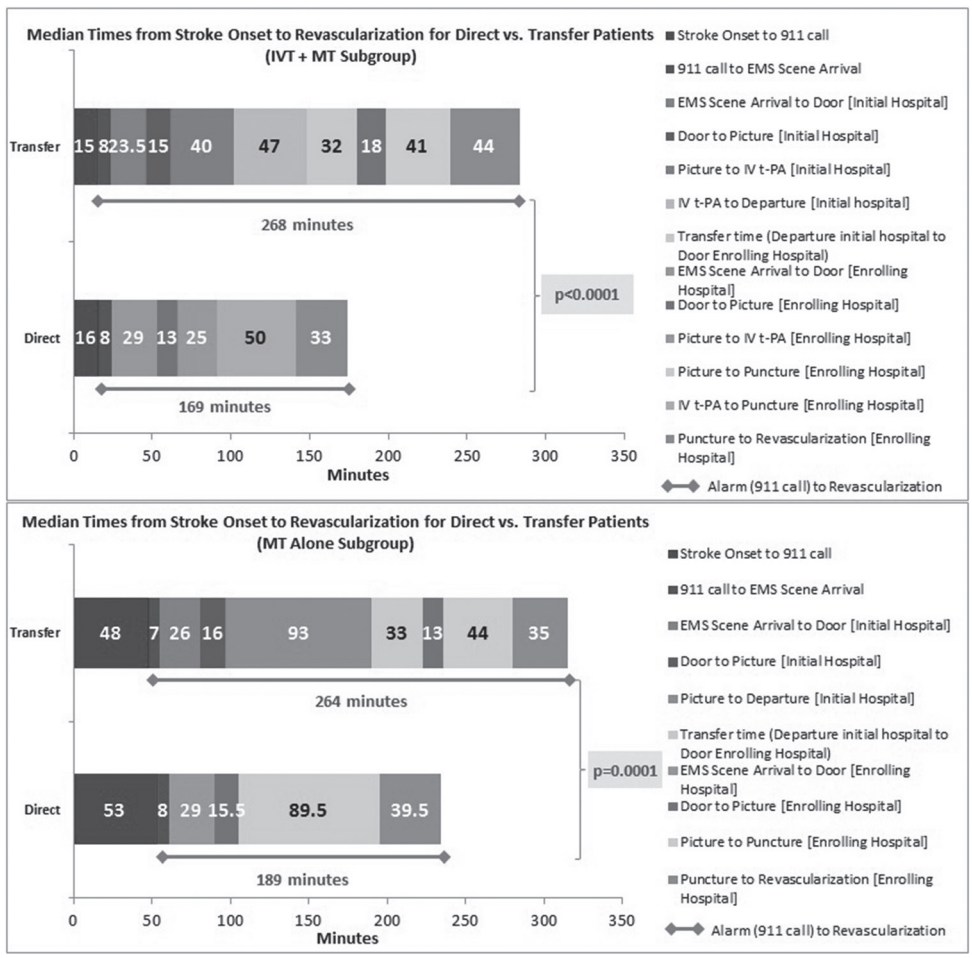
Introduction/purpose The efficacy of endovascular stroke treatment is highly time-dependent. Thus optimizing systems of care to deliver appropriate treatment as swiftly as possible is a key goal of stroke care providers. We aim to analyze timeliness of treatment in a large endovascular cohort by assessing 1) real-world time metrics of care delivery, 2) specific causes of delays to treatment, and 3) time lost due to interhospital transfer.



Abstract O-024 Figure 1

Materials and methods The STRATIS registry is a prospective, multicenter study of patients with large vessel occlusion (LVO) treated with the Solitaire Stentriever within 8 hours of onset. Subjects were separated by direct presentation (direct group) vs. interhospital transfer to the enrollling hospital (transfer group), and further characterized by the use of IV tPA (IVT) or mechanical thrombectomy alone (MT). Total alarm-to-revascularization time measured overall performance of the system of care. We also calculated a hypothetical 'bypass' scenario by comparing the door-to-tPA times for the two groups and adding the transfer time to the direct group for an extremely conservative estimate of additional travel time.

Results A total of 688 subjects were analyzed. Median times from stroke onset to revascularization for direct vs. transfer patients in the MT-alone subgroup were 238.5 and 325.0 minutes respectively, and in the IVT plus MT were 192.0 and 305.5 minutes respectively (Figure 1). Median alarm-to-revascularization times for direct vs. transfer patients in the MT subgroup were 189 and 264 minutes respectively (75 minute difference; $p = 0.0001$), and in IVT were 169 and 268 respectively (99 minute difference; $p < 0.0001$). These differences were accounted for by imaging-to-transfer time, which was 93 minutes for MT-alone and 87 minutes for IVT. Median door-to-tPA times were 56.5 minutes at regional hospitals and 38.0 minutes at enrollling sites ($p < 0.0001$). Transfer time was 32.0 minutes, making the hypothetical bypass time-to-tPA 70.0 minutes.

Conclusion Time to revascularization is much slower for patients requiring interhospital transfer. The delay is accounted for by the time between imaging and departure, which is when treatment decisions and transfer arrangements are made, and should be a target for improvement.

An important consideration for many regional systems is whether certain stroke patients should bypass the nearest hospital to go directly to an endovascular center. We created a conservative model of such a scenario, which suggests that successful revascularization would be achieved 99 minutes earlier by bypass. This may have significant implications for regional stroke systems of care.

Disclosures M. Froehler: 2; C; Medtronic Neurovascular. 6; C; Site PI (Large, Liberty, SCENT, Feat, Barrel, Atlas, Rhapsody, Positive, Sep 3D) payment to institution. **M. Aziz-Sultan:** 2; C; Medtronic Neurovascular. 6; C; Expert Witness - BMC. **R. Jahan:** 1; C; Medtronic Neurovascular. 2; C; Medtronic Neurovascular. **R. Klucznik:** 3; C; Medtronic Neurovascular. **J. Saver:** 2; C; Medtronic Neurovascular, Stryker, Neuravia, Cognition Medical, Boehringer Ingelheim (prevention only). **O. Zaidat:** 2; C; Medtronic Neurovascular. **D. Yavagal:** 2; C; Medtronic Neurovascular. 6; C; ESCAPE trial DSCMB member. **N. Mueller-Kronast:** 2; C; Medtronic Neurovascular.

O-025 THE SUPERIORITY OF THROMBECTOMY OVER IV RTPA MONOTHERAPY MAY BE ASSOCIATED WITH THROMBUS LENGTH – RESULTS OF THE THERAPY TRIAL

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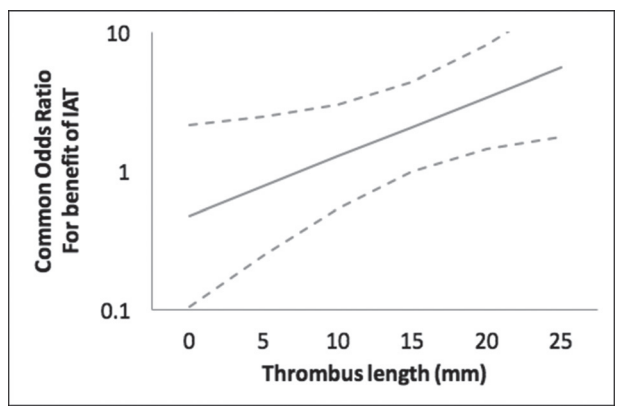
Introduction Limited data exist on the efficacy of intra-arterial therapy (IAT) for ischemic stroke resulting from extended thrombi. IV-rtPA has been the staple of ischemic stroke therapy, however the efficacy of IV thrombolytics is known to diminish with increasing thrombus length, subsequently reducing the potential for successful revascularization. For increasing thrombus lengths, the benefits of aspiration thrombectomy have yet to be validated in a large, randomized trial, but may offer advantages over IV rtPA; herein we present our experience of the benefits of aspiration thrombectomy on extended thrombi.

Materials and methods The randomized prospective THERAPY stroke trial assessed the benefits of combined aspiration thrombectomy with adjunctive IV-rtPA compared to IV-rtPA alone in patients with thrombus length $\geq$8 mm. The associations of thrombus length to primary and secondary endpoints were assessed by univariate and multivariate analyzes, while multiplicative interaction between treatment allocation and thrombus length was assessed by multivariate ordinal regression of 90 day mRS.

Results In total, THERAPY enrolled 108 patients with a median thrombus length of 14.0 mm (IQR 9.7–19.5); all exhibiting large vessel occlusions in the anterior circulation, including the ICA (28%), MCA M1 (62%), and MCA M2 (10%). Analysis revealed longer thrombi to be associated with worse clinical outcomes for all dichotomized endpoints relating to presence of complication relative to median thrombus length (all $p < 0.05$, except mRS 0–2), and resulted in higher 90 day mRS ($p = 0.005$). Additionally, longer thrombi also correlated with higher incidence of symptomatic intracranial hemorrhage ($p = 0.03$), serious adverse events ($p = 0.02$), and mortality ($p = 0.01$). Reperfusion to mTICI 2 b-3 had no significant relationship with thrombus length, however procedural time was notably longer for patients with longer thrombi (rho = 0.36, $p = 0.045$).

The relative benefit of IAT was apparent in patients with longer thrombi over thrombolytic monotherapy ($p = 0.03$; Figure 1). Consequently, compared to patients receiving IAT, lytic therapy patients had worse 90 day mRS (rho = 0.20, $p = 0.17$ for IAT vs 0.39, $p = 0.008$ for IV-rtPA).

Conclusion Extensive thrombus burden presents a challenge for stroke intervention, posing greater risk of complications and poor clinical outcome. However, this effect is dampened when IAT is the interventional modality, leading to a more favorable prognosis over IV-rtPA alone. This study finding supports the use of aspiration thrombectomy in treatment of



Abstract O-025 Figure 1 Benefits of IAT increasing thrombus lengths