groups according to the treatment sequence for tandem lesions (antegrade, CAS first; retrograde, intracranial EVT first), baseline data, immediate angiographic results, and clinical outcome for eligible patients were analyzed and compared. In addition, the same analysis was performed after dividing into 3 groups based on the location of intracranial lesions (T-zone, M1, M2).

Results A total of 76 patients with a tandem occlusion (mean age, 71.7 ± 11.1) were treated with CAS and intracranial EVT. The rate of successful recanalization (TICI 2BC) was 83% (63/76), and favorable functional outcome was achieved in 49% (37/76). When comparing antegrade and retrograde methods, there were no differences in baseline data and angiographic or clinical outcomes. Favorable functional outcome was significantly higher in the M2 occlusion group ($P=0.011$). In multivariate analysis, baseline NIHSS <15 , age <80 , and M2 occlusion were revealed as independent predictors of favorable outcome.

Conclusion Different endovascular sequences for tandem extracranial cervical carotid and intracranial large vessel occlusion do not affect angiographic or functional outcomes. Intracranial M2 occlusion, age, and baseline NIHSS were independent predictors of good clinical outcome at 3 months.

Stroke; Tandem occlusion; Carotid artery stenting; Endovascular treatment; Thrombectomy

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E-094

CORRELATION BETWEEN TOTAL THROMBUS LEUKOCYTE COUNT AND OUTCOME AT DISCHARGE POST MECHANICAL THROMBECTOMY

¹P Chen, ¹F Sheriff*, ¹M Inam, ²V Lopez-Rivera, ¹E Lekka, ¹A Oni-Orisan, ²C Finger, ²J Hudobenko, ²D Morales, ²S Seth, ²B Manwani. ¹Vivian L. Smith Department of Neurosurgery, University of Texas Health Science Center at Houston, McGovern Medical School, Houston, TX; ²Neurology, University of Texas Health Science Center at Houston, McGovern Medical School, Houston, TX

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Background Ischemic stroke is increasingly being realized to be an inflammatory disease. Post stroke peripheral leukocyte recruitment to the brain has been well studied in preclinical models of ischemic stroke. Limited studies have examined the intravascular inflammatory milieu in the brain during ischemia. Thrombi collected from ischemic stroke thrombectomy patients can be valuable resources for these studies. There are a handful of studies focusing on the role of inflammation in clot pathology. Small studies have demonstrated that higher thrombus leukocyte fraction and neutrophil to lymphocyte ratios are associated with technically challenging procedures and a trend to worse long term outcomes.

Methods We prospectively collected 44 thrombi obtained during mechanical thrombectomy in patients with LVO ischemic strokes. Data on demographics, clinical, procedural and clot composition were collected. These thrombi were paraffin embedded, sliced and stained with Hematoxylin and Eosin. Images were taken using a light microscope, 20 and 40x magnification. Image J was used to quantify the leukocytes using previously described methods. The median and maximum leukocyte count of the 5 analyzed images for each patient was used for analysis. Outcome was defined as location at discharge with discharge to home or rehab considered favorable. Fisher's exact and Mann-Whitney U tests were used for

comparison of categorical and continuous variables, respectively. Multivariate logistic regression was then performed. Pearson's correlation coefficient was used to assess the relationship of leukocytes to NIHSS and time from symptom onset to groin puncture.

Results Among 44 patients with large vessel occlusion, median age was 65.5 years [59–73 years], 15 (35%) were women, 84% had hypertension, 43% had atrial fibrillation, and 24% had hyperlipidemia. Median NIHSS was 18 [14–22] and median leukocyte count in the thrombi was 537 [397–794.5]. NIHSS on admission had a negative correlation with favorable discharge outcome as defined by discharge to home or rehab ($OR=0.44$, $p=0.021$). Total leukocyte count did not correlate with NIHSS at arrival ($r=-0.0086$; $P=0.9560$), number of passes, TICI score nor with time from last seen well to groin puncture ($r=0.1937$; $P=0.2134$). On multivariate analysis, there was a negative correlation between maximum thrombus leukocyte count and discharge outcome ($OR=0.066$, $p=0.048$) after accounting for age and NIHSS on admission.

Conclusion Leukocyte count in thrombi retrieved post mechanical thrombectomy shows a significant negative correlation with discharge outcome in patients with ischemic stroke. Our study focused on total leukocyte count and corroborates with previous studies which focused on leukocyte fraction. Further studies using flow cytometry and concomitant peripheral blood analysis along with long term outcome measures are necessary to better define this relationship and understand role of inflammation in LVO stroke.

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E-095

INTERDISCIPLINARY HYBRID SUITE FOR STROKE TREATMENT: INNOVATIVE OR INCONVENIENT?

¹K Blackham*, ²G Karwacki, ³D Zumofen, ⁴T Schubert, ¹M Psychogios. ¹Radiology and Nuclear Medicine, University Hospital of Basel, Basel, Switzerland; ²Radiology, Luzerner Kantonsspital, Lucern, Switzerland; ³Surgery, Maimonides Medical Center SUNY Downstate, Brooklyn, NY; ⁴Radiology and Nuclear Medicine, University Hospital of Zurich, Zurich, Switzerland

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Background The efficacy of endovascular therapy (EVT) as the standard of care for acute ischemic stroke attributable to vessel occlusion improves when delivered quickly. Time metrics have been proposed in order to facilitate quality assurance and there are numerous strategies to streamline workflow. The concept of a combined CT-Angiography-surgical (hybrid) suite in close proximity to the emergency room has been proposed as an innovative and multidisciplinary opportunity to reduce the time required for diagnosis and treatment of neurovascular disease including stroke. We describe our interval times for the endovascular treatment of stroke from patient arrival in the emergency room (door) and imaging (CT) to initiation of treatment (arterial access) before and after two interventions: first, a multifaceted but intuitive quality improvement initiative and second, the opening of an interdisciplinary hybrid operating room composed of a sliding CT scanner, a robotic C-arm and both sterile and non-sterile functionality.

Abstract E-095 Table 1

Year	Room	Mean DTA minutes (number of patients)	Mean ITA minutes
2017	Biplane Suite	116 (88)	86
2018 first half	Biplane Suite	96 (72)	77
2018 second half	Biplane Suite	94 (27)	66
2019 first half	Biplane Suite	81 (21)	64
2018 second half	Hybrid Suite	108 (18)	78
2019 first half	Hybrid Suite	100 (33)	66

Methods Data are from a single center's neurointerventional database from January 2017 to July 2019, excluding in-house stroke patients and patients who had imaging at an outside hospital. Workflow metrics acquired were: door to arterial access (DTA) and CT first image acquisition to arterial access (ITA). Data are described by calendar year and half-years and subdivided by two different angiography suites: the usual neuroangiography biplane suite (BS) located distant to the emergency room (ER) and the hybrid suite (HS) immediately adjacent to the ER. The details of the quality improvement initiative were obtained from internal organizational documents as were the details of the training required for the opening of the hybrid room and the subsequently encountered problems.

Results After the launch of a modest stroke quality improvement initiative in January 2018 until July 2019 (n=208), both average DTA and ITA decreased every 6 months in the BS, from 116 to 81 minutes and 86 to 64 minutes, respectively. Despite extensive training and preparation, the opening of the HS in the second half of 2018 showed worse DTA and ITA not only for the first 6 months (18 patients) but also for the first half of 2019 (33 patients) compared to the BS although improvement was demonstrated over the first year of operation. Several setbacks and challenges were associated with the HS most notably with the monoplane robotic C-arm and monitor.

Conclusion A workflow quality improvement initiative had a durable effect on reducing EVT treatment times overall and particularly in the existing, geographically distant biplane suite, however, the new lower times were not reproducible within the complicated infrastructure of a new modern hybrid suite next to the ER.

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E-096

EMS PROVIDER PREFERENCE COMPARISON BETWEEN THE PRE-HOSPITAL LVO DETECTION DURING INITIAL CARE TRANSPORT (PREDICT) SCALE AND THE RAPID ARTERIAL OCCLUSION EVALUATION (RACE) SCALE: A SUBANALYSIS OF THE PREDICT STUDY

¹E Fortuny*, ¹A Cruz, ¹B Ugiliweneza, ¹D Wang, ²A White, ¹N Khattar, ¹B Gallimore, ¹D Ding, ³S Wolfe, ⁴D Heck, ¹R James. ¹Neurosurgery, University of Louisville, Louisville, KY; ²Radiology, University of Louisville, Louisville, KY; ³Neurosurgery, Wake Forest Baptist Health, Lexington, NC; ⁴Radiology, Forsythe Medical Center, Winston-Salem, NC

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Intro Accurate identification of large vessel occlusion (LVO) strokes in the field may save lives through reduced transport

times. Emergency Medical Services (EMS) training is critical to the successful implementation of prehospital screening scales. The prospectively validated 6-item Rapid Arterial Occlusion Evaluation (RACE) scale is a common EMS LVO stroke scale. As part of our prospective, pre-hospital EMS Validation comparison study of the Pre-hospital ELVO Detection during Initial Care Transport (PREDICT) scale, we hypothesized that EMS providers without prior exposure to RACE would prefer the shorter, simpler PREDICT-4 scale and due to the cognitive bias known as the 'mere exposure effect,' EMS providers with previous experience with RACE will prefer it over the new PREDICT scale.

Methods A total of 86 EMS providers were asked their preferred scale after performing both scales on a subject suspected of having a stroke. EMS providers were trained on a secure, online application to perform the PREDICT-4 scale and record both scales and complete a one-question survey (figure 1). A chi-square test and one-sample test of proportion was conducted to determine the preferred scale.

Results 86 EMS providers enrolled a total of 250 subjects. 38 providers enrolled only one subject and 48 enrolled 2 or more. When comparing scale preference of all studied EMS providers (both with and without previous exposure to the RACE scale prior to this study), 37.2% preferred the PREDICT 4-item scale and 62.8% preferred the RACE scale, p=0.018, 95% CI [27.7, 47.8 and 52.2, 72.2, respectively]. The planned subgroup analysis of EMS providers who did not have prior mere-exposure to the RACE scale (n=49), we found that 34.7% preferred the PREDICT 4-item scale [95% CI 22.9, 48.6%] and 65.3% preferred the RACE scale p=0.03, 95% CI [51.3, 77.0]. In the subgroup analysis of the 48 providers who enrolled ≥2, on their first screening 20 (41.6%, p=0.248, 95% CI [28.8, 55.7]) preferred PREDICT-4 and 28 (58.3%) RACE. On their last screening, only 18 (37.5%, p=0.08, 95% CI [25.2, 51.6]) providers preferred PREDICT-4.