Abstract E-051 Figure 1 An illustration depicting the different d:n ratio classifications that may be possible. From the illustration, it can be inferred how certain devices may perform poorly in certain dome to neck diameter ratio classifications.

classification systems that practitioners, developers, and regulators may apply to intracranial aneurysms.

Disclosures W. Merritt: 1; C; NIH, Northern Arizona University. T. Becker: 1; C; NIH, Northern Arizona University. A. Ducruet: 1; C; NIH, Northern Arizona University. 5; C; Barrow Neurological Institute.

E-052 ARTIFICIAL NEURAL NETWORK CT PERFUSION PREDICTION OF ISCHEMIC CORE

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Background and purpose Computer Tomography Perfusion (CTP) is a useful tool in the evaluation of acute ischemic stroke, where it can provide an estimate of the ischemic core and the ischemic penumbra. The optimal CTP parameters to identify the ischemic core remain undetermined.

Methods We utilized Artificial Neural Networks (ANNs) to optimally predict the ischemic core in acute stroke patients, using diffusion-weighted imaging as the gold standard. We first designed an ANN based on CTP data alone and next designed an ANN based on clinical and CTP data.

Results The ANN based on CTP data predicted the ischemic core with a mean absolute error of 13.8 ml (SD 13.6 ml) compared to DWI. The area under the receiver operator characteristic curve (AUC) was 0.85. At the optimal threshold, the sensitivity for predicting the ischemic core was 0.90 and the specificity was 0.62. Combining CTP data with clinical data available at time of presentation resulted in the same mean absolute error (13.8 ml) but lower SD (12.4 ml). Furthermore,

the AUC, sensitivity, and specificity were 0.87, 0.91, and 0.65, respectively. The maximal Dice coefficient was 0.48 in the ANN based on CTP data exclusively.

Conclusions An artificial neural network that integrates clinical and CTP data predicts the ischemic core with accuracy.

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E-053 RADIAL ARTERY CATHETERIZATION FOR NEUROENDOVASCULAR PROCEDURES: CLINICAL OUTCOMES AND PATIENT SATISFACTION MEASURES

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Background and purpose The majority of neuroendovascular procedures are still performed via transfemoral access. Radial artery catheterization is an alternate route of access that has started to gain more widespread use for neuroendovascular procedures, and there have been few studies that describe its safety and efficacy. We present our institution's experience in performing neuroendovascular interventions via a transradial approach, with excellent clinical outcomes and patient satisfaction measures.

Methods We conducted a retrospective analysis and identified 223 patients who underwent 233 consecutive neuroendovascular interventions via radial artery access at our institution. The

Abstract E-053 Figure 1

Abstract E-053 Table 1

Total patients: 223
Male: 104/Female: 119
Mean age: 61 years old (range 23–96)
Total procedures performed via radial artery catheterization: 233
Cerebral angiogram (diagnostic): 172
Aneurysm stent/coil: 33
Carotid-cavernous fistula embolization: 2
Dural arterio-venous fistula embolization: 2
Mechanical thrombectomy: 14 12 anterior circulation/2 posterior circulation
Carotid stent placement: 7
Radiosurgery: 3
Vascular access complications: 10
Unable to obtain radial artery catheterization: 6
Radial artery spasm: 2
Switch to groin access to complete procedure: 10
Iatrogenic complications (dissection, hemorrhage, stroke): none
Post-op complications: 10
Superficial hematoma: 5
Ecchymosis: 2
Swelling/pain/paresthesias: 3
Post-op complications seen at follow-up visit: 5
Superficial hematoma: 2
Ecchymosis: 2
Swelling/pain/paresthesias: 1
Superficial thrombophlebitis: 1

incidence of perioperative and post-procedural complications was investigated. We identified a subset of 98 patients who have undergone both transradial and transfemoral cerebral angiograms, and compared clinical outcomes and patient satisfaction measures between the two groups.

Results The overall incidence of complications was low across all procedures performed via transradial access. Peri-procedurally, only 2 patients had symptomatic radial artery spasm, and there were no instances of iatrogenic complications (vessel dissection, stroke, hemorrhage). In 10 cases (4.3%), the intended procedure could not be completed via a transradial approach, and, thus, femoral artery access had to be pursued instead.

Ten patients complained of minor post-procedural complications: superficial hematomas, swelling, and paresthesias, albeit none required therapeutic intervention. The mean procedure time was shorter for diagnostic angiograms performed via transradial vs transfemoral access (18.8 ± 15.8 versus 39.5 ± 31.1 minutes, $p < 0.05$). Patients reported shorter recovery times with transradial access, and the majority of patients (94%) would elect to have subsequent procedures performed via this route.

Conclusions Radial artery catheterization is a safe and durable alternative to perform a wide range of neuroendovascular procedures, with a low rate of complications. On the whole, patients prefer transradial compared to transfemoral access, with shorter recovery times reported and overall excellent patient satisfaction.

Disclosures O. Khanna: None.

E-054 INTERPRETABILITY OF AUTOMATED COMPUTED TOMOGRAPHY PERFUSION FOR STROKE THROMBECTOMY

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Introduction Landmark trials have demonstrated that select patients with anterior large vessel occlusions (LVO) may benefit from thrombectomy past previously established timeframes. The automated computed tomography perfusion (CTP) software used in these trials is costly, not widely available, and, at times, difficult to interpret. Despite the increasing adoption of automated CTP, feasibility issues exist. Our study aims to critically assess an automated CTP program in a large, contemporary cohort of patients presenting with LVO in the extended treatment window by evaluating the rate of uninterpretable studies and influence on clinical outcomes.

Methods A two-year retrospective review of consecutive thrombectomy candidates in the extended time window at an urban, academic, tertiary care comprehensive stroke center