Introduction Different treatment strategies employed for endovascular thrombectomy (EVT) may impact successful reperfusion and functional outcome. The ASSIST Registry is a postmarket observational study for continued evaluation of new products per their intended use. The aim of the ASSIST registry is to collect real-world data to develop clinical evidence regarding the use of various techniques of EVT in large vessel occlusions (LVOs). Analysis include evaluating which strategies are associated with first pass reperfusion and better clinical outcomes.

Methods Prospective, global, consecutive enrollment registry (up to 1500 subjects) of acute ischemic stroke patients (AIS) with LVO treatment in anterior circulation treated with multiple interventional techniques [Stentriever + Balloon guide catheter (BGC); Stentriever + Aspiration ± BGC; Aspiration ± BGC] using Stryker Neurovascular devices for the first pass. Patients will be distributed in each arm with accommodations made for reducing heterogeneity by geographical and operator location. The data from ASSIST will be analyzed using a generalized linear mixed model which will employ a binary distribution and logit link function to predict mRS. The model will accommodate any categorical and continuous variables that are shown to be confounders by separate univariate analyses, will include a random effect for site, and a four-level variable denoting the technique type.

Results A total of 1198 patients have been enrolled to date across 48 global centers. Severity of disability (90-day mRS 0-2) and procedural outcome (eTICI 2c or greater on first pass as adjudicated by core lab) will be evaluated for each technique. Secondary clinical outcomes include NIHSS drop of ≥10 points from baseline or NIHSS score of 0 or 1. Safety outcomes include mortality, neurological deterioration, symptomatic intracerebral hemorrhage (ICH) and embolization to a new territory. Baseline, follow-up and angiographic outcomes will be core lab adjudicated.

Conclusion There is limited evidence demonstrating clinical benefit or impact on outcomes based on the treatment strategy being employed to treat LVO with EVT. The ASSIST Registry will collect global real-world benchmark data on the most common techniques and most recently available devices. Study results will provide valuable information on the relative effectiveness of different EVT treatment techniques and aid in the identification of optimal treatment approaches.

Disclosures R. Gupta: 1; C; Stryker Neurovascular PI ASSIST Registry, Zoll PI RECLAIM II (No compensation), Cerenovous Steering Committee MEMBRANE study, Medtronic Steering Committee ELEVATE Study, Penumbra CEC MIND Trial, Vesalio PI CLEAR Study, Rapid Medical PI Tiger Study. A. Rai: 2; C; Stryker Neurovascular. D. Liebkind: 2; C; Cerenovous, Stryker, Genentech, Medtronic, Rapid Medical. A. Krajina: 2; C; Stryker Neurovascular. M. Psychogios: None. T. Krings: None. W. Yoon: None. O. Zaidat: 1; C; Penumbra, Stryker Neurovascular. 2; C; Stryker Neurovascular, Penumbra, Rapid Medical, Cerenovous, Medtronic. A. Puri: 2; C; Stryker Neurovascular, Medtronic. A. Sarraj: 1; C; Stryker Neurovascular. M. Möhlenbruch: 2; C; Stryker Neurovascular, Phenox, Codman, Medtronic, Microvention.