were determined using multivariate logistic regression analysis.

Results 74 aneurysms were included in our study, mean maximum aneurysm size 6.5mm, mean neck size 3.6mm, mean time to last follow-up 12.5 months. Adequate WEB LC was present in 51 aneurysms (69%). At last follow-up, complete and adequate aneurysm occlusion was present in 43 (58%) and 62 (84%) aneurysms, respectively. 8 aneurysms were retreated (11%). There was a statistically-significant higher rate of complete and adequate aneurysm occlusion in aneurysms with adequate WEB LC (table 2). In addition, there was a statistically-significant lower rate of retreatment in aneurysms with adequate WEB LC (table 2). In multivariate logistic regression analysis, independent predictors of complete aneurysm occlusion at last follow-up were adequate WEB LC (odds ratio 24.3, p-value 0.001), maximum aneurysm size (odds ratio 0.5, p-value 0.006), active smoking (odds ratio 0.29, p-value 0.006), and aneurysm location (odds ratio 2.4, p-value 0.04). In addition, adequate WEB LC was an independent predictor of adequate aneurysm occlusion at last follow-up (odds ratio 59.3, p-value 0.03), and retreatment (odds ratio 0.5, p-value 0.006), active smoking (odds ratio 24.3, p-value 0.001), maximum aneurysm size (odds ratio 0.5, p-value 0.006), and aneurysm location (odds ratio 2.4, p-value 0.04).

Conclusion Adequate WEB LC is a strong independent predictor of aneurysm occlusion and retreatment in intracranial aneurysms treated with WEB. Determining whether adequate WEB LC has been attained prior to device detachment may aid in determining the need for WEB resizing and the likelihood of complete aneurysm occlusion at follow-up.

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Results of a Computational Fluid Dynamic (CFD) simulation rendering velocity streamlines of an ICA aneurysm Fractional Pressure Ratio (FPR) - pressure drop (~0.018 mmHg/cm) across neurovascular stenosis, including thrombus formation, vasospasm, device malfunction, access site complications, and anesthesia related complications occurred in 11.7% of on-label procedures and 11.3% of off-label procedures (p=1.000). Clinical outcomes such as intracranial hemorrhage, death, and long-term functional status were comparable between on-label and off-label groups.

Conclusion In real-world practice, off-label uses of PED can achieve similar safety and efficacy to on-label uses, though there may be a slightly higher rate of ischemic complications in off-label uses. Expert judgment is a useful supplement to official guidelines when assessing reasonable PED use beyond its approved indications.

Disclosures S. Cler: None. D. Lauzier: None. A. Kansagra: 2; C, Penumbra, Microvention, iSchemaView.

Abstract O-005 Figure 1

Abstract O-006

PROTOTYPING A BALLOON STENT FOR MINIMALLY INVASIVE TEMPORARY ANEURYSM OCCLUSION AND EMBOLIZATION

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Introduction Intracranial aneurysm claim 15,000 American lives annually, resulting in an additional 9,000 neurological deficits. While neuro-interventional devices rapidly advance, the use of temporary balloon occlusion to improve aneurysm sac remodeling can increase downstream ischemic risk. Balloons ensure that the aneurysm sac remains occluded during embolization, but also disrupts flow temporally in the parent vessel.

Methods We propose an alternative to temporary balloon occlusion call the balloon-stent: an ultra-compliant urethane balloon (20 mm length, 2.5-3F diameter) encasing a self-expandable nitinol stent that allows parent artery flow through a hollow central canal (1.5-3mm expanded diameter). The balloon-stent is deployable and retrievable, from a large primary lumen (∼0.018” ID - figure 1a). Abstract 6 Figure 1 Left - CAD rendering of the balloon stent microcatheter device and cross-sectional view (upper right). Right - Results of a Computational Fluid Dynamic (CFD) simulation rendering velocity streamlines of an ICA aneurysm Fractional Pressure Ratio (FPR) - pressure drop (AP) across neurovascular stenosis, is...