FINAL PROGRAM

SNIS 17th Annual Meeting

August 4-7, 2020

Coming to you virtually this year!

https://www.snisonline.org/meetings/snis-17th-annual-meeting/

Society of NeuroInterventional Surgery
SNIS

Programming in conjunction with:

ESMINT
European Society of Minimally Invasive Neurological Therapy

ANZSNR

SVIN
Society of Vascular and Interventional Neurology

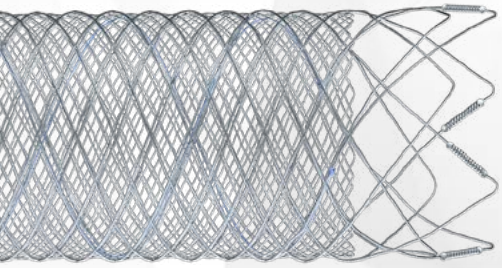
MicroVention™
TERUMO

MicroVention Sponsored Symposia During the SNIS 17th Annual Meeting

Evolving Treatment Paradigm of Wide Neck Bifurcation Aneurysms

Josser Delgado, MD
Abbott Northwestern Hospital, Minneapolis, MN

Henry Woo, MD, FACS, FAANS
Northwell Health System, Manhasset, NY



FRED™ (Flow Re-direction Endoluminal Device) Pivotal Study Final Results

Cameron McDougall, MD
Johns Hopkins Medicine, Baltimore, MD

The WEB™ Aneurysm Embolization System is indicated for the embolization of intracranial wide neck bifurcation aneurysms. The WEB Aneurysm Embolization System is further indicated to embolize saccular intracranial wide neck bifurcation aneurysms located in the anterior middle cerebral artery (MCA) bifurcation, internal carotid artery (ICA) terminus, anterior communicating artery (AComm complex) and posterior (basilar apex) circulations, ranging in size from 3 mm to 10 mm in dome diameter, where the neck sizeis 4 mm or greater or the dome-to-neck ratio is less than 2.

The Flow Re-Direction Endoluminal Device (FRED™) System is indicated for use in the internal carotid artery from the petrous segment to the terminus for the endovascular treatment of adult patients (22 years of age or older) with wide-necked (neck width ≥ 4 mm or dome-to-neck ratio < 2) saccular or fusiform intracranial aneurysms arising from a parent vessel with a diameter ≥ 2.0 mm and ≤ 5.0 mm.

Greetings, SNIS Members and Friends!

Welcome to the 17th Annual Meeting! As you know, this is the first time our yearly convening will be 100% virtual. We invite you to lean in with all of us at SNIS and embrace this new way of gathering and learning. After all, ours is a field of innovators!

While the stage may have changed, our mission and our commitment to neurointervention remains the same. With our program this week, we have applied our best thinking to bring our attendees engagement opportunities throughout the meeting that will focus on all the things you expect from the SNIS Annual Meeting, including the advancements in our field that in the short and long term will help us save lives.

We have designed thought-provoking sessions, curated visionary abstracts, and organized a variety of discussion forums that will challenge our status quo. The annual Luminary Lecture (which is now the Grant Hieshima Luminary Lecture!) this year is being provided by Van Halbach, MD, FSNIS. Once again, we also will spotlight a patient through the Amy Walters Lecture, this year given by Todd Aho, MD. This endowed lectureship allows us to hear from one patient at each SNIS Annual Meeting & the ESMINT Annual Meeting to remind us why we entered this field of medicine.

Our new partners in scientific programming this year, which include the AANS/CNS Joint Cerebrovascular Section, led by Scott Simon, MD; the European Society of Minimally Invasive Neurological Therapy (ESMINT), led by Patrick Brouwer, MD; and the Australian & New Zealand Society of Neuroradiology (ANZSNR), led by Ronil Chandra, MD, have brought many ideas and endless energy to our meeting planning … we are sure that the results won't disappoint! We are likewise grateful to our colleagues at the Society of Vascular & Interventional Neurology (SVIN) for contributing a session to our on-demand programming.

And for their enduring presence and partnership mentality, we pay special tribute to our loyal industry friends whose passion for our work is boundless and support of our cause makes so many things possible.

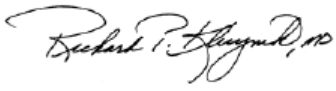
We encourage you to join the discussion around this year's meeting on Twitter and Instagram using **#SNIS2020**, including sharing insights from sessions and engaging with your peers online throughout the week of innovation. In between sessions, visit the Virtual Exhibit Hall to learn the latest issues and techniques in neurointervention.

Thank you for contributing to our field and its growth. We appreciate your dedication to the field and your support of the SNIS 17th Annual Meeting.

Sincerely,

Reade DeLeacy, MD
Chair, 17th Annual Meeting

Sandra Narayanan, MD
Chair, 17th Annual Meeting



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Opening Celebration

Please join us online for our Opening Celebration on Tuesday, August 4 at 4:00 pm.

Closing Celebration

Please join us online for our Closing Celebration on Friday, August 7 at 9:45 pm. Raise a glass with your colleagues from around the world as we celebrate the end of our first virtual meeting.

Run For Research

The SNIS Foundation Fun Run

Lace up your running or walking shoes. The SNIS Foundation is holding its Fun Run virtually this year! You will be able to submit your run time and distance and all results will be displayed online. Just because the meeting is virtual doesn't mean that you can't contribute to the SNIS Foundation and get some exercise while you're at it! All participants will receive an event t-shirt and participation medal. All ages are welcome to participate and we especially encourage your families to join the fun!
You can run anytime between July 1 and August 7. It's not too late to sign up!
You can register here: **https://snis.memberclicks.net/funrun20#/**

All registration fees will be donated to the SNIS Foundation. Cost per person: $40.00

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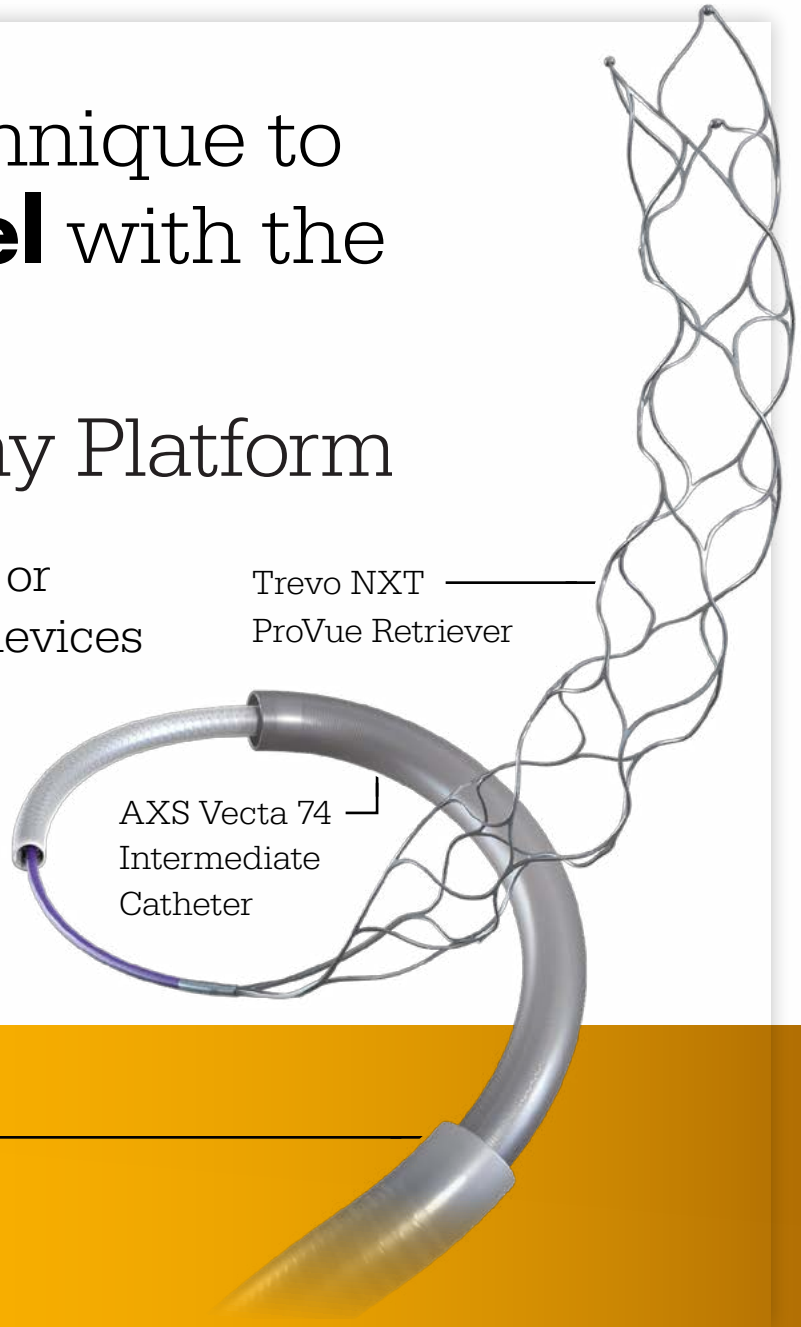

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Indications for use

AXS Infinity LS Plus Long Sheath: The AXS Infinity LS Plus Long Sheath is indicated for the introduction of interventional devices into the peripheral, coronary, and neuro vasculature. AXS Vecta Intermediate Catheter: (1) The AXS Vecta Aspiration Catheter, as part of the AXS Vecta Aspiration System is indicated in the revascularization of patients with acute ischemic stroke secondary to intracranial large vessel occlusive disease (within the internal carotid, middle cerebral – M1 and M2 segments, basilar, and vertebral arteries) within 8 hours of symptom onset. Patients who are ineligible for intravenous tissue plasminogen activator (IV t-PA) or who failed IV t-PA therapy are candidates for treatment. (2) The AXS Vecta Intermediate Catheter is indicated for use in facilitating the insertion and guidance of appropriately sized interventional devices into a selected blood vessel in the peripheral and neurovascular systems. The AXS Vecta Intermediate Catheter is also indicated for use as a conduit for retrieval devices. Trevo NXT ProVue Retriever: (1) The Trevo Retriever is indicated for use to restore blood flow in the neurovasculature by removing thrombus for the treatment of acute ischemic stroke to reduce disability in patients with a persistent, proximal anterior circulation, large vessel occlusion, and smaller core infarcts who have first received intravenous tissue plasminogen activator (IV t-PA). Endovascular therapy with the device should start within 6 hours of symptom onset. (2) The Trevo Retriever is intended to restore blood flow in the neurovasculature by removing thrombus in patients experiencing ischemic stroke within 8 hours of symptom onset. Patients who are ineligible for intravenous tissue plasminogen activator (IV t-PA) or who fail IV t-PA therapy are candidates for treatment. (3) The Trevo Retriever is indicated for use to restore blood flow in the neurovasculature by removing thrombus for the treatment of acute ischemic stroke to reduce disability in patients with a persistent, proximal anterior circulation, large vessel occlusion of the internal carotid artery (ICA) or middle cerebral artery (MCA)-M1 segments with smaller core infarcts (0-50cc for age < 80 years, 0-20cc for age ≥ 80 years). Endovascular therapy with the device should start within 6-24 hours of time last seen well in patients who are ineligible for intravenous tissue plasminogen activator (IV t-PA) or who fail IV t-PA therapy.

For Important Safety Information, please click the Learn More button.

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Use Twitter to Communicate with Colleagues at SNIS 2020

Here are two ways you can use Twitter at the SNIS 17th Annual Meeting to enhance your meeting experience:

1. We recommend Twitter users include the hash tag #SNIS2020 in your tweets to identify content related to the SNIS Annual Meeting. Monitor Twitter for the hash tag to see any relevant posts, and use the hash tag in your own posts to help your SNIS colleagues find your tweets easily.
2. Follow SNIS on Twitter. SNIS staff will send occasional tweets using the account **@SNISinfo**. Sign up at Twitter to follow @SNISinfo and receive occasional tweets containing conference reminders and up-to-the-minute information.

To set up a free Twitter account, visit **www.twitter.com**.

Note: Twitter is an informal medium for quick, public, nonessential communication that can enhance information exchange and social networking. Twitter is a public forum and SNIS has no authority over, or responsibility for, Twitter content.

Virtual Platform

This year's virtual Annual Meeting can be found online or on your mobile device. On your desktop, you can reach the meeting here: **www.eventmobi.com/SNIS2020**. If you would prefer to view the meeting on your mobile device, search for SNIS in your app store to download the app. You'll have this week's conference at your fingertips – literally! Among the many features that you will enjoy is the conference schedule by day and by speaker, information on exhibitors, and a place where you can store your contacts and share conference information. You'll even have access to Twitter so you can see who is saying what about the SNIS Annual Meeting.

After downloading the app, please be sure to say "yes" when asked if you want to receive push notification as that will allow us to send you updates and last minute information during the meeting.

Exhibit/Sponsor Information

As you're learning and exploring our virtual platform, be sure to visit our Virtual Exhibit Hall, either by clicking the icon on the main screen or the menu bar on the left of the meeting interface. With more than 20 exhibitors, you'll have chance to learn about the latest in neurointervention, as well as projects and programs designed to support our patients. Each booth features resources, video and links that can help you in your work. If you'd like to ask a question or learn more about a particular program, you can contact the exhibitor by clicking the chat button in each booth.

SNIS also would like to thank our generous supporters, who created exciting sponsored symposia for our 17th Annual Meeting. There are six offerings this year, on a variety of innovative topics. To access the schedule of these presentations, click Sponsored Symposia on the meeting platform.

Satisfactory Completion: Learners must complete an evaluation form to receive a certificate of completion. Your chosen sessions, whether live or pre-recorded, must be participated in their entirety as partial credit of individual sessions is not available. If you are seeking continuing education credit for a specialty not listed below, it is your responsibility to contact your licensing/certification board to determine course eligibility for your licensing/certification requirement.

Physicians: In support of improving patient care, this activity has been planned and implemented by Amedco LLC and the Society of NeuroInterventional Surgery. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Credit Designation Statement: Amedco LLC designates the live activity for a maximum of *24.75 AMA PRA Category 1 Credits*™ and the enduring material activity for *34.25 AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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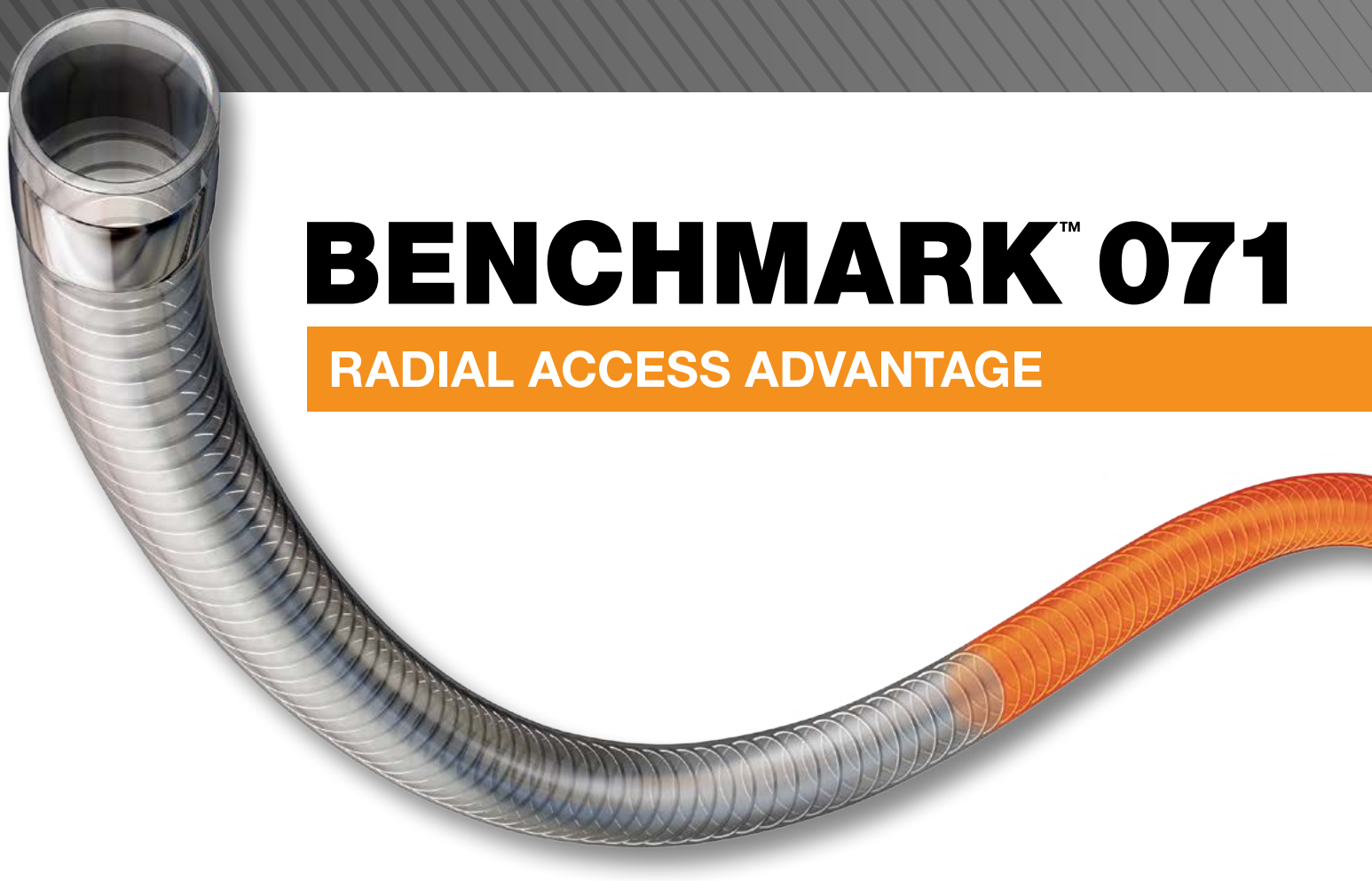

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NEURON Intracranial Access System — Indication for Use The NEURON Intracranial Access System is indicated for the introduction of interventional devices into the peripheral, coronary, and neuro vasculature. **Contraindications** There are no known contraindications. **Warnings** The NEURON Intracranial Access System should only be used by physicians who have received appropriate training in interventional techniques. **Precautions** • The device is intended for single use only. Do not resterilize or reuse. Resterilization and/or reuse may result in ineffective catheter coating lubrication, which may result in high friction and the inability to access the target vasculature location; and/or may compromise the structural integrity of the device. • Do not use kinked or damaged devices. Do not use open or damaged packages. Return all damaged devices and packaging to the manufacturer/distributor. • Use prior to the "Use By" date. • Use the NEURON Intracranial Access System in conjunction with fluoroscopic visualization. • Do not advance or withdraw the NEURON Intracranial Access System against resistance without careful assessment of the cause using fluoroscopy. If the cause cannot be determined, withdraw the device. Unrestrained moving or torquing the device against resistance may result in damage to the vessel or device. • Maintain a constant infusion of an appropriate flush solution. • If flow through the device becomes restricted, do not attempt to clear the lumen by infusion. Remove and replace the device. **Potential Adverse Events** Possible complications include, but are not limited to, the following: acute occlusion; air embolism; death; distal embolization; emboli; false aneurysm formation; hematoma or hemorrhage at puncture site; infection; intracranial hemorrhage; ischemia; neurological deficits including stroke; vessel spasm, thrombosis, dissection, or perforation.

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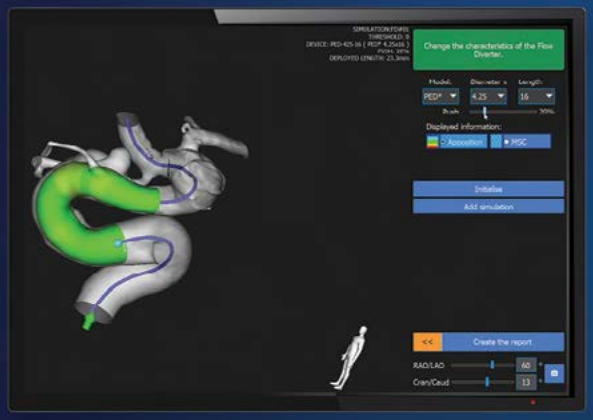

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TUESDAY, AUGUST 4, 2020

11:00 am – 11:05 am Welcome

DIDACTIC SESSION – Farther, Better, Faster: New Frontiers in Stroke Management

Moderated by Michael Chen, MD & William Mack, MD

11:05 am – 11:15 am Stroke Trials Update, *Sunil Sheth, MD*

11:15 am – 11:30 am Prehospital Triage, *Robin Novakovic, MD*

11:30 am – 11:45 am Imaging Triage for LVO: Delivering Fast & Efficient Stroke Care, *Tudor Jovin, MD*

11:45 am – 12:00 noon Pushing the Limit: Mechanical Thrombectomy for Large Stroke & Low NIHSS, *Timothy Phillips, MD*

12:00 noon – 12:15 pm Endovascular Treatment of Acute Cerebral Venous Thrombosis, *Fazeel Siddiqui, MD*

12:15 pm – 12:30 pm Chronic Carotid Occlusion, *Colin Derdeyn, MD*

12:30 pm – 12:45 pm Endovascular & Surgical Approaches to Refractory ICAD, *David Langer, MD*

ABSTRACT PRESENTATIONS

Moderated by Katyucia de Macedo Rodrigues, MD & Andrew Grande, MD

12:45 pm – 1:30 pm Abstract Presentations & Discussion

- 12:45 pm – 12:50 pm DWI-FLAIR Mismatch Does Not Predict Time of Stroke Onset in DEFUSE 3 Patients, *Diana Slawski, MD*
- 12:50 am – 12:55 pm Favorable Venous Microperfusion Profile Correlates with Pial Arterial Collateral Status and Clinical Outcome in Acute Stroke Patients with Large Vessel Occlusion, *Tobias Faizy, MD*
- 12:55 pm – 1:00 pm Results of the Stroke Thromboembolism Registry of Imaging and Pathology: A Multicenter International Study, *Waleed Brinjikji, MD*
- 1:00 pm – 1:05 pm Prospective, Multi-centered, EMS-administered, Pre-hospital Validation Study of the Rapid Arterial Occlusion Evaluation (RACE) Scale for Detecting Large Vessel Occlusion Stroke in the United States Compared to the Original RACE Validation Study from Spain: A Subanalysis of the PREDICT Study, *Aurora Cruz, MD*
- 1:05 pm – 1:10 pm Vascular Collateralization May Not Affect Blood Gas Changes in Peri-infarct Vasculature in Human Ischemic Stroke, *Robert Spears, MD*
- 1:10 pm – 1:15 pm Histotripsy for Intracerebral Hemorrhage in a Porcine Model, *Badih Junior Daou, MD*
- 1:15 pm – 1:20 pm Trends in Mortality and Morbidity after Treatment of Unruptured Intracranial Aneurysm in the United States, 2006-2016, *Shahram Majidi, MD*
- 1:20 pm – 1:25 pm E-clips Experience in Wide-neck Bifurcation Aneurysms with Extremely Low Dome-to-neck and Aspect Ratios, *Leif Soerensen, MD*
- 1:25 pm – 1:30 pm WEB Shape Modification during Follow-up: The Bicêtre Experience, *Jildaz Caroff, MD*

1:30 pm – 2:00 pm Break

DIDACTIC SESSION – Neurointervention in a Changing World: Hot Topics 2020

Moderated by Jonathan Grossberg, MD & Ferdinand Hui, MD

2:00 pm – 2:20 pm So you Wanna Start a Startup? The Promise, *Andy Tang*

2:20 pm – 2:40 pm What COVID Has Taught Us about the Healthcare System, *David Chin, MD*

2:40 pm – 3:00 pm The Neurological Sequelae of COVID-19: Pathomechanisms, Neuroinflammation, and Angiitis, *Carlos Pardo, MD*

3:00 pm – 3:20 pm Medicare for All: Is it Coming & What Would It Look Like?, *Joshua Hirsch, MD, FSNIS*

3:20 pm – 3:40 pm FDA Engagement & Early Feasibility Studies with Neurological Devices, *Carlos Peña, PhD*

3:40 pm – 4:00 pm Data: Who Owns It, Who Profits, and How to Protect It?, *Megan Singleton, JD*

4:00 pm – 6:00 pm Opening Celebration

Wednesday, August 5, 2020

DIDACTIC SESSION – **Joint CV Section Awards, Chair Address, Luessenhop Lecture & Dacey Lecture**

Moderated by Scott Simon, MD & Babu Welch, MD

11:00 am – 11:05 am	CV Section Awards, *Scott Simon, MD*
11:05 am – 11:10 am	Introduction of CV Section Chair, *Adnan Siddiqui, MD, PhD*
11:10 am – 11:35 am	CV Section Chair's Address, *Babu Welch, MD*
11:35 am – 12:00 noon	Luessenhop Lecture – "Does Bypass Surgery have any Place in the Management of Brain Aneurysms and Skull Base Tumors in 2021?", *Laligam Sekhar, MD*
12:00 noon – 12:45 pm	Ralph G. Dacey, Jr. Medal for Outstanding Cerebrovascular Research – "Stem Cells and Stroke Rehabilitation", *Gary Steinberg, MD, PhD*
12:45 pm – 1:15 pm	Break

DIDACTIC SESSION – **Innovations: AI & Futures**

Moderated by Raphael Blanc, MD & Ferdinand Hui, MD

1:15 pm – 1:25 pm	AI: Mechanics & A Look Forward, *Mathias Unberath, MD*
1:25 pm – 1:40 pm	Robotic Endovascular Surgery, *Vitor Mendes Pereira, MD*
1:40 pm – 1:55 pm	3D Printing, *Matthew Amans, MD*
1:55 pm – 2:05 pm	Machine Learning for Aneurysms, *Bruce Wasserman, MD*
2:05 pm – 2:15 pm	Discussion

DIDACTIC SESSION – **Abstract Presentations**

Moderated by Horia Marin, MD & Stavropoula Tjoumakaris, MD

2:15 pm – 3:15 pm	Abstract Presentations & Discussion
2:15 pm – 2:20 pm	Influence of Thrombectomy Volume on Non-physician Staff Burnout and Attrition in Neurointerventional Teams, *Patrick Brown, MD*
2:20 pm – 2:25 pm	Drivers of Variation in 90-day Episode Payments after Mechanical Thrombectomy for Acute Ischemic Stroke, *Badih Junior Daou, MD*
2:25 pm – 2:30 pm	Trends of Ruptured and Unruptured Aneurysms Treatment in the US in Post-ISAT Era: A National Inpatient Sample Analysis, *Mohamed Salem, MD*
2:30 pm – 2:35 pm	The SMART Registry: Final Results on the Utility of the Penumbra SMART COIL System for Treatment of Intracranial Aneurysms And Malformations, *Alejandro Spiotta, MD*
2:35 pm – 2:40 pm	Intravascular High Frequency Optical Coherence Tomography Guided WEB Aneurysm Embolization, *Matthew Gounis, PhD*
2:40 pm – 2:45 pm	COMFORT - Colombian Multicenter Flow-Diverter Observational Reconstruction Trial. Local Experience in the Endovascular Treatment of Intracranial Aneurysms with FRED Stent, *Boris Leonardo Pabon Guerrero, MD*
2:45 pm – 2:50 pm	Surpass Embolization of Intracranial Aneurysms at Two High Volume Comprehensive Stroke Centers: Unexpectedly High Rate of Neurologic Complications, *Sudipta Roychowdhury, MD*
2:50 pm – 2:55 pm	Repeat Flow Diversion for Previously Failed Flow Diversion: Multicenter Experience, *Mohamed Salem, MD*
2:55 pm – 3:00 pm	Seizure Prophylaxis in Unruptured Aneurysm Repair: A Randomized Controlled Trial, *Badih Junior Daou, MD*
3:00 pm – 3:05 pm	Safety and Efficacy of Cangrelor Use in Neurovascular Intervention: A Multicenter Experience, *Ricardo Hanel, MD*
3:05 pm – 3:10 pm	Endoluminal Biopsy for Molecular Classification of Human Brain Arteriovenous Malformations, *Ethan Winkler, MD*
3:10 pm – 3:15 pm	Increased Contrast Enhancement of the Parent Vessel of Unruptured Intracranial Aneurysms in 7T MR Imaging, *Edgar Samaniego, MD*

Optional Programming

Getting Your First Grant

Moderated by Michael Levitt, MD & Maxim Mokin, MD, PhD

4:00 pm – 4:20 pm Why Apply for a Grant?, *Peter Kan, MD*

4:20 pm – 4:40 pm Choosing the Appropriate Agency and Grant Type, *Kevin Sheth, MD*

4:40 pm – 5:00 pm Common Mistakes in Grant Proposals, *Matthew Gounis, PhD*

5:00 pm – 5:30 pm Discussion/Q&A

Session with the Sages

Moderated by Scott Simon, MD & Babu Welch, MD

4:00 pm – 6:00 pm Session with the Sages

Thursday, August 6, 2020

DIDACTIC SESSION – **Luminary Lecture**

Moderated by Michael Chen, MD & William Mack, MD

11:00 am – 11:15 am SNIS President's Address, *Richard Klucznik, MD*

11:15 am – 11:30 am Amy Walters Patient Lecture, *Todd Aho, MD*

11:30 am – 12:00 noon **Luminary Lecture – "Management of Dural Fistulae: Lessons Learned over 30 Years"**, *Van Halbach, MD, FSNIS*

12:00 noon – 12:15 pm Induction of SNIS Fellows

DIDACTIC SESSION – **Late Breaking Abstract Presentations**

Moderated by Reade De Leacy, MD, Sandra Narayanan, MD & Scott Simon, MD

12:15 pm – 1:15 pm Abstract Presentations & Discussion

- 12:15 pm – 12:22 pm Racial Disparities in Acute Stroke Thrombectomy Management and Outcomes in the United States: Evidence from the NVQI-QOD Registry, *Vineeth Thirunavu, MD*
- 12:22 pm – 12:29 pm Bridging Therapy Increases Hemorrhagic Complications without Improving Functional Outcomes in Atrial Fibrillation Associated Stroke, *Feras Akbik, MD*
- 12:29 pm – 12:36 pm Ischemic Stroke Associated with Covid-19 and Racial Outcome Disparity in North America, *Adam Dmytriw, MD*
- 12:36 pm – 12:43 pm Sex Differences in Acute Stroke Thrombectomy Management and Outcomes in the United States: Evidence from the NVQI-QOD Registry, *Vineeth Thirunavu, MD*
- 12:43 pm – 12:50 pm Unruptured Arteriovenous Malformation Intervention Rate is Inversely Correlated with Ruptured AVM Discharge Incidence, *David McCarthy, MD*
- 12:50 pm – 12:57 pm Increased Intracranial and Systemic VCAM1 Relates to Hypertension and Reduced Percent Change in NIHSS after Mechanical Thrombectomy, *Benton Maglinger, MD*
- 12:57 pm – 1:04 pm Results of Hybrid Study, Prospective Randomized Multicenter Study of Hydrogel Coil vs Bare Platinum Coil for Intracranial Aneurysms, *Nobuyuki Sakai, MD*
- 1:04 pm – 1:11 pm Motor Neuroprosthesis Implanted using Cerebral Venography Improves Activities of Daily Living in Severe Paralysis, *Peter Mitchell, MD*

1:15 pm – 1:45 pm Break

Thursday, August 6, 2020, cont.

DIDACTIC SESSION – **Current Perspectives in the Treatment of Complex AV Shunting Lesions**
Moderated by Patrick Brouwer, MD & Babak Jahromi, MD

1:45 pm – 2:00 pm Embolic Agents for the Treatment of AVMs and DAVFs, *Christophe Cognard, MD*
2:00 pm – 2:15 pm Curative AVM Embolization: Transarterial & Transvenous Strategies, *Rene Chapot, MD*
2:15 pm – 2:30 pm Utilizing a Hybrid Room for Complicated dAVF Treatment, *Min Park, MD*
2:30 pm – 2:45 pm Combined Embolization & Surgical Resection of AVMs in My Practice, *Joshua Osbun, MD*
2:45 pm – 3:00 pm Surgical Resection of Higher Grade & Deep-Seated AVMs, *Michael Lawton, MD*
3:00 pm – 3:15 pm Discussion

SNIS Neurovascular Symposium

Moderated by Fern Cudlip, MSN, FNP, CNRN, ANVP, FNCS, Abbigayle Doerr, APN, Alyssa Karow, FNP-BC & Susana Skukalek, DNP, NP-C

DIDACTIC SESSION

3:15 pm – 3:45 pm Clinical Localization & LVO Scales for Advanced Practice Providers, *Anne Alexandrov, PhD, RN, CCRN, ANVP-BC, NVRN-BC, FAAN*
3:45 pm – 4:15 pm Intervention for Acute Ischemic Stroke, *Bryan Fill, APN*
4:15 pm – 4:45 pm Hemorrhagic Stroke: SAH/ICH, *Brian Howard, MD*
4:45 pm – 5:15 pm Advanced Neurovascular Training for the Advanced Practice Provider, *Wendy Dusenbury, DNP, APRN, FNP-BC, AGACNP-BC, ANVP-BC*
5:15 pm – 5:45 pm Difficult Case Review/Hot Topics, *Nathan Manning, MD*
5:45 pm – 6:30 pm Panel Discussion on APP Roles in Stroke Care
- 5:45 pm – 5:55 pm Mobile Stroke Unit, *Anne Alexandrov, PhD, RN, CCRN, ANVP-BC, NVRN-BC, FAAN*
- 5:55 pm – 6:05 pm Neurointervention, *Bryan Fill, APN*
- 6:05 pm – 6:15 pm Telestroke, *Wendy Dusenbury, DNP, APRN, FNP-BC, AGACNP-BC, ANVP-BC*
- 6:15 pm – 6:25 pm Intracranial Hemorrhage, *Brian Howard, MD*

Optional Programming

Women in Neurointervention Dinner

Moderated by Sandra Narayanan, MD & Paula Eboli, MD

6:00 pm – 8:00 pm Women in Health Science: How to Find the Holes in the Leaky Pipeline
Speaker: *Sarah Blair, MD*
Panelists: *Ronit Agid, MD, Michele Johnson, MD, Robin Novakovic, MD, Stacey Wolfe, MD*

Friday, August 7, 2020

4:00 pm – 5:00 pm SNIS Business Meeting *(SNIS Members Only)*

DIDACTIC SESSION – **Tipping the Scales – Lessons to Resolve Equipoise in Modern Aneurysm Treatment**
Moderated by Ronil Chandra, MD, Jonathan Russin, MD & Sudhakar Satti, MD

Managing Wide-Necked Aneurysms: Has the Game Changed?

5:00 pm – 5:10 pm Making Good Decisions: Strategies for Wide-Necked Aneurysms, *Babu Welch, MD*
5:10 pm – 5:20 pm To WEB or Not to WEB…What's the Data?, *Jeremy Fields, MD*
5:20 pm – 5:25 pm Discussion
5:25 pm – 5:50 pm Unruptured Wide-Necked Aneurysms – When to Punt?
- 5:25 pm – 5:35 pm What I Send for Endovascular Treatment, *Sepideh Amin-Hanjani, MD*
- 5:35 pm – 5:45 pm Stent Coil or Punt to Clipping, *Winston Chong, MD*
- 5:45 pm – 5:50 pm Discussion

Improved Durability: Understanding Treatment Failures

5:50 pm – 6:00 pm Aneurysms That I Coiled That I Should Have Clipped, *J Mocco, MD*
6:00 pm – 6:10 pm Aneurysms Where Flow Diversion Didn't Work: Predictors of Treatment Failure, *Hal Rice, MD*
6:10 pm – 6:15 pm Discussion

Aneurysm Treatment: Worst of the Worst from the Best of the Best

6:15 pm – 6:25 pm Intraoperative Complications during Endovascular Treatment: Getting Into, and Sometimes Out of, Trouble, *Hamed Asadi, MD*
6:25 pm – 6:35 pm Intraoperative Complications during Clipping: Getting Into, and Sometimes Out of, Trouble, *Michael Lawton, MD*
6:35 pm – 6:45 pm I Wouldn't Try to do That with a Catheter Again…, *Mario Martinez-Galdamez, MD*
6:45 pm – 6:55 pm I Wouldn't Try to do That in the OR Again…, *Amir Dehdashti, MD*
6:55 pm – 7:00 pm Discussion

DIDACTIC SESSION – **Abstract Presentations**
Moderated by Ephraim Church, MD & Thabele Leslie-Mazwi, MD

7:00 pm – 8:15 pm Abstract Presentations & Discussion
- 7:00 pm – 7:05 pm Dual Antiplatelet Therapy after Carotid Artery Stenting: Trends and Outcomes in a Large National Database, *Michael Jin, MD*
- 7:05 pm – 7:10 pm Volumetric and Spatial Assessment of Cerebral Infarct and Penumbra Tissue for Multiple Computed Tomography Perfusion Software in Acute Ischemic Stroke Patients, *Ryan Rava, MD*
- 7:10 pm – 7:15 pm Four or More Thrombectomy Passes, TPA Use, and High Initial Stress Glucose Ratio are Independently Associated with Malignant Cerebral Edema after Mechanical Thrombectomy: A Single-center, Retrospective Study, *Gregory Cannarsa, MD*
- 7:15 pm – 7:20 pm Outcomes of Rescue Endovascular Treatment of Acute Ischemic Stroke in Patients with Underlying Intracranial Atherosclerosis-Insights from Star Registry, *Sami Al Kasab, MD*
- 7:20 pm – 7:25 pm Real World Evidence for Acute Stroke Thrombectomy in the United States from the NeuroVascular Quality Initiative-Quality Outcomes Database, *Sameer Ansari, MD, PhD*
- 7:25 pm – 7:30 pm Favorable Venous Microvascular Profile is Associated with Smaller Ischemic Lesion Growth and Smaller Final Core Infarction Volume in Patients with Acute Ischemic Stroke Due to Large Vessel Occlusion, *Tobias Faizy, MD*
- 7:30 pm – 7:35 pm The Intrasaccular Seal© Device: Improved Flexibility and Healing, *Matthew Gounis, PhD*

Friday, August 7, 2020, cont.

DIDACTIC SESSION – **Abstract Presentations**

Moderated by Ephraim Church, MD & Thabele Leslie-Mazwi, MD

7:35 pm – 7:40 pm	Outcomes of Endovascular Treatment of Vein of Galen Aneurysmal Malformation in Neonates, *Kiril Orlov, MD*
7:40 pm – 7:45 pm	Long-term Clinical and Radiographic Follow-up of Pure Arterial Malformations, *Waleed Brinjikji, MD*
7:45 pm – 7:50 pm	Cerebral Aneurysm Treatment Trends In National Inpatient Sample 2007-2016: Endovascular Therapies Favored Over Surgery, *Alice Wang, MD*
7:50 pm – 7:55 pm	How Low Is Enough? - Defining the Threshold with Venous Gradient Pressure for Venous Sinus Stenting in Intracranial Hypertension Patients with Venous Sinus Stenosis, *Victor Lopez-Rivera, MD*
7:55 pm – 8:00 pm	Computational Fluid Dynamics Analysis to Compare Flow Diversion Efficacy of Evolve and Pipeline Devices, *Chandler Sadasivan, MD*
8:00 pm – 8:05 pm	Intraarterial Clot Localization in Patients with Acute Ischemic Stroke Affects the Venous Microperfusion Profile, *Tobias Djamsched Faizy, MD*
8:05 pm – 8:10 pm	Hybrid Human Brain Model for Research in Large Vessel Occlusion Stroke, *Luis Savastano, MD*
8:10 pm – 8:15 pm	Changes in Leukocyte Distribution in Intracranial vs. Systemic Blood Collected during Mechanical Thrombectomy, *Benton Maglinger, MD*

8:15 pm – 8:30 pm Break

DIDACTIC SESSION – **Case-Based Discussions & Complications**

Moderated by Christoph Griessenauer, MD & Jenny Tsai, MD

8:30 pm – 8:55 pm	Combined Treatment Strategies for Aneurysms, *Guilherme Dabus, MD*
8:55 pm – 9:20 pm	Stroke – Agony & Ecstasy, *Aaron Grossman, MD*
9:20 pm – 9:45 pm	AVMs & AVFs – Endovascular Decision Making, *Stacey Wolfe, MD*

9:45 pm – 11:00 pm Closing Celebration

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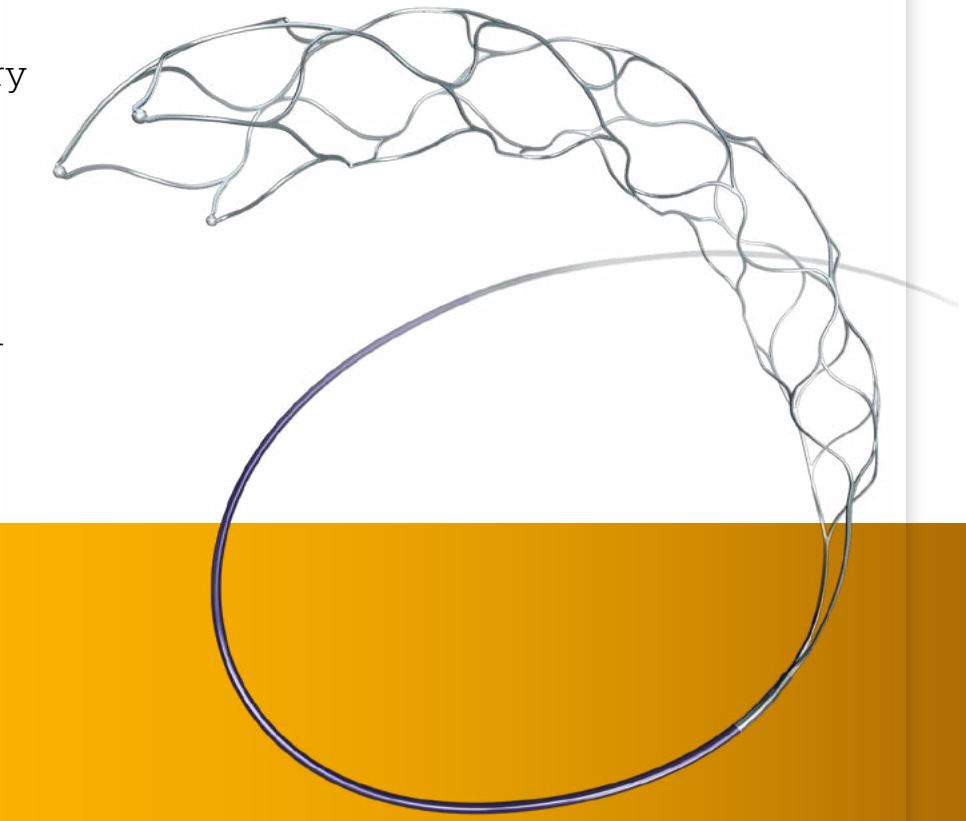

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2. The Trevo Retriever is intended to restore blood flow in the neurovasculature by removing thrombus in patients experiencing ischemic stroke within 8 hours of symptom onset. Patients who are ineligible for intravenous tissue plasminogen activator (IV t-PA) or who fail IV t-PA therapy are candidates for treatment.
3. The Trevo Retriever is indicated for use to restore blood flow in the neurovasculature by removing thrombus for the treatment of acute ischemic stroke to reduce disability in patients with a persistent, proximal anterior circulation, large vessel occlusion of the internal carotid artery (ICA) or middle cerebral artery (MCA)-M1 segments with smaller core infarcts (0-50 cc for age <80 years, 0-20 cc for age ≥80 years). Endovascular therapy with the device should start within 6-24 hours of time last seen well in patients who are ineligible for intravenous tissue plasminogen activator (IV t-PA) or who fail IV t-PA therapy.

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Neuroanatomy Master Class – Simplifying Spinal Vascular Anatomy *(45 minutes)*
Essentials of Spinal Cord Vascular Anatomy, *Ronil Chandra, MD*
Spinal Vascular Malformation Anatomy and Natural History, *Bradley Gross, MD*

Neuroanatomy Master Class – Pediatrics & Embryology *(45 minutes)*
Anatomical Considerations during Pediatric Neurointerventional Procedures, *Adam Rennie, MD*
Case Review: Persistent Embryological Variants & How They Impacted Treatment, *George Teitelbaum, MD*

Neuroanatomy Master Class – Beware the Dangerous Collaterals! *(45 minutes)*
Dangerous EC-IC Collaterals at the Skull Base, *Kittipong Srivatanakul, MD*
Dangerous Collaterals in the Cervical Spine, *Felipe Albuquerque, MD*

Neuroanatomy Master Class – How I Use Anatomy to Plan Treatment *(45 minutes)*
Case Review: Anatomical Features I Consider Prior to Intracranial Stenting for Intracranial Atherosclerotic Disease, *Timo Krings, MD*
Case Review: Anatomical Features I Consider Prior to Flow Diversion for Unruptured Aneurysms, *Laetitia de Villiers, MD*

Spinal Interventional Armamentarium for the Practicing Neurointerventionalist *(90 minutes)*
Vertebral Body Augmentation, *Allan Brook, MD*
Microsurgical Treatment of Spinal AVM and dAVF, *Aditya Pandey, MD*
Spinal Vascular Malformations, *Ian Kaminsky, MD*
Spinal Tumor Embolization, *Joseph Gemmete, MD*

Pediatric Thrombectomy and Beyond: Big Problems in Small Patients *(150 minutes)*
International Pediatric Stroke Organization – A Call to Neurointerventionalists, *Heather Fullerton, MD*
Update on Pediatric Acute Ischemic Stroke Clinical Trials
PETITE, *Sarah Lee, MD*
PASTRYL, *Catherine Amlie-Lefond, MD*
When does a Pediatric Brain Tumor Need Embolization, *Frederick Boop, MD*
Techniques of Brain Tumor Embolization, *Adam Rennie, MD*
Case Presentations & Roundtable Discussion of Pediatric Brain Aneurysms,
Panel:
Lucas Elijovich, MD, Jonathan Grossberg, MD, Todd Abruzzo, MD, Alejandro Berenstein, MD, FSNIS & Anthony Wang, MD

Translational Developments in Acute Ischemic Stroke Intervention *(60 minutes)*
ESCAPE NA-1, The Revival of Neuroprotection, *Mayank Goyal, MD*
Improving Reperfusion Therapies in the Era of Mechanical Thrombectomy, *Italo Linfante, MD*
Therapeutic Hypothermia, *Patrick Lyden, MD*

Perspectives in Neurointerventional Practice (90 minutes)
History of the Multidisciplinary Nature of Neurointerventional Surgery, *Christopher Dowd, MD*
The Benefits of a Multdisciplinary Environment for Neurointerventional Training, *Lucas Elijovich, MD*
Certification in Neurointerventional Surgery: An Update, *Johanna Fifi, MD*
Neurointerventional Surgery: Who are We?, *Adam Arthur, MD*
Hybrid Surgical and Neuroendovascular Techniques, *Adnan Siddiqui, MD, PhD*

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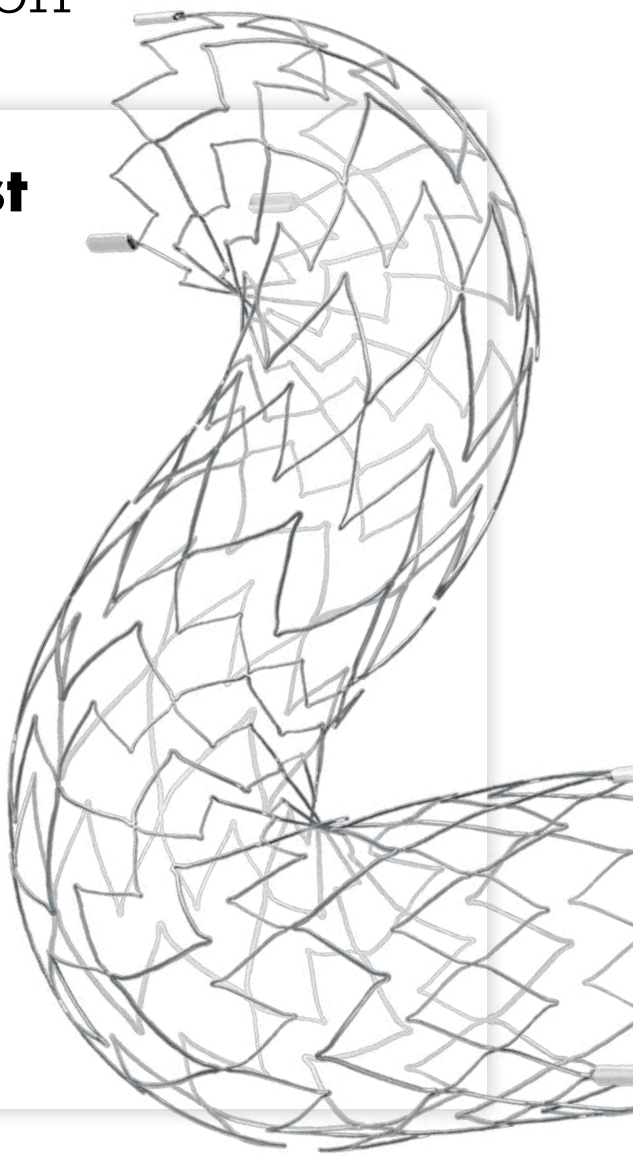

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Indications for use

The Neuroform Atlas Stent System is indicated for use with neurovascular embolization coils in the anterior and posterior circulation of the neurovasculature for the endovascular treatment of patients ≥ 18 years of age with saccular wide-necked (neck width ≥ 4 mm or a dome-to-neck ratio of < 2) intracranial aneurysms arising from a parent vessel with a diameter of ≥ 2.0 mm and ≤ 4.5 mm.

Contraindications

- Patients in whom the parent vessel size does not fall within the indicated range.
- Patients in whom antiplatelet and/or anticoagulation therapy (e.g., aspirin and clopidogrel) is contraindicated.
- Patients who have not received anti-platelet agents prior to stent implantation.
- Patients with an active bacterial infection.
- Patients in whom angiography demonstrates the anatomy is not appropriate for endovascular treatment due to conditions such as:
  - Severe intracranial vessel tortuosity or stenosis;
  - Intracranial vasospasm not responsive to medical therapy.
- Patients in whom a pre-existing stent is in place in the parent artery at the target intracranial aneurysm location.

Potential adverse events

The potential adverse events listed below, as well as others, may be associated with the use of the Neuroform Atlas Stent System or with the procedure:

- Aphasia
- Allergic reaction to Nitinol metal and medications
- Aneurysm perforation/rupture, leak or contrast extravasation
- Blindness
- Cardiac arrhythmia
- Coil herniation through stent into parent vessel
- Cranial neuropathy
- Death
- Embolus
- Headache
- Hemiplegia
- Hemorrhage (i.e., intracerebral, subarachnoid, retroperitoneal, or in other locations)
- Hydrocephalus
- In-stent stenosis
- Infection
- Ischemia
- Mass effect
- Myocardial infarction
- Neurological deficit/intracranial sequelae
- Pseudoaneurysm
- Reaction to radiation exposure (i.e., alopecia, burns ranging in severity from skin reddening to ulcers, cataracts, or delayed neoplasia)
- Reactions to anti-platelet/anti-coagulant agents
- Renal failure
- Seizure
- Stent fracture, migration/embolization, or misplacement
- Stent thrombosis
- Stroke
- Transient ischemic attack
- Vasospasm
- Vessel occlusion or closure including parent vessel or non-target side-branches
- Vessel perforation/rupture, dissection, trauma or damage
- Vessel thrombosis
- Visual impairment
- Other procedural complications including but not limited to anesthetic and contrast media risks, hypotension, hypertension, access site complications (including pain, hematoma, local bleeding, local infection, and injury to the artery (i.e. dissection), vein, or adjacent nerves)
- Unplanned intervention

Warnings

Contents supplied STERILE using an ethylene oxide (EO) process. Do not use if sterile barrier is damaged. If damage is found, call your Stryker Neurovascular representative.

For single use only. Do not reuse, reprocess or resterilize. Reuse, reprocessing or resterilization may compromise the structural integrity of the device and/or lead to device failure which, in turn, may result in patient injury, illness or death. Reuse, reprocessing or resterilization may also create a risk of contamination of the device and/or cause patient infection or cross-infection, including, but not limited to, the transmission of infectious disease(s) from one patient to another. Contamination of the device may lead to injury, illness or death of the patient.

After use, dispose of product and packaging in accordance with hospital, administrative and/or local government policy.

- This device should only be used by physicians who have received appropriate training in interventional neuroradiology or interventional radiology and preclinical training on the use of this device as established by Stryker Neurovascular.
- Persons allergic to nickel titanium (Nitinol) may suffer an allergic response to this stent implant.
- Higher adverse event rates may be experienced for distal aneurysms located in the anterior and middle cerebral arteries.
- The safety and effectiveness of the device has not been established in the treatment of ruptured intracranial aneurysms.

Cautions / precautions

- Take all necessary precautions to limit X-ray radiation doses to clinical operators by using sufficient shielding, reducing fluoroscopy times, and modifying X-ray technical factors whenever possible.
- The Neuroform Atlas stent may create local field inhomogeneity and susceptibility artifacts during magnetic resonance angiography (MRA), which may degrade the diagnostic quality to assess effective intracranial aneurysm occlusion.
- Safety and effectiveness of the Neuroform Atlas Stent System in patients below the age of 18 has not been established.
- The benefits may not outweigh the risks of device use in patients with small and medium asymptomatic extradural intracranial aneurysms, including those located in the cavernous internal carotid artery.
- Carefully weigh the benefits vs. risks of device treatment for each individual patient based on their medical health status and risk factors for intracranial aneurysm rupture during their expected life time such as age, comorbidities, history of smoking, intracranial aneurysm size, location, and morphology, family history, history of prior asymptomatic subarachnoid hemorrhage (aSAH), documented growth of intracranial aneurysm on serial imaging, presence of multiple intracranial aneurysms, and presence of concurrent pathology. The benefits may not outweigh the risks associated with device use in certain patients; therefore, judicious patient selection is recommended based on clinical practice guidelines or tools to assess the life time risk of intracranial aneurysm rupture.

Safety Information Magnetic Resonance Conditional

Non-clinical testing and analysis have demonstrated that the Neuroform Atlas Stent is MR Conditional alone, or when overlapped with a second stent, and adjacent to a Stryker Neurovascular coil mass. A patient with the Neuroform Atlas Stent can be safely scanned immediately after placement of this implant, under the following conditions:

- Static magnetic field of 1.5 and 3.0 Tesla
- Maximum spatial gradient field up to 2500 Gauss/cm (25 Tesla/m)
- Maximum MR system reported whole body averaged specific absorption rate of 2 W/kg (Normal Operating Mode) and head averaged specific absorption rate of 3.2 W/kg.

Under the scan conditions defined above, the Neuroform Atlas Stent is expected to produce a maximum temperature rise of 4 °C after 15 minutes of continuous scanning. The Neuroform Atlas Stent should not migrate in this MRI environment.

In non-clinical testing, the image artifact caused by the device extends approximately 2 mm from the Neuroform Atlas Stent when imaged with a spin echo pulse sequence and 3 Tesla MRI System. The artifact may obscure the device lumen. It may be necessary to optimize MR imaging parameters for the presence of this implant. See additional precaution related to the image artifact from the implant in the "Precautions" section of this labeling.

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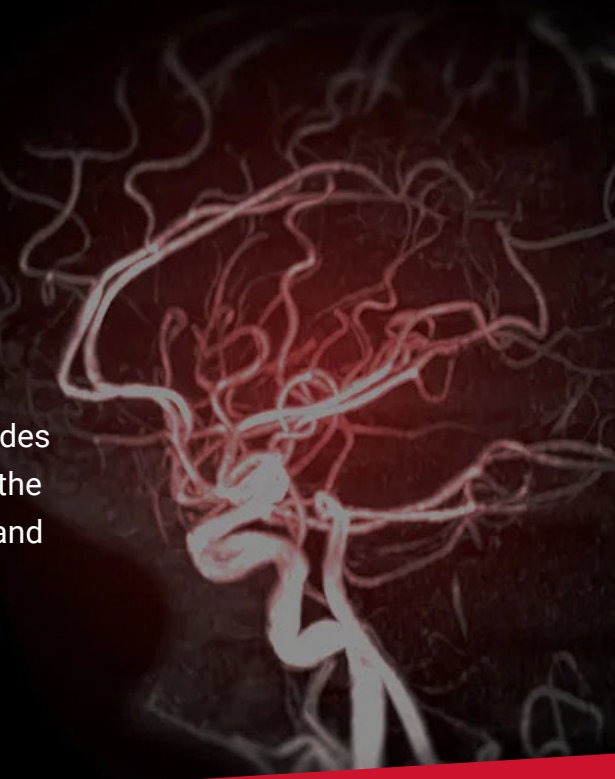

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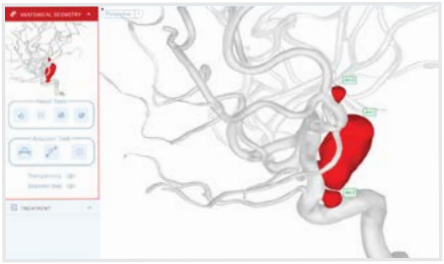

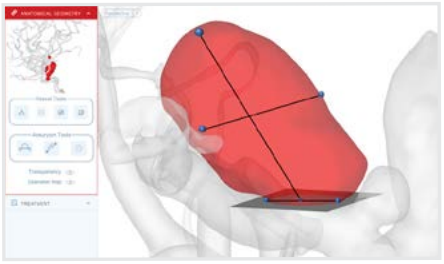

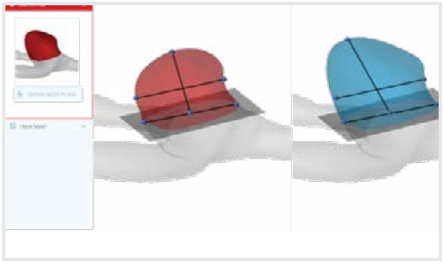

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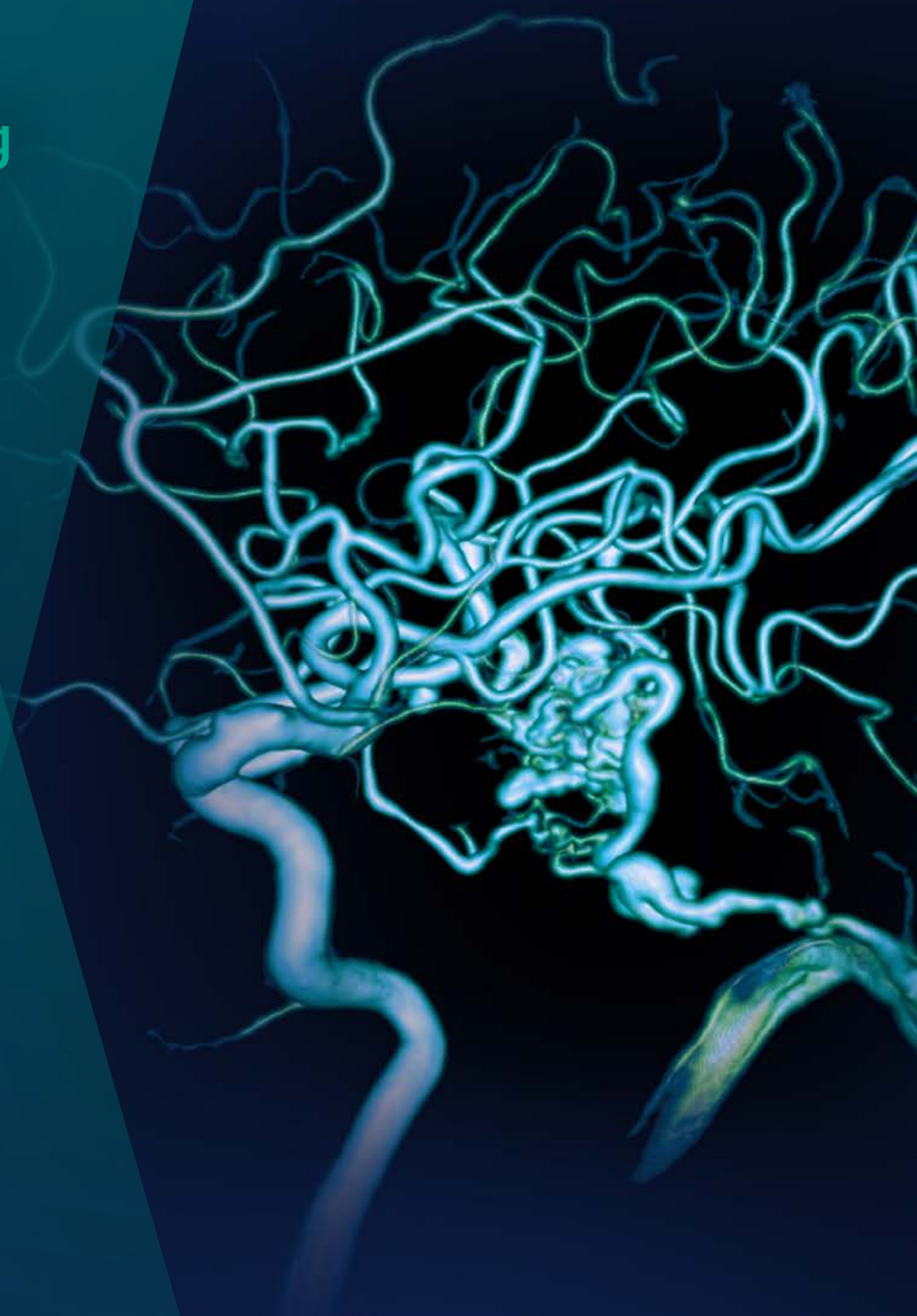

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Experience the REAL® Immersive System

An advanced rehabilitation technology using virtual reality designed to empower patients to fully engage in therapy

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Indication for Use
The REAL Immersive System is an immersive virtual reality and display system that interactively displays and tracks upper-extremity rehabilitation exercises for adult patients using a combination of virtual environments and full presence tracked avatars for visual feedback. These rehabilitation exercises are intended to be conducted in a seated position in a clinical environment and prescribed and supervised by a medical professional trained in rehabilitation therapy.

Contraindications
There are no known contraindications.

Warnings
- If a patient complains of motion sickness, dizziness, headache, eye strain, or fatigue when using the device, stop use of device immediately.
- Use caution when using this device if a patient has a history of vestibular issues or motion sickness.

Precautions
- Ensure a safe environment for the patient while performing activities with the device (e.g., remove any surrounding obstacles and ensure that the patient is unlikely to trip or fall). As this device is to be used for upper body rehabilitation, we recommend that the patient remain seated to avoid a fall.
- Be aware of the patient's limitations in range of motion and avoid device or program use that could lead to excessive gestures that could injure a patient.
- Extended use of a head-mounted display can cause discomfort or eye strain.
- Incorrect placement of the sensors on the patient may result in the avatar appearing incorrectly or distorted on the headset and tablet.
- Damage (mechanical and electrical) may result if the tablet, headset, sensors, router, router battery, and/or sensor charger are dropped or struck against another object.
- Device is not intended for continued use if dropped from higher than 1 meter.
- Do not touch the router and patient at the same time. Patients are not allowed to touch the router at any time.
- During use, the surface of the equipment will not exceed 41°C.
- Sensors will transmit inaccurate position data if used near metal including, but not limited to, wheelchairs, walkers, and utility carts.
- Headset tracking can be lost or compromised if large objects obscure the headset.
- To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
- At no time should liquid products be allowed near any device component.
- No modification of this equipment is allowed.
- Use of accessories, transducers, and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the REAL Immersive System, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
- Accessories such as power adapters and cords should not be replaced by the end user and should only be replaced by Penumbra. Any changes or replacements of accessories will likely impact compliance of REAL Immersive System.
- Use of this device should be in a secure information technology environment. Outbound https communication channels must be open.

Potential Adverse Effects/Events
Visual stimulation through head-mounted displays have a small possibility of provoking an epileptic seizure. Should this occur, stop using the device immediately.

Other possible complications include, but are not limited to, the following: claustrophobia, discomfort or pain in the head or eyes, disorientation/vertigo/dizziness, drowsiness, eye strain, falls or fractures, headache/migraine, insomnia, light-headedness, motion sickness, nausea, pain, seizure, repetitive strain injury, vision problems, skin irritation.

Should any of the above occur, stop using the device immediately.

Product availability varies by country. Rx only. Prior to use, please see User Manual for complete information, product indications, warnings, precautions, and potential adverse events. The product is intended to be used in a clinical environment and prescribed and supervised by a medical professional trained in rehabilitation therapy. A medical professional must be present at all times to provide direct supervision of the use of the product.

stryker

Take aspiration to the **next level** with the **AXS Vecta® 74 Intermediate Catheter**

- Deliver unmatched aspiration power with the extra-large .074in catheter
- Robust design for use with the Trevo NXT ProVue Retriever

LEARN MORE

AXS Vecta 71/74 Intermediate Catheter

RX ONLY

See package insert for complete indications, contraindications, warnings and instructions for use.

Indications for use as a conduit

The AXS Vecta Intermediate Catheter is indicated for use in facilitating the insertion and guidance of appropriately sized interventional devices into a selected blood vessel in the peripheral and neurovascular systems. The AXS Vecta Intermediate Catheter is also indicated for use as a conduit for retrieval devices.

Indications for use as a revascularization device

The AXS Vecta Intermediate Catheter, as part of the AXS Vecta Aspiration System, is indicated in the revascularization of patients with acute ischemic stroke secondary to intracranial large vessel occlusive disease (within the internal carotid, middle cerebral – M1 and M2 segments, basilar, and vertebral arteries) within 8 hours of symptom onset.

Patients who are ineligible for intravenous tissue plasminogen activator (IV t-PA) or who failed IV t-PA therapy are candidates for treatment.

For Important Safety Information, please click the Learn More button.

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