



2018
SAN DIEGO
NOVEMBER 14-17, 2018
HYATT REGENCY MISSION BAY • SAN DIEGO, CALIFORNIA

SVIN 11TH ANNUAL MEETING PROGRAM



Society of Vascular and
Interventional Neurology

SCHEDULE AT A GLANCE

TIME	SESSION/EVENT	LOCATION
TUESDAY, NOVEMBER 13TH		
6:00 pm - 8:00 pm	Registration	Bayview Foyer
WEDNESDAY, NOVEMBER 14TH		
7:00 am - 5:15 pm	Registration/Help Desk	Bayview Foyer
7:30 am - 9:00 am	Organizing Pre-Hospital Systems	Bayview Ballroom
9:00 am - 10:30 am	Process Improvements for Stroke Operations	Bayview Ballroom
10:30 am - 11:00 am	Coffee break (with support of Viz.ai)	Foyer/Terrace
11:00 am - 12:30 pm	ED and Hospital Throughput	Bayview Ballroom
12:30 pm - 1:30 pm	Lunch	Terrace
12:45 pm - 1:25 pm	Industry Lunch Symposium with Genentech (Non CME)	Bayview Ballroom
1:30 pm - 2:15 pm	Next Generation Roundtable (Non CME)	Bayview Ballroom
2:15 pm - 3:30 pm	Clinical Topics in Stroke Center Development	Bayview Ballroom
3:45 pm - 5:15 pm	BSES course (registration required)	Bayview Ballroom
5:15 pm - 6:45 pm	Welcome Reception	Banyan Court and Lawn
6:45 pm - 7:45 pm	Science of Clot Workshop (advance registration required)	Crown Point
6:30 pm - 9:00 pm	Board of Directors Meeting	Belmont
THURSDAY, NOVEMBER 15TH		
6:30 am - 6:15 pm	Registration/Help Desk	Bayview Foyer
6:45 am - 8:00 am	Breakfast with exhibitors and International Breakfast Corner	Terrace/Mission Ballroom
6:45 am - 3:45 pm	Exhibits	Mission Ballroom
8:00 am - 4:00 pm	Medtronic Technology Suite	Room 1920
8:00 am - 9:30 am	Welcome/Stroke Debates	Bayview Ballroom
9:30 am - 9:40 am	The Lisa Foundation - Breaking the Silence About Brain Aneurysms (Non CME)	Bayview Ballroom
9:40 am - 9:55 am	Presidential Address and Award Presentations	Bayview Ballroom
9:55 am - 10:15 am	Business Meeting and MT2020 Update	Bayview Ballroom
10:15 am - 10:45 am	Coffee break with exhibitors	Mission Ballroom
10:45 am - 12:15 pm	Complications and Saves	Bayview Ballroom
10:45 am - 12:15 pm	Building Expertise in Acute Neurovascular Diagnosis and Treatment	Palm Ballroom
12:15 pm - 12:45 pm	Lunch	Terrace
12:45 pm - 1:25 pm	Industry Lunch Symposium with Medtronic (Non CME)	Bayview Ballroom
1:30 pm - 2:10 pm	Industry Lunch Symposium with MicroVention (Non CME)	Bayview Ballroom
2:15 pm - 3:15 pm	ICAD	Bayview Ballroom
2:15 pm - 3:15 pm	Nursing and Advanced Practice Provider Stroke System Leadership	Palm Ballroom
3:15 pm - 3:45 pm	Coffee break with exhibitors (with support of Medtronic)	Mission Ballroom
3:45 pm - 5:15 pm	Pseudo-live Cases	Bayview Ballroom
3:45 pm - 5:15 pm	Determining Pathogenic Mechanism & Evidence-Based Secondary Stroke Prevention	Palm Ballroom
5:15 pm - 6:15 pm	Platform Session I	Bayview Ballroom
6:15 pm - 7:15 pm	Women in Vascular and Interventional Neurology (WIN) Reception	Cabanas
6:15 pm - 7:15 pm	Members in Training Reception (with support of Genentech)	Banyan Court and Lawn
7:15 pm - 8:15 pm	Science of Clot Workshop (advance registration required)	Crown Point
FRIDAY, NOVEMBER 16TH		
6:30 am - 5:30 pm	Registration/Help Desk	Bayview Foyer
6:45 am - 8:00 am	Breakfast with exhibitors	Mission Ballroom
6:45 am - 3:45 pm	Exhibits	Mission Ballroom
6:45 am - 8:00 am	Top Supporters Breakfast (Invitation only)	Crown Point
8:00 am - 5:00 pm	Penumbra Tech Suite: See the Future of Stroke	Room 1920
8:00 am - 5:00 pm	Stryker Tech Suite: Experience the Power of Innovation	Room 1918
8:00 am - 9:25 am	International Rapid Fire Stroke Challenges	Bayview Ballroom
8:00 am - 9:30 am	Clinical Trial Updates and Hot Topics in Vascular Neurology	Palm Ballroom
9:30 am - 10:00 am	An Unplanned Academic Journey Through Objectives, Cultures and Diversity	Bayview Ballroom
10:00 am - 10:45 am	Coffee break with exhibitors (with support of Medtronic)	Mission Ballroom
10:45 am - 12:15 pm	Future of Interventional Neurology	Bayview Ballroom
12:15 pm - 12:45 pm	Lunch	Terrace
12:45 pm - 1:25 pm	Industry Lunch Symposium with Stryker (Non CME)	Bayview Ballroom
1:30 pm - 2:10 pm	Industry Lunch Symposium with Penumbra (Non CME)	Bayview Ballroom
2:15 pm - 3:15 pm	AVM Treatment in the Current Century	Bayview Ballroom
2:15 pm - 3:15 pm	Controversies and Future Directions in Vascular Neurology	Palm Ballroom
3:15 pm - 3:45 pm	Coffee break with exhibitors	Mission Ballroom
3:45 pm - 5:15 pm	Brain Aneurysm	Bayview Ballroom
3:45 pm - 5:15 pm	Hot Topics in Vascular Neurology	Palm Ballroom
5:15 pm - 7:15 pm	Poster Reception	Regatta Pavilion
SATURDAY, NOVEMBER 17TH		
6:30 am - 12:30 pm	Registration/Help Desk	Bayview Foyer
6:45 am - 8:00 am	Breakfast with exhibitors	Mission Ballroom
6:45 am - 7:45 am	How to Get Published in a Scientific Journal Workshop (advance registration required)	Crown Point
8:00 am - 9:00 am	Platform Session II	Bayview Ballroom
9:00 am - 10:00 am	Building an Endovascular Practice	Bayview Ballroom
10:00 am - 10:30 am	Coffee break	Terrace
10:30 am - 12:00 pm	Guidelines	Bayview Ballroom
12:00 pm - 1:00 pm	Lunch for Fellows Course attendees	Palm Court
1:00 pm - 5:00 pm	Fellows Course	Palm Ballroom
3:00 pm - 3:30 pm	Coffee break	Palm Court



Ameer E. Hassan, DO, FSVIN, FAHA
Chair, 11th Annual SVIN Meeting



Thomas Devlin, MD, PhD, FSVIN
Co-Chair, Stroke Center Day



Italo Linfante, MD, FAHA, FSVIN
President, SVIN



Jawad Kirmani, MD, FSVIN
Co-Chair, Stroke Center Day
Secretary, SVIN

Welcome

The Society of Vascular and Interventional Neurology (SVIN) welcomes you to the 11th Annual Meeting in San Diego, California, November 14-17, 2018! This year's theme is "The Wave of the Future: Enhancing Synergies" and will bring with it a new and exciting format!

We have an excellent program this year with a new format that builds on the previous success of the Annual Meeting and Stroke Center Workshop. New tracks geared towards Advanced Practice Providers (Day 2) and Vascular Neurologists and Neurohospitalists (Day 3) have been added, as well as a half day fellows course (Day 4). The new format allows us to capture the latest insights and developments from both U.S. and international thought leaders in the Interventional, Nursing, and Vascular Neurology fields.

We are fortunate this year to hear from keynote guest speaker Dr. Fernando Vinuela from UCLA who will provide a walk-through translational research to the angio suite from 1981 to today. Building on our theme, Dr. Vinuela will showcase how the interdisciplinary teams evolved and involved basic scientists and clinicians and how the relationship between academia and industry led to the development of new devices and the specialty we know today.

The traditional Stroke Center Workshop (co-chaired by Tom Devlin, MD, PhD, FSVIN and Jawad Kirmani, MD, FSVIN) has now become integrated into the Annual Meeting Day 1. By starting with stroke care didactics and building on the first day, we decrease topical repetition throughout the meeting and bring in several new sessions on stroke treatment and care. Day 1 will be attended by stroke champions including hospital administration, nurse leaders, physician leaders, emergency room leaders and EMS leadership. The APP track is co-chaired by Anne W. Alexandrov, PhD, AGACNP-BC, CNS, CCRN, ANVP-BC and Jennifer Patterson, MSN, ACNP-BC, CCRN, FHM, and the vascular track is co-chaired by Amrou Sarraj, MD and Amer Malik, MD, MBA, FAHA, FSVIN. By "enhancing our synergies" with multiple disciplines, we can continue to sustain and build the stroke infrastructure needed to decrease death and disability worldwide.

This year's Annual Meeting continues to reflect the diversity, innovation, and creativity of our rapidly growing membership and our international partners. We look forward to an exciting meeting, which aims to address some of the most controversial issues confronting our field today. Look for Day 2 debates to be very lively! Other new sessions this year include pseudo-live cases and complications and saves, which will keep both our junior and senior members interactive and continue to foster networking and long-term friendships typically created at our Annual Meeting. On Saturday, we have added a half day fellows course organized by SVIN Board members and industry supporters.

The Abstract Committee continues to meet the challenge of choosing the best scientific abstracts from more than 180 submissions. The Committee worked diligently to bring out the best of SVIN science to be highlighted in two platform presentation sessions and a poster reception led by key professors in the field.

Please make an effort to attend all receptions and sessions and be sure to complete the meeting survey. We value your feedback and continually strive to improve your SVIN Annual Meeting experience.

I would like to thank our Annual Meeting Committee, Stroke Center Workshop Chairs, Nursing and Vascular Track Chairs, Abstract Committee, Fundraising Committee, SVIN's Executive Committee and Board of Directors, as well as everyone who has generously donated their time, effort, and patience to putting together the best possible agenda for this year's meeting.

We wish to acknowledge and thank our gracious meeting exhibitors and sponsors for their continued participation in the SVIN Annual Meeting and the Society. Be sure to visit the exhibitor area and Top Supporter suites.

I look forward to an amazing time learning, networking, and building synergies with all of you in San Diego!

Ameer E. Hassan DO, FSVIN, FAHA
Chair, 11th Annual SVIN Meeting



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GENERAL INFORMATION

SVIN 11TH ANNUAL MEETING PROGRAM DESCRIPTION

This year's Annual Meeting continues to reflect the diversity, innovation, and creativity of our rapidly growing membership and our international partners. We look forward to an exciting meeting, which aims to address some of the most controversial issues confronting our field today. We have an excellent program this year with a new format that builds on the previous success of the Annual Meeting and Stroke Center Workshop.

On Day 1, Drs. Thomas Devlin and Jawad Kirmani will co-chair our Stroke Center Day focusing on stroke systems of care and hospital infrastructure. National leaders in the field of stroke will share essential lessons learned on a broad range of topics that drive quality stroke center operations. Topics will include new protocols and technologies for organizing pre-hospital care, successful practices for optimizing your ED and interventional suite, stroke center certification insights from the pros, harnessing the power of your EMR, optimizing stroke center finances, emerging artificial intelligence-based technologies, clinical research infrastructure and many more. This programming is intended to bring together hospital administrators, EMS providers, physicians, nurses, coordinators, technologists, and other stroke champions from primary and comprehensive stroke centers. Ample time for discussions and questions will assure a robust exchange of information about world-class stroke practice.

The remainder of the meeting includes new tracks geared towards Advanced Practice Providers (Day 2) and Vascular Neurologists and Neurohospitalists (Day 3), as well as a half day Fellows Course (Day 4). The new format allows us to capture the latest insights and developments from both U.S. and international thought leaders in the Interventional, Nursing, and Vascular Neurology fields. Other new sessions this year include pseudo-live cases and complications and saves, which will keep both our junior and senior members interactive and continue to foster networking and long-term friendships typically created at our Annual Meeting.

LEARNING OBJECTIVES

Upon completion of this educational activity, participants should be able to:

- Implement strategies to best grow your stroke referral network
- Review prehospital best-practice protocols and communication technologies to facilitate patient triage and treatment
- Streamline operations in the endovascular suite and optimize billing for the interventionalist
- Review benefits of recent FDA-approved artificial intelligence-based technologies for your center
- Understand how you can use your EMR to automate the process of stroke data collection
- Upgrade ED clinical pathways to improve accuracy of stroke diagnosis and time to treatment
- Review strategies to maximize hospital throughput
- Understand how to make a multifaceted finance reporting tool for your stroke center
- Improve documentation and coding procedures to drive hospital DRG payments, STAR ratings and HCAHPS scores
- Understand key drivers to successful stroke accreditation
- Implement best-practices guidelines for a robust clinical research program

- Integrate learning on stroke systems of care, pre-hospital care, and hospital infrastructure
- Improve processes on stroke operations from the ED to angiography suite
- Strengthen the ability to build a comprehensive stroke program
- Optimize technical performance of stroke, aneurysm, AVM and ICAD neurointerventions
- Understand the future of Interventional Neurology and the International barriers to Stroke Treatment
- Discuss key elements of a work up to determine pathogenic mechanism for patients with acute stroke
- Describe evidence-based treatment approaches for structural hemorrhages, intraparenchymal hemorrhage and acute ischemic stroke
- Identify expanded roles and scholarship opportunities to increase advanced practice provider influence

TARGET AUDIENCE

This meeting is intended for hospital administrators, critical care physicians, industry leaders, EMS leaders, ICU leaders, interventional lab leaders, neurointerventionists, interventional neurologists, interventional neuroradiologists, endovascular neurosurgeons, vascular neurologists, neurointensivists, neurosurgeons, nurses, physician assistants, and other related neurological or endovascular practitioners.

HOW TO CLAIM CME FOR THE SVIN 2018 ANNUAL MEETING

Claim your CME as easy as 1-2-3:

1. Access the SVIN 2018 Annual Meeting Evaluation by using the following link: <https://akhcme.com/akhcme/pages/svin>
2. Complete the evaluation for sessions attended.
3. After you hit submit, an electronic copy will be emailed to you for your records.

Earn up to 22.25 **AMA PRA Category 1 Credit(s)**[™] and 22.25 **ANCC contact hours** for the Annual Meeting. ABPN Self-Assessment (SACME) credits will also be provided.

Please see page 5 for complete CME/CE information.

EXHIBIT AND REGISTRATION DESK HOURS

Registration/Help Desk Hours | Foyer

Tuesday, November 13 6:00 pm – 8:00 pm
Wednesday, November 14 7:00 am – 5:15 pm
Thursday, November 15 6:30 am – 6:15 pm
Friday, November 16 6:30 am – 5:30 pm
Saturday, November 17 6:30 am – 12:30 pm

Exhibit Hall Hours | Mission Ballroom

Thursday, November 15 6:45 am - 3:45 pm
Friday, November 16 6:45 am - 3:45 pm
Saturday, November 17 6:45 am – 8:00 am

SVIN WIFI/ APP INFORMATION

WIFI INSTRUCTIONS

1. Check for any available wireless signals.
2. Connect to SSID @Hyatt Meetings
3. Launch a web browser.
4. When prompted, enter the password **SVIN2018**.



The conference Welcome Page or hotel main page will display and you can now browse the Internet.

If you are roaming throughout the hotel, your computer will sometimes disconnect and you will need to re-associate with another Wireless Access Point. VPN's are not meant to stay connected all the time for security reasons and you may be required to re-establish your VPN connectivity when your current session expires. If you encounter any technical difficulties, please call 619-839-9980.

MOBILE MEETING APP INSTRUCTIONS (USE THIS TO PARTICIPATE WITH THE AUDIENCE RESPONSE SYSTEM)

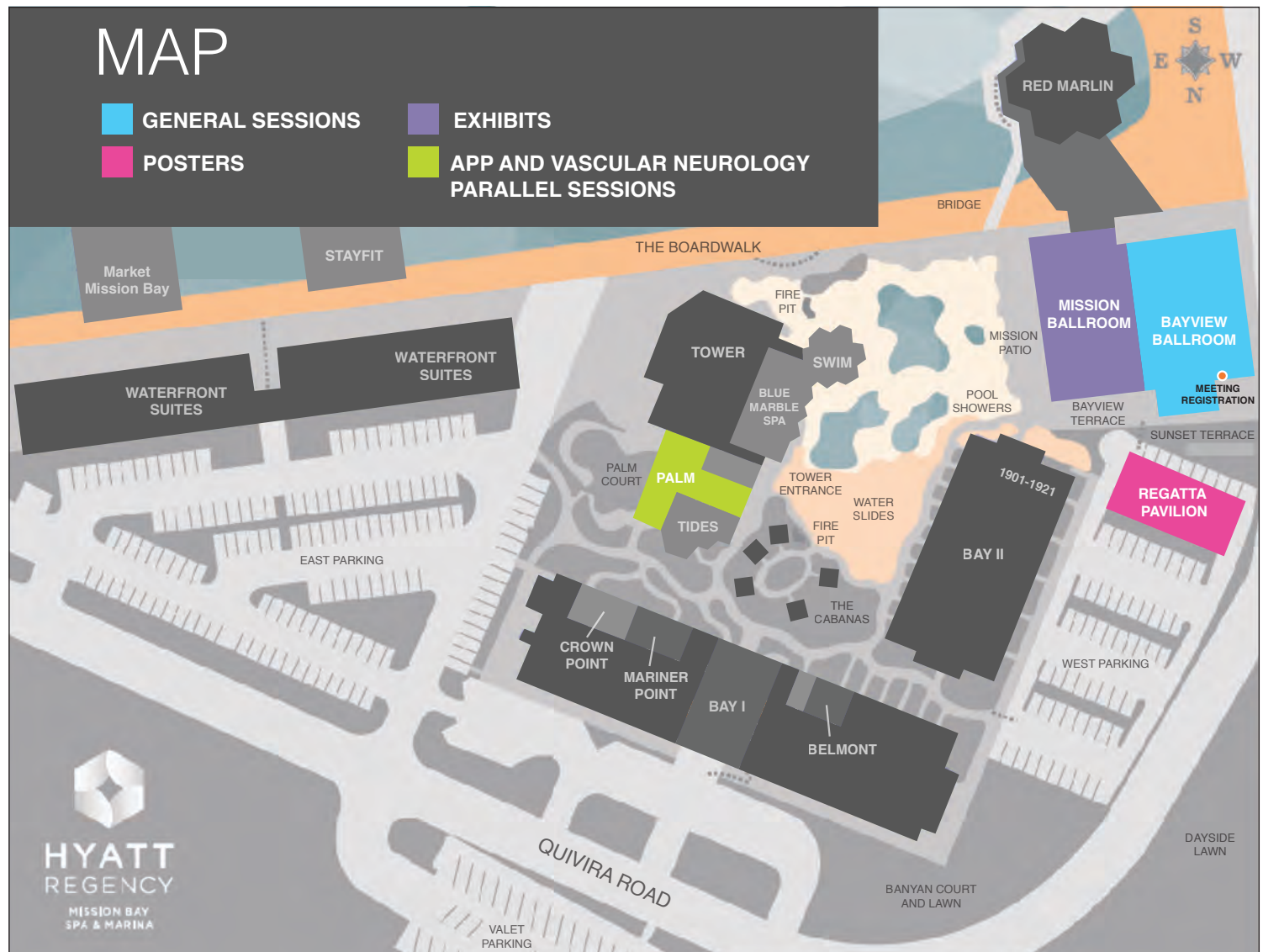
Navigate the event like a pro with the **SVIN 2018 Annual Meeting mobile app**, powered by **Core-apps.com**

With the SVIN 2018 Annual Meeting mobile app, you can:

- Stay organized with up-to-the-minute Speaker, Exhibitor, and Event information
- Receive important real-time communications from SVIN
- Build a personalized schedule and bookmark exhibitors
- Take notes and download event handouts and presentations
- Find attendees and connect with your colleagues through Friends
- Stay in-the-know and join in on social media with #SVIN2018
- Share your event photos and experiences with the Photo Gallery
- And much, much more!

DOWNLOADING THE APP IS EASY!

SEARCH: The App Store or Google Play for SVIN Meetings



PROGRAM

Tuesday, November 13th

6:00 pm – 8:00 pm Registration Bayview Foyer

Wednesday, November 14th Stroke Center Day

7:00 am – 5:15 pm Registration/Help Desk Bayview Foyer

7:30 am – 9:00 am Organizing Pre-Hospital Systems Bayview Ballroom

Moderators: Thomas Devlin, MD, PhD, FSVIN and Jawad Kirmani, MD, FSVIN

7:30 am – 7:40 am **Welcome**, Ameer E. Hassan, DO, FAHA, FSVIN and Thomas Devlin MD, PhD, FSVIN

7:40 am – 8:00 am **EMS Destination Protocols: Getting the Best Patient Outcomes**,

Ryan McTaggart, MD

8:00 am – 8:20 am **Neuroimaging at the HUB & SPOKE: What, Where & When**,

Ashutosh Jadhav, MD, PhD, FSVIN

8:20 am – 8:40 am **Telemedicine: Optimizing Operations & Finances**, Nima Mowzoon, MD, MBA

8:40 am – 9:00 am **Q&A**

9:00 am – 10:30 am **Process Improvement for Stroke Operations** Bayview Ballroom

Moderator: Italo Linfante, MD, FAHA, FSVIN

9:00 am – 9:20 am **Your ED Stroke Protocol: Responding to FDA's 24 hour Treatment Window**, Jawad Kirmani, MD, FSVIN

9:20 am – 9:40 am **The Angio Lab – Making it More Efficient with STEPS-T**,

Ameer E. Hassan, DO, FAHA, FSVIN

9:40 am – 9:55 am **Thrombectomy Capable Center Debate 1: The Argument Against**,

Mohamed Teleb, MD

9:55 am – 10:10 am **Thrombectomy Capable Center Debate 2: The Argument For**,

Radoslav Raychev, MD

10:10 am – 10:30 am **Q&A**

10:30 am – 11:00 am **Coffee break (with support of Viz.ai)** Terrace

11:00 am – 12:30 pm **ED & Hospital Throughput** Bayview Ballroom

Moderator: Pankajavalli Ramakrishnan, MD, PhD

11:00 am – 11:20 am **Stroke Finances – Assessing the Impact of New Technologies**,

Thomas Devlin, MD, PhD, FSVIN

11:20 am – 11:40 am **Professional Billing for the Interventionalist: THE MUST KNOW INFO**,

Brent Sperlich, MBA (Non CME)

11:40 am – 12:00 pm **Data Capture Across the System of Stroke Care: A Significant Challenge**

in the Age of Thrombectomy, Brad Kolls, MD, PhD, MMCi

12:00 pm – 12:20 pm **EPIC and Real Time Smart Data Collection: The Erlanger Experience**,

Ruchir Shah, MD

12:20 pm – 12:30 pm **Q&A**

12:30 pm – 1:30 pm	Lunch Terrace
12:45 pm – 1:25 pm	Industry Lunch Symposium with Genentech (Non CME) Bayview Ballroom Gain perspective from Dr. Paul Singh, fellow SVIN member and colleague, who will lead an engaging discussion around 2 Patient Cases studies looking at best practices for the diagnosis, evaluation, and treatment of patients with acute ischemic stroke.
1:30 pm – 2:15 pm	Next Generation Roundtable (Non CME) Bayview Ballroom <i>Moderators: Thomas Devlin, MD, PhD, FSVIN, Ameer E. Hassan, DO, FAHA, FSVIN, Jawad Kirmani, MD, FSVIN and Italo Linfante, MD, FAHA, FSVIN</i>
2:15 pm – 3:30 pm	Critical Topics in Stroke Center Development Bayview Ballroom <i>Moderator: Raul Nogueira, MD, FSVIN</i>
2:15 pm – 2:35 pm	Clinical Research- Run It Like a Business and Watch it Grow, <i>Kiva Schindler, RN, CCRC</i>
2:35 pm – 2:55 pm	Preparing for Your Next Certification Survey – Tips from the Expert, <i>Sue Ashcraft, DNP, ACNS-BC, FAHA</i>
2:55 pm – 3:15 pm	The Future of Stroke Treatment Just Arrived: The Explosion of Machine Learning, <i>Peter Chang, MD</i>
3:15 pm – 3:30 pm	Q&A
3:45 pm – 5:15 pm	BSES Course (registration required) Bayview Ballroom This live course covers basic anatomy, statistics, types of strokes, risk factors, signs and symptoms, detection scales, treatment options, and methods for improving stroke outcomes. This course is appropriate for physicians, nurses, emergency medical professionals, first responders, healthcare workers, hospital personnel and the general public. Upon completion of the course, you will receive 1.5 CME credits.
5:15 pm – 6:45 pm	Welcome Reception Banyon Court and Lawn
6:45 pm – 7:45 pm	Science of Clot Workshop (advance registration required) Crown Point Science of Clot Workshop – an interactive workshop analyzing the clots that cause large vessel occlusions from an engineering perspective. Why are some clots easier to remove? What happens to an occlusion over time? Does the nature of clot change during the course of endovascular therapy? Topics and hands-on exhibits will include clot composition and characterization, clot properties and behavior, occlusion dynamics, and clot-device interactions. Content builds upon what was covered in last year’s workshops. The workshop will be presented by the CERENOVUS Neuravi Thromboembolic Initiative (NTI) based on its research as well as findings from collaborative research projects with clinical and scientific institutions with the goal of advancing stroke therapy.
6:30 pm – 9:00 pm	Board of Directors Meeting Belmont



PROGRAM

Thursday, November 15th

6:30 am – 6:15 pm	Registration/Help Desk.....	Bayview Foyer
6:45 am – 8:00 am	Breakfast with exhibitors	Terrace/Mission Ballroom
6:45 am – 8:00 am	International Breakfast Corner	Terrace
6:45 am – 3:45 pm	Exhibits	Mission Ballroom
8:00 am – 4:00 pm	Medtronic Technology Suite	Room 1920
8:00 am – 9:30 am	Welcome/Stroke Debates	Bayview Ballroom

Moderators: Ameer E. Hassan, DO, FAHA, FSVIN, Jawad Kirmani, MD, FSVIN

David Liebeskind, MD, FAHA, FAAN, FSVIN and Mohamed Teleb, MD

8:00 am – 8:15 am	Welcome and Introduction to Meeting App , Ameer E. Hassan, DO, FAHA, FSVIN
8:15 am – 8:30 am	TPA vs. Direct MT , Andrei V. Alexandrov, MD and Vitor Mendes Pereira, MD, MSc
8:30 am – 8:45 am	CT vs. CTP , Amrou Sarraj, MD and Greg Albers, MD
8:45 am – 9:00 am	Treatment of M2s and Beyond with MT vs. Medical Management Only , Diogo Haussen, MD, FSVIN and Claus Ziegler Simonsen, MD, PhD
9:00 am – 9:15 am	Drip and Ship vs. Trip and Treat , Patrick Lyden, MD and Johanna Fifi, MD, FSVIN
9:15 am – 9:30 am	Future of Mobile Stroke Unit vs. Mass Market Technology , M. Shazam Hussain, MD and Thomas Devlin, MD, PhD, FSVIN

9:30 am – 9:40 am	The Lisa Foundation - Breaking the Silence About Brain Aneurysms (Non CME) , Todd Crawford
9:40 am – 9:55 am	Presidential Address and Award Presentations , Italo Linfante, MD, FAHA, FSVIN
9:55 am – 10:05 am	Business Meeting , Italo Linfante, MD, FAHA, FSVIN (Non CME)
10:05 am – 10:15 am	MT2020 Update , Dileep Yavagal, MD, FSVIN (Non CME)
10:15 am – 10:45 am	Coffee break with exhibitors..... Mission Ballroom

10:45 am – 12:15 pm	Complications and Saves	Bayview Ballroom
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Moderators: Thanh Nguyen, MD, FRCPC, FSVIN and Qaisar Shah, MD, FSVIN

10:45 am – 10:57 am	Abdominal Compartment Syndrome , Rakesh Khatri, MD, FAHA, FSVIN
10:57 am – 11:09 am	A Severe Direct Carotid-Cavernous Fistula as a Complication of Thrombectomy in a Tandem Occlusion of the Right CCA and MCA , Adam Kobayashi, MD, PhD
11:09 am – 11:21 am	ICAD and Balloon Mounted Stent Difficulty , Mikayel Grigoryan, MD
11:21 am – 11:33 am	Anterior to Posterior Circulation ENT , Merritt W. Brown, MD
11:33 am – 11:45 am	Coil Migration and Retrieval Using Stentriever , Sudeepta Dandapat, MD
11:45 am – 11:57 am	Stentriever of Pipeline Embolization Device , Sudeepta Dandapat, MD
11:57 am – 12:15 pm	Q&A

10:45 am – 12:15 pm	Building Expertise in Acute Neurovascular Diagnosis and Treatment	Palm Ballroom
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Moderators: Benjamin Morrow, MSN, RN and Audrey Arango, RN, BSN, NVRN-BC

10:45 am – 11:10 am	Case 1 , Wendy Dusenbury, DNP, APRN, FNP-BC, AGACNP-BC, ANVP-BC
11:10 am – 11:35 am	Case 2 , Anne W. Alexandrov, PhD, AGACNP-BC, CNS, CCRN, ANVP-BC
11:35 am – 12:00 pm	Case 3 , Michele Starr, PA-c, ANVP-BC
12:00 pm – 12:15 pm	Q&A



12:15 pm – 12:45 pm
12:45 pm – 1:25 pm

Lunch **Terrace**
Industry Lunch Symposium with Medtronic (Non CME)..... **Bayview Ballroom**
Bypass to an endovascular-capable center may significantly shorten treatment times without substantially delaying thrombolysis: an analysis of the STRATIS Registry, Nils Mueller-Kronast, MD, Director, NeuroInterventional Service, Delray Medical Center, Regional Neuroscience Director, Tenet South Florida

1:30 pm – 2:10 pm

Industry Lunch Symposium with MicroVention (Non CME) **Bayview Ballroom**
Versatility of the SOFIA Flow Plus Catheter for the Treatment of Ischemic Stroke: Clinical Experience, Syed F. Zaidi, MD, Associate Professor Neurology; Director Interventional Neurology Program; Co-Director Telestroke

2:15 pm – 3:15 pm

ICAD **Bayview Ballroom**
Moderators: Mohamed Almekhlafi, MD, MSc, FRCPC, Tudor Jovin, MD, FSVIN and Wondwossen Tekle, MD

2:15 pm – 2:25 pm **Current Level of Evidence in ICAD Treatment**, Mikayel Grigoryan, MD
2:25 pm – 2:35 pm **After WEAVE, What's Next?** Michael Alexander, MD
2:35 pm – 2:45 pm **Are Drug-Eluting Balloons/Stents the Future?** Philipp Gruber, MD, MSc
2:45 pm – 2:55 pm **International ICAD Experience- China/Japan**, Nobuyuki Sakai, MD DMSc
2:55 pm – 3:05 pm **Surgical Bypass**, Jonathan Russin, MD
3:05 pm – 3:15 pm **Q&A**

2:15 pm – 3:15 pm

Nursing and Advanced Practice Provider Stroke System Leadership..... **Palm Ballroom**
Moderators: Benjamin Morrow, MSN, RN and Audrey Arango, RN, BSN, NVRN-BC

2:15 pm – 2:30 pm **Scholarship Expectations for APPs**, Andrei V. Alexandrov, MD
2:30 pm – 2:45 pm **The APP as Stroke Coordinators**, Fern Cudlip, FNP, ANVP
2:45 pm – 3:00 pm **The APP as Neuroscience Program Business Leader**, Karen Seagraves, MS, MPH, RN, ANP-BC, ACNS-BC, FAHA
3:00pm – 3:15 pm **Q&A**

PROGRAM

3:15 pm – 3:45 pm **Coffee break with exhibitors (with support of Medtronic) Mission Ballroom**

3:45 pm – 5:15 pm **Pseudo-live Cases Bayview Ballroom**
Moderators: Ashutosh Jadhav, MD, PhD, FSVIN Italo Linfante, MD, FAHA, FSVIN and Dileep Yavagal, MD, FSVIN

3:45 pm – 3:57 pm **Stroke**, Vincent Costalat, Pr, MD, PhD (Non CME)
 3:57 pm – 4:09 pm **Aneurysm**, Gabor Toth, MD
 4:09 pm – 4:21 pm **DAVF**, Viktor Szeder, MD, PhD
 4:21 pm – 4:33 pm **Stroke**, Diogo Haussen, MD, FSVIN
 4:33 pm – 4:45 pm **ICAD**, Mikayel Grigoryan, MD
 4:45 pm – 4:57 pm **AVM**, Santiago Ortega-Gutierrez, MD, MSc
 4:57 pm – 5:15 pm **Q&A**

3:45 pm – 5:15 pm **Determining Pathogenic Mechanism & Evidence-Based Secondary Stroke Prevention Palm Ballroom**
Moderators: Benjamin Morrow, MSN, RN and Audrey Arango, RN, BSN, NVRN-BC

3:45 pm – 4:10 pm **Case 1**, Sara Vann, MS, PA-C, ANVP-BC
 4:10 pm – 4:35 pm **Case 2**, Jennifer Patterson, MSN, ACNP-BC, CCRN FHM
 4:35 pm – 5:00 pm **Case 3**, Victoria M. Swatzell, DNP, ACNP-BC, ANVP-BC
 5:00 pm – 5:15 pm **Q&A**

5:15 pm – 6:15 pm **Platform Session I (full abstract and authors listing available in the abstract supplement) Bayview Ballroom**
Moderators: Michael Abraham, MD, FAHA and Raul Nogueira, MD, FSVIN

5:15 pm – 5:23 pm **ESN-App, Smartphone GPS-Tracking, Triage and Telecommunication for Acute Stroke Patients: First Egyptian Pilot Study**,
 Ossama Mansour, MD, PhD, FSVIN, FINR
 5:23 pm – 5:31 pm **Automated Detection of Hyperdense MCA Sign and Notification of Large Vessel Occlusion Using Artificial Intelligence**, Charlotte Y. Chung, MD, PhD
 5:31 pm – 5:39 pm **Analysis of Workflow and Direct vs. Transferred Patient's Outcome in DAWN Trial**, Amin N. Aghaebrahim, MD
 5:39 pm – 5:47 pm **The Impact of Blood Pressure on Collateral Circulation During Anesthesia**,
 Radoslav Raychev, MD
 5:47 pm – 5:55 pm **Intra-Arterial tPA Administration During Mechanical Thrombectomy is Associated With Increased Risk of Subarachnoid Hemorrhage**, Joshua Lukas, MD
 5:55 pm – 6:03 pm **The NeVa Thrombectomy Device: Initial Clinical Experience**, Luis Sanroman
 6:03 pm – 6:11 pm **Imaging Selection and Key Subgroup Analyses From the SELECT Study**,
 Amrou Sarraj, MD
 6:11 pm – 6:15 pm **Q&A**

6:15 pm – 7:15 pm **Women in Vascular and Interventional Neurology (WIN) Reception Cabanas**
6:15 pm – 7:15 pm **Members in Training Reception (all welcome, with support of Genentech) Banyan Court & Lawn**

7:15 pm – 8:15 pm



Science of Clot Workshop (advance registration required) Crown Point

Science of Clot Workshop – an interactive workshop analyzing the clots that cause large vessel occlusions from an engineering perspective. Why are some clots easier to remove? What happens to an occlusion over time? Does the nature of clot change during the course of endovascular therapy? Topics and hands-on exhibits will include clot composition and characterization, clot properties and behavior, occlusion dynamics, and clot-device interactions.

Content builds upon what was covered in last year's workshops. The workshop will be presented by the CERENOVUS Neuravi Thromboembolic Initiative (NTI) based on its research as well as findings from collaborative research projects with clinical and scientific institutions with the goal of advancing stroke therapy.

Friday, November 16th

6:30 am – 5:30 pm

6:45 am – 8:00 am

8:00 am – 5:00 pm

8:00 am – 5:00 pm

Registration/Help Desk..... Bayview Foyer

Breakfast with exhibitors Terrace/Mission Ballroom

Penumbra Technology Suite: See the Future of Stroke Room 1920

Stryker Technology Suite: Experience the Power of Innovation..... Room 1918

8:00 am – 9:25 am

International Rapid Fire Stroke Challenges Bayview Ballroom

Moderators: Santiago Ortega-Gutierrez, MD, MSc and Ido van den Wijngaard, MD, PhD

8:00 am – 8:10 am

Stroke Treatment in LATAM: Current Challenges, Gisele Silva, MD, PhD

8:10 am – 8:20 am

International Outreach Program in LATAM, Edgar Samaniego, MD, MS, FSVIN and Santiago Ortega-Gutierrez, MD, MSc

8:20 am – 8:30 am

Challenges of Training IN in South America, Manuel Moquillaza, MD

8:30 am – 8:40 am

Stroke Treatment in Africa: Current Challenges,
Ossama Mansour, MD, PhD, FSVIN, FINR

8:40 am – 8:50 am

Stroke Treatment in Asia: Current Challenges, Yan Ma, MD

8:50 am – 9:00 am

Stroke Treatment in Spain: Current Challenges & Update on RACECAT,
Natalia Pérez de la Ossa, PhD

9:00 am – 9:10 am

Challenges of Training IN in Europe, Adam Kobayashi, MD, PhD

9:10 am – 9:25 am

Q&A

8:00 am – 9:30 am

Clinical Trial Updates and Hot Topics in Vascular Neurology Palm Ballroom

Moderators: Amrou Sarraj, MD and Amer Malik, MD, MBA, FAHA, FSVIN

8:00 am – 8:15 am

An Update on Stroke Pre-Hospital Care: The Available Evidence and Future Directions, Natalia Pérez de la Ossa, PhD

8:15 am – 8:30 am

An Update on Stroke Secondary Prevention: The Available Evidence and Future Directions, Nirali Vora, MD

8:30 am – 8:45 am

An Update On Acute Thrombolysis Management For Ischemic Strokes,
Maarten Lansberg, MD, PhD

8:45 am – 9:00 am

An Update On Acute Management For Hemorrhagic Strokes, Nicole Gonzales, MD

9:00 am – 9:10 am

The Role of Telemedicine in Acute Stroke Treatment, Michael Chen, MD

9:10 am – 9:20 am

Stroke in Women- Disparities and Outcomes: The Current Evidence and Future Opportunities, Louise McCullough, MD, PhD

9:20 am – 9:30 am

Q&A

PROGRAM

9:30 am – 10:00 am	An Unplanned Academic Journey Through Objectives, Cultures and Diversity, Fernando Vinuela, MD Bayview Ballroom
10:00 am – 10:45 am	Coffee break with exhibitors (with support of Medtronic) Mission Ballroom
10:45 am – 12:15 pm	Future of Interventional Neurology Bayview Ballroom

Moderators: Tudor Jovin, MD, FSVIN, Xinfeng Liu, MD, Alberto Maud, MD, and Roberta Novakovic, MD, FSVIN

10:45 am – 10:55 am	CAST , Arthur Day, MD
10:55 am – 11:05 am	What's Next in Interventional Neurology , Adnan Qureshi, MD
11:05 am – 11:15 am	Endovascular EEG , Sunil Sheth, MD
11:15 am – 11:25 am	Endovascular OCT , Conrad Liang, MD, PhD
11:25 am – 11:35 am	New Techniques for Intracranial Stenosis , Nobuyuki Ohara, MD
11:35 am – 11:45 am	Minimally Invasive Surgery for IVH and ICH , Wondwossen Tekle, MD
11:45 am – 11:55 am	Future Stroke Thrombectomy Devices , Dileep Yavagal, MD, FSVIN (Non CME)
11:55 am – 12:05 pm	Rapid Fire Trial Updates , Yazan Alderazi, MD
12:05 pm – 12:15 pm	Q&A

12:15 pm – 12:45 pm	LunchTerrace
12:45 pm – 1:25 pm	Industry Lunch Symposium with Stryker (Non CME) Bayview Ballroom
	The Power of Clinical Evidence: Advancing the Future of Stroke Care , Raul Nogueira, MD, FSVIN

1:30 pm – 2:10 pm	Industry Lunch Symposium with Penumbra (Non CME) Bayview Ballroom
	COMPLETE Study: Capturing Data from Everyday Practice <i>Osama Zaidat, MD, FSVIN, Mercy Health, OH</i>
	Science of Aspiration: Driving New Technology , Paul Singh, MD, Mt. Sinai, NY

2:15 pm – 3:15 pm	AVM Treatment in the Current Century Bayview Ballroom
	<i>Moderators: Saruhan Cekirge, MD, Brian Jankowitz, MD and Raul Nogueira, MD, FSVIN</i>

2:15 pm – 2:30 pm	Multi-modality Treatment of AVMs , Michael Lawton, MD
2:30 pm – 2:45 pm	AVM Radiosurgery in the ARUBA Era , Doug Kondziolka, MD
2:45 pm – 3:00 pm	Endovascular Treatment of Cerebral AVMS , Edgar Samaniego, MD, MS, FSVIN
3:00 pm – 3:15 pm	Q&A

2:15 pm – 3:15 pm	Controversies and Future Directions in Vascular Neurology Palm Ballroom
	<i>Moderators: Amrou Sarraj, MD and Amer Malik, MD, MBA, FAHA, FSVIN</i>

2:15 pm – 2:30 pm	IV Thrombolysis in Selected Patients with Unknown Time of Onset: Available Evidence is Sufficient for Clinical Implementation and No Further Randomized Trials are Needed , Claus Ziegler Simonsen, MD, PhD and Tudor Jovin, MD, FSVIN (Non CME)
2:30 pm – 2:45 pm	Anticoagulation is Reasonable for Cryptogenic Strokes: Future Trials Will Prove the Benefit , Mike Sharma, MD, MSc, FRCPC and Anjail Sharrief, MD, MPH
2:45 pm – 2:55 pm	Neuro-Imaging for Non-Endovascular Acute Stroke Management , Greg Albers, MD
2:55 pm – 3:05 pm	The Choice of Antiplatelets After Acute Ischemic Strokes and Transient Ischemic Attack , Anthony S. Kim, MD, MAS
3:05 pm – 3:15 pm	Q&A

3:15 pm – 3:45 pm Coffee break with exhibitors..... Mission Ballroom

3:45 pm – 5:15 pm Brain Aneurysm Bayview Ballroom
Moderators: *Italo Linfante, MD, FAHA, FSVIN and Radoslav Raychev, MD*

3:45 pm – 4:00 pm **Flow Diversion- Expanding Indications**, *Tibor Becske, MD*
4:00 pm – 4:15 pm **New Neck Bridging Devices**, *Satoshi Tateshima, MD, DMSc*
4:15 pm – 4:25 pm **Intrasaccular Treatment**, *Michael Chen, MD*
4:25 pm – 4:45 pm **The Flow Remodeling as a Next Generation Aneurysm Treatment**
Concept: Simplicity is the Ultimate Sophistication, *Saruhan Cekirge, MD*
4:45 pm – 5:00 pm **Can All Aneurysms be Treated by Endovascular Methods?**
Osama Zaidat, MD, FSVIN
5:00 pm – 5:15 pm **Q&A**

3:45 pm – 5:15 pm Hot Topics in Vascular Neurology Palm Ballroom
Moderators: *Amrou Sarraj, MD and Amer Malik, MD, MBA, FAHA, FSVIN*

3:45 pm – 4:00 pm **IV tPA for Mild Strokes**, *Gisele Silva, MD, PhD and Raul Nogueira, MD, FSVIN*
4:00 pm – 4:15 pm **Beyond IV tPA: The Future is for Adjunctive Thrombolytic Therapies vs. We Need Better Neuroprotection**, *Maarten Lansberg, MD, PhD and Opeolu Adeoye, MD*
4:15 pm – 4:25 pm **PFO Closure for Stroke Secondary Prevention: The Evidence, Evolution and its Impact on Clinical Practice**, *Jeffrey L. Saver, MD*
4:25 pm – 4:35 pm **Future Trials in Vascular Neurology: What Should We Focus On?**
David Liebeskind, MD, FAHA, FAAN, FSVIN
4:35 pm – 4:45 pm **Acute Stroke Treatment on the Road: The Mobile Stroke Unit Impact**, *M. Shazam Hussain, MD*
4:45 pm – 4:55 pm **The Role of Sonothrombolysis in Acute Stroke Management: Current Evidence and Future Directions**, *Andrei V. Alexandrov, MD*
4:55 pm – 5:05 pm **TNK vs. IV tPA: Current Evidence and Future Directions**, *Greg Albers, MD*
5:05 pm – 5:15 pm **Q&A**

5:15 pm – 7:15 pm Poster Reception (full poster listing and abstracts available in the abstract supplement)..... Regatta Pavilion

5:15 pm – 5:45 pm **Reception**
5:45 pm – 6:30 pm **Odd-Numbered Posters (Walk Around with the Professor)**
6:30 pm – 7:15 pm **Even-Numbered Posters (Walk Around with the Professor)**
(See mobile app for Walk Around with the Professor Schedule)

Saturday, November 17th

6:30 am – 12:30 pm	Registration/Help Desk..... Bayview Foyer
6:45 am – 8:00 am	Breakfast with exhibitors Mission Ballroom
6:45 am – 7:45 am	How to Get Published in a Scientific Journal Workshop (advance registration required) Crown Point
8:00 am – 9:00 am	Platform Session II (full abstract and co-authors listing available in the abstract supplement)..... Bayview Ballroom <i>Moderators: Mohamed Teleb, MD and Osama Zaidat, MD, FSVIN</i>
8:00 am – 8:08 am	Basilar Artery Occlusion Endovascular Intervention versus Standard Medical Treatment (BEST) Trial: Primary Results , <i>Raul Nogueira, MD, FSVIN</i>
8:08 am – 8:16 am	Perfusion Imaging Selection of Ischemic Stroke Patients for Endovascular Therapy: the POSITIVE Trial Results , <i>Adnan Siddiqui, MD</i>
8:16 am – 8:24 am	Surpass™ IntraCranial Aneurysm Embolization System Pivotal Trial to Treat Large OR Giant Aneurysms (SCENT Trial) , <i>Italo Linfante, MD, FAHA, FSVIN</i>
8:24 am – 8:32 am	Sphenopalatine Ganglion Stimulation to Augment Collateral Perfusion in Acute Ischemic Stroke: IMPACT-24B Trial Results , <i>Jeffrey L. Saver, MD</i>
8:32 am – 8:40 am	Cyclical Aspiration Technique Improves Clot Ingestion and Reduces Fragmentation , <i>Miklos Marosfoi, MD</i>
8:40 am – 8:48 am	Focal Brain Stimulation with a Chronically Implanted Minimally- Invasive Endovascular Stent-Electrode Array , <i>Thomas Oxley, MD, PhD</i>
8:48 am – 9:00 am	Q&A
9:00 am – 10:00 am	Building an Endovascular Practice Bayview Ballroom <i>Moderators: Roberta Novakovic, MD, FSVIN</i>
9:00 am – 9:15 am	How to Build a Private CSC Practice , <i>Ameer E. Hassan, DO, FAHA, FSVIN</i>
9:15 am – 9:30 am	How to Build an Academic CSC Practice , <i>Ashutosh Jadhav, MD, PhD, FSVIN</i>
9:30 am – 9:45 am	Billing and Coding 101 , <i>P. Roger DeVersa, MD, MBA, FHM, CPE, CCS</i>
9:45 am – 10:00 am	Q&A
10:00 am – 10:30 am	Coffee break Terrace
10:30 am – 12:00 pm	Guidelines Bayview Ballroom <i>Moderators: Johanna Fifi, MD, FSVIN, Tudor Jovin, MD, FSVIN, and Maxim Mokin, MD, PhD, FSVIN</i>
10:30 am – 10:45 am	What Do Guidelines Mean to You? <i>Jeffrey L. Saver, MD</i>
10:45 am – 11:00 am	Pre-Hospital Issues , <i>Roberta Novakovic, MD, FSVIN</i>
11:00 am – 11:15 am	Bypass Debate , <i>Wade Smith, MD, PhD</i>
11:15 am – 11:30 am	Neuro-Imaging Requirements , <i>David Liebeskind, MD, FAHA, FAAN, FSVIN</i>
11:30 am – 11:45 am	SVIN Response Statement Focused on Expanded Time Window , <i>Santiago Ortega-Gutierrez, MD, MSc</i>
11:45 am – 12:00 pm	Q&A
12:00 pm – 1:00 pm	Lunch for Fellows Course attendees Palm Court
1:00 pm – 5:00 pm	Fellows Course Palm Ballroom
3:00 pm – 3:30 pm	Coffee Break Palm Court

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Congratulations to the following Society Awardees:

Interventional Pioneering Award

Fernando Vinuela, MD
In recognition of his outstanding contributions to training and mentoring of Interventional Neurologists.

Neurologist Pioneering Award

David Liebeskind, MD, FAHA, FAAN, FSVIN
In recognition of his outstanding contributions to training and mentoring of Interventional Neurologists.

Innovation Award

Raul Nogueira MD, FSVIN
In recognition of his innovation in the field of Interventional Neurology.

Distinguished Service Award

Thanh Nguyen, MD, FSVIN
In recognition of her substantial service to the Society of Vascular and Interventional Neurology.

Best Abstract Award

Ossama Mansour, MD, PhD, FSVIN, FINR
ESN-App, Smartphone GPS-Tracking, Triaging and telecommunication for Acute Stroke Patients: First Egyptian Pilot Study

Young Investigator Award

Amin N. Aghaebrahim, MD
Analysis of Workflow and Direct vs. transferred patient's outcome in DAWN trial

Pilot Research Grant Award

Diogo Haussen, MD, FSVIN
Preclinical Large Vessel Occlusion Stroke Model: Cappybaras (Hydrochoerus Hydrochoerus)

Nicholas Liaw, MD
Fibrin Targeted Gold nanoparticles for Acute Imaging of Thrombi During Digital Subtraction Angiography

Santiago Ortega-Gutierrez, MD, MSc
Development of a Novel Risk Stratification Score for Patients Presenting with Acute Cerebral Venous Sinus Thrombosis

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Outstanding Contribution Award

Tom Burton
In recognition of your contributions to educating the public on stroke, promoting stroke prevention and raising awareness of stroke treatments.

Congratulation to the following SVIN 2018 Trainee Travel Grant Awardees:

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Chattanooga, TN 37403
P: (617) 869-4302
E: pcat1121@gmail.com



Expert staff consultants at Erlanger Consulting Services partner with stroke centers around the US to evaluate their clinical and support operations. Stroke Center accounting, coding and billing are a specialty area. Let's meet at SVIN. Call Peter Catalano today at 617.869.4302.

Balt USA | Booth 4

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P: 949-788-1443
E: customerservice@balt-usa.com
W: balt-usa.com



Balt's 40+ year legacy of physician inspired, clinically relevant innovation in the neurovascular market has arrived in the United States. Balt USA is the next chapter in Balt innovation and is committed to carrying on the Balt legacy by introducing innovative solutions to treat neurovascular diseases worldwide.

Endophys Holdings, LLC | Booth 5

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Dallas, TX 75201
P: 717-577-4356
E: manzmann@endophys.com
W: www.endophys.com



The Endophys mission is to develop pressure sensing systems which improve safety and outcome in critical procedures in cath/angiography labs by providing immediate and accurate endovascular physiology. The unique Endophys Pressure Sensing Access System (PSAS) drastically reduces delays and complexity in treating critical interventional patients (i.e. Ischemic Stroke).

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Viz.ai is an applied artificial intelligence healthcare company that works alongside physicians to improve acute medical care. At Viz.ai, we are working on deep learning algorithms, and AI aided triage to get the right patient to the right doctor at the right time.

Corazon, Inc. | Booth 8

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Pittsburgh, PA 15237
P: (412) 364-8200
E: corazon@corazoninc.com
W: www.corazoninc.com



Corazon is a national leader in program development for the Heart, Vascular, Neuroscience, Spine, and Orthopedic service lines. Corazon offers a full continuum of Consulting, Accreditation, Recruitment, Interim Management, and IT Solutions to provide the strategic, clinical, operational, market, and financial expertise necessary to help clients reach their highest growth potential.

iSchemaView, Inc. | Booth 9

405 El Camino Real
Suite 601 Menlo Park, CA 94025
P: (650) 388-9767
E: sales@ischemaview.com

RAPID

iSchemaView is the leader in cerebrovascular imaging analysis. RAPID is the most advanced brain imaging platform and has been validated in early and late window stroke trials including SWIFT PRIME, EXTEND IA, DAWN and DEFUSE 3. These studies used RAPID to select patients for thrombectomy and achieved the best clinical outcomes and largest treatment effects ever obtained. These landmark studies led to new American Heart Association guidelines and have dramatically altered the management of acute stroke around the world.

HCA Healthcare | Booth 10

115 Central Island St. Suite 400
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P: 904-702-6627
E: Melissa.Sampson@hcahealthcare.com



HCA Healthcare is one of the nation's leading providers of healthcare services, comprising of 178 hospitals and 119 freestanding surgery centers located in 20 U.S. states and in the United Kingdom. Above all else, we are committed to the care and improvement of human life.

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Penumbra, Inc. | Booth 12

One Penumbra Place
Alameda, CA 94502
P: 510-748-3200
E: info@penumbrainc.com
W: www.penumbrainc.com



Penumbra, Inc., headquartered in Alameda, California (USA), is a global healthcare company focused on innovative therapies. Penumbra designs, develops, manufactures and markets medical devices and has a broad portfolio of products that addresses challenging medical conditions and significant clinical needs across its major markets, neuro and peripheral vascular.

CERENOVUS | Booth 13

33 Technology Drive
Irvine, CA 92618
E: ra-accus-cerenovusco@its.jnj.com
W: www.cerenovus.com



CERENOVUS, part of the Johnson & Johnson Medical Devices Companies, is a global leader in neurovascular care. Our commitment to changing the trajectory of stroke is inspired by our long heritage and dedication to helping physicians protect people from a lifetime of hardship. CERENOVUS offers a broad portfolio of devices used in the endovascular treatment of hemorrhagic and ischemic stroke.

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35 Enterprise
Aliso Viejo, CA 92656
P: 714-247-8000
E: cathy.demyanovich@microvention.com
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MicroVention provides a complete 360-degree approach to developing neuroendovascular technologies with four main product groups: Aneurysm Therapy Solutions, Ischemic Stroke and Carotid Artery Disease Solutions, Neurovascular Malformation Solutions, and Access Products. Additionally, our extensive product lines in each category allow our customers to uniquely address the needs of their patients.

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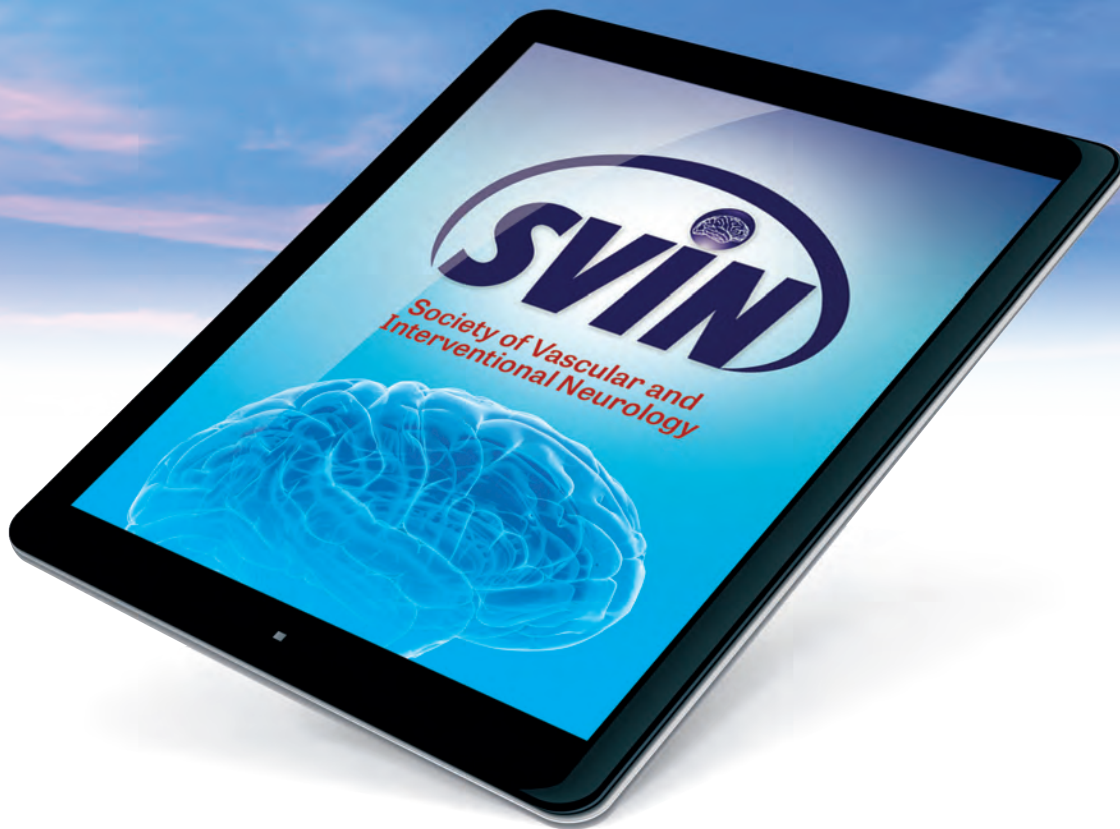
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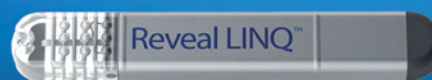
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The **Solitaire™ Revascularization Device** is indicated to restore blood flow by removing thrombus from a large intracranial vessel in patients experiencing ischemic stroke within 8 hours of symptom onset. Patients who are ineligible for IV t-PA or who fail IV t-PA therapy are candidates for treatment.

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician.

Brief Statement: REVEAL LINQ™ LNQ11 Insertable Cardiac Monitor and Patient Assistant

INDICATIONS: REVEAL LINQ™ LNQ11 Insertable Cardiac Monitor: The Reveal LINQ Insertable Cardiac Monitor is an implantable patient-activated and automatically-activated monitoring system that records subcutaneous ECG and is indicated in the following cases: • patients with clinical syndromes or situations at increased risk of cardiac arrhythmias • patients who experience transient symptoms such as dizziness, palpitation, syncope, and chest pain, that may suggest a cardiac arrhythmia. This device has not been specifically tested for pediatric use. **Patient Assistant:** The Patient Assistant is intended for unsupervised patient use away from a hospital or clinic. The Patient Assistant activates the data management feature in the Reveal Insertable Cardiac Monitor to initiate recording of cardiac event data in the implanted device memory. **CONTRAINDICATIONS:** There are no known contraindications for the implant of the Reveal LINQ Insertable Cardiac Monitor. However, the patient's particular medical condition may dictate whether or not a subcutaneous, chronically implanted device can be tolerated. **WARNINGS/PRECAUTIONS: REVEAL LINQ™ LNQ11 Insertable Cardiac Monitor:** Patients with the Reveal LINQ Insertable Cardiac Monitor should avoid sources of diathermy, high sources of radiation, electro-surgical cautery, external defibrillation, lithotripsy, therapeutic ultrasound and radiofrequency ablation to avoid electrical reset of the device, and/or inappropriate sensing as described in the Medical procedure and EMI precautions manual. MRI scans should be performed only in a specified MR environment under specified conditions as described in the Reveal LINQ MRI Technical Manual. **Patient Assistant:** Operation of the Patient Assistant near sources of electromagnetic interference, such as cellular phones, computer monitors, etc., may adversely affect the performance of this device. **POTENTIAL COMPLICATIONS:** Potential complications include, but are not limited to, device rejection phenomena (including local tissue reaction), device migration, infection, and erosion through the skin. See the device manual for detailed information regarding the implant procedure, indications, contraindications, warnings, precautions, and potential complications/adverse events. For further information, please call Medtronic at 1-800-328-2518 and/or consult Medtronic's website at www.medtronic.com. **CAUTION:** Federal law (USA) restricts this device to sale by or on the order of a physician.

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Indication for Use

Penumbra Reperfusion Catheters and Separators

As part of the Penumbra System, the Reperfusion Catheters and Separators are indicated for use 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 fail IV t-PA therapy are candidates for treatment.

Penumbra 3D Revascularization Device

As part of the Penumbra System, the Penumbra 3D Revascularization Device is indicated for use 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) 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.

Penumbra Aspiration Tubing

As part of the Penumbra System, the Penumbra Sterile Aspiration Tubing is indicated to connect the Penumbra Reperfusion Catheters to the Penumbra Aspiration Pump.

Penumbra Aspiration Pump

The Penumbra Aspiration Pump is indicated as a vacuum source for Penumbra Aspiration Systems.

Contraindications

There are no known contraindications.

Warnings

- The Penumbra System should only be used by physicians who have received appropriate training in interventional neuro-endovascular techniques and treatment of acute ischemic stroke.
- Do not advance, retract or use any component of the Penumbra System against resistance without careful assessment of the cause using fluoroscopy. If the cause cannot be determined, withdraw the device or system as a unit. Unrestrained torquing or forced insertion of the catheter, revascularization device, or separator against resistance may result in damage to the device or vessel.

- Do not use the Penumbra System with a pump other than the Penumbra Aspiration Pump.

- The Penumbra 3D Revascularization Device has not been evaluated in patients with angiographic evidence of pre-existing arterial injury.

- The use of fluoroscopy may present potential risks from radiation exposure. The probability of adverse events due to radiation exposure increases with the total amount of radiation observed, the number of procedures and total procedure time.

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 neuro vasculature location.

- 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 Penumbra System in conjunction with fluoroscopic visualization.

- As in all fluoroscopy procedures, consider all necessary precautions to limit patient radiation exposure by using sufficient shielding, reducing fluoroscopy times and modifying radiation technical factors whenever possible.

- Maintain a constant infusion of appropriate flush solution.

- When performing aspiration, ensure that the Penumbra Aspiration Tubing valve is open for only the minimum time needed to remove thrombus. Excessive aspiration or failure to close the Penumbra Aspiration Tubing valve when aspiration is complete is not recommended.

- The Penumbra Separator is not intended for use as a neurovascular guidewire. If repositioning of the Penumbra Reperfusion Catheter is necessary during the revascularization procedure, such repositioning should be performed over an appropriate neurovascular guidewire using standard microcatheter and guidewire techniques.

- Do not use automated high-pressure contrast injection equipment with the Penumbra Reperfusion Catheter because it may damage the device.

- Administration of anticoagulants and antiplatelets should be suspended until 24 hours post-treatment. Medical management and acute post stroke care should follow the ASA guidelines. Any neurological deterioration should be evaluated by urgent CT scan and other evaluations as indicated according to investigator/hospital best practice.

- As in all surgical interventions, monitoring of intra-procedural blood loss is recommended so that appropriate management may be instituted.

- Confirm vessel diameter, and select an appropriate size Penumbra Reperfusion Catheter. Limit the usage of Reperfusion Catheters to arteries larger than the catheter's outer diameter. Refer to the Reperfusion Catheter labeling for dimensional information.

Potential Adverse Events

Possible complications include, but are not limited to, the following:

- allergic reaction and anaphylaxis from contrast media; acute occlusion; air embolism; arteriovenous fistula; death; device malfunction; distal embolization; emboli; false aneurysm formation; hematoma or hemorrhage at access site; inability to completely remove thrombus; infection; intracranial hemorrhage; ischemia; kidney damage from contrast media; neurological deficits including stroke; vessel spasm, thrombosis, dissection, or perforation; radiation exposure that may lead to cataracts, skin reddening or burns from x-ray exposure.

1. Adams, et al., Guidelines for the Early Management of Adults with Ischemic Stroke: A Guideline from the AHA/ASA Stroke Council, Clinical Cardiology Council, Cardiovascular Radiology and Intervention Council, and the Atherosclerotic Peripheral Vascular Disease and Quality of Care Outcomes in Research Interdisciplinary Working Groups: The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists, Stroke May 2007; 38:1655-1711.

Penumbra ENGINE – Indication For Use

The Penumbra ENGINE is indicated as a vacuum source for Penumbra Aspiration Systems.

Contraindications

There are no contraindications.

Warnings/Precautions

- The canister is intended for single use only. Do not reuse. Reuse may result in canister cracking or vacuum filter blockages, which may result in the inability to aspirate.

- Do not block bottom air vents. Unit may overheat and shut off or fail to restart if run for extended periods of time without airflow.

- To avoid the risk of electrical shock, this equipment must only be connected to a supply mains with protective earth.

- Do not position the Penumbra ENGINE so that it is difficult to remove the power cord. The means of mains disconnect is to remove the power cord.

- Only use replacement fuse with correct rating (see Table 1 for fuse rating).

- Remove and service the Penumbra ENGINE if liquids or solids have been drawn into the Penumbra ENGINE.

- Do not use in the presence of a flammable anesthetic mixture with air or nitrous oxide.

- Do not use in an oxygen rich environment.

- To prevent fire or shock hazard, use a replacement power cord of equal rating.

- Do not re-infuse blood or fluid from the canister back into the patient.

- Do not use petroleum based compounds, acids, caustics, or chlorinated solvents to clean or lubricate any parts. It will reduce the service life of the Penumbra Engine. Use only waterbased solvents for cleaning.

- 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.

- 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 Penumbra ENGINE. Otherwise, this could result in degradation of the performance of this equipment.

- Common emitters (such as RFID emitters, security systems, diathermy equipment, and portable transmitters) should not be used in close proximity to the Penumbra ENGINE as they can interfere with and result in degradation of the performance of the equipment.

- Equipment is not safe for MR use.

- No modification of this equipment is allowed.

Caution: Federal (USA) law restricts these devices to sale by or on the order of a physician. Prior to use, please refer to the Instructions for Use for Penumbra System with 3D Revascularization Device and Penumbra ENGINE for complete product indications, contraindications, warnings, precautions, potential adverse events, and detailed instructions for use. Please contact your local Penumbra representative for more information.

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Price: \$35 for SVIN members
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Accreditation: 1.5 ACCME, ANCC, CAPCE

If you have questions,
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- Nurses
- Physicians



Course Details

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Time: Self-paced course, approximately 2.5 hours

Certification: 2-year ASES certification of completion

Accreditation Pending: 2.5 ACCME, ANCC, CAPCE

Access online course at svin.org

For questions, please visit svin.org or contact
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