



International Stroke Conference 2022

See list of #ISC22 Exhibitors Page 8

SC NEWSCONS ISSUE FEBRUARY 10, 2022



INSIDE



CV risk factors, brain health in children

Science & Technology Hall map

Science & Technology Hall hours 8:30 a.m.- 5 p.m. Thursday



Opening Session: Improving CV health status and brain health

magine the future, despite a global obstacle of pandemic size. That message was loud and clear during Wednesday's International Stroke Conference (ISC) Opening Main Event. Through myriad examples, an impressive lineup of leaders in stroke health charted the path forward in research and patient care for cardiovascular (CV) and brain health.

American Heart Association

(AHA) CEO Nancy Brown literally and figuratively set the tone with her welcome remarks, preceded by a spirited parade that only New Orleans can deliver. But it was her look at recent AHA and American Stroke Association (ASA) successes that brought life to the hard work of improving care and outcomes for stroke patients.

"I'm pleased to say we've made great strides related to stroke and

brain health, most prominently in preventing and managing hypertension," Brown said.

Brown noted that one part of the AHA's role in this step forward was its \$20 million dollar investment in the Health Equity Research Network. As of last summer, research teams at five institutions have focused on under-resourced populations that historically have the highest prevalence of high blood pressure. This work aligns with AHA nationwide, \$32 million, multiyear collaboration with the federal government to address hypertension in communities across the country, she said.

Funding and partnerships fueled additional success, she said, including a \$3 million donation from Quest Diagnostics to the AHA to establish community programs see **OPENING SESSION**, page 12

UPCOMING SESSION

Effect of Medical Marijuana on Brain Health 7-8:30 a.m. CST Thursday, Feb. 10 *Room R02-R05*

during pregnancy or adolescence,"

he said. "These facts call for a more educated consumer and highlight the importance of developing strategies to monitor the effect of marijuana in the general population."

The session will explore evidence linking marijuana use to brain health and cognition.

"In particular, we will review the effect of marijuana use on see **MARIJUANA**, page 12

Marijuana may be more harmful than its reputation suggests



Fernando D. Testai, MD, PhD, FAHA

arijuana use is on the rise — both for medical and recreational purposes and with that increase in usage has come an increased belief that it is a mostly harmless drug. But that may not be the case, especially when it comes to the brain.

In the session titled "Effect of Medical Marijuana on Brain Health," Fernando D. Testai, MD, PhD, FAHA, professor of neurology at the University of Illinois at Chicago College of Medicine, will review the latest research outlining the effects of marijuana on brain health.

Dr. Testai will be joined by Rebecca Gottesman, MD, PhD, stroke branch chief and senior investigator of the Stroke, Cognition and Neuroepidemiology section at the National Institute of Neurological Disorders and Stroke Intramural Research Program, part of the National Institutes of Health.

Increased consumption of marijuana among the general public could lead to health problems if clinicians aren't armed with the proper information in order to better educate their patients, Dr. Testai said.

"Epidemiologic data as well as experimental data gathered using animal models suggest that marijuana may have undesired effects in the heart and the brain, particularly when the exposure occurs during key neurodevelopmental periods," he said.

"The results obtained in animal models challenge the widely accepted idea that cannabinoids are harmless, particularly if the exposure occurs

SAVE THE DATE FOR INTERNATIONAL STROKE CONFERENCE 2023

February 8-10, 2023 | Dallas, Texas

Let's go beyond. Wednesday, February 9

The Best of Both Worlds: Combination Therapy for Ischemic Stroke 10:00 – 10:30am Central Time Learning Studio I, ISC Exhibit Hall

Atrial Fibrillation after Large and Small Vessel Stroke: Are you missing the forest for the trees? 12:45 - 1:15pm Central Time Learning Studio II, ISC Exhibit Hall

Dinner Event: Delivering Optimal Results with Combination Therapy Contact your local sales representative for details.

Thursday, February 10

Strength in Numbers: Late-Breaking Flow Diversion Clinical Evidence Explained 12:45 – 1:15pm Central Time Learning Studio II, ISC Exhibit Hall

From the Heart to the Brain: What You Need to Know About Cardiac Monitoring in Stroke Patients

1:30 - 2:00pm Central Time Learning Studio II, ISC Exhibit Hall



Together, we can break new ground in stroke care.

These events are not part of the official International Stroke Conference 2022 as planned by the AHA/ASA Committee on International Stroke Programming.

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Today at ISC 2022

TOP PICKS FROM THE PROGRAM CHAIR

Louise D. McCullough, MD, PhD, FAHA

Today's Main Event, taking place in Hall D of the convention center or on the virtual meeting site, features five Late-Breaking Science presentations. They are:

- Economic Evaluation of the Benefits of Stroke Treatment Delivered Using a Mobile Stroke Unit Study
- Direct Oral Anticoagulants Versus Warfarin in the Treatment of Cerebral Venous Thrombosis (ACTION-CVT): A Multicenter International Study
- A Randomized Trial of Intraarterial Alteplase After Successful Thrombectomy in Acute Ischemic Stroke
- Tenecteplase Thrombolysis for Stroke up to 24 Hours After Onset With Perfusion Imaging Selection
- Onyx[™] Embolization for the Endovascular Management of Cerebral Arteriovenous Malformations: Short and Long-Term Clinical Results of a Prospective Multicenter Study

Throughout the day, there are numerous exciting sessions on tap, including Neuroprotection in the EVT Era: Better Start Paying Attention, Post-Acute Rehab After Stroke and more.





Be sure to check the Online Program Planner for times and locations, and check out the other intriguing Thursday sessions.

2023 Call for Science Dates

Session Ideas

Suggested Session Submitter Opened: Monday, Feb. 7, 2022 Suggested Session Submitter Closes:

Monday, Feb. 14, 2022

Abstracts

Submission Opens: Wednesday, June 1, 2022

Submission Closes: Tuesday, Aug. 23, 2022

Late-Breaking Science and Ongoing Clinical Trials Abstracts

Submission Opens: Wednesday, Oct. 5, 2022

Submission Closes: Wednesday, Nov. 2, 2022

The link to submit abstracts and/or session ideas can be found at **strokeconference.org/ submitscience** on the applicable date above.

Start planning now for ISC 2023, Feb. 8-10, in Dallas, Texas.

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After you have read this issue of Stroke News, please share with

Endovascular therapy, tirofiban for LVO and periodontal care highlight late-breaking science

Late-Breaking Science presented during Wednesday's #ISC22 Main Event Opening Session revealed:

- Endovascular therapy plus medical therapy may give improved outcomes versus medical therapy alone for large mild-moderate ischemic strokes.
- Tirofiban may improve outcomes for patients with intracranial large vessel occlusion in conjunction with large artery atherosclerosis.
- Intensive periodontal care may reduce stroke risk factors.

Late-Breaking Science

Here is the scheduled lineup of presentations of Late-Breaking Science for Thursday, Feb. 10, and Friday, Feb. 11.

MAIN EVENT 2 THURSDAY, FEB. 10

11 a.m. - 12:30 p.m. CST

- Economic Evaluation of the Benefits of Stroke Treatment Delivered Using a Mobile Stroke Unit Study
- Direct Oral Anticoagulants Versus Warfarin in the Treatment of Cerebral Venous Thrombosis (ACTION-CVT): A Multicenter International Study
- A Randomized Trial of Intraarterial Alteplase After Successful Thrombectomy in Acute Ischemic Stroke Tenecteplase
- Thrombolysis for Stroke up to 24 Hours After Onset With Perfusion Imaging Selection
- Onyx[™] Embolization for the Endovascular Management of Cerebral Arteriovenous Malformations: Short and Long-Term Clinical Results of a Prospective Multicenter Study

MAIN EVENT 3 FRIDAY, FEB. 11

11 a.m. - 12:30 p.m. CST

- Novel Robotic-Assisted Transcranial Doppler Versus Transthoracic Echocardiography to Detect Right-to-Left Shunts
- Primary Results and Associated Clot Composition in the Excellent Registry
- Sex Difference in the Impact of Dual Antiplatelet Therapy Using Cilostazol for Secondary Stroke Prevention
- Pediatric Large Vessel Occlusion Stroke: Poor Outcomes Without Intervention
- Outcomes of Efficiency Techniques During Mechanical Thrombectomy in Acute Ischemic Stroke Assist Global Registry Analysis

atients who suffer a large vessel ischemic stroke will likely have a better recovery on combination endovascular plus medical therapy versus medical therapy alone. The Recovery by Endovascular Salvage for Cerebral Ultra-Acute Embolism Japan — Large IscheMIc core Trial (RESCUE-Japan LIMIT) found that patients with Alberta Stroke Program Early Computerized Tomography (CT) Score (ASPECTS) of 3-5 treated with endovascular plus medical therapy were 2.43 (p=0.002) times more likely to have a modified Rankin Score (mRS) 0 to 3 versus medical therapy alone 90 days post-stroke.

RESCUE-Japan LIMIT randomized 202 patients who had suffered a large vessel occlusion within 24 hours or less of onset to either best medical therapy (102 patients) or best medical therapy plus endovascular therapy (100 patients) at 45 hospitals across Japan. Treatment was open label and assigned by randomization.

The mean age of patients was 76, and 44% were female. Nearly half (49%) of patients had an occlusion of the middle cerebral artery M1 segment, 31% the internal carotid artery. The median National Institutes of Health Stroke Score (NIHSS) on admission was 22, and the median ASPECTS was 3. The primary outcome was mRS 0 to 3 at 90 days. Secondary outcomes at 90 days included mRS ordinal shift, mRS 0 to 2, mRS 0 to 1, and mortality at 90 days, plus early improvement of NIHSS greater than or equal to 8 at 48 hours.

The percentage of patients with a mRS score of 0 to 3 at 90 days was 31.0% in the endovascular plus medical therapy group and 12.7% in the medical therapy only group (relative risk, 2.43; 95% confidence interval (CI), 1.35 to 4.37; P=0.002).

"Endovascular plus medical treatment showed significant improvement in nearly all secondary outcomes," said Shinichi Yoshimura, MD, PhD, professor and chair of neurosurgery at Hyogo College of Medicine in Nishinomiya, Hyogo, Japan. Improvement in neurological findings at 48 hours was 3.51 times greater in the combinational therapy group. Modified Rankin Scores less than or equal to 2 were numerically



Shinichi Yoshimura, MD, PhD

better in the combination group, but the difference did not reach statistical significance.

"This study provides important evidence that endovascular therapy plus medical therapy for patients with larger infarct regions and ASPECT of 3 to 5, have a higher likelihood of returning to independent walking than medical therapy alone," Dr. Yoshimura said.

The study was published simultaneously in the New England Journal of Medicine.

Tirofiban may improve outcomes in large artery atherosclerosis strokes

Tirofiban, a nonpeptide platelet glycoprotein IIb/IIIa inhibitor is used to help decrease the risk of thrombotic complications during percutaneous coronary intervention (PCI) and may improve functional outcomes in stroke patients with intracranial large vessel occlusion (LVO). The first multicenter, randomized, double-blinded, placebo-controlled trial of Endovascular Treatment With versus Without Tirofiban for Stroke Patients With Large Vessel Occlusion (RESCUE BT) of tirofiban in LVO suggests the agent may improve outcomes in patients with LVO strokes characterized by large artery atherosclerosis (LAA) but not in non-LAA strokes.

The RESCUE BT trial compared tirofiban plus endovascular treatment to placebo plus endovascular treatment in patients with proximal intracranial LVOs within 24 hours of last-known well across 55 centers in China. Prior studies of tirofiban in LVO strokes were largely small, single-center retrospective analyses, noted Raul G. Nogueira, MD, FSVIN, FAHA, professor of neurology and director at the University of Pittsburgh School of Medicine. RESCUE BT randomized 948 patients to either tirofiban (463) or placebo (485) before endovascular treatment. Patients in the two groups were similar, 67 years old, about 59% male, with a median NIHSS score of 16 at admission. Stroke etiology included cardioembolism (42.8%), LAA (45.8%), other (3.2%), and unknown (8.1%).

The primary outcome was mRS at 90 days and the key secondary outcome was the proportion of 90-day mRS 0 to 1 or return to pre-morbid mRS. Safety outcomes included the frequency of symptomatic intracerebral hemorrhage (ICH) and 90-day mortality.



Raul G. Nogueira, MD, FSVIN, FAHA

The 90-day mRS for the overall trial was 3 in both the tirofiban and placebo arms (adjusted common odds ratio 1.09, p=0.46). Secondary outcomes were also similar between the two groups. But the adjusted common odds ratio for improved mRS in the LAA subgroup was 1.43 (95% CI 1.02-2.00) favoring tirofiban. There was no evidence of treatment effect in other prespecified subgroups.

Tirofiban was associated with excess bleeding versus placebo 9.7% versus 6.4% for symptomatic ICH (p=0.06) and 34.9% versus 28.0% for any ICH (p=0.02). There was no difference between the two groups in 90-day mortality or other safety outcomes.

"The trial results indicate that not all patients with large vessel occlusion stroke should be treated with tirofiban," Dr. Nogueira said. "But in patients with large arterial atherosclerosis, tirofiban in combination with endovascular treatment may help further reduce the severity of disability. Clinicians PAID ADVERTISEMENT



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Exploring the relationship between childhood adverse events, cardiovascular risk factors and brain health later in life

he formative years, childhood can lay the groundwork for lifelong health. But is there a connection between childhood, cardiovascular risk factors and cognitive functioning later in life?

In the 1970s and 1980s, the seven longitudinal cohorts across the world that make up the International Childhood Cardiovascular Cohort (i3C) Consortium, began examining the importance of childhood risk factors as predictors for subsequent clinical cardiovascular disease by enrolling children and measuring cardiovascular risk factors. An outgrowth of i3C, the i3C Outcomes Study recently contacted about 20,000 participants from its seven cohorts, with over 700 adjudicated cases of cardiovascular morbidity or mortality observed.

"These children are now in their 40s, 50s and 60s and starting to develop some of the diseases of older age, including cardiovascular disease and cognitive decline," said Jessica Woo, MHSA, PhD, an epidemiologist in the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital Medical Center.

What can these cases tell us about the relationship between childhood, particularly disadvantage and adversity in childhood, and



adult brain health?

Dr. Woo drew upon longstanding data from two of the studies in the i3C Consortium — the Bogalusa Heart Study and the Cardiovascular Risk in Young Finns Study — to shed light on the important relationship between childhood adverse events, cardiovascular risk factors and adult brain health.

Many retrospective studies have been

done on childhood adverse events, such as disadvantaged households or stressful environments, and the impact on later cognition. However, Dr. Woo addressed prospective evaluations that link childhood disparities to cardiovascular risk factors, which are related to cognitive and structural brain outcomes. "We're seeing there are links in a chain, and it starts in childhood," Dr. Woo said.

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less effective.

to Dr. Harvey,

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Building a life-course view of the development of cognitive decline or lower cognition scores from this longitudinal view of vascular development can provide evidence for broader public health initiatives to improve the health of children. It may also provide the impetus for clinicians to consider preserving cardiovascular health in childhood as a way of preventing cognitive decline in midlife.

Pediatricians and others who are caring for children need to be aware of these longrange impacts on the health of children. "There's potential for clinicians to improve adult brain health as early as childhood, when risk factors such as obesity and blood pressure are more modifiable," Dr. Woo said.

A child's fate isn't sealed early in life. Home life situations can improve; health risk factors can change over time. But recognizing the impact of early adversity on brain health is important to help develop strategies to positively impact long-term cardiovascular and brain health sequalae.

"We're the first consortium that can provide long-range outcome information about the importance of preserving cardiovascular health in childhood to prevent cognitive decline in midlife," Dr. Woo said. "It's an exciting time." •

APTA guidelines debut to mixed reviews

linical practice guidelines released by the American Physical Therapy Association (APTA) in 2020 continue to stir debate among clinicians about the best gait training interventions for stroke patients, according to Richard L. Harvey, MD, professor of Physical Medicine and Rehabilitation at Northwestern University's Feinberg School of Medicine in Chicago. The APTA's recommendations focus on two primary interventions — moderate to high, intensity walking training and the use of virtual reality technology — as well as several other interventions.

"Not surprisingly, a lot of clinicians raised concerns about the interventions recommended in the guidelines," said Dr. Harvey who is also clinical chair of the Brain Innovation Center at the Shirley Ryan AbilityLab and the Wesley and Suzanne Dixon Stroke Chair of Stroke Rehabilitation Research.

Specifically, the new guidelines on gait training are for patients who are beyond the six-month mark following an acute stroke. In addition to the high-intensity walking training and use of virtual reality technology recommendations, the APTA indicated strength training, cycling at aerobic intensities and circuit training have a strong body of evidence for improvement of walking speed and distance.

Conversely, the APTA concluded that balance training, body-weight supported treadmill training and robotic-assisted walking

We know some changes happen in the spinal cord. If we understood these changes a little better, we could come up with better physiologically appropriate interventions.

Richard L. Harvey, MD

Rec

decrease in walking speed and distance.

Dr. Harvey said opposition to proposed interventions include the argument that high-intensity gait training can jeopardize the health of patients with heart disease. However, he noted that while a patient's heart rate and blood pressure must be closely monitored, his lab has never had a negative patient outcome from the high-intensity gait training. As for the use of virtual reality technology,

Dr. Harvey said most clinicians who oppose it

do so on the basis of the expense to the facility as well as the extra time and complexity of setting up these systems for therapy.

Also, there are gaps in identifying other interventions to speed recovery in patients who have had a stroke. According to Dr. Harvey, many physicians believe physical therapy is an important intervention after stroke but have little knowledge of the different approaches of PT available.

He also said there are knowledge gaps in improving the gait of stroke patients, noting the need to explore a better understanding of how the spinal cord changes after stroke and the associated neuroplastic physiology.

"We know some changes happen in the spinal cord. If we understood these changes a little better, we could come up with better physiologically appropriate interventions," Dr. Harvey said. "For example, there is currently research being done in animal models involving circuitry. That research has only recently begun to translate to human studies." •

Women fare worse after stroke

hen it comes to men and women, stroke knows no boundaries. Yet, gender does play a significant role when it comes to assessing outcomes and interventions. Exploring these sex-specific factors is the focus of Friday's session, "Beyond Observations: Interventions to Reduce Sex Differences in Stroke."

Hoang Phan, PhD, a stroke epidemiologist at The University of Tasmania and Monash

University in Australia, is among the session's presenters. She explores the current evidence on the differences between women and

men in stroke



Hoang Phan, PhD

severity and long-term outcomes after stroke. A host of epidemiological and clinical studies have identified that women have worse outcomes after stroke than men, Dr. Phan said.

"Biologic sex can make a difference for some factors that are important to brain health in general, and to stroke in particular, such as general health status, cerebrovascular anatomy and function, health risks and behaviors," she said. "This includes unique risk factors such as pregnancy and preeclampsia, and therapeutic response."

Specifically, according to Dr. Phan, evidence from the International Stroke Outcomes Study (INSTRUCT) has shown that women are about 35% more likely to die and 32% more likely to have a poor functional outcome up to 5 years after a stroke compared to men. Causes of death also differ between sexes with women having more deaths attributed to stroke or other cardiovascular diseases, Dr. Phan said.

"What underlies these differences is not fully understood. The sex differences in outcomes after stroke are mostly explained by women's older age at the time of the stroke, greater pre-stroke functional limitations and more severe strokes than men. The presence

UPCOMING SESSION

Beyond Observations: Interventions to Reduce Sex Differences in Stroke 7-8:30 a.m. CST Friday, Feb. 11 Room 243-245

of atrial fibrillation and lower aspirin administration also account for the greater mortality in women. Women had worse quality of life than men after stroke, with the difference mostly explained by age and stroke severity, but also post-stroke depression," Dr. Phan said. "After accounting for age, stroke severity and activity limitations, work status, social factors and cognition, women are still significantly more likely to have a higher incidence of depressive symptoms than men. There might be other biological, social or psychological differences between men and women accounting for residual differences in outcomes."

These findings highlight the importance of better management of vascular risk factors and comorbidity in the elderly, particularly with women, she said. Such evidence also suggests opportunities for interventions to reduce sex differences in stroke outcome. According to Dr. Phan, interventions include better access to evidence-based care for cardiovascular and general health as well as opportunities for post-stroke rehabilitation, especially targeting those with less capacity to recover (i.e. pre-stroke functional limitation, more severe strokes and mood disorders).

"Fortunately, current findings show tremendous promise for the future of personalized medicine in stroke prevention and treatment," she said. "It is essential for health care providers to recognize possible sex differences in stroke presentation — for example, greater non-traditional stroke symptoms in women — and factors that affect treatment and outcomes between sexes, such as age and pre-stroke function, and the importance of frailty in women. It is possible that the use of preventative medications, including antiplatelets, glucose-lowering agents and lipid lowering agents, may influence the sex differences." •

New AHA journal: SVIN

The AHA is pleased to introduce **Stroke: Vascular and Interventional Neurology** (@SVINJournal), a new journal that joins @StrokeAHA_ASA as the home for #stroke, cerebrovascular and neurovascular care research in the #AHAJournals. Learn more by visiting **AHAjournals.org/ journal/svin**.

Also, subscribe to ACCESS, the Official Podcast of Stroke: Vascular and Interventional Neurology, to hear about the latest advances in vascular and interventional #neurology in @SVINjournal. **AHAjournals. org/svin/podcast**.

Stroke: Vascular and Interventional Neurology





ISC 2022 Abstract Categories: Day 2

- Acute Nonendovascular Treatment
- Advanced Practice Providers and Therapists
- Aneurysms and Vascular
 Malformations______
- Brain Health
- Cerebrovascular Manifestations
 of COVID-19
- Cerebrovascular Nursing
- Cerebrovascular Systems
 of Care
- Clinical Rehabilitation
 and Recovery
- Health Services, Quality Improvement and Patient-Centered Outcomes

• Imaging

- In-Hospital Care; From the ICU to Discharge
- Intracerebral Hemorrhage
- Neuroendovascular
- Non-Acute Large Vessel Disease From Veins to Arteries
- Pediatric Cerebrovascular Disease
- Risk Factors and Prevention
- Translational Basic Science
- Late-Breaking Science
- Ongoing Clinical Trials

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ISC 2022 Exhibitors

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* Denotes exhibitors with virtual booths.

List and map current as of Jan. 31, 2022



Submit ISC 2023 award nominations

AHA Members: Submit your nominations for the ISC 2023 Feinberg, Sherman, Willis, Kenton and Stroke Research Mentor Awards.

Nomination Period Opened: Wednesday, Feb. 8, 2022

Nomination Period Closes: Wednesday, Aug. 3, 2022

Go to **strokeconference.org/ awardsandlectures** for more information.

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Science & Technology Hall (Hall C)





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Update on COVID-induced cerebrovascular injuries

OVID-19 is more than a debilitating, sometimes fatal respiratory infection. Depending on the research study being reviewed, up to 70% of individuals with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection develop cerebrovascular complications ranging from feeling out of sorts to dysautonomia and even stroke.

"The pathophysiology is still unclear," said Avindra Nath, MD, chief of Infections of the Nervous System and Clinical Director of

the National Institute of Neurological Disorders and Stroke. "We think microvascular disease has a huge role. Autopsy data from people who have died



Avindra Nath, MD

of COVID show hemorrhages, clotting in the small blood vessels, leakage of serum proteins and inflammation around endothelial cells. We think damage to endothelial cells is key."

Dr. Nath will present the latest findings in microvascular injury associated with COVID-19 during "Mechanisms and Outcomes of Covid-Induced Cerebrovascular Injury" on Thursday from 7-8:30 a.m. CST. The symposium will explore critical illnesses, cerebrovascular and cognitive sequelae in COVID, vaccination and vaccineinduced thrombocytopenia, and neurologic complications and multisystem inflammatory syndrome in children (MIS-C).

More than two years into the pandemic, there are few solid answers when it comes to COVID complications, particularly for children. The typical adult critical care specialist has treated thousands of patients, and randomized controlled trials are informing treatment options, said Lori Jordan, MD, PhD, associate professor of pediatrics, neurology and radiology at Vanderbilt University Medical Center in Nashville. Dr. Jordan is also a symposium presenter and will address

the topic of

Lori Jordan, MD, PhD

neurologic sequelae of SARS-CoV2 and MIS-C in children. The typical pediatric critical care specialist may have only cared for a few hundred children with COVID, she said. Also, randomized controlled trials for COVID-19 that include children are rare.

"Kids with MIS-C are much more ill and in the very high-risk group for serious neurologic complications," she said. "The rate of any neurologic complication is probably around 60%; about 12% of those have some sort of truly life-threatening complication."

UPCOMING SESSION

Mechanisms and Outcomes of COVID-Induced Cerebrovascular Injury 7-8:30 a.m. CST Thursday, Feb. 10 Room 217-219

Drs. Nath and Jordon will be joined by other faculty, including Jennifer Frontera, MD, NYU Langone Hospitals in Brooklyn, New York; Mona N. Bahouth, MD, PhD, assistant professor of neurology at Johns Hopkins Medicine in Baltimore, Maryland; Mary Cushman, MD, medical director of the thrombosis and hemostasis program and professor of medicine and pathology at the University of Vermont Medical Center in Burlington, Vermont; and Richa Sharma, MD, MPH, assistant professor at the Yale School of medicine in New Haven, Connecticut; for a dynamic session regarding this clinically important area for advancing patient care.

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CE credit for the ISC 2022 live event cannot be claimed after Aug. 11, 2022, and participants are strongly encouraged to claim CE credit within 30 days of the live event. For in-person attendees, an AHA Certificate of Attendance is available at the registration counters in Hall D Lobby of the Ernest N. Morial Convention Center. Virtual attendees can request an AHA Certificate of Attendance by choosing the Programming Tab in the top navigation bar on the event platform, then choosing "Certificate of Attendance."

PLEASE NOTE: For the ISC 2022 live event, CE credit claim is limited to participation between Feb. 9-11, 2022, only.

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ISC 2022 Simultaneous Publication

 125. Primary Care of Adult Patients After Stroke - Kernan

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 org/doi/10.1161/
 STR.0000000000382



LATE-BREAKING SCIENCE

continued from page 4

who encounter large arterial atherosclerosis patients with large vessel occlusion may consider treatment with tirofiban."

Intensive dental care can improve stroke risk factors

Better care of dental disease may reduce blood pressure and other risk factors associated with stroke. In what appears to be the first randomized controlled trial of periodontal treatment in secondary stroke prevention, intensive periodontal care



Souvik Sen, MD, MPH, FAHA

reduced blood pressure and HDL cholesterol compared to usual dental care.

The intensive care group also showed numerical reductions in a composite of stroke, myocardial infarction (MI) or death, but the reduction was not statistically significant.

The Periodontal Treatment to Eliminate Minority Inequality and Rural Disparities in Stroke (PREMIERS) study compared standard and intensive care for patients with a prior stroke or a transient ischemic attack (TIA).

Standard dental treatment in PREMIERS included supragingival removal of plaque and calculus, regular toothbrushing and advice for dental care.

Intensive treatment included supragingival and subgingival removal of plaque and calculus, extraction of hopeless teeth, locally antibiotic treatment, electric toothbrushing mouth wash and air flossing.

Periodontal disease (PD) has long been recognized as a risk factor for stroke and myocardial infarction, said Souvik Sen, MD, MPH, FAHA, professor and chair of neurology at the South Carolina School of Medicine Columbia. PD is initiated by oral bacteria, periodontal disease and results in inflammation in oral tissues that can allow cytokines, bacteria and bacterial products into systemic circulation, increasing the risk for cardiovascular disease. PD is present in about half of the U.S. population and is prevalent in the U.S. stroke belt, he added.

A total of 280 patients were randomized, 138 to intensive care and 142 to standard care. The mean age was 59, 90% were male, 73% were Black, 89% had hypertension, 51% had diabetes and about 95% had a prior stroke.

The primary outcome was a composite of stroke, MI and death over 12 months. Secondary outcomes included blood pressure, glycemic control, dyslipidemia, inflammation and carotid intima-media thickness (IMT). Just 11 (8%) of the intensive care group met the primary outcome compared to 17

(12%) of the standard care group, hazard ratio 0.65, but the difference was not statistically significant (p=0.26). While there was no placebo arm due

to ethical concerns of withholding dental treatment, comparison of the intensive care group versus a historical control based on a cohort study at the University of North Carolina showed a statistically significant improvement in the primary outcome for both intensive and standard dental care.

Patients with four or more dental visits over the one-year study also were significantly more likely to have fewer composite events than patients with a single baseline dental visit (p=0.0017).

"I would say that yes, oral hygiene is important to cerebrovascular and cardiovascular health," Dr. Sen said. "And that we need more studies in this area."•

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OPENING SESSION

continued from page 1

within federally qualified health centers and Sanofi U.S.'s \$35 million investment CHANGE AFib to improve outcomes for atrial fibrillation patients.

Support from the Leona M. and Harry B. Helmsley Charitable Trust, the Henrietta B. and Frederick H. Bugher Foundation and Gates Ventures has also been valuable in moving stroke research into the future, Brown said.

A younger, whole-body approach

Perhaps the most intriguing look into the future was provided by AHA President Donald Lloyd-Jones, MD, ScM, FAHA. Dr. Lloyd-Jones is the chair of the Department of Preventive Medicine and the Eileen M. Fole Professor of Heart Research, and a professor of Preventive Medicine, Medicine and Pediatrics at Northwestern University Feinberg School of Medicine in Chicago, Illinois. In his presentation, "Promoting Cardiovascular and Brain Health Across the Life Course," he underscored the need to tackle heart and brain health early even when a child is in utero.

"I see a path to a future with far fewer strokes, and far better, overall cognitive function. The key to making this happen, I believe, is by focusing on cardiovascular and brain health in new ways," Dr. Lloyd-Jones

I see a path to a future with far fewer strokes, and far better, overall cognitive function.

Donald Lloyd-Jones, MD, ScM, FAHA

said.

It begins when a person becomes "at risk," rather than when they are sick, he said. To illustrate his point, Dr. Lloyd-Jones introduced a patient case study: A 29-year-old man, significantly overweight, diagnosed with prediabetes, hypertension, inactivity, a smoker, and presenting with an intracranial hemorrhage. Four months later, he presented with an acute ST-elevation myocardial infarction (MI). Thankfully, he survived, with the help of a team of stroke neurologists and lifestyle changes. This patient's tale "reveals a hard truth," Dr. Lloyd-Jones said.

"Had we done a better job as a health care community — and as a society — had we really been active throughout his life course to promote cardiovascular and brain health, David might never have suffered both a hemorrhagic stroke and an acute MI in his 20s," he said.

Tackling brain and heart health earlier requires the creation of a new construct of cardiovascular health (CVH). Through his work with volunteers on this front, Dr. Lloyd-Jones said he defines CVH as the confluence of seven metrics: Blood pressure, cholesterol, blood glucose, body weight, diet, physical activity and smoking status. he said. "It's Life's Simple 7," he said. "Ideal CVH

is the state in which all seven metrics are maintained at optimal levels."

The need to start earlier is supported by numerous studies, he said. According to Framingham investigators, studies have shown that better CVH status in middle age is associated with a lower 10-year incidence of stroke and dementia, including both Alzheimer's and vascular dementia, he said. It's also associated with improved cognitive function and less brain atrophy in later life.

Even more compelling is data from the Coronary Artery Risk Development in Young Adults (CARDIA) study of young adults, which showed that cardiovascular health status at a mean age of 25 years was significantly associated with better performance on three measures of cognitive function at 50 years of age.

"Our current data show that the CVH status of mothers — and fathers — at the time of pregnancy is a very important indicator, not just for that child, but also for that child's future children!" he said.

Of course, there's more work to do, Dr. Lloyd-Jones said. AHA and ASA's advocacy, key partnerships and research funding play a critical role. But there's more, he added.

"Social, environmental and behavioral exposures from early life can limit people's chance to have and maintain ideal

cardiovascular and brain health." We're all one in brain and heart health

Dr. Lloyd-Jones' insight was the perfect introduction to the William M. Feinberg Award for Excellence in Clinical Stroke Lecture: "Clinical Research Rigor: Considering Intentional Disruption Opportunities." Karen C. Johnston, MD, MSc of the University of Virginia delivered the lecture, having worked with Dr. Feinberg on a large clinical trial. Her focus on the health inequities that exist in stroke care began with a look at the inequities in care for COVID-19 patients. In a Kaiser Family Foundation study, Dr. Johnston noted that in all instances of COVID hospitalizations and deaths, American Indian or Alaskan native, Black, Hispanic and Asian patients fared far worse than white individuals.

"COVID highlights the disparities in other diseases as well," she said, and illustrated her passion for health equity with a 1992 Margaret Whitehead quote, that reads, 'Equity in health implies that ideally everyone should have a fair opportunity to attain their full health potential and, more pragmatically, that no one should be disadvantaged from achieving this potential, if it can be avoided.""

Dr. Johnson highlighted a 2020 National Institute of Neurological Disorders and Stroke (NINDS) Health Disparities initiative to address health disparities and inequities in neurological conditions. Its goal is to develop a comprehensive plan for NINDS to reduce disparities through research investment over

Industry Events: Thursday, Feb. 10

Learning Studios

9-9:30 a.m. CST

 The Role of CLEVIPREX[®] (clevidipine) for BP Reduction in Stroke

10-10:30 a.m. CST

• FRED X Flow Diverter — Early Clinical Experience in the U.S. & Europe

12:45-1:15 p.m. CST

- Andexxa: Clinical Conversation Mechanism of Action
- Strength in Numbers: Late-Breaking Flow Diversion Clinical Evidence Explained

1:30-2 p.m. CST

• Real-World Outcomes Associated With the Use of the EmboTrap Revascularization Device for Ischemic Stroke in the U.S.

• From the Heart to the Brain: What You Need to Know About Cardiac Monitoring in Stroke Patients

3:30-5 p.m. CST

• NHLBI & NINDS ISC 2022 Showcase

Stroke Central Programming

9-9:45 a.m. CST

 Stroke Council Underrepresented Racial and Ethnic Travel Grant and Bernard J. Tyson Career Development Award

9:50-10:40 a.m. CST

• Technology & Health in the Stroke Field

4:30-5 p.m. CST

• Complexities and Complications: Case-Based Conversations in Mechanical Thrombectomy

Satellite Event

These events are not part of the official ISC 2022 as planned by the ASA Committee on the ISC Program.

7-8 p.m. CST

Live on the Freeman Platform

 Omega-3 Icosapent Ethyl and Stroke Reduction in Atherosclerotic Vascular Disease



Karen C. Johnston, MD, MSc

the next five to 10 years.

As leaders, how do we "intentionally disrupt" these inequities, she posed? It's achievable through an increase in funded work at the local, regional and national level to submit rigorous health equity research; protocol and manuscript review; scientific programming; and our own interventional trials, she said. Also important is to teach research rigor in our communities and among our legislative representatives.

"As clinical and translational stroke researchers, we must address the science that will allow us to mitigate these inequities and intentionally reject all forms of bias in our research," Dr. Johnson concluded. •

MARIJUANA

continued from page 1

cardiovascular and cerebrovascular risk as well as the observational data linking the use of cannabis to cognitive performance," Dr. Testai said. "Furthermore, we will have neuroscientists who perform research in this particular area to explain the effect of marijuana use on normal biochemical and physiologic processes and how these can influence the normal brain functioning."

Dr. Testai said the session should help dispel some of the disinformation that exists both in the medical community and in the general public with regard to the effects of marijuana usage.

"I hope this session will spark discussion and provide health care providers with elements that will allow a more balanced discussion with patients about the potential known — and unknown — effects of marijuana on brain health," he said.

While the existing body of knowledge regarding the effects of marijuana is imperfect and constantly evolving, Dr. Testai said he would like to see a more balanced discussion within the medical community going forward.

AHA Scientific Statement Simultaneous Publication

The Stroke journal will publish "Use of Marijuana: Effect on Brain Health" at 6 a.m. (CST) Thursday, Feb. 10. https://www.ahajournals. org/doi/10.1161/ STR.00000000000396



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The AHA/ASA's Quality, Outcomes Research & Analytics Department provides excellence in prospective and retrospective research. In addition to engaging a Citizen Scientist Think Tank™ and overseeing the translation of evidence-based research into cardiovascular and stroke patient care, the department also helps implement clinical trial management solutions for research projects linked within Get With The Guidelines® programs and the quality improvement framework. Current research includes the Mild and Rapidly Improving Stroke Study (MaRISS) and the Addressing Real-world Anticoagulation Management Issues in Stroke (ARAMIS) study. heart.org/qualityresearch

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Vascular Health Programs

Legs and feet could hold a clue to heart health. Peripheral Artery Disease is largely overlooked - together we can change that. Download our toolkit for health care professionals at heart.org/padtoolkit.

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Clinical Quandaries in ICH

ntracerebral hemorrhage (ICH) is coming in from the cold. Long plagued by inadequate data, new findings and ongoing

studies suggest Stephan A. Mayer, MD, **FNCS**

hemorrhagic stroke could be on the verge of multiple breakthroughs.

that acute

management of

"Hemorrhagic stroke has been enclosed in a kind of therapeutic nihilism with high mortality and devastating outcomes," said Stephan A. Mayer, MD, FNCS. "Researchers and innovators are looking at the stroke landscape and seeing that ICH is the last frontier in stroke. And we are starting to get real data that is helping to clarify what has always been a gray zone of ICH management."

Dr. Mayer will moderate "Clinical Quandaries in ICH" 2-3 p.m. CST on Thursday and will explore the latest findings and expert opinion on the use of statins, anticoagulation and intensive blood pressure control in acute ICH. He is director of neurocritical care and emergency neurological services at Westchester Medical Services, and professor of neurology and neurosurgery at New York Medical College in Valhalla, New York.

Statins are life-saving agents for millions

of patients, Dr. Mayer noted, but reduced lipid levels are also associated with increased risk for hemorrhagic stroke. Patients with spontaneous lobar ICH are in a difficult position. Continuing statin therapy increases risk for hemorrhagic stroke while discontinuing statins increases their risk for myocardial infarction and ischemic stroke. Patients with lobar ICH are at a

particularly high risk of recurrence of ICH, Dr. Mayer said, but there are no prospective randomized data on the effect of continuing versus discontinuing statins following ICH. Not yet. The ongoing SATURN (StATins Use in intracerebral hemorrhage patieNts) trial could provide the first definitive data. Co-principal investigator Magdy Selim, MD, PhD, associate professor of neurology at Harvard Medical School in Boston will discuss the latest findings in statins and ICH.

Anticoagulation is another key quandary in ICH. Anticoagulation is the treatment of choice for atrial fibrillation (AF) and substantially reduces the risk of ischemic stroke. Anticoagulation also dramatically increases the risk of hemorrhagic stroke.

"When one of these patients has a hemorrhagic stroke, you stop blood thinners immediately and stabilize them," Dr. Mayer said. "Then you have a decision: to restart anticoagulation and increase the risk of another hemorrhagic stroke, or discontinue anticoagulation with the higher risk of an embolic stroke from AF? We don't have great data or good answers."

But there are clear hints. Kevin Sheth, MD, professor and founding chief of

UPCOMING SESSION

Clinical Quandaries in ICH 2-3 p.m. CST Thursday, Feb. 10 Room 220-222

neurocritical care and emergency neurology at Yale School of Medicine in New Haven, Connecticut, and principal investigator for NeuroNEXT and StrokeNet, will outline reasonable clinical approaches.

How to best treat elevated blood pressuring during acute ICH is another familiar clinical quandary. The traditional approach is to let hypertension run high during the acute phase to avoid the risk of reducing blood flow to the brain. An alternative approach is aggressive blood pressure lowering to reduce the risk of continuing hemorrhage.

"That's quite a controversial question right now, with evidence for both approaches," Dr. Mayer said. "We all have to make that decision on a regular basis. Charlotte Cordonnier, MD, professor and director of neurology at Lille University Hospital in France is going to present her views on how best to approach this clinical quandary.

"This is one day, one hour, to get some answers for the gray zone of ICH management, these clinical quandaries that we all encounter on a daily basis," Dr. Mayer said. "We don't have a lot of firm answers yet, so we're looking to the world experts to explain what they do and, most importantly, why they do it that way." •

Get Down With Your Blood Pressure dance

he AHA's National Hypertension Control Initiative (NHCI) team held a special live performance of its Get Down With Your Blood Pressure dance to continue raising awareness around hypertension.

Eduardo Sanchez, MD, MPH, FAAFP, NHCI principal investigator and AHA chief medical officer for prevention and Pamela Garmon Johnson, NHCI national executive director and AHA national VP of health equity and partnerships, led the dance along with members of the AHA's Historically Black Colleges and Universities (HBCU) and Hispanic Serving Institutions Scholars (HSIS) program.

There are four moves to the Get Down With Your Blood Pressure dance: Get It. Slip It. Cuff It. Check It. The steps are based on the process of self-measured blood pressure monitoring. Head to Heart.org/HBPControl to learn more about the dance and the NHCI's work to address hypertension control rates across the country.





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