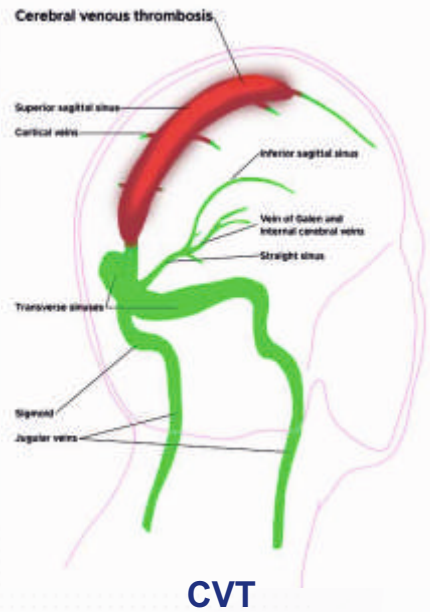
BRAIN & STROKE NEWS LETTER

OF INDIAN STROKE ASSOCIATION

JUNE - JULY EDITION : 2025

STROKE MASTER CLASS



CVT

AIR POLLUTION & STROKE

TINY DEVICE – MILLI SPINNER

BRAIN & STROKE
NEWS LETTER

JUNE - JULY 2025

President's Focus

AIR POLLUTION & STROKE – Another Crisis

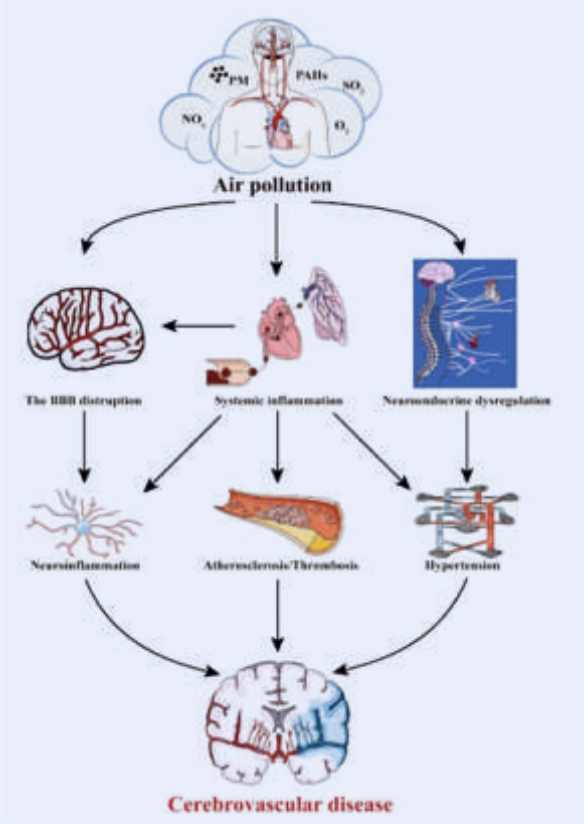
Ambient air pollution is increasingly recognized as a major environmental risk factor for both the ischemic and haemorrhagic stroke. Short term exposure pollutants like PM2.5, PM10, NO2, CO, and SO2 is associated with increased hospital admissions and stroke mortality, while long term exposure significantly increase the risk of incidence stroke for Ischemic stroke.

In India 1 in 8 deaths were attributed to Air pollution, leading risk factor according to ICMR. The Million Death Study, a large-scale epidemiological investigation involving 6.8 million people, found a 9% increased risk of stroke death for every 10 μg/m³ rise in PM2.5 exposure Interestingly, the study found no significant increased risk for ischemic heart disease or chronic respiratory deaths, suggesting that stroke is the most PM2.5-sensitive vascular outcome in the Indian context.

Findings from GBD study 2021, air pollution related stroke deaths was 27%. Air pollution was extensively documented to trigger pathological changes including atherosclerosis, thrombosis and hypertension.

A global exposure estimation conducted by the World Bank reported that 7.3 billion people (94% of the World's population) still lived with PM2.5 considered unsafe (>5mcg/m3)by the WHO.

Given that over 99% of the Indian population lives in areas exceeding the WHO safe limit for PM2.5 (>5mcg/m3), there is urgent need for a public health policy and awareness drive to address ambient air pollution as a modifiable risk factor to reduce the burden of stroke in India.



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1. Brown PE et al. Mortality Associated with Ambient PM2.5 Exposure in India: Results from the Million Death Study. Environ Health Perspect.2022;130(9) :0970004.
2.Taimuri B, et al. Air pollution and cerebrovascular disorders with special reference to Asia: An overview. Ann Indian Acad Neurol. 2022;25(Suppl 1):S3–S8.
3. JAHA – A review article on Air pollution and Stroke, 1st July 2025

Dr.P.Vijaya, MD.,DM.,FWSO.,FIAN.,FIAMS
President – Indian Stroke Association

"BRAIN STROKE – TIME TO ACT"
ISA's NATION WIDE CAMPAIGN LAUNCHED IN RAIPUR

To raise the awareness about brain stroke, its causes, prevention and acute management, Indian Stroke Association is collaborating with professional bodies, NGO's and Public Forums in each state. In this context on 15th June 2025 Sunday, Raipur hosted the Stroke CME @ Hotel Sayaji, in collaboration with The Society for Emergency medicine India (SEMI) and CGAP chapter Raipur, where Eminent Neurologists, Physicians, Emergency physicians came together to discuss about Brain Stroke in a day long programme.

In the CME, Dr.P.Vijaya President Indian Stroke association discussed about the latest treatment of Brain Stroke IV thrombolysis in golden hour of 4 ½ hrs using clot busting drugs.

Dr. Arvind Sharma Secretary ISA discussed about the improving Stroke Care Ecosystem in India.

Dr.Sanjay Sharma Sr.Neurologist in Raipur discussed about the Sickle cell anemia which is common in Chattisgarh and can cause stroke in children.

Other Topics covered are Acute Stroke and Scales, Neuroimaging in Acute Stroke, Large vessel stroke and Endovascular treatment, Stroke in Young, Acute ICH management Guidelines, Secondary prevention in AIS and ICH patients.

CHECK BP - STOP STROKE PUBLIC AWARENESS CAMPAIGN

Followed by Check BP Stop Stroke & Public education programme about prevention of stroke, recognition of Stroke symptoms with Acronym **BEFAST** and the concept of **Time is Brain**. Followed by 30 minutes Q & A Interactive session with panel of Neurologist, Physicians and Emergency physicians where general public actively participated.

TheHitavada

Dr P Vijaya stresses on importance of quick action during brain stroke

हरिभूमि

ब्रेन स्ट्रोक के बढ़ते मामले जागरूकता अभियान शुरू

प्रतिदिन राजधानी

अमन पथ

नईदुनिया

हर वर्ष 18 लाख लोगों को होता है ब्रेन स्टोक, नियमित कराए बीपी की जांच

अमृत संदेश

Central Chronicle

ISA launches 'Brain Stroke–Time to Act' campaign

BREAKING NEWS

"BRAIN STROKE – TIME TO ACT" CAMPAIGN CONDUCTED IN HYDERABAD ON 20-07-2025 (SUNDAY)

Indian Stroke Association is collaborating with API and SEMI Hyderabad chapter conducted stroke academy with them Brain Stroke Time to Act on 20th July 2025 Sunday, @ Hotel Taj Vivanta where Eminent neurologists, Physicians, Emergency physicians came together to discuss about Brain Stroke in a day long programme.

INAUGURATION OF CME @HYDERABAD

In the CME, Dr.P.Vijaya President Indian Stroke association discussed about the latest treatment of Brain Stroke IV thrombolysis in golden hour of 4 ½ hrs using clot busting drugs. Dr. Salil Uppal Treasurer ISA discussed about secondary prevention in stroke. Dr. Subhash Kaul Organising chairperson discussed about the management of acute ICH.

Other Topics covered are clinical assessment of stroke & stroke scales by Dr Sandhya Manorenj , Code stroke in ER by Dr Sowjanya Patibandla , Treatment of hypertension in acute stroke by Dr S Vijay Mohan , Neuro imaging in acutestroke by Dr Hari Radha Krishna

MEDIA COVERAGE

Call for urgent steps as stroke cases increase

EXPRESS NEWS SERVICE @ Hyderabad

WITH stroke cases on the rise, experts from the Indian Stroke Association (ISA) have called for urgent intervention and public awareness. On Sunday, the ISA, along with the API Hyderabad chapter and SEMI, held a 'Stroke Master Class' ahead of World Brain Day on July 22.

The campaign, themed "Brain Stroke - Time to Act", stressed the need for quick, proactive management to save lives and reduce disability.

ISA president Dr P Vijaya said brain stroke can strike anyone, regardless of age, gender, education or economic status. "Every minute during a stroke, 20 lakh brain cells die. Hence the phrase, 'Time is Brain'," she said.

She added that ischemic stroke, caused by a blood clot blocking a vessel, is the most common type, and the most effective treatment is IV thrombolysis, a clot-busting injection. "However, in India, only 1% of eligible patients receive this evidence-based treatment, mainly due to delays in recognising symptoms and reaching a stroke-ready hospital within the golden window of 4.5 hours."

Doctors noted that a stroke occurs every 20 seconds in India, with over 18 lakh cases reported yearly. They called for a nationwide stroke action plan.

THE INDIAN EXPRESS Mon, 21 July https://epape

EXPRESS

Brain Stroke-Time to Act campaign launched

Vijayawada: The Indian Stroke Association (ISA), in collaboration with the Indian Association of Physicians (API) Hyderabad Chapter and the Society for Emergency Medicine India (SEMI), launched the 'Brain Stroke – Time to Act' campaign in Hyderabad. Inaugurated by ISA President Dr P Vijaya, the campaign aims to tackle India's growing stroke burden. A stroke occurs every 20 seconds in India, with over 18 lakh cases annually

METRO INDIA

ISA launches 'Brain Stroke—Time to Act' Campaign in Hyd

ఈనాడు

పక్షవాతానికి అందుబాటులో ఆధునిక వైద్యం

ఇండియన్ స్ట్రోక్ అసోసియేషన్(ఐఎస్ఏ) అధ్యక్షురాలు డా.పి.విజయ వెల్లడి

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ABN ఆంధ్రజ్యోతి

'బ్రెయిన్ స్ట్రోక్-టైమ్ టు యాక్ట్' ప్రోచర్‌ను విడుదల చేస్తున్న ప్రతినిధులు

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- ఐఎస్ఏ అధ్యక్షురాలు డా.విజయ

21/07/2025 | HYDERABAD MAIN | (Hyderabad Main_I) | Page : 5
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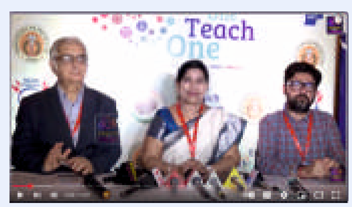

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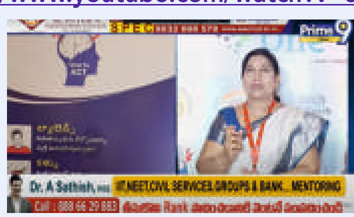

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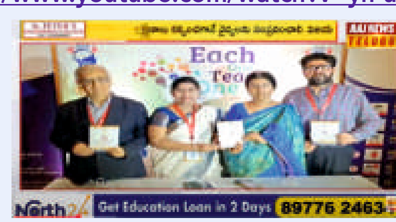


What's New in Stroke Reasearch?

Compiled by Dr. Anand Vaishnav, Dr. Vijaya, Dr. Arvind Sharma, Dr. Laxmi Narasimhan

1. **Anita van de Munckhof, MD, et al. Direct oral anticoagulants versus vitamin K antagonists for cerebral venous thrombosis (DOAC-CVT): an international, prospective, observational cohort study. Lancet Neurol. 2025;24(3):199–207.**

   The DOAC-CVT study is the largest prospective international cohort comparing direct oral anticoagulants (DOACs) versus vitamin K antagonists (VKAs) for treating cerebral venous thrombosis (CVT). The study included 619 patients from 65 hospitals, found that the use of DOACs was not associated with worse functional outcomes or increased risk of recurrent thrombosis or major bleeding compared to VKAs, suggesting they are a safe alternative. These findings support DOACs as a viable, potentially preferable option for CVT treatment, offering ease of use without compromising safety or efficacy.

2. **Li, J., Zhu, C. L., Zhang, C. Y., Li, L. M., Liu, R., Zhang, S., & He, M. L. (2025). Risk factors for unexplained early neurological deterioration after intravenous thrombolysis: a meta-analysis. Neurosciences, 30(2), 92–100.**

   This meta-analysis examined unexplained early neurological deterioration (END) in acute ischemic stroke (AIS) patients who received intravenous thrombolysis (IVT). Among 58,915 patients across 16 high-quality studies, the pooled incidence of END was 12%. Significant risk factors included advanced age, male sex, hypertension, diabetes mellitus, atrial fibrillation, hyperglycemia, elevated white blood cell count, high cholesterol, delayed onset-to-treatment time, and large artery atherosclerosis. Notably, elevated white blood cell counts emerged as a key predictor of END, suggesting a potential inflammatory mechanism. The findings underscore the importance of early identification and monitoring of high-risk patients to improve post-thrombolysis outcomes.

3. **CATALYST Collaboration. Collaboration on the optimal timing of anticoagulation after ischaemic stroke and atrial fibrillation: a systematic review and prospective individual participant data meta-analysis of randomised controlled trials. The Lancet. 2025 Jul 5;406(10498):43–51.**

   This article evaluates the optimal timing for initiating anticoagulation therapy in patients with atrial fibrillation following an ischemic stroke. The CATALYST collaborative meta-analysis, incorporating data from 4 randomized controlled trials and over 5,000 participants, found that starting direct oral anticoagulants (DOACs) within 4 days of stroke onset significantly reduced the risk of recurrent ischemic stroke compared to later initiation. Importantly, early initiation did not lead to a significant increase in symptomatic intracranial hemorrhage, indicating a favorable safety profile. These findings support reconsidering current guidelines that often recommend delayed initiation, suggesting that individualized early treatment could benefit many patients (CATALYST Collaboration, 2025).

4. **Qiu Z, Li F, Sang H, Yuan G, Xie D, Zhou K, Li M, et al., for the BRIDGE-TNK Trial Investigators. Intravenous Tenecteplase before Thrombectomy in Stroke. N Engl J Med. 2025;393(2):139–150.**

   The BRIDGE-TNK trial evaluated whether administering intravenous tenecteplase before endovascular thrombectomy improves outcomes in patients with acute ischemic stroke due to large-vessel occlusion. Conducted in China with 550 patients, the study found that 52.9% of those who received tenecteplase prior to thrombectomy achieved functional independence at 90 days, compared to 44.1% in the thrombectomy-only group (risk ratio 1.20; 95% CI, 1.01–1.43; P = 0.04). While early reperfusion before thrombectomy was more frequent with tenecteplase (6.1% vs. 1.1%), post-thrombectomy reperfusion rates were similar. Symptomatic intracranial hemorrhage occurred slightly more in the tenecteplase group (8.5% vs. 6.7%), and 90-day mortality rates were comparable. These findings suggest that intravenous tenecteplase before thrombectomy can modestly improve functional outcomes without substantially increasing safety risks (Qiu et al., 2025).

5. **Bindslev JB, Valentin JB, Johnsen SP, et al. Incidence and Prognosis of Pediatric Stroke in Denmark: A Nationwide Population-Based Study. Neurology. 2025;105(3):e213901.**

   This nationwide Danish study analyzed the incidence and prognosis of pediatric stroke between 2013 and 2020, identifying 221 children with first-ever stroke. While the overall stroke incidence remained stable, arterial ischemic stroke (AIS) rates significantly increased in boys, driven largely by a rise in arterial dissections. Mortality remained high, with a 30-day risk of 7.7% and a 5-year risk of 11%, particularly elevated in cases of intracerebral hemorrhage. Neurologic impairment was common, with over 20% of survivors experiencing moderate to severe deficits. These findings highlight the substantial burden of pediatric stroke and underscore the urgent need for targeted improvements in pediatric stroke care and prevention strategies.

6. **Psychogios M, Brehm A, Ribo M, et al.; DISTAL Investigators. Endovascular Treatment for Stroke Due to Occlusion of Medium or Distal Vessels. N Engl J Med. 2025;392(14):1374–1384.**

   The DISTAL trial investigated whether endovascular thrombectomy offers clinical benefit for strokes due to occlusions in medium or distal cerebral vessels. Contrary to expectations from observational studies, the trial showed no significant advantage of thrombectomy over best medical management alone in these cases. Mortality rates and symptomatic intracranial hemorrhage were similar or slightly higher in the thrombectomy group, raising safety concerns. Importantly, both the DISTAL and ESCAPE-MeVO trials call into question the routine use of thrombectomy in non-large-vessel occlusions and highlight the need for better patient selection and alternative technical strategies. These findings urge the stroke community to reassess current practices and prioritize further research into optimized treatments for these patient populations (Psychogios et al., 2025).

7. **Yan S, Zhou Y, Lansberg MG, et al.; EXPECTS Group. Alteplase for Posterior Circulation Ischemic Stroke at 4.5 to 24 Hours. N Engl J Med. 2025;392(13):1288–1296.**

   The EXPECTS trial investigated the effectiveness and safety of intravenous alteplase administered between 4.5 and 24 hours after the onset of posterior circulation ischemic stroke in patients who were not candidates for thrombectomy. In this randomized trial involving 234 patients in China, those who received alteplase showed significantly better outcomes, with 89.6% achieving functional independence at 90 days compared to 72.6% in the standard care group (adjusted risk ratio 1.16; P = 0.01). Rates of symptomatic intracranial hemorrhage were low and comparable (1.7% vs. 0.9%), and 90-day mortality was slightly lower in the alteplase group (5.2% vs. 8.5%). These findings suggest that late-window thrombolysis with alteplase can be beneficial and safe for selected patients with mild posterior circulation stroke (Yan et al., 2025).

8. **CASSISS Trial Investigators. Stenting Versus Medical Therapy for Symptomatic Intracranial Artery Stenosis: Long-Term Follow-Up of a Randomized Trial. Stroke. 2025 May;56(5):1128–1137.**

   The long-term follow-up results of the CASSISS trial compared stenting with aggressive medical therapy versus medical therapy alone in patients with symptomatic intracranial artery stenosis. Over a median follow-up of 7.4 years, the study found no significant difference between the two groups in the risk of stroke or death (hazard ratio, 1.02; 95% CI, 0.66–1.81; P = 0.74). The annualized rate of stroke or death was 4.6% in the stenting group and 4.2% in the medical therapy group. These findings reinforce that aggressive medical management remains the preferred first-line strategy for patients with symptomatic intracranial stenosis, as stenting does not provide additional long-term benefit (CASSISS Trial Investigators, 2025).

9. **S.J.A. Donners et al. Optimized medical therapy alone versus optimized medical therapy plus revascularisation for asymptomatic or low-to intermediate risk symptomatic carotid stenosis (ECST-2): 2-year interim results of a multicentre randomised trial. Lancet Neurol 2025; 24(5): 389–99.**

   The ECST-2 trial (Lancet Neurol 2025; 24: 389–99) evaluated whether adding revascularisation (carotid endarterectomy or stenting) to optimised medical therapy (OMT) provided additional benefit in patients with asymptomatic or symptomatic carotid stenosis of 50% or greater, and a 5-year predicted risk of ipsilateral stroke of less than 20% (estimated using the Carotid Artery Risk [CAR] score), were randomised to receive either OMT alone or OMT plus revascularisation. At the 2-year interim analysis, the rates of stroke, death, or procedural complications were low and comparable between both groups, suggesting no significant early advantage of revascularisation over medical therapy alone in this selected low-risk population. These findings support a conservative approach with OMT in appropriately selected patients while awaiting long-term results.

10. **Toshiya Osanai et al. Scientific Reports (nature) 2025 Jul 1;15:21214. Efficacy and safety of stem cell therapy for acute and subacute ischemic stroke:a systematic review and meta-analysis.**

A Systemic review and meta-analysis of RCT's to assess the efficacy and safety of stem cell therapy for acute subacute ischemic stroke. Patients undergoing stem cell transplantation within one month of stroke onset are included. Results – this meta-analysis showed the stem cell therapy within 1 month of onset is safe with no significant difference in SAE or mortality. The 90-day incidence of mRS score 0-2 was higher with p- 0.004, 1 year incidence mRS scores 0-1 is higher in the stem cell therapy group p=0.020. Although encouraging further research is need to clarify underlying mechanisms and to identify the patients most likely to respond favourable to stem cell therapy.

TECHNOLOGY TALKS

Tech Corner Spotlight: Stanford's Game-Changing Stroke Treatment Innovation

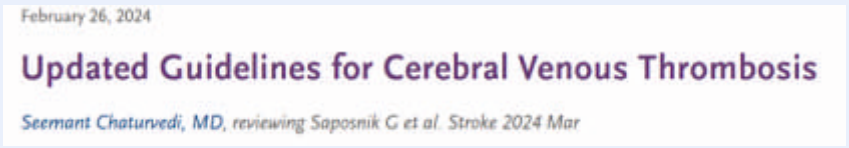
Stanford researchers have developed a ground-breaking device called the milli-spinner thrombectomy, which dramatically improves the success rate of clot removal in stroke treatments. Unlike current devices that succeed on the first try only about 50% of the time—and fail entirely in up to 15% of cases—the milli-spinner achieves a remarkable ~90% first-pass success rate, even in tough, fibrin-rich clots. Instead of pulling or slicing the clot, the device shrinks it internally, reducing its volume by up to 90% without breaking fibrin lines, thereby minimizing the risk of dangerous fragments traveling downstream. This innovation could revolutionize treatments not only for ischemic stroke but also for heart attacks and pulmonary embolisms, signaling a major leap forward in vascular medicine (Stanford News, 2025).

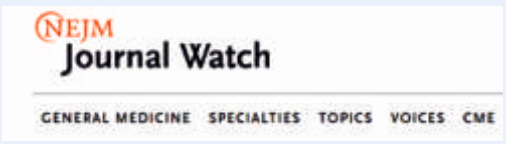
Reference:

Stanford University. A game-changing way to treat stroke. Stanford News. June 2025.

CLINICAL PRACTICE CORNER

Cerebral venous Thrombosis (CVT) is being increasingly diagnosed in all age groups in both genders, there are more than 100 possible etiologies. given it varied manifestations highest index of suspicion focused neuroimaging and prompt treatment can translate to good outcomes in majority of patients. Based on new studies the following practice points are taken from Saposnik G et al. Stroke 2024 Marc; 55: e77.





Key Points

- The most commonly affected structures in CVT are the superior sagittal sinus and transverse sinus.
- Clinical presentation is varied; headache is present in at least 90% of patients, seizures in 20% to 40%, and focal neurologic deficits in 20% to 50%.
- Many individuals with CVT have a genetic or acquired thrombophilia (or both). New conditions identified since the last report include obesity, COVID-19, and vaccine-induced thrombocytopenia.
- Magnetic resonance imaging/MR venography is the recommended non-invasive technique for diagnosis, with computed tomography/CT venography as an alternative.
- A conventional approach for treatment is parenteral heparin followed by vitamin K antagonist treatment for 3 to 12 months, with the duration of treatment depending on underlying conditions.

What's New

- Contrast-enhanced MRV, gradient echo, and susceptibility-weighted sequences are recommended for cortical vein thrombosis diagnosis.
- Direct oral anticoagulants (DOACs) appear to be a safe and effective alternative to vitamin K antagonists (SECRET trial, ACTION-CVT, RE-SPECT).
- Identifying recanalization with MRV or CTV to guide the duration of treatment is an uncertain strategy.
- Endovascular therapies are reserved for patients with propagation of thrombus, patients with neurologic deterioration despite medical treatment, and those with contraindications to anticoagulants.
- Despite limited evidence, decompressive surgery can be lifesaving in patients with advanced clinical evidence of herniation.

UPCOMING EVENTS

1. Stroke Master Class 2025 on 10th August 2025 @ Jaipur: Knowledge sharing with Physicians, Emergency physicians focussing on Acute Stroke Management

2. Stroke Summer School 2025 on 29th to 31st August 2025 @ Kolkata

Join the

Indian Stroke Association

Be a Crusader in the Fight Against Stroke

About Us

Started in 2002, ISA is the pioneer Non-Profit Organisation commited to improving Stroke care across India, Education, Research & Advocacy

Why Join The Indian Stroke Association ?

- Educational Resources: Free access to all the ISA Publications, Journal of Stroke, all CMEs & Online bi-monthly Newsletter
- Avail member discounts at National Conferences & Travel Grants
- Can be a part of YSNF (Young Stroke Neurologists Forum) within 7yrs of DM/DNB for Special Training & Observerships
- Networking, Mentorships & Global Outreach

To Become a Member

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Submit your details & on approval,
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