Proposal for a Pre-Congress Stroke Simulation Workshop

World Stroke Congress 2025 – Barcelona, Spain
Date: October 21st, 2025
Time: 13:00 – 18:00
Venue: Vall d'Hebron University Hospital, Barcelona

Title:

"Stroke Code Simulation: Enhancing Acute Stroke Response Across the Continuum of Care – From Prehospital to Advanced In-Hospital Management"

Workshop Coordinators:

- **Dr. Octavio Pontes-Neto** (University of São Paulo, Brazil)
- **Dr. Carlos Molina** (Vall d'Hebron University Hospital, Spain)
- **Dr. Gustavo Saposnik** (University of Toronto, Canada)
- **Dr. Sheila Martins** (Federal University of Rio Grande do Sul, Brazil)

Rationale:

Despite major advancements in acute stroke therapies, **worldwide implementation of best practices remains highly variable**. Delays in recognition, triage, and early treatment continue to limit the number of patients who benefit from reperfusion therapies and intensive management strategies.

Simulation-based training has emerged as a proven educational tool for translating guidelines into practice, enhancing team communication, and improving real-time clinical decision-making. It enables healthcare providers to experience time-critical stroke scenarios in a controlled environment, practicing interventions without risk to real patients.

Holding this simulation-based workshop as a **pre-congress activity of the World Stroke Congress 2025 (WSC 2025)** offers a unique opportunity to provide **hands-on training** to an **international audience of neurologists**

and emergency physicians, many of whom may be in leadership roles in their stroke systems of care in their respective countries.

This workshop also aligns with the mission of the **World Stroke Organization** to **promote knowledge translation, systems improvement, and capacity building for stroke care globally**.

Target Audience:

- Stroke Neurologists
- Emergency Physicians
- EMS Providers and Prehospital Leaders
- Neurology and Emergency Medicine Residents/Fellows
- Interventional Neurologists/Neurointerventionists
- Hospital Administrators involved in stroke pathway coordination

Expected Number of Participants: 60
(Participants will rotate in 4 groups of 15 across simulation stations)

Educational Objectives:

At the end of this workshop, participants will be able to:

1. **Rapidly recognize and triage stroke patients in the prehospital setting**, using validated stroke scales and optimizing hospital destination decisions.
2. **Understand the operational and clinical workflow of a Mobile Stroke Unit (MSU)**, including portable imaging, telemedicine consultation, and prehospital thrombolysis with Tenecteplase (TNK).
3. **Optimize in-hospital acute ischemic stroke management**, including streamlined thrombolysis (with TNK) and patient selection for endovascular thrombectomy (EVT).

4. **Implement best practices for acute intracerebral hemorrhage (ICH) management**, focusing on early blood pressure control and bundled care based on the INTERACT3 trial.
5. **Strengthen team communication, decision-making, and role clarity** under time-sensitive stroke scenarios.

Workshop Schedule:

Time	Activity
13:00 – 13:15	Welcome and Workshop Overview (Plenary Room)
13:15 – 16:30	Simulation Rotations (4 stations, 45–50 minutes each including simulation + debrief + transition)
16:30 – 17:00	Coffee Break and Networking
17:00 – 18:00	Final Plenary Session: Debriefing, Global Stroke Systems Reflection, and Open Discussion

Simulation Station Details:

Station	Theme	Scenario Focus	Learning Points
Station 1: Prehospital Stroke Recognition and EMS Triage	Stroke identification and EMS triage	- Stroke symptom recognition (using FAST, LAMS, or RACE scales) - Decision-making regarding Comprehensive Stroke Centers - Communication with receiving ED	- Early recognition - Triage protocols - Pre-notification

Station	Theme	Scenario Focus	Learning Points
Station 2: Mobile Stroke Unit: Prehospital Diagnosis and TNK Treatment	Advanced prehospital management	- Portable CT acquisition and interpretation - Remote telestroke consultation - Field TNK thrombolysis decision and administration	- MSU workflow - Telestroke decision support - TNK handling
Station 3: Acute Ischemic Stroke: Bridging Therapy and EVT	In-hospital hyperacute stroke management	- Emergency stroke team activation - TNK administration - Imaging-based selection for EVT - Workflow coordination with Neurointerventional Suite	- Door-to-needle optimization - Bridging protocols - EVT pathway
Station 4: Intracerebral Hemorrhage Management: INTERACT3 Protocol	Acute ICH care bundle	- BP lowering within target timeframe - Rapid anticoagulation reversal if needed - Multidisciplinary ICH management	- INTERACT3 protocol components - BP management goals - Team coordination

Methodology:

- **High-Fidelity Simulation:** Use of realistic patient simulators, portable imaging devices, and stroke management equipment where possible.
- **Standardized Patients:** Neurology Residents and Fellows from Barcelona will act as **trained stroke patient actors and family members**, enhancing scenario realism.
- **Debriefing:** After each scenario, a **structured debriefing session** will be led by faculty focusing on key clinical decisions, errors, and teamwork dynamics.
- **Multidisciplinary Teaching:** Inclusion of EMS personnel, emergency physicians, neurologists, and neurointerventionalists as

faculty/instructors to reflect the real-life multidisciplinary nature of acute stroke care.

Faculty and Simulation Team:

The workshop will be delivered by a **renowned multinational faculty of stroke experts**, all of whom have extensive experience in simulation-based stroke education:

- **Dr. Octavio Pontes-Neto** (University of São Paulo, Brazil)
- **Dr. Carlos Molina** (Vall d'Hebron University Hospital, Spain)
- **Dr. Gustavo Saposnik** (University of Toronto, Canada)
- **Dr. Sheila Martins** (Federal University of Rio Grande do Sul, Brazil)

Supported by:

- Local Stroke Neurology Residents and Fellows (as standardized patient actors)
- Simulation lab staff and technicians from Vall d'Hebron University Hospital

Logistical Requirements:

- Access to **simulation labs, emergency bays, or training facilities** at Vall d'Hebron University Hospital
- **Portable CT scanner or Mobile Stroke Unit demonstration equipment** for Station 2
- Simulation mannequins and equipment for stroke assessment and management (BP monitors, IV pumps, mock thrombolytic agents, etc.)
- Audiovisual tools for telemedicine scenario simulation
- Stroke scales and checklists for participants

Funding and Industry Support:

Expected Impact:

This workshop will:

- **Directly improve clinical skills** of participants through immersive, hands-on learning
- **Facilitate international knowledge exchange** on acute stroke system optimization
- Provide a **practical platform for implementing the latest evidence-based protocols**, including the INTERACT3 trial for ICH and new TNK-based workflows
- **Demonstrate the leadership role of Vall d'Hebron Hospital and Barcelona in stroke education and care delivery innovation**
- Set the tone for high-level discussions at WSC 2025 on **global implementation of acute stroke pathways**