

Acute Stroke Hospitalization and Deep Vein Thrombosis Prophylaxis: Gaps in Care and the Unmet Need

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INTRODUCTION

- In the hospital setting, acute ischemic stroke (AIS) patients are at risk for deep vein thrombosis (DVT) due to limb weakness, immobility, and hypercoagulability.
- The estimated incidence of DVT in acute stroke patients is between ~2-10%. This range increases to ~10-75% for immobilized stroke patients.
- Current standard DVT prevention includes mechanical prophylaxis (MP) with sequential compression devices (SCDs) and/or chemical prophylaxis (CP) with enoxaparin or heparin.
- Chemical prophylaxis may be intentionally delayed in some AIS patients due to increased risk of hemorrhagic transformation post-intravenous thrombolytic therapy.
- Chemical prophylaxis may also be withheld after intracerebral hemorrhage (ICH) to avoid expansion, despite literature suggesting safety if initiated at 48H post-hemorrhage. The literature suggests the incidence of DVT in ICH may be higher than in AIS for this reason.
- Mechanical prophylaxis may be intentionally withheld or declined by patients due to limb discomfort/pain, edema, limb deformities, dermatitis, skin graft, severe arteriosclerosis, or gangrene.

METHODS

At our Comprehensive Stroke Center, Tampa General Hospital, we developed the **Tolerance and Adherence of Prophylaxis for Deep Vein Thrombosis in Stroke-Hospitalized Patients (TAP DiSH)** observational study to assess DVT prophylaxis care gaps in patients hospitalized with AIS or ICH.

After informed consent, patients received questionnaires about their CP/MP experience from admission until day 7 or discharge, or until they required/received therapeutic anticoagulation (whichever came first).

OBJECTIVE

To identify the scope of **unmet need** and **potential care gaps** without chemical and/or mechanical prophylaxis through evaluation of real-world use of DVT prophylaxis in acute stroke hospitalizations.

RESULTS

TAP DiSH is still ongoing, however interim analysis is presented below:

Stroke Type	No CP	Delayed or Partial CP	Full CP	Required or Received Anticoagulation	SCD Tolerance
ICH (n=5)	60%	40%	X	X	60%
AIS (n=8)	12.5%	50%	25%	12.5%	63%

The most common reasons for SCD noncompliance included hospital-wide availability of SCD machines, limb discomfort/pain, and outright patient refusal.

CONCLUSION

Real-world chemical and mechanical prophylaxis use for DVT is **suboptimal, incomplete, and delayed** in acute stroke patients.

DISCUSSION

- A substantial care gap exists for adequate DVT prophylaxis by either chemical or mechanical methods in both AIS and ICH patients.
- SCDs are often inadequately implemented and/or poorly tolerated.
- Chemical prophylaxis is often deemed contraindicated due to bleeding concerns.
- There remains a significant unmet need for other DVT prophylaxis therapies.
- Alternative therapies include the geko™ electro-stimulation device utilized in the United Kingdom (UK) to reduce the risk of DVT and to serve the acute stroke patient population who are intolerant or contraindicated to standard SCDs. In a UK review of 1,383 acute stroke patients⁶, the geko™ device was reported to be more comfortable and preferred overnight compared to SCDs

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