



NEWS RELEASE

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Anticoagulation protocol reduces venous thromboembolisms in patients with traumatic brain injury

Study in April 2020 issue of The Joint Commission Journal on Quality and Patient Safety

(OAKBROOK TERRACE, Illinois, March 26, 2020) – Traumatic brain injury (TBI) is one of the leading causes of death and disability worldwide.¹ In the United States, approximately 2.8 million people sustain a TBI annually.² A new study in the April issue of *The Joint Commission Journal on Quality and Patient Safety* details how a prophylactic anticoagulation protocol helped decrease venous thromboembolisms (VTEs) in patients with TBI.

Patients with TBI have an increased risk of developing complications from VTEs, a condition in which a blood clot forms and travels to the lungs, due to prolonged immobilization and a systemic hypercoagulability state. Recent reports suggest that prophylactic anticoagulation – preventive anti-clotting medication – can be safely used in patients with life-threatening TBI if the brain injury is stable.³

In the study, “[Implementation of a Prophylactic Anticoagulation Guideline for Patients with Traumatic Brain Injury](#),” researchers at North Memorial Health Hospital, Robbinsdale, Minnesota, used a trauma registry to identify patients with TBI before and after implementation of a new prophylactic anticoagulation protocol that incorporates education, weekly audits and real-time adherence feedback.

A total of 681 patients with TBI were identified – 368 pre-implementation (PRE) and 313 post-implementation (POST) of the VTE protocol. Findings showed:

- 80.5% of POST patients received anticoagulation compared to 39.4% of PRE patients.
- Time to initiation for anticoagulation averaged 59 hours for POST patients compared to 140 hours for PRE patients.
- POST patients (2.2%) had fewer VTE events compared to PRE patients (5.2%).

¹ Maas AI, Stocchetti N, Bullock R. Moderate and severe traumatic brain injury in adults. *Lancet Neurol.* 2008;7:728–741.

² Taylor CA, et al. Traumatic brain injury–related emergency department visits, hospitalizations, and deaths—United States, 2007 and 2013. *MMWR Surveill Summ.* 2017 Mar 17;66:1–16.

³ Saadeh Y, et al. Chemical venous thromboembolic prophylaxis is safe and effective for patients with traumatic brain injury when started 24 hours after the absence of hemorrhage progression on head CT. *J Trauma Acute Care Surg.* 2012;73:426–430.

The researchers concluded that the hospital-wide prophylactic anticoagulation protocol improved process measures and outcomes in patients with TBI. They also concluded that benchmarking can assist institutions to identify potential clinically relevant areas for quality improvement in real time.

“Quality improvement stories like the one described in this study provide blueprints for institutions to use their own benchmarked data to improve patient care. When appropriate decisions about using benchmarked data are combined with interventions tailored to the local context, the potential for application of benchmarked data to improve care at the bedside is high,” note Matthew C. Chia, MD, and Anthony D. Yang, MD, MS, in an [accompanying editorial](#).

Also featured in the April issue:

- [“Adverse Events Present on Arrival to the Emergency Department: The ED as a Dual Safety Net”](#) (Washington University School of Medicine, St. Louis)
- [“Using Electronic Health Records to Enhance Predictions of Fall Risk in Inpatient Settings”](#) (Icahn School of Medicine at Mount Sinai, New York)
- [“What Do We Do After the Pilot Is Done? Implementation of a Hospital Early Warning System at Scale”](#) (Kaiser Permanente Northern California, Oakland, California)
- [“The Comprehensive Care Plan: A Patient-Centered, Multidisciplinary Communication Tool for Frequently Hospitalized Patients”](#) (Northwestern University Feinberg School of Medicine, Chicago)
- [“Web-Based Peer Support Education Program for Health Care Professionals”](#) (A study evaluating four Dutch hospitals)
- [“Optimizing Patient Safety in Clinical Trials by Improving Transitions of Care”](#) (A study on three Joint Commission International accredited hospitals in the United Arab Emirates)
- [“Establishing Physician Well-Being as a National Priority”](#) (An essay adapted from a keynote address at the 2019 National Academy of Medicine meeting of the Action Collaborative on Clinician Well-Being and Resilience)

For more information, visit [The Joint Commission Journal on Quality and Patient Safety website](#).

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Note for editors

The article is [“Implementation of a Prophylactic Anticoagulation Guidelines for Patients with Traumatic Brain Injury,”](#) by Christopher J. Tignanelli, MD; Jonathan Gipson, MD, FACS; Arthur Nguyen, AB; Regina Martinez, BS, MPH; Simon Yang, BS, MS; Patty L. Reicks, RN, BSN; Cori Sybrant, BSN; Robert Roach, MD; Melissa Thorson, MS, APRN, CCNS; and Michaela A. West, MD, PhD, FACS. The article appears in *The Joint Commission Journal on Quality and Patient Safety*, volume 46, number 4 (April 2020), published by Elsevier.

The Joint Commission Journal on Quality and Patient Safety

[The Joint Commission Journal on Quality and Patient Safety](#) (JQPS) is a peer-reviewed journal providing health care professionals with innovative thinking, strategies and practices in improving quality and safety in health care. JQPS is the official journal of [The Joint Commission](#) and [Joint Commission Resources, Inc.](#) Original case studies, program or project reports, reports of new methodologies or the new application of methodologies, research studies, and commentaries on issues and practices are all considered.