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5-2019

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Recommended Citation

Macki, Mohamed; Anand, Sharath K.; Fakih, Mohamed; Elmenini, Jaafar; and Chang, Victor, "A Survey of Chemoprophylaxis Techniques in Spine Surgery Among American Neurosurgery Training Programs" (2019). *Quality Improvement*. 17.

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A Survey of Chemoprophylaxis Techniques in Spine Surgery Among American Neurosurgery Training Programs

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Introduction

- In the RCT on the prevention VTE events in hospitalized medical patients, prophylactic low-molecular weight heparin (LMWH) > unfractionated heparin (UFH)
- Similar high-impact trials have validated more favorable results with prophylactic LMWH over UFH in general surgery, trauma surgery, orthopaedic surgery, urology, and cardiopulmonary specialties.

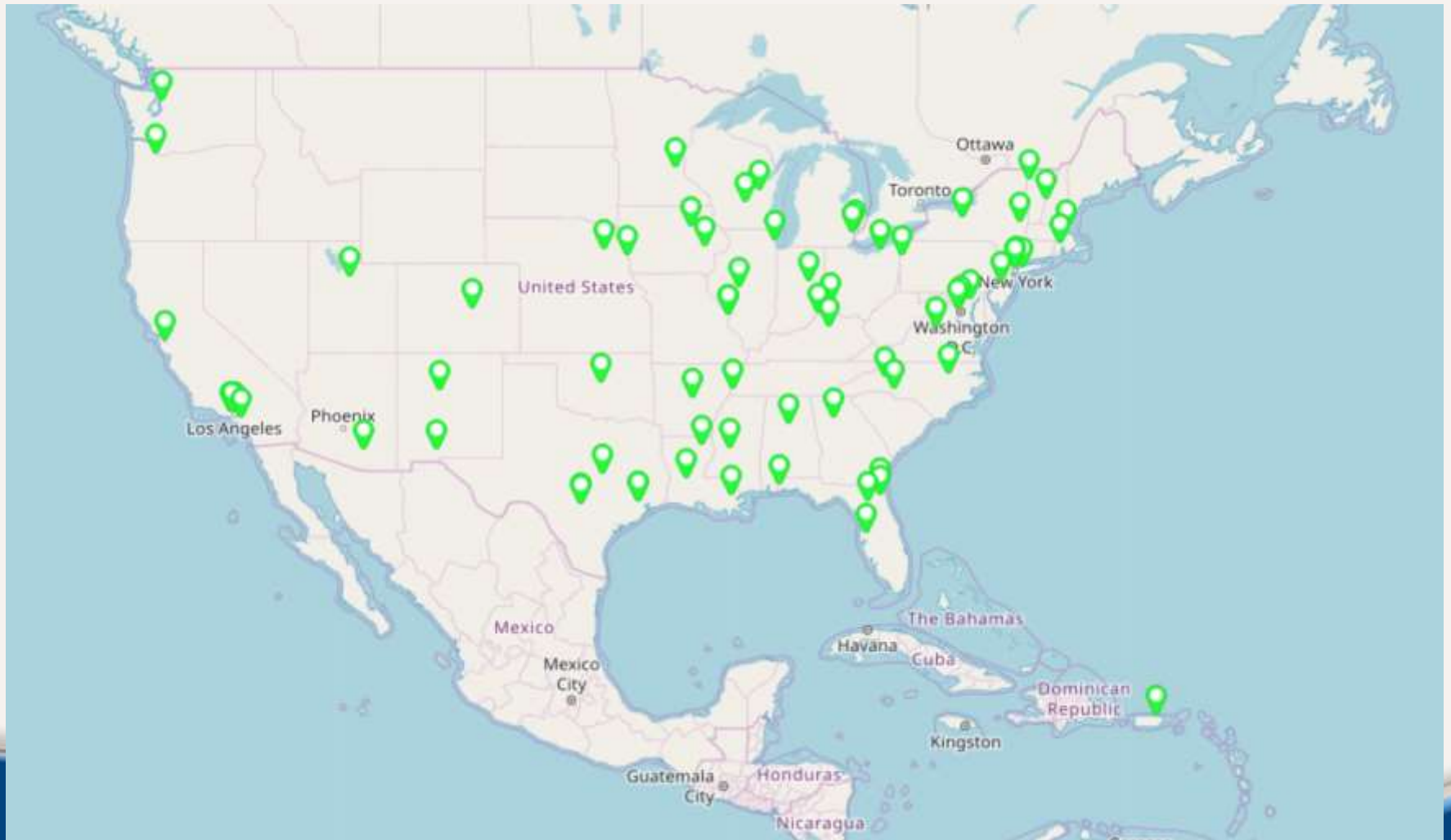


Methods

- In 2017, the Accreditation Council for Graduate Medical Education (ACGME) provided the contact information for the program coordinators of all 107 ACGME-approved neurosurgery residency programs
- Electronic survey on three pathologies: (1) degenerative/ deformity, (2) trauma, (3) neoplasm

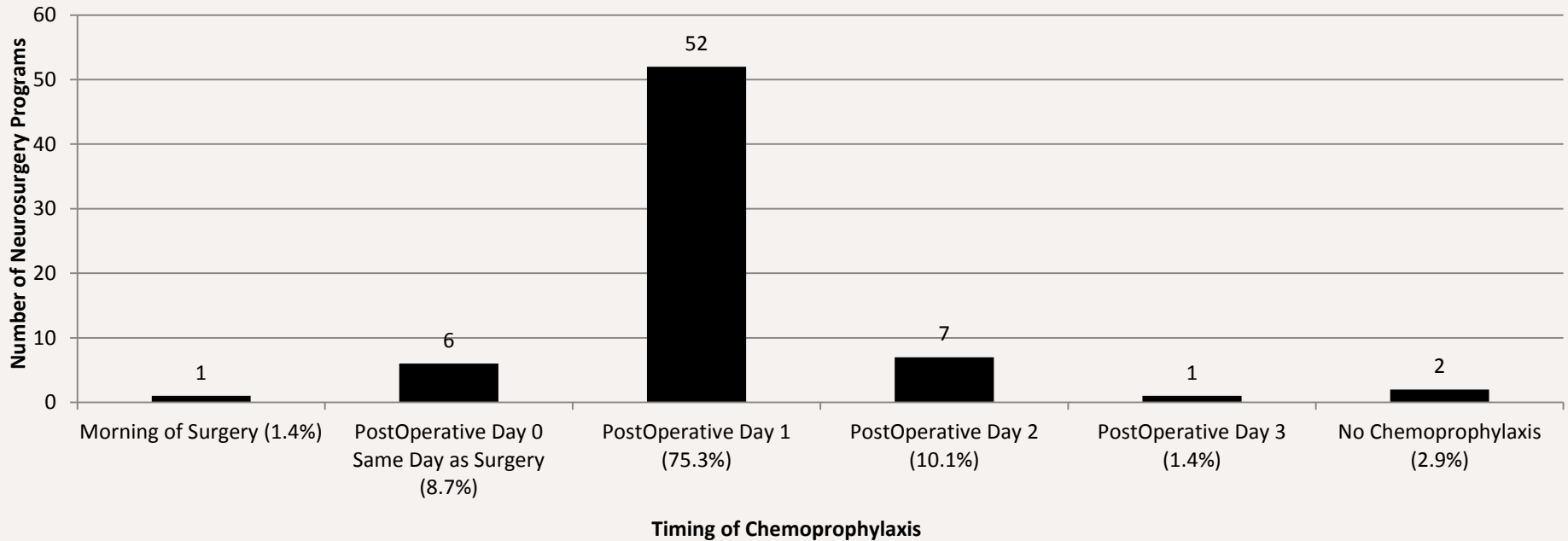


Respondents: 69 Residency Programs



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Results



Time to starting chemoprophylaxis for degenerative/
deformity pathologies

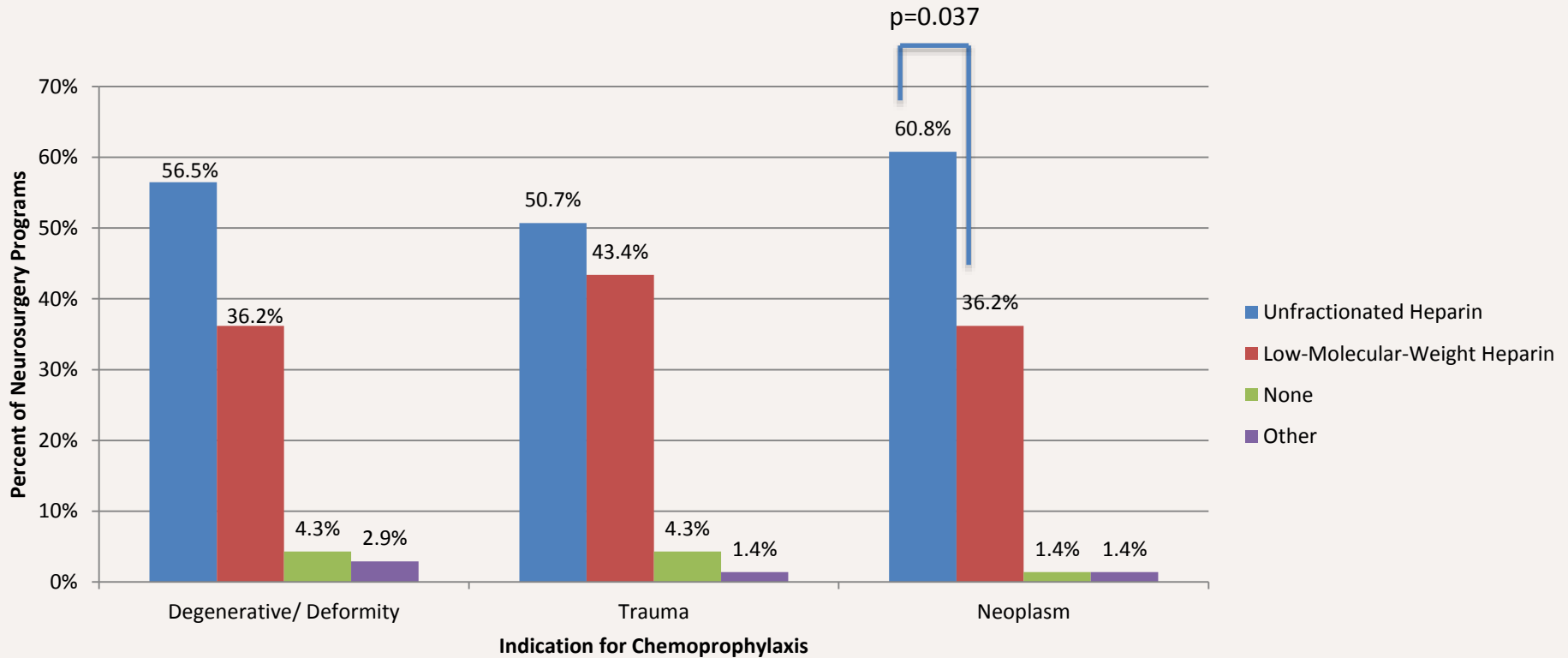


North American Spine Section (NASS) Evidence-Based Clinical Guidelines

- Level IV evidence that has supported chemoprophylaxis on the day of spinal surgery
- Administering an anticoagulant, albeit a very small dose, prior to the procedure portends a higher risk of bleeding complications.



Type of Chemoprophylaxis



Discussion

- NASS Evidence-Based Clinical Guidelines specified LMWH as a chemoprophylactic drug of choice without mention of UFH
- But, for *therapeutic* doses of anticoagulation, guidelines take preference to intravenous UFH because LMWH is less “predictable.”

Neoplasms

- In a prospective double-blind randomized multicenter trial after elective cancer surgery, the ENOXACAN Study found that the thromboembolic complication rate of 18.2% in the heparin group did not statistically significantly differ from 14.7% in the enoxaparin group
- The NASS Evidence-Based Clinical Guidelines determined that “Evidence [for chemoprophylaxis] is better established in higher risk patients undergoing spinal surgery for traumatic or neoplastic conditions

Thank You



Victor Chang, MD



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