

ACADEMY OF SPINAL CORD INJURY PROFESSIONALS



Elbow and Wrist Ultrasound Screening During Annual Exam for Patients with Spinal Cord Injury: A QI project



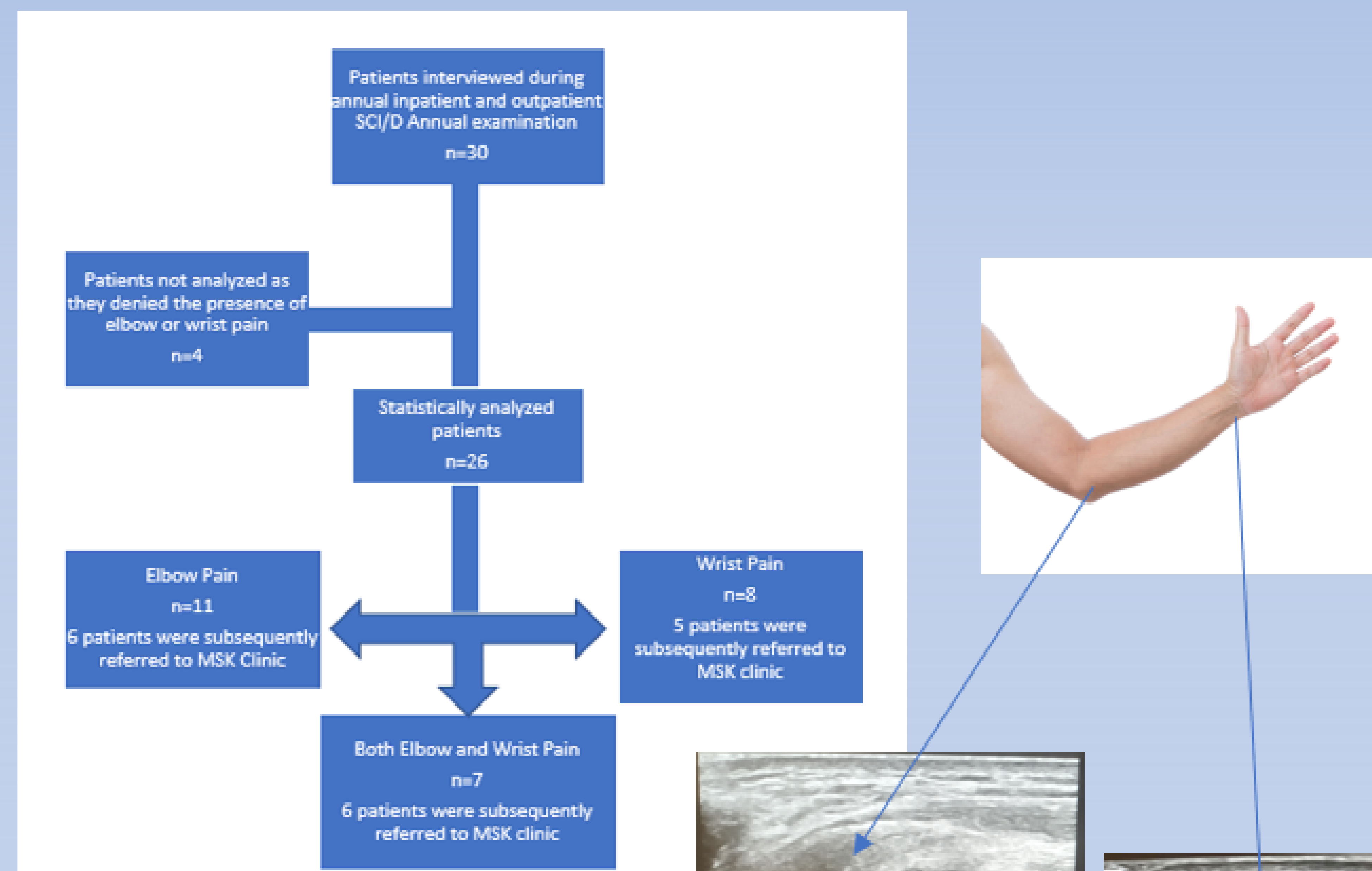
Malcolm Winkle, MD¹; Nacive Bilgin Badur, MD, PhD²; Kevin Suarez, MD²; Ameya Joshi, MD²; Cesar Colasante, MD³; Steven Brose, DO³
Johns Hopkins University School of Medicine¹; SUNY Upstate Medical University²; Syracuse VA Medical Center³

Introduction

- The primary goal: Evaluate whether MSK ultrasound can preemptively identify pathology at the wrist and elbow in SCI patients during annual examinations.
- The secondary goal: Demonstrate the relationship between positive ultrasound findings and common risk factors for musculoskeletal pathologies in SCI patients, including age, number of years since SCI, and BMI.

Methods

- A questionnaire was administered along with a focused musculoskeletal exam during annual visit.
- Screening ultrasound was performed for those with pain complaints
- After screening, patients were asked if they wanted to be referred to the VA SCI/D Musculoskeletal Clinic for further management of their joint pain.



Results

- 26 participants out of 30 reported elbow and/or wrist pain. 22 participants had positive ultrasonographic findings.
- Positive ultrasonographic findings correlated with presence of pain ($p=0.034$) and BMI ($p=0.041$).
- Average pain score of patients without positive ultrasound findings was low ($p=0.034$) as compared to those with positive ultrasound pathology.
- 17 patients were referred to the SCI/D Musculoskeletal Clinic for further management.
- No statistically significant relationship was found between presence of US findings and age, years with SCI and use of an assistive device.

Discussion/Conclusion

- Our findings support our hypothesis that MSKUS screening for elbow and wrist pathologies leads to detection of problems which subsequently led to referrals to MSK providers for further work up and treatment during the annual examination for SCI/D patients.
- Musculoskeletal ultrasound is a useful tool that can be successfully implemented as a part of annual examination for SCI/D patients to diagnose overuse musculoskeletal pathologies involving elbow and wrist joint.

References

- Erhan, B., Gündüz, B., Bardak, A. N., Özcan, S., Carlı, A., Er, H., ... & Özcağar, L. (2013). Elbow problems in paraplegic spinal cord injured patients: frequency and related risk factors—a preliminary controlled study. *Spinal cord*, 51(5), 406-408.)
- Van Drongelen S, de Groot S, Veeger HEJ, et al. Upper extremity musculoskeletal pain during and after rehabilitation in wheelchair-using persons with a spinal cord injury. *Spinal Cord*. 2006;44(3):152-159.

