

LETTER TO THE EDITOR**Challenges in Evaluating Sleep Disturbances in Patients with Hand and Upper Extremity Disease****Dear Editor**

It was with great interest that we read the recent study by Peters et al regarding sleep disturbances in patients with disease of the upper extremity (1). In this article, the authors aimed to correlate sleep disturbance and other psychosocial factors with upper extremity disability using a series of Patient-Reported Outcomes Measurement Information System (PROMIS) questionnaires. The PROMIS is a National Institutes of Health-funded consortium that develops patient self-administered questionnaires that utilize a computer adaptive format geared towards measuring health outcomes (2).

We would first like to commend the authors on this difficult, yet important study. Our group has also been interested in characterizing sleep disturbances in patients with upper extremity illness as we feel this to be a key aspect of the disease that is often overlooked or underappreciated. We have found that the complex interplay between sleep disturbance, pain, pain medication, psychological/psychiatric conditions and medications, and socioeconomic factors make parsing out these relationships extremely difficult (3-6). Although the authors note some of these confounders as a limitation to the study, we do feel that the methodology and analysis employed was thorough in addressing these concerns.

We feel that one major limitation to the study, which again the authors acknowledge themselves, is the heterogeneity of the studied patient population. For example, we would not expect soft tissue conditions such as De Quervain or Dupuytren disease to affect sleep to the same degree as carpal tunnel syndrome, which has been widely shown to have sleep disturbance as a characteristic feature (7). Furthermore, although the authors categorize carpal and cubital tunnel syndromes together, we are unaware of any literature demonstrating sleep disturbance to be

a characteristic finding in patients with cubital tunnel syndrome. On the other hand, from our own experience, we would expect depression and pain interference to be a predominant coexisting finding in patients who suffer amputations, more so than sleep disturbance.

In addition to the patient heterogeneity, we feel that important relevant conditions were left out of this study. For example, rheumatoid arthritis, though not a disease exclusively of the upper extremity, is well-known to significantly affect the upper extremity, and has also been shown to be associated with sleep and disability (8). In addition, although disability was assessed relative to the entire upper extremity, disease involving the shoulder does not appear to be included in this study cohort, despite numerous shoulder conditions previously shown to include sleep disturbance as a major clinical feature (6, 9, 10).

Despite these limitations, we applaud the authors for investigating the important relationships of sleep, disability, and psychological illness in patients with upper extremity disease. We agree with the authors that is an area that certainly warrants additional study.

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