wGRS is not higher in individuals with diseases known to be associated with CTS suggests that extraneous factors (such as oedema in hypothyroidism and synovitis in rheumatoid arthritis), rather than shared genetic factors, are likely to predispose to CTS in these groups. The negative correlation between wGRS and height explains the observation that CTS patients are on average >2cm shorter than non-CTS controls in the UK Biobank cohort. We are currently extending the wGRS to our own cohort of deeply phenotyped CTS patients, to correlate wGRS with symptoms and electrophysiological test severity, as well as surgical outcomes. We believe it is important for plastic surgeons to be mindful of the increasing role that genetics will play in our practice, and this study illustrates the proof of principle that a wGRS can potentially serve as useful tool in the future for the prognostication of CTS.

REFERENCES:
1. Jain M, Koren S, Miga KH, et al. Nanopore sequencing and assembly of a human genome with ultra-long reads. Nat Biotechnol. January 2018. http://dx.doi.org/10.1038/nbt.4060.
2. De Jager PL, Chibnik LB, Cui J, et al. Integration of genetic risk factors into a clinical algorithm for multiple sclerosis susceptibility: a weighted genetic risk score. Lancet Neurol. 2009;8(12):1111–1119.

A Comparative Health Literacy Analysis of Online Carpal Tunnel Syndrome Resources Available in English and Spanish

Presenter: Anna R. Johnson, MPH
Co-Authors: Andres F. Doval, MD; Sabine A. Egeler, MD; Arriyan S. Dowlatshahi, MD; Samuel J. Lin, MD, MBA, FACS; Bernard T. Lee, MD, MBA, MPH, FACS
Affiliation: Beth Israel Deaconess Medical Center/ Harvard Medical School, Boston, MA

BACKGROUND: The internet has become an increasingly popular medium for consumers to obtain health information. Hispanics comprise the fastest growing minority group in the United States. Studies show that this demographic is increasingly utilizing the internet to obtain health information. However, it is unknown whether appropriate patient health materials for this patient population are keeping pace. Spanish-speaking Hispanics have lower health literacy levels which may preclude them from actively engaging in the decision-making process for their condition. There remains a paucity of materials evaluating existing online resources and their adequacy for patients with a lower health literacy levels. The aim of this study was to evaluate and compare online materials provided in both English and Spanish for carpal tunnel surgery, the most commonly performed hand surgery procedure using a multi-metric approach to assess readability, understandability, actionability, and cultural sensitivity.

METHODS: A web search using the English term “carpal tunnel surgery” was performed. The first 10 highest ranked institutional/organizational websites that provided carpal tunnel surgery information in English and Spanish were identified. All relevant online materials were evaluated using the SOL (Simplified Measure of Gobbledygook, Spanish), Patient Education and Materials Assessment for Understandability and Actionability (PEMAT), and Cultural Sensitivity Assessment Tool (CSAT) to assess readability, understandability, actionability, and cultural sensitivity, respectively. A Cohen’s kappa score was calculated to assess inter-rater reliability.

RESULTS: The average reading level of online English carpal tunnel surgery materials was greater than that for Spanish materials (p=0.011). However, Spanish materials included more complex words compared to English materials (p<0.001). No individual website was written at the recommended 6th reading grade level. There were no statistically significant differences in understandability or actionability. Average CSAT scores for Spanish materials were significantly lower than English materials, indicating poor cultural sensitivity (p=0.015). Cohen’s kappa was >0.81, indicating substantial agreement between raters.

CONCLUSION: Online patient-directed information regarding carpal tunnel surgery exceeded the recommended reading grade level for both English and Spanish-speaking populations and were difficult to understand. Most Spanish materials were often direct translations and were not contoured to the literacy needs of this demographic. Institutions must caution their authors to tailor their web material in a way that is sensitive to their target population to optimize comprehension and engagement in the care process.
Universal Measures of Support Are Needed: A Cross-Sectional Study of Health Literacy in Dupuytren’s Patients

Presenter: Melissa Roy, MDCM

Co-Authors: Karen Okrainec, MD, MSc, FRCP; Christine B. Novak, MSc, PhD; Herbert P. von Schroeder, MD, MSc, FRCSC; David R. Urbach, MD, MSc, FRCSC, FACS; Steven J. McCabe, MD, MSc, FRCSC

Affiliation: University of Toronto, Toronto, ON

PURPOSE: Health literacy (HL) represents the degree to which patients can understand and act upon health information.1 An association between limited HL and poor health status, and all-cause mortality only partially illustrates the profound impact of HL on surgical patients.2 Confronted with a disease that is chronic in nature, associated with frequent recurrences, and has numerous treatment options, Dupuytren’s patients’ understanding of medical information becomes crucial. Our aims were 1) to determine the prevalence of limited HL in Dupuytren’s patients and 2) to identify independent predictors of limited HL.

METHODS: This cross-sectional study was performed in a tertiary care center. Patients with a clinical diagnosis of Dupuytren’s and self-reported fluency in English were included. The Newest Vital Sign (NVS), a rapid, validated, and reliable screening tool previously used in the hand surgery literature, was selected to measure HL.3,4 Limited HL was defined as a score of $\leq 3$ out of 6. An exploratory multivariable logistic regression model was used to identify possible predictors.

RESULTS: A total of 185 patients met eligibility criteria and from those, 44% (n=82) had limited HL. Univariate analyses showed that patients with limited HL were more likely to be older (p=0.006), have a maternal language other than English (p=0.003), and have less education (p=0.002). Multivariable regression analysis revealed that being in the lower three income quintiles had a nearly 5-fold increase in the odds of having limited HL. Having immigrated increased the odds of limited HL by a factor of 3.6. Age, maternal language, education, comorbidities and employment were not independent predictors of limited HL.

CONCLUSION: Our study reveals a high prevalence of limited HL (44%) amongst Dupuytren’s patient. It is clear that universal measure of support would be of high value when communicating and caring for all Dupuytren’s patients and potentially in hand surgery and beyond.

REFERENCES:
1. Institute of Medicine (US) Committee on Health Literacy, Nielsen-Bohlman L, Panzer AM, et al. Health Literacy: A Prescription to End Confusion. Washington (DC): The National Academies Press; 2004.
2. Berkman ND, Sheridan SL, Donahue KE, et al. Health literacy interventions and outcomes: an updated systematic review. Evid Rep Technol Assess. 2011:1–941.
3. Weiss BD, Mays MZ, Martz W, et al. Quick assessment of literacy in primary care: the newest vital sign. Ann Fam Med. 2005;3:514–522.
4. Shah LC, West P, Bremmeyr K, Savoy-Moore RT. Health literacy instrument in family medicine: the ‘newest vital sign’ ease of use and correlates. J Am Board Fam Med. 2010;23:195–203.

Correlation between Stenosing Tenosynovitis and Dupuytren’s Contracture in the Hand

Presenter: Michael B. Gehring, BS

Co-Authors: Kai Yang, MD; Savo Bou Zein Eddine, MD; Patrick C. Hettinger, MD

Affiliation: Medical College of Wisconsin, Milwaukee, WI

BACKGROUND: Stenosing tenosynovitis and Dupuytren’s contracture are common pathology encountered in hand surgery. In stenosing tenosynovitis (i.e trigger finger), inflammation leads to trapping of the flexor tendon, while in Dupuytren’s contracture pathologic proliferation and thickening of the palmar fascia leads to soft tissue contractures. Most commonly each diagnosis exists as a single form of pathology. However, in a subset of patients, there is a spectrum of disease with each diagnosis contributing to hand dysfunction. The purpose of this study is to examine the association between these two common pathologies in the hand.

METHODS: A retrospective chart review was performed to include all patients seen by a single surgeon between