



## Abstracts

## SCIENTIFIC SESSION I

FRIDAY, OCTOBER 4, 2019 | 11:00AM – 12:00PM

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**Clinical Assessments of Hand Function in 1st Carpometacarpal Osteoarthritis: Do They Correlate With Radiographic Findings?**

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**Purpose:** Thumb carpometacarpal (CMC) osteoarthritis (OA), a degenerative process impacting hand use, is typically assessed by clinical exam and radiograph. This assessment determines treatment, but may not reflect functional limitations. This observational, pilot study aims to explore the relationship between measures of functional hand use and radiographs in individuals with and without CMC OA.

**Methods:** Five patients with CMC OA (nine thumbs with modified Eaton-Littler grades ranging from 1–4) and nine control, non-patient volunteers were enrolled. All underwent evaluation of hand function, including: the Patient-Specific Functional Scale [PSFS]; Patient-Rated Wrist/Hand Evaluation [PRWHE]; Disabilities of the Arm, Shoulder, and Hand [DASH]; Modified Score for the Assessment and Quantification of Chronic Rheumatic Affections of the Hands [M-SACRAH]; and the Arthritis Hand Function Test [AHFT]. Spearman's  $\rho$  with 95% subject clustered bootstrapped confidence intervals (CI) were calculated to assess for correlations between radiographic findings and measures of hand function.

**Results:** Only DASH work score showed strong positive correlation with OA grade ( $\rho=0.68$ , 95% CI: [0.40, 0.94]), with PSFS, PRWHE, M-SACRAH, and AHFT demonstrating low to moderate correlations. Notable differences in medians of DASH, PSFS, PRWHE, M-SACRAH, and grip, pinch, and button board scores of the AHFT between patients and control subjects were found.

**Conclusion:** While only the DASH work score strongly correlated with radiographic grade of CMC OA, several measures detected considerable differences in functional hand use between patients and control subjects. These findings suggest that emphasis be placed on hand function scores in addition to radiographs when determining severity of this condition.

**Table**

Associations Between Osteoarthritis Grade and Measures of Hand Function

	Patient Outcomes	Thumbs	Spearman	
Self Report Outcome Measures	DASH	9	-0.15 (-0.94, 0.87)	
	DASH Sports/Performing Arts	7	-0.4 (-0.98, 0.87)	
	DASH Work	5	0.68 (0.4, 0.94)	
	M-SACRAH Total	9	-0.27 (-0.85, 0.8)	
	M-SACRAH Daily Activity	9	-0.35 (-0.85, 0.75)	
	M-SACRAH Pain	9	-0.14 (-0.78, 0.8)	
	M-SACRAH Stiffness	9	-0.38 (-0.98, 0.8)	
	PRWHE Pain	9	-0.14 (-0.78, 0.8)	
	PRWHE Specific	9	-0.24 (-0.98, 0.8)	
	PRWHE Total	9	-0.27 (-0.85, 0.8)	
	PRWHE Usual	9	0.03 (-0.94, 0.87)	
	PSFS	9	0.57 (-0.24, 0.99)	
	Arthritis Hand Function Test	Button Board (sec)	9	0.39 (-0.61, 0.97)
		Coins (sec)	9	0.46 (-0.58, 0.98)
Cutting Putty (sec)		9	0.39 (-0.71, 0.98)	
Lifting Tin Cans (# cans)		9	-0.16 (-0.66, 0.24)	
Pouring Water (ml)		9	-0.16 (-0.66, 0.24)	
Safety Pins (sec)		9	0.47 (-0.75, 0.98)	
Shoelacing (sec)	9	-0.33 (-0.99, 0.45)		

DASH: Disabilities of the Arm, Shoulder, and Hand

M-SACRAH: Modified Score for the Assessment of Chronic Rheumatoid Affections of the Hand

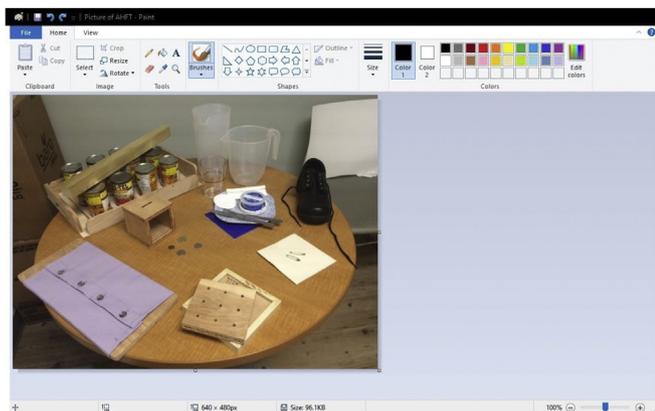
PRWHE: Patient Rated Hand/Wrist Evaluation

PSFS: Patient Specific Functional Scale

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**Joint Position Sense Impairments in Older Adults With Carpometacarpal Osteoarthritis Versus a Healthy Control: A Descriptive Comparative Study**K.A. VALDES<sup>1</sup>, A. OUEGNIN<sup>2</sup><sup>1</sup>Occupational Therapy, Gannon University, Bradenton, FL, United States<sup>2</sup>Occupational Therapy, Wake Medical Rehabilitation, Raleigh, NC, United States

**Purpose:** The primary aim of this exploratory study was to determine the magnitude of thumb sensorimotor impairment in older adults with CMC OA compared to healthy adults. Secondary aims were to investigate the utility of joint position sense (JPS) to measure proprioception impairments of the thumb. This study intended to improve clinical knowledge regarding the usefulness of JPS test to evaluate sensorimotor function in adults with CMC OA.



Arthritis Hand Function Test