

Golf-grip study may reduce pain, improve play for those with arthritis

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Groundbreaking work by Western researchers may soon help golfers with arthritis get a better grip on playing with less pain and more control.

Golfers with joint pain in their hands often try work-arounds that include wearing gloves or wrist braces, changing the types of clubs or using grips that are larger and softer. Beyond personal preference, equipment-marketing and clubhouse wisdom, though, "no one has tested empirically whether larger and softer golf grips work," said Sara Holland, a master's student in the Department of Mechanical and Materials Engineering.

Holland has decided to do just that. She is analyzing whether arthritis grips marketed as having low force and low impact actually benefit people with arthritis.

She is testing more than a dozen different grip types among 40 participants – 20 healthy, 20 with arthritis – by securing small sensors called strain gauges to golfers' fingernails. The sensors attach to wires that run up their arms and to a backpack-

type device that ultimately measures the force the golfers use when gripping and swinging a club.

The less force it takes to grip a club, the easier it will be for a player with arthritis.

"If we can decrease the force occurring in the hands while swinging, we can hope to improve an arthritic player's function and decrease pain," Holland explained.

"It's about reducing pain. But it's really about preserving the joints," said study supervisor Emily Lalone, a Mechanical and Materials Engineering professor and a member of the Bone and Joint Institute. The study is supported with funding from the Arthritis Society and is collaborative effort with co-supervisor Louis Ferreira (Mechanical and Materials Engineering) and co-investigator Joy MacDermid (Physical Therapy).

Lalone said some people also endorse using specific club heads, although she believes that may be of limited benefit because it doesn't address how the club is connecting with the hands. "You have to think, where is that impact coming from?"

Holland, an accomplished golfer, started playing the sport when she was 15 and was captain of the Western's Women's Varsity Golf Team throughout her undergraduate years, including her individual 10th-place finish and team 6th-place at the Canadian University/College Championship last May during her final year as a Mustang.

During her training and continued work with the team at Sunningdale Golf & Country Club, Holland noticed a number of members play the sport they love while working through [arthritis](#) pain. Some wear gloves on both hands, believing this offers comfort without sacrificing performance. Others try building up the grips with a foam wrap to reduce pain in arthritic fingers.

"They're trying to find ways to keep playing but does this help to reduce the forces in their hands for long-term benefits or is it just a short-term solution for the pain?" Holland questioned.

Lalone said many manufacturers focus on the head of clubs, specifically drivers, to market longer and straighter shots. However, she believes it's secondary to the overlooked aspect of the club, the grip. "You have to remember, your hand-grip interface is the only contact point between you and the club."

The testing began in February and is set to be complete in October.

Researchers believe the information they glean from this work can translate to racquet sports, softball and hockey – activities that all require a strong and effective grip.

"Sports have a large 'feel' aspect. You have to 'feel' comfortable to perform well," Holland said.

Provided by University of Western Ontario

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