



STUDY: MANY OFFICIALS WORKING HURT

Officials are a tough lot. We know that — and a study in the international journal *Research in Sports Medicine* recently confirmed as much.

The study, titled “Musculoskeletal Pain in Lacrosse Officials Impacts Function on the Field,” showed the prevalence of joint pain among lacrosse officials, whose general movements are like those of officials in football, soccer and many other sports.

“We found that musculoskeletal pain was quite common in this group and pain interfered with enjoyment of

officiating and perception of the ability to perform duties, such as running the entire lacrosse field, starting and stopping on the field, keeping pace with the action and focusing on multiple actions of players at once,” said Heather K. Vincent, one of the study’s authors and director of the University of Florida’s Health Sports Performance Center and the school’s Human Dynamics Laboratory.

Knee pain was the most frequent complaint — noted by 33.1 percent of former lacrosse players who now officiated and 39.8 percent of officials who were not former lacrosse players.

Among former players, low back and shoulder pain ranked next; non-former players cited foot and low back pain.

On a scale of 1 to 10, with 10 being the worst imaginable pain, former players who had a previous injury reported pain levels at rest and during exercise ranging from 3.6 to 4.4. Non-former players reported average severity between 3.5 and 4.6 points out of 10.

There were differences between male and female officials. Women reported more ankle and hip injuries than men. Arm and elbow injuries were more commonly reported by men

GAIN

BY JOHN TORSIELLO

Percent of officials with a diagnosis of osteoarthritis



Percent of the general population with osteoarthritis

and were incurred in "real-time" play (ankle sprains and knee sprains) and from overuse (stress fractures, joint pain or soft tissue tendinopathies in a lower extremity).

"A good number of those taking part in the survey said they still had persistent pain in the affected areas during officiating," Vincent said. She termed osteoarthritis "an unappreciated and under-recognized issue" for sports officials. In fact, 33.5 percent of all officials reported a diagnosis of osteoarthritis in at least one joint; 15.3 percent reported multi-joint disease. The rate of osteoarthritis among surveyed officials was also higher than the general population, which one study pegged at only 10.5 percent.

"The burden of osteoarthritis pain appears to be worse for men than women at the knee and hip, and

men overall reported higher rates of this disease at any joint compared to women," Vincent said.

For younger officials, persistent or nagging pain can occur especially if repeated injury had occurred at one site, the study showed. "For example, people who had repeated ankle sprains or shoulder subluxations had chronic pain," Vincent said. "As people age, the joints have less ability to recover after loading and osteoarthritis can set in."

She said what makes musculoskeletal pain and joint disease more likely is a previous joint injury (such as an ACL rupture) and weight gain.

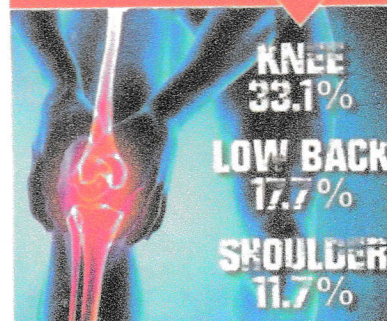
"Those that gained more than 20 pounds since high school reported musculoskeletal pain more frequently than people who remained within five pounds of their high school weight," Vincent said.

While the study focused on lacrosse officials, there are lessons for other officials in other sports, such as football and rugby.

"We believe that these sports induce similar cumulative loading stresses on officials due to similar field size to traverse, involvement of high running speed and similar maneuvering motions to view the action (pivot, stop and start, cutting)," Vincent said. "In addition, osteoarthritis is also reported by referees from these other sports as well."

The study pointed to other past studies on officiating injuries. One 2013 study found acute seasonal injuries occur in 46 to 56 percent of football referees, with most injuries in the abdominal region and lower limbs. Another 2013 study of Swiss

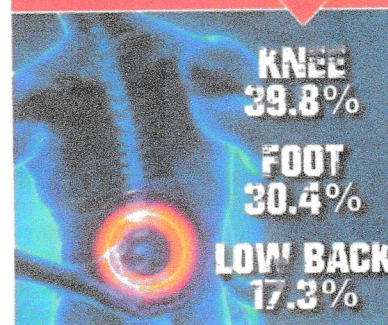
Common areas for persistent pain among former players who officiate:



soccer referees found 25.8 percent reported experiencing at least one musculoskeletal complaint and 22.5 percent reported an injury from officiating.

Data for the recent study came from a survey of members of the US Lacrosse Officials Development Program — male and female officials from across the country ranging in age from 18 to 84. A total of 1,441 completed surveys were mailed back. A majority of respondents officiated at the youth and high school levels; more than half officiating boys' and men's games. The other authors of the study were Michelle Bruner, clinical research coordinator with the University of Florida Orthopaedics and Sports

Common areas for persistent pain among officials who were not former players:

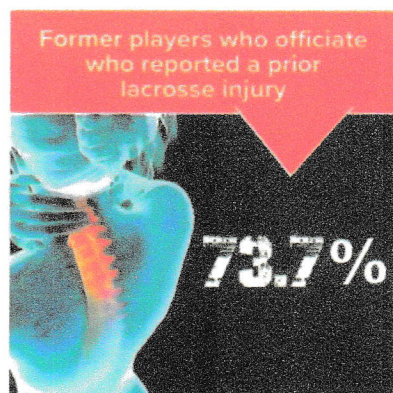


Medicine Institute; Charlie Obermayer, then-senior manager of officials development with US Lacrosse; Bruce Griffin, then-director of health and sports safety with US Lacrosse; and Kevin R. Vincent, associate professor at the University of Florida Orthopaedics and Sports Medicine Institute.

INJURY CONCERNS

Past studies cited by the authors have found chronic pain can negatively affect physical performance, executive function, attentional performance and mental thought processes — all things an official can ill afford to have impaired.

If pain prevents an official from keeping up with the action or otherwise deters an official's ability to monitor the action, it could increase the chances safety issues or unsafe play could be missed, the study stated. Pain also decreases the enjoyment of officiating, which could have implications for an official's continuing involvement.



"Retention of officials over the long term is critical for continued growth of the game and expansion of the available pool of experienced officials," the study's authors stated. "Musculoskeletal pain has the potential to diminish the enjoyment of officiating and deter continued involvement."

Vincent said the study's authors believe if their work can help officials manage pain more effectively and provide solutions, it can "enhance engagement, ensure rule enforcement, and maintain safety" for those on the field.

Does pain from a previous lacrosse injury interfere with the enjoyment of officiating?

	With Persistent Pain	Without Persistent Pain
Always	2.8%	0.7%
Often	7.9%	2.8%
Sometimes	17.6%	8.1%
Occasionally	32.1%	28.6%
Never	39.7%	59.9%

INJURY PREVENTION

Vincent advises officials to "maintain a healthy body weight, warm up before games, keep joints moving as individuals age (avoid the weekend warrior approach), perform regular resistance exercise with body weight and other loading, and try to avoid scheduling multiple games in one day, especially if an official has chronic joint pain or osteoarthritis."

Exercise programs that focus on a strong running motion and neuromuscular control and alignment during motion are keys to helping keep joints aligned during sports and preventing chronic or acute injuries, she added.

"We also suggest if an official is suffering from pain, consider reducing the number of games officiated, working games for youth (with smaller field sizes to cover), or taking advantage of pregame or halftime icing or other medical services if available," Vincent said. "If medication is taken for joint pain, try and time when the medicine has greatest effect for the time you are officiating."

Conditioning, she advised, should involve year-round aerobic-based activities that are rotated to avoid overuse and to "mix up" loading patterns. These include swimming, running, elliptical, stair machines and cycling coupled with strengthening and neuromotor-based exercises (multi-joint actions that support complex movements). Also, she recommended squats, lunges, dead lifts, single-legged movements (such as the half squat), single leg balance

Does osteoarthritis pain interfere with the enjoyment of officiating?

	With Persistent Pain	Without Persistent Pain
Always	2.7%	0.1%
Often	7.1%	2.3%
Sometimes	15.4%	7.6%
Occasionally	32.0%	26.9%
Never	42.8%	63.1%

on a Bosu ball or wobble board, core synergistic exercise, such as "mountain climbers," and variations of planks using dumbbell rows or rehab balls for balance.

"Flexibility exercise (dynamic and static) for the lower extremities, low back and shoulders can help maintain better range of motion around joints as we age," Vincent said. "A well-rounded and diverse conditioning program will help your body retain movement pathways and control — both of which can minimize risk for injury over time."

US Lacrosse also wants its officials to be physically prepared for each season.

"Officials that remain healthy year after year tend to be those that maintain a certain level of fitness and spend their preseasons building stamina, strength and flexibility to withstand the demands of (the) game," said Liz Brush, manager of US Lacrosse's Officials Development Program and an active NCAA lacrosse official. Included in these preparations, she added, should be some type of activity that replicates the variety of movement the game requires. Properly warming up, cooling down and stretching is important, along with rehydration and recovery.

"Our officials development program has offered a number of webinars and sessions on all of these elements to prepare officials for the season, as well as maintaining their physical health through the season," Brush said.

John Torsiello is a veteran sports-writer and editor from Torrington, Conn.