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Pain-Numbing Injections in Football: A Case Series Helps to Fill the Information Void

CME Article by Colin Nelson

Mr. Nelson has disclosed that he has no significant relationship with or financial interests in any commercial organizations pertaining to this educational activity.

Learning Objectives: After reading this article, sports medicine practitioners should be able to describe the scientific evidence regarding pain-killing injections administered to athletes to allow them to return to play before their injuries are fully healed.

Although anecdotal evidence suggests that anesthetic injections are commonly used to enable collegiate and professional football players to compete with injuries that would otherwise sideline them, the scientific literature on the risks and benefits of these injections is appallingly sparse. (See Nelson, 2001.)

A new case series from Australia takes an important first step toward remedying this shortfall. Over six years, John W. Orchard, MD, entered into a database every injury he treated as a team physician in the professional Australian Football League and professional National Rugby League.

About 8% of all injured players received an anesthetic injection. Nearly 8% of these suffered either a major (~3%) or minor (5%) complication. (See table on page 100.) Most of the major complications resolved without serious side effects.

Step in Right Direction

A year ago, Orchard published an editorial in the *British Journal of Sports Medicine* calling on his colleagues to either cease using anesthetic injections in football or come forward to publish studies and guidelines for their appropriate use. (See Orchard, 2001.)

Drawing firm conclusions on the basis of this new case series will be difficult. Merely publishing the series represents progress, however.

The athletes Orchard cared for were among the top in their league. They included championship contenders and members of the Australian equivalent of the “All Star” team. “The motivation for the players to return to the field was therefore probably higher than for teams not so competitively placed, particularly towards the end of the season,” according to Orchard.

Because two of six major complications took place after injections into the acromioclavicular (AC) joint, Orchard took an in-depth look at all 53 athletes he treated for AC joint injuries. Of these, 28 received a local anesthetic injection (missing a total of 16 games) while 25 did not (missing 18 games). In all, three players required resection for symptomatic osteolysis—two who received injections and one who did not.

“Although this is a nonrandomized intervention with low power, the relation between the use of local anesthetic and the development of symptomatic osteolysis appears to be weak (... $p>0.6$),” he suggests.

Patients Deserve Better

Orchard readily acknowledges the limitations of his case series. “It is appreciated that this form of medical presentation is science at one of its lowest levels,” he notes. “The findings and conclusions of this study should not be seen as definitive or representative of any group of doctors, as the numbers of

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provide high-quality sports medicine care, and carefully document cases.

But they also need to put their ethical house in order. “Remember the paramount obligation is to protect the athlete’s health and safety by providing appropriate sports medicine care. The doctor should always fully inform the athlete of all alternative treatments, of the severity of the injury, and of the risks of returning to play too soon—in general, provide all material information

that any good doctor would provide to his or her patient,” explained Mitten. ▼

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Pain-Numbing Injections

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cases described are too few to present an exhaustive profile of the risks.”

Despite these limitations, Orchard’s experience has led him to believe that doctors

should take “extra caution” before performing injections for four kinds of injuries—sprained ankles (especially those demonstrating any damage to the articular cartilage); tendon injuries (susceptible to rupture); prepatellar and olecranon bursa (infection is likely); and thumb and radiocarpal injuries (for fear of encouraging degenerative conditions). Other doctors would doubtless add other injuries to this list.

Unfortunately, in addition to being non-randomized and uncontrolled, Orchard’s case series has no long-term follow-up. Whether or how injections influence the health of athletes’ joints over the long run remains to be determined. Interviews with other experts suggest that finding out will be challenging indeed.

Clearly, more information is needed.

The absence of clear guidelines on this topic “can only be remedied by publication of clinical case series (such as this), followed by larger controlled studies with long-term follow-up,” concludes Orchard.

Some day, maybe doctors and their patients will be able to make informed decisions about when to use—and withhold—anesthetic injections in high-level athletes. ▼

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Anesthetic Injections in Australian Professional Football: A Case Series

| | |
|--|---------------------------|
| Total number of football games | 337 |
| Total number of injuries* | 2851 |
| Total number of anesthetic injections | 221 (8% of all injuries) |
| Major complications | 6 (3% of all injections) |
| Minor complications | 11 (5% of all injections) |
| Major and minor complications combined | 17 (8% of all injections) |

Major Complications Included:

- Two cases of distal clavicle osteolysis after injections for acromioclavicular joint sprains (full recovery after resection)
- Partial rupture of an Achilles tendon after injection for chronic tendinopathy (successful surgery)
- Chronic adductor tendinopathy after injection for a partial tear of the adductor longus tendon (full recovery)
- Mild prepatellar bursa infection after injection for prepatellar bursitis (full recovery)
- Progression of a scapholunate ligament tear (full recovery after reconstructive surgery)

Minor Complications Included:

- Medial plantar nerve sensory block after treatment for posterior ankle impingement
- Malunion of fractured thumb with loss of full thumb span
- Failed block of posterior rib fracture, causing player to miss game
- Worsening of sternoclavicular joint sprain during contact, causing player to miss 4 games
- Thumb osteoarthritis after playing 6 weeks with fracture and thumb blocks
- Surgery to remove os trigonum after injection for posterior ankle impingement
- Femoral cutaneous nerve block after injection for bruised iliac crest
- Superficial peroneal nerve block and numb dorsum of foot after pericapsular injection for lateral ankle sprain
- Ruptured plantar fascia origin after injection for chronic plantar fasciitis, causing player to miss 2 games (but also “curing” pain in the process)

* All cases of players who left the field, missed a game, or left the team because of injury, including all surgical cases.

Source: Orchard JW, *British Journal of Sports Medicine*, 2002; 36:209–13.