

COMMENTARY

Myositis ossificans

David Mann, MD

Myositis ossificans is an uncommon complication of blunt muscle injury. It classically occurs after helmet or knee contact with the lateral thigh, although it has also been reported in the biceps brachial muscle, which is why many contact sports require protective padding over these areas. Myositis ossificans is a controversial entity because it is one of very few sports injuries where early active rehabilitation may be detrimental.

Having treated these injuries for 15 years as a sports med-

Emergency physician, Powell River General Hospital, Powell River, BC

icine practitioner, and having seen many bad outcomes, my approach to management is to inform the athlete that there is a 5–10% risk of myositis, but that risk increases if the injured muscle is inappropriately exercised. The only early recommendation is for compression and ice; however, active (rather than passive or assisted) range of motion is allowed, using pain as a guide. The athlete must not exercise the limb until local tenderness to palpation has resolved. This may take up to 6–8 weeks, and partial weight bearing crutches are often required.

Correspondence to: dlmann@prcn.org

Bob McCormack, MD

Myositis ossificans, also known as ossifying hematoma or heterotopic ossification, is a potentially disabling condition that most often affects the thigh and is typically associated with contact sports (e.g., football, rugby, lacrosse). The risk of myositis ossificans after a thigh contusion varies between 4% and 74%. The critical questions are: How can we identify high-risk patients? and What is the best early management?

The risk of ossification correlates with the severity of the thigh contusion. One way to grade severity, besides assessing swelling and ecchymosis, is to check knee range of motion on the day after the injury. Early range is often good, and patients are at increased risk if there is less than 90 degrees of flexion between 12 and 24 hours. There is also a genetic disposition, so beware if the patient has a previous history.

Team physician, British Columbia Lions Football Club

The principles of treatment are to limit the amount of hemorrhage, maintain knee range of motion, restore quadriceps strength and protect from further injury. Compression and icing reduce hemorrhage. Studies have shown that splinting high-risk patients with the knee fully flexed (to 120 degrees) for 24 hours dramatically reduces the period of disability. Early physiotherapy is not a problem unless it causes significant pain or further loss of knee range. Aspiration of the hematoma has been suggested, but this is often disappointing, even when performed under ultrasound guidance. Laboratory work and clinical experience have shown that nonsteroidal anti-inflammatories (NSAIDs) inhibit ossification, and several authors suggest that their early use can speed recovery. Most NSAIDs have this effect but the greatest experience is with indomethacin. The criteria for return to sport are the absence of significant pain, a good range of motion and quadriceps strength. Athletes are at increased risk of recurrent injury so protective padding of the area is important.