



MUSCULOSKELETAL INJURIES

1. Introduction

Musculoskeletal injuries are common in sports and include sprains, strains, contusions, joint subluxation/dislocation, fractures, bursitis, tendinopathy, disc herniations, etc. These injuries can be the result of repetitive microtrauma (overuse injuries) or macrotrauma (acute injuries). There are two classes of prohibited substances that are pertinent in the treatment of musculoskeletal injuries; narcotic analgesics and corticosteroids. A procedure that is not presently prohibited but was previously on the Prohibited List is the use of platelet rich plasma (PRP). Note that specific growth factors such as IGF-1, VEGF, and PDGF remain prohibited. Growth factors are permitted only when part of platelet-derived preparations from the centrifugation of autologous whole blood.

2. Diagnosis

A. Medical Evaluation

Diagnosis of musculoskeletal injuries requires a thorough history and physical examination.

B. Diagnostic Criteria

Accurate diagnosis is required to decide if the use of a prohibited substance is indicated. In addition to a history and physical exam consistent with the diagnosis, imaging studies (x-ray, MRI, CT-scan, nuclear studies, ultrasound) may be necessary to determine the exact nature of the injury and to establish necessity for the use of prohibited substances.

3. Best Medical Treatment

A. Name of prohibited substance

1. Glucocorticosteroids
2. Narcotic analgesics

Medical Information to Support the Decisions of TUECs
Musculoskeletal Injuries



B. Indications

1. Glucocorticosteroids may be indicated for the treatment of acute inflammation and the treatment of conditions resulting in chronic inflammation, e.g. herniated disc. Glucocorticoids are given in the first 24-48 hours after injury or the onset of inflammation.
2. Narcotic analgesics may be indicated for the treatment of acute musculoskeletal pain. Narcotic analgesics are prescribed within the first 24-48 hours of the onset of pain.
 - i. Oral, intramuscular, intraarticular, intrabursal, intralesional, cutaneous and epidural glucocorticosteroids have been used to decrease inflammation in a number of conditions (acute strains, acute sprains, acute contusions, bursitis, tendinitis and herniated discs. Glucocorticosteroids are prohibited when given orally, intramuscularly, intravenously or rectally.
 - ii. Narcotic analgesics are given to control acute pain from a musculoskeletal injury

C. Dosage, Frequency and Duration of Treatment

1. Glucocorticosteroids may be given in one dose intramuscularly, intraarticularly, intralesionally, intrabursally, epidurally for prescribed period (4-24 days). The dosage is determined by the clinical situation and specific medication used.
2. Narcotic analgesics are given in sufficient dosage to control pain.

4. Alternative Non-prohibited Treatments

The initial treatment of acute musculoskeletal injuries includes rest, ice, compression and elevation. Initial medication may include NSAIDs, non-narcotic analgesics and muscle relaxants. Physical therapy including modalities such as heat, cryotherapy, traction, ultrasound and electrical stimulation, therapeutic exercises and activities leading to functional return to activity is standard in the treatment of musculoskeletal injuries.



5. Consequences to health if treatment is withheld

- a) The consequences of not treating with glucocorticosteroids would in most instances be prolonged disability from the injury and increasing discomfort requiring increased amounts of analgesic medication.
- b) The consequences of not treating with narcotic analgesics would be increased pain and discomfort with all related effects of these problems, e.g., inability to sleep, increased stress.

6. Treatment monitoring

Prolonged use of glucocorticosteroids and narcotic analgesics could have adverse effects on an individual. Also the tapering of an extended course of glucocorticosteroids is essential.

7. TUE validity and recommended review process

This is highly dependent on the diagnosis, but usage is typically short-term usually measured in days.

8. Any appropriate cautionary matters

The prolonged use of glucocorticosteroids, even at low dosages, can result in serious adverse effects including alterations in hypothalamic-pituitary-adrenal function.

The prolonged use of narcotic analgesics can lead to dependency.