Musculoskeletal conditions

Prohibited substances: glucocorticoids (GCs)

For narcotics and cannabinoids, please refer to the Pain Management Guideline

1. Introduction

Musculoskeletal conditions are amongst the most common issues among athletes, whether arising from acute, recurrent or chronic injury, or from connective tissue, rheumatological or other systemic conditions or illness. To assist TUECs in evaluating musculoskeletal (MSK) applications, conditions were categorized into two groups, understanding that there will be inevitable crossover.

a. MSK injury (conditions of mechanical origin)

- Generally localized to one area or region.
- Often arising from training, competition, or accidents, these may be minor or repetitive injuries to muscle, tendon and other soft tissues or acute macro-trauma including serious fractures, dislocations and spinal cord trauma.
- This category may also include degenerative conditions such as osteoarthritis, facet or disc injuries.

b. MSK illness (conditions with autoimmune, inflammatory or rheumatological basis)

- Although single joints may be affected, MSK illnesses are generally systemic.
- These conditions tend to be more chronic but may follow an undulating course with periods of exacerbation and quiescence. Examples include rheumatoid arthritis and systemic lupus erythematosus.
- While rare in athletes, they are still reported.

This document will only discuss the prohibited substance category of glucocorticoids (GCs), which are prohibited in-competition only. Note that the use of narcotics or cannabis in pain management is addressed in the Pain Management Guideline.

For MSK injury, a variety of treatment options may be employed. The use of GC injections will have a role in certain specified situations.

For MSK illness, GCs play a role both in acute and long-term management.

Given that GCs are prohibited in-competition only, most TUE requests, particularly to treat injuries, will arise shortly prior to competition and require retroactive consideration.

2. Diagnosis

In accordance with the ISTUE, a clear diagnosis must be provided and there should be an indicated need for the prohibited medication. However, treatment is not solely about best medical practice but rather reasonable and acceptable therapeutic options. The TUEC should acknowledge there will be different medical practices globally and respect the doctor-patient relationship and treatment plans. In chronic conditions or illnesses, e.g., rheumatoid arthritis, there is often a well-defined and documented diagnosis. This would also be the case for many recurrent or chronic injuries e.g., post-traumatic arthritis.

Investigations, including imaging modalities (X-Ray, ultrasound, CT, MRI) nuclear medicine or laboratory tests, should accompany the history and physical exam, where appropriate. However, for conditions such as a simple bursitis or tendinopathy, there may be little diagnostic information beyond the physician's clinical and physical assessment. Nonetheless, the circumstances of the condition must be clearly described together with the physicians' clinical reasoning.

Article 4.2b of the ISTUE states that on a balance of probabilities, treatment should not be performance enhancing beyond a return to the athlete's previous state of health or the "norm" for that individual. In most cases, even after medication use, the athlete may not return to full pre-injury or pre-illness status. However, each application must be evaluated individually. TUECs should note that there is no direct evidence that a single GC injection (intra-bursal, peri-tendinous or intra-articular) provides performance enhancement, despite the possibility of temporary systemic distribution.

3. Treatment

a. Classes of the prohibited substances

Glucocorticoids

GCs are produced in the adrenal cortex and have a large number of physiological effects essential for life. Their widespread clinical use is largely predicated on their anti-inflammatory and immunosuppressive properties. For mechanical conditions, GCs are commonly used for anti-inflammatory and secondary analgesic effects. They may be indicated in treatment of acute bursitis, arthritis, synovitis, disc protrusions or facet joint irritation.

As of the 2022 Prohibited List, oral, rectal or any injectable routes of administration of GCs are prohibited, in-competition only. However, an in-competition urine sample may show GC levels above the established laboratory reporting levels even though administration occurred out-of-competition. In accordance with the Code, a resulting positive doping test, known as an adverse analytical finding (AAF), could render the athlete liable to a sanction under the concept of Strict

Liability. However, as per ISTUE Article 4.1e, the athlete is permitted to apply retroactively for a TUE if there is an in-competition AAF from out-of-competition use.

b. Route of administration

GCs are generally administered to treat MSK conditions via oral, intramuscular or local injections (e.g., intra-articular, intra-bursal, peritendinous, or epidural routes).

c. Typical dosage, frequency and duration of treatment

When given for MSK injuries, GCs are usually administered as a single dose via injection followed by a sufficient time for monitoring and clinical re-evaluation. Further administration is determined by treatment effectiveness and the severity of the condition.

When GCs are administered orally, they are generally prescribed in short courses, typically less than a week duration.

For MSK illnesses, such as rheumatological and autoimmune conditions, GCs may occasionally be necessary to control inflammation on an ongoing basis, with transient dosage increase during periods of exacerbation. A disease activity score and laboratory markers help to guide the use and dosage of GCs in these conditions that may occur in elite athletes.

4. Non-prohibited alternative treatments

The initial management of acute MSK injuries may begin with protection, rest, ice, compression, and elevation. Initial medication may include NSAIDs, and/or muscle relaxants. Other treatment options include modalities such as heat, cryotherapy, traction, ultrasound, electrical stimulation, manual therapy, bracing and therapeutic exercises.

In rheumatological and autoimmune diseases, other immunosuppressive drugs or disease-modifying anti-rheumatic medication may be used to control disease progression. These may include antimalarials, cytostatics (e.g., methotrexate, azathioprine), TNF-binding proteins (e.g., adalimumab).

There may not be any reasonable permitted alternatives to GCs, which are unique and potent anti-inflammatory agents, widely used across a range of medical conditions.

5. Consequences to health if treatment is withheld

The consequences of not treating MSK conditions may be continued pain, functional loss and diminished quality of life.

6. Treatment monitoring

The pain and swelling of acute inflammation and the loss of movement typically associated with acute musculoskeletal injuries are usually relatively short-lived. While there are certain conditions that require prolonged treatment, these are much less common. The continued use of GCs may adversely affect the general health and sport performance of the athlete.

Systemic GC use, for example in the management of rheumatological or autoimmune disease, is usually titrated according to disease activity.

7. TUE duration

a. MSK injury

The indications, dosage, and duration of the use of GCs are dependent on the specific musculoskeletal condition or injury. Injections are usually a single dose and the TUE duration should only cover the injection or, if oral, for the duration of the treatment. The presence of GCs shall not be considered an anti-doping rule violation (ADRV) if it is consistent with the provisions of a TUE granted in accordance with the ISTUE.

Typically, oral GCs are not administered for longer than one week. However, some MSK injuries may be chronic with periods of exacerbations and there may be a need to extend or repeat the use of these agents.

b. MSK illness

In some situations, such as well-documented rheumatological/autoimmune conditions requiring recurrent treatment, a TUE for intermittent courses of oral GCs could be granted for up to 12 months. In such cases, conditions should be attached to the TUE approval certificate, requesting either:

1. A notification in writing to the TUEC at the time, or soon after, the GCs are used throughout the 12-month period, or;
2. A written summary of use, from the treating doctor, at the end of the 12-month period.

Note: the TUEC should also reserve the right to request relevant medical records during the time of approval.

These documents will ensure that systemic GCs are not used at the time of competition without medical justification and may be used by the TUEC to justify subsequent approvals for future long-term GC use.

Caution is recommended in sports with a higher risk of GC abuse, where long term approvals may not be appropriate.

8. Appropriate precautionary matters

It should be noted that consideration of negative health effects is not a criterion for the grant or denial of a TUE. The prolonged use of GCs, even at low dosages, has potential for serious side-effects. These include features of Cushing's Disease, avascular necrosis of the hip or suppression of the hypothalamic/pituitary/adrenal axis resulting in secondary adrenal insufficiency.

References

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