

Use of corticosteroid injections for musculoskeletal (non-inflammatory) conditions in adults

Information for medical professionals in charge of prescribing or injecting corticosteroids

Purpose of this document

- ✓ Encourage shared decision-making based on [recent evidence](#) considering the benefits and potential risks based on a patient's age, condition, and activity levels.

What to consider before using a corticosteroid injection

- ✓ Should generally be avoided as a first-line treatment
- ✓ First consider non-pharmacological approaches (active therapy), education, and lifestyle changes (physical activity, sleep, diet, smoking cessation, etc.)
- ✓ Quantify effect before opting to inject again:
 - Significant relief = minimum 30%
 - Significant duration = more than 8 weeks
 - Positive impact on functional independence
- ✓ Wait 12 weeks between corticosteroid injections, no matter the injection site
- ✓ If two corticosteroid injections at the same site are ineffective, an additional injection is unlikely to make a meaningful difference
- ✓ If no significant relief post-injection, consider getting a second opinion on the initial diagnosis from a professional with musculoskeletal expertise

Expected efficacy of a corticosteroid injection

- ✓ Partially reduces pain, either temporarily (for a period of at least 8 weeks, ideally) or sometimes completely. Effects may vary depending on the injection site, condition, and patient.
- ✓ For example:
 - Shoulder (subacromial): 5 people need to be treated for one to benefit (NNT = 5)
 - Knee (intra-articular): NNT = 6
 - Hip (greater trochanteric pain syndrome): NNT = 5
- ✓ Placebo effect contributes to perceived effectiveness of any intervention.
- ✓ Injections don't offer long-term relief (at 6- and 12-month follow-up visits) compared to placebo.

Absolute contraindications

- ✓ Recent fracture site in the process of healing (inhibits local bone healing)
- ✓ Prosthetic joint (knee, hip, shoulder) or fixation device for a fracture
- ✓ Site of an active infection, cellulitis or presence of fever
- ✓ History of allergic reactions to corticosteroid injections

Relative contraindications

- ✓ Patient with poorly controlled diabetes
- ✓ Patient on anticoagulants or with a disease that impacts coagulation factors (note: this is an absolute contraindication for spinal injections, but relative for peripheral injections to limbs)
- ✓ Severely immunocompromised patient
- ✓ Patient waiting for orthopedic surgery. Do not inject the joint to be operated on in the 3 months leading up to the operation (significantly increases risk of infection post-surgery)
- ✓ Patient with glaucoma (increased risk of intraocular pressure)
- ✓ Patients being treated for HIV with Ritonavir

Risks - Side effects to consider

Potential local risks

**To be considered for a first injection; risks increase for repeat injections at the same site*

- ✓ Impacts quality and strength of tendons in the area of the injection and increases potential risk of a torn tendon (for bursa and peritendinous injections)
- ✓ Impacts quality of cartilage in the injected joint and speeds up osteoarthritis (for intra-articular injections)
- ✓ Impacts bone density at injection site
- ✓ Pain during injection and sensitivity at the injection site, sometimes for up to 24–48 hours
- ✓ Skin changes at injection site (subcutaneous atrophy and depigmentation)
- ✓ Calcification of periarticular soft tissue in the area of the injection

Rare but serious potential risks

- ✓ Allergic reactions (anaphylactic shock) to injections are extremely rare but constitute a medical emergency. May occur in the first 15 minutes after the injection or up to 6 hours later.
- ✓ Infection is extremely rare (less than 0.001%) and may occur after any injection.
- ✓ Vision changes (risk of central serous chorioretinopathy, glaucoma, increased intraocular pressure).

Potential systemic risks

**May occur after intra-articular OR extra-articular injections, no matter the site*

- ✓ Facial flushing up to 3 days post-injection
- ✓ Elevated glucose levels, especially in diabetics, up to 7 days post-injection
- ✓ Elevated systolic blood pressure, up to 7 days post injection
- ✓ Headache
- ✓ Insomnia
- ✓ Temporary disruption of menstrual cycle
- ✓ In breastfeeding women, interrupted lactation for 1–2 days
- ✓ Immune system disruptions (no proven clinical impact)
- ✓ Adrenal insufficiency if more than 3 injections within a 12-month period

Post-corticosteroid injection recommendations

It is important that the patient remains active and keeps moving after a relative rest period.

- ✓ For intra-articular injections, a few days of relative rest is generally recommended.
- ✓ For bursal and peritendinous injections, patients should avoid any strenuous activity involving the limb that received the injection for at least 4 days, preferably 1 to 2 weeks. More specifically, for upper-limb injections, patients should not push/pull/lift heavy loads, and for lower-body injections, recommend temporarily using a technical aid (cane or crutch) or wearing an ankle brace or walking cast, depending on injection site.