



Key takeaways. a steroid injection reduces inflammation in the body and can be used to treat conditions like back pain, arthritis, tennis elbow and sciatica. steroid injections can be given into the joint, the blood, a muscle or the spine. steroid injections can help reduce pain and inflammation for a few weeks to many months.

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Steroid Injections: Uses, Types, and Side-Effects | Patient



Thinning of skin and soft tissue around the injection site. Whitening or lightening of the skin around the injection site. Limits on the number of cortisone shots. There's concern that repeated cortisone shots might damage the cartilage within a joint. So doctors typically limit the number of cortisone shots into a joint.

Soft Tissue Atrophy Related to Corticosteroid Injection: Review of the .

THE CLINICAL PICTURE

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The Clinical Picture

Soft tissue atrophy after corticosteroid injection

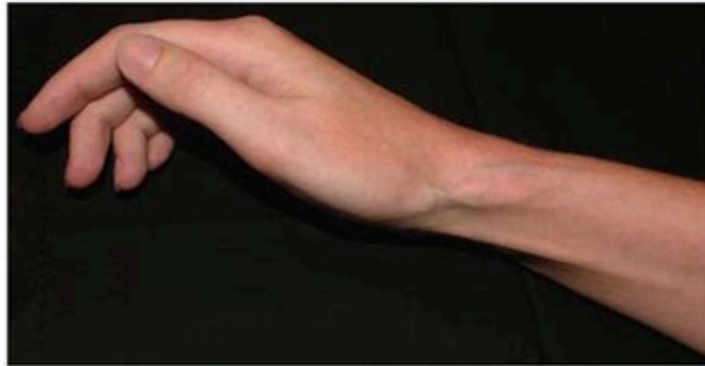


FIGURE 1

A 27-YEAR-OLD WOMAN PRESENTS with pain and tenderness over her right radial styloid. Examination reveals tenderness to palpation and a positive Finkelstein test, and her condition is diagnosed as de Quervain tenosynovitis. She is referred for occupational therapy and for a corticosteroid injection.

Injection of the tendon sheath results in relief, but within several weeks she notes increasing pain, transient purplish skin discoloration, and soft tissue (fat) atrophy at the injection site (figure 1).

Q: On the basis of the skin findings, which corticosteroid injection was most likely used?

- Triamcinolone hexacetonide (Aristospan)
- Dexamethasone sodium phosphate (Decadron)
- Betamethasone sodium phosphate and

doi:10.3949/cjcm.76a.08096

betamethasone acetate (Celestone Soluspan)

- Triamcinolone acetonide (Kenalog-40)

A: Both triamcinolone hexacetonide and triamcinolone acetonide are correct, as they are the least soluble of the agents listed.

ADVERSE EFFECTS OF STEROID INJECTIONS

Soft tissue atrophy and local depigmentation are possible adverse effects of any steroid injection, particularly when given at a superficial site.^{1,2} Although these are rare, with an estimated risk of less than 1%, patients still need to be told about these potential side effects.¹ In addition, these adverse effects of injection may be prevented by applying pressure with gauze over the injection site as the needle is

Patients need to be told about the potential for atrophy

Cortisone injections are used to treat osteoarthritis . loss of fat where the injection was given, which may cause permanent dimples . into a muscle, known as an intramuscular injection;

Steroid Injections: Purpose, Benefits, and Side Effects - WebMD

Side-effects of steroid injection therapy

Systemic side-effects	Local side-effects
<ul style="list-style-type: none">■ Facial flushing■ Menstrual irregularity■ Impaired diabetic control■ Emotional upset■ Hypothalamic – pituitary axis suppression■ Fall in ESR/CRP■ Anaphylaxis	<ul style="list-style-type: none">■ Post injection flare of pain■ Skin depigmentation■ Subcutaneous atrophy■ Bleeding / bruising■ Steroid "chalk"■ Soft-tissue calcification■ Steroid arthropathy■ Tendon rupture or atrophy■ Joint / soft-tissue infection

Table of Contents Preliminary Considerations and Preparation Injecting steroid isn't like popping a pill of an oral compound. There's a lot more to consider and prepare for, especially when it's your first time or when you're still in the early stages of learning how to inject properly.

Septic and Aseptic Complications of Corticosteroid Injections

TABLE 3	
Treatment errors that were determined to have occurred in cases of tissue atrophy after corticosteroid injection	
Time period: 1.1.2005 – 31.12.2009	Errors found
Treatment errors in local corticosteroid injection leading to tissue atrophy	n = 28
Individual types of error that were found (may be multiple*):	
Gluteal injection too superficial	14
Lack of indication	6
Injections in too rapid succession	5
Injection of excessive dose	4
Faulty injection	1
Organizational error (injection on demand without medical evaluation)	1
Lack of documentation	1
Failure to inform patient of risks	8
– with proper treatment in other respects	4

* up to 2 errors per physician

Corticosteroid injections (CIs) are frequently used by hand surgeons to treat a wide range of pathology including de Quervain tenosynovitis and lateral epicondylitis.

Cortisone Shots (Steroid Injections): Benefits & Side Effects

THE BENEFITS OF CORTISONE INJECTIONS

There are many potential benefits of cortisone injections, including:

- Treating unmanageable pain
- Improving work and social lives
- Improving joint function
- Limiting the necessity for invasive procedures
- Confirming a diagnosis

Mufaddal Gombera, MD
ORTHOPEDIC SURGERY & SPORTS MEDICINE



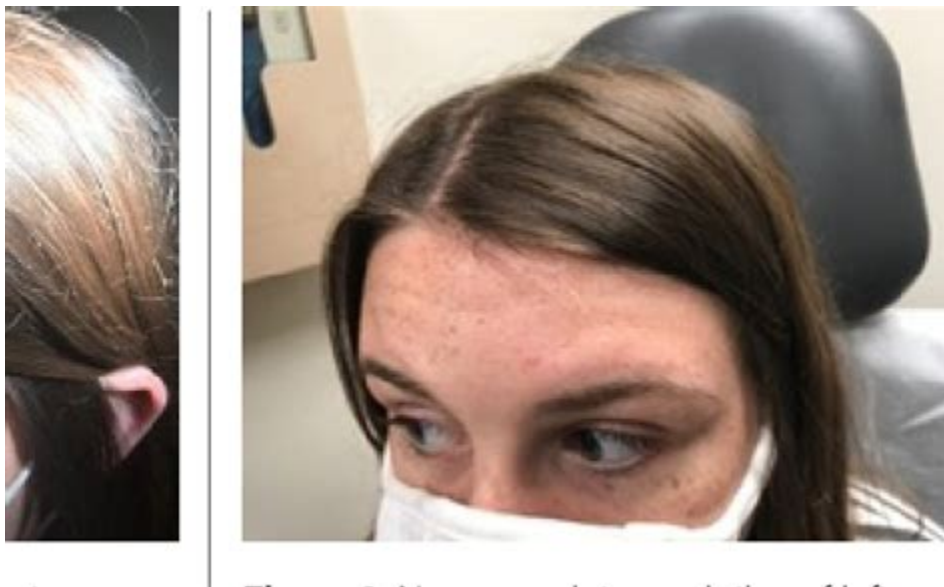
A common cause of Cushing's syndrome is too high a dose of glucocorticoids — a type of medicine that imitates the role of cortisol in the body and is used to treat common conditions including .

Lumbar Epidural Steroid Injection - Cleveland Clinic



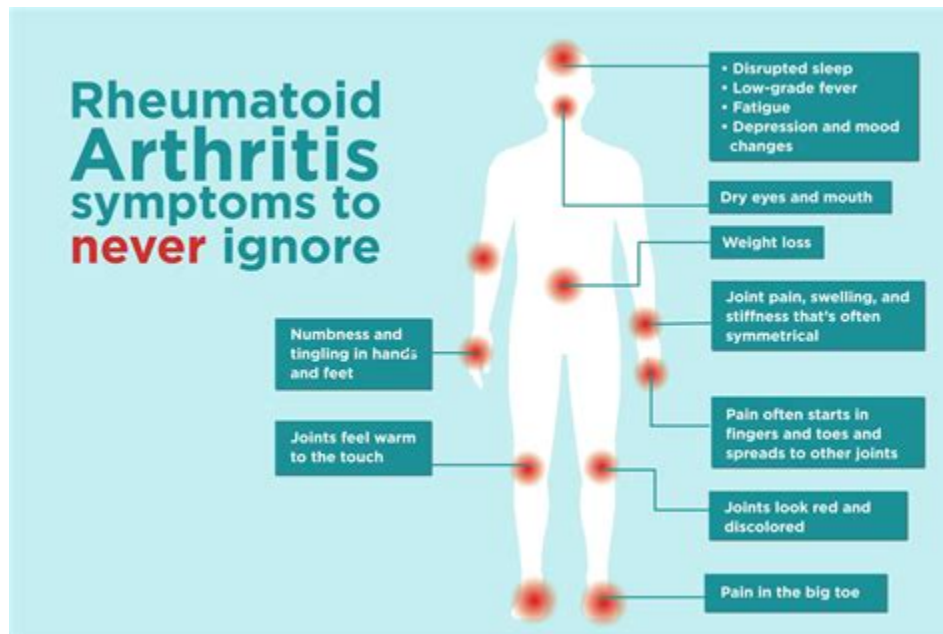
What happens when you inject into fat instead of muscle? Long story short but I used to use TRT back in 2012-2014. I was at about 11-12% bf back then. Now I'm more around 20% and using natural . 5 needle into my quad. Just noticed that my quad has enough fat on it that it's borderline if I'm hitting fat or muscle.

Intradermal Injection of Normal Saline for Treatment of Fat Atrophy .



Cortisone shots can be used to treat inflammation of small areas of the body, like inflammation of a specific joint or tendon. They can also treat inflammation that's widespread throughout the .

Cortisone Injection Risks and Side Effects | Arthritis-health



Hypopigmentation and subcutaneous fat, muscle atrophy after local corticosteroid injection. Korean J Anesthesiol. 2013;65(6 Suppl): . A cortisone injection may cause fat cells at the injection site to atrophy. A divot or depression in the skin may appear because the underlying fat cells have deteriorated. The skin's appearance usually goes .

What happens when you inject into fat instead of muscle?



Lumbar epidural steroid injections are usually safe, but there are risks of certain side effects and complications. Although rare, risks and complications that apply to lumbar ESI injections include: Low blood pressure, which can make you feel lightheaded. Severe headache caused by spinal fluid leakage.

Musculoskeletal Injections: A Review of the Evidence

MARK B. STEPHENS, CDR, MC, USN; ANTHONY I. BEUTLER, MAJ, USAF, MC; and FRANCIS G. O'CONNOR, COL, MC, USA, *Uniformed Services University of the Health Sciences, Bethesda, Maryland*

Injections are valuable procedures for managing musculoskeletal conditions commonly encountered by family physicians. Corticosteroid injections into articular, periarticular, or soft tissue structures relieve pain, reduce inflammation, and improve mobility. Injections can provide diagnostic information and are commonly used for postoperative pain control. Local anesthetics may be injected with corticosteroids to provide additional, rapid pain relief. Steroid injection is the preferred and definitive treatment for de Quervain tenosynovitis and trochanteric bursitis. Steroid injections can also be helpful in controlling pain during physical rehabilitation from rotator cuff syndrome and lateral epicondylitis. Intra-articular steroid injection provides pain relief in rheumatoid arthritis and osteoarthritis. There is little systematic evidence to guide medication selection for therapeutic injections. The medication used and the frequency of injection should be guided by the goal of the injection (i.e., diagnostic or therapeutic), the underlying musculoskeletal diagnosis, and clinical experience. Complications from steroid injections are rare, but physicians should understand the potential risks and counsel patients appropriately. Patients with diabetes who receive periarticular or soft tissue steroid injections should closely monitor their blood glucose for two weeks following injection. (*Am Fam Physician*. 2008;78(8):971-976. Copyright © 2008 American Academy of Family Physicians.)

Injections have been an important adjunct for the management of musculoskeletal disease for more than 50 years. As with any procedure, success depends on knowing the right diagnosis (**who** to inject), performing the correct procedure (**how** to inject), and using the most appropriate pharmacologic agent (**what** to inject).

Who to Inject?

The most common indications for therapeutic injections are presented in *Table 1*. In general, injections can be within the joint space (intra-articular), around the joint space (periarticular), or within specific soft tissue structures. Injections can be used to definitively treat a condition, to provide a pain-free window for rehabilitative therapy (which is ultimately curative), or to provide episodic pain and symptom relief.

Injections for Definitive Treatment

DE QUERVAIN TENOSYNOVITIS

Corticosteroid injections are curative for de Quervain tenosynovitis, a common overuse tendon injury of the hand and wrist. Steroid injections provide the highest cure rate compared with nonsteroidal anti-inflammatory

drug (NSAID) therapy, splinting, or combination therapy.^{1,2} A pooled analysis of seven observational studies found that steroid injection alone was curative in 83 percent of cases compared with splinting alone (14 percent), rest (0 percent), or NSAID therapy (0 percent).² Most patients are symptom free after a single injection, and injection for the treatment of de Quervain tenosynovitis is safe during pregnancy, postpartum (when the incidence increases), and while breastfeeding.³

TROCHANTERIC BURSITIS

Trochanteric bursitis is the second leading cause of hip pain in adults. Trochanteric steroid injection is simple, safe, diagnostic, and usually therapeutic.⁴ Patients treated with a steroid-anesthetic injection report rapid and prolonged improvement of pain and disability,⁵ often after a single injection. A retrospective cohort study comparing treatments for trochanteric bursitis showed a 2.7-fold increase in the number of patients who were pain free five years after a single corticosteroid injection compared with those who did not receive an injection.⁶

Because it is safe, simple, and effective, physicians should offer steroid injection as

Steroid injections, or corticosteroids, are synthetic versions of hormones that the adrenal glands produce. They treat a wide range of conditions. Although they can be effective and fast-acting .

How steroid injections work: uses, benefits and side effects - Healthily



Overview Providers usually use cortisone shots to treat inflammation in your joints. What are cortisone shots (steroid injections)? A cortisone shot is an injection of medicine that relieves pain and reduces inflammation (swelling). Healthcare providers also call them steroid injections or steroid shots.

Fat necrosis: A neglected side effect of intramuscular injections

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CASE REPORT

Clinical Case Reports WILEY

Fat necrosis: A neglected side effect of intramuscular injections

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Abstract

Panniculitis has various etiologies. One of the less common causes is trauma and hence traumatic fat necrosis (FN). These soft tissue injuries usually appear on the shins, thighs, breasts, arms, and buttocks. FN is mainly caused by trauma and may be associated with other conditions such as pancreatic disease. FN arising after intramuscular injections is uncommon and usually appears as firm, encapsulated, mobile, nontender, and solitary or multiple subcutaneous nodules. We report an interesting case of FN caused by intramuscular injections of cefazolin and meglumine antimoniate (MA) in a 38-year-old female patient. MA is regarded as the first-line systemic treatment for cutaneous leishmaniasis (CL). However, these drugs are not devoid of various potentially adverse reactions.

KEYWORDS

fat necrosis, intramuscular injection, meglumine antimoniate

1 | INTRODUCTION

Fat necrosis (FN) is a localized panniculitis. Most cases are caused by trauma, although some have been described following injection therapy. It is a benign nonsuppurative inflammatory disease of adipose tissue. It is a rare condition, affecting all ages.¹ Terminology of FN remains confusing as it is also called "nodular-cystic fat necrosis," "mobile encapsulated lipoma," "nodular fat necrosis," and "post-traumatic fat degeneration".^{1,2} FN is the consequence of the stimulation of an inflammatory reaction within the adipose tissue, which is due to a local trauma or tissue injury.^{1,3}

Herein, we present a distinctive case of FN occurring after intramuscular injection of meglumine antimoniate and cefazolin.

2 | CASE REPORT

A 38-year-old woman was admitted to our department with asymptomatic multiple ulcerative nodules of 1-month duration. Her medical history was unremarkable. Dermatological examination revealed an ulcerocrusted nodule on the right leg and the left forearm and multiple subcutaneous nodules extending along the line of lymphatic vessels. The patient also had a paronychia of the big toe (Figure 1A) and an indurated plaque of 70/40 mm on the right buttock (attributed to intramuscular injections of cefazolin 2 times per day for 1 week). The remaining physical examination was normal except for obesity (Body Mass Index of 30). The diagnosis of cutaneous leishmaniasis (CL) was confirmed by a positive polymerase chain reaction (PCR). Given the clinical form of CL (sporotrichoid,

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A cortisone shot refers to an injection of a corticosteroid medication into a joint. It helps manage pain and inflammation. A local anesthetic is often administered at the same time, too. Cortisone shots can cause side effects like short-term pain and inflammation, skin changes, and higher blood glucose (sugar) levels.

7 Cortisone Shot Side Effects and How to Manage Them - GoodRx



Into a muscle (intramuscularly) By mouth (orally) Local steroids can come as: Eyedrops Eardrops Skin creams Injections into joints, bursae (lubricating sacs between tendons and the bones).

Soft tissue atrophy after corticosteroid injection | Cleveland Clinic .

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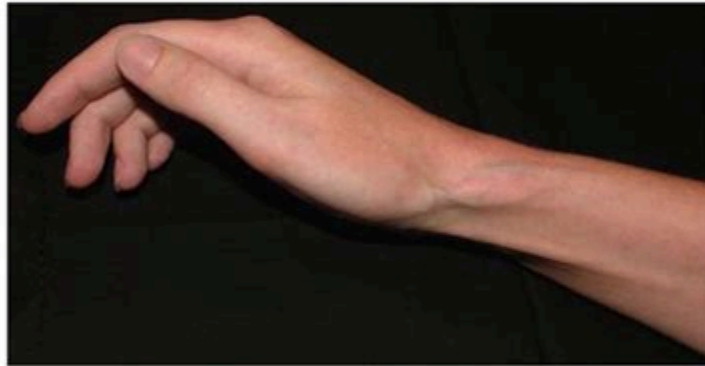


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Patients need to be told about the potential for atrophy

Steroid injection is the preferred and definitive treatment for de Quervain tenosynovitis and trochanteric bursitis. Steroid injections can also be helpful in controlling pain during.

Cortisone flare: Causes, side effects, and management - Medical News Today



Soft tissue atrophy after corticosteroid injection Patricia J. Papadopoulos , Jess D. Edison Cleveland Clinic Journal of Medicine Jun 2009, 76 (6) 373-374; DOI: 10. 3949/ccjm. 76a. 08096

Cortisone Injection (Corticosteroid Injection) - WebMD



Corticosteroid injection is frequently used for the control of inflammation of the joint, tendon, and ligament. Compared to systemic corticosteroid injection, the incidence of complications after local corticosteroid injection is extremely low with an estimated risk of less than 1% [1].

Steroid injections: What are they for, and how do they work?



Results. 278 cases were identified in which complications arose after local glucocorticosteroid injections. The injections were intra-articular, paravertebral, intramuscular, and at other sites. In 39.6% of cases, treatment errors or patient information errors of the following types were found: aseptic technique was not maintained, injections .

Steroid injections - NHS



Steroid injections are anti-inflammatory injections that deliver a high dose of medicine (steroids) directly to the problem area in the body. Steroid injections can be used to reduce inflammation in joints and soft tissues, such as tendons or tennis elbow. What are steroids? Steroids are chemicals that occur naturally in the body.

Amy Schumer says she has Cushing's syndrome. What to know about the .



Side effects of injections into the joints, muscles or spine can include: pain and discomfort for a few days - paracetamol may help with this temporary bruising or a collection of blood under the skin flushing of the face for a few hours changes to your vision such as blurred vision - speak to your specialist if this happens

Cortisone shots - Mayo Clinic



One of the less common causes is trauma and hence traumatic fat necrosis (FN). These soft tissue injuries usually appear on the shins, thighs, breasts, arms, and buttocks. FN is mainly caused by trauma and may be associated with other conditions such as pancreatic disease. FN arising after intramuscular injections is uncommon and usually .

Steroid Injection: The Ultimate Guide - Steroid Cycles

Weeks	Stanozolol	Nan D	Clomid
1	20mg/day	200mg/week	
2	30mg/day	200mg/week	
3	40mg/day	200mg/week	
4	50mg/day	400mg/week	
5	50mg/day	400mg/week	
6	40mg/day	200mg/week	
7	30mg/day		
8	20mg/day		
9			100mg/day
10			50mg/day
11			50mg/day
12			50mg/day
Total	200tabs	8ml	40tabs

The injections are used to treat several conditions, particularly dermatologic, musculoskeletal, and allergic conditions including arthritis, bursitis, tendinitis, alopecia, psoriasis, keloids and hypertrophic scars, and severe allergies.

- https://drive.google.com/file/d/1BGZqNsfe9GwSQOrKQarkRSF3qaQT_PZ5/view
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