

**Joint Trust Guideline for the Management of:
 Steroid injections in adult patients with joint and soft tissue conditions**

A clinical guideline recommended for use

For use in:	Norfolk and Norwich University Hospitals NHS Foundation Trust and James Paget University Hospitals NHS Foundation Trust
By:	Doctors and physiotherapists who are deemed competent following supervised training
For:	Intra-articular and soft tissue steroid injections in adult patients
Division responsible for document:	Medical Division
Name and job title of document author:	Dr Chulanie De Silva, Consultant in Rheumatology
Name and job title of document author's Line Manager:	Dr Karl Gaffney, Consultant in Rheumatology, NNUH
Supported by:	Dr Karl Gaffney, Mr John Nolan, Dr Andoni Toms, Ms Carol Payne, NNUH Dr Tarnya Marshall, Consultant in Rheumatology NNUH Helen Willimott, Pharmacy Team Leader, Medicine, NNUH Drs Makkuni, Thomas JPUH
Assessed and approved by:	Clinical Guidelines Assessment Panel (CGAP) If approved by committee or Governance Lead Chair's Action; tick here <input checked="" type="checkbox"/>
Date of approval:	22/11/2021
Reported as approved to the:	Clinical Safety and Effectiveness Sub-board
To be reviewed before:	22/11/2024
To be reviewed by:	Dr Tarnya Marshall
Trustdocs ID No:	8272
Version No:	4
Compliance links:	None
If Yes – does the strategy/policy deviate from the recommendations of NICE? If so, why?	N/A

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

Version and Document Control:

Version Number	Date of Update	Change Description	Author
4	22/11/2021	References updated, table amended	Dr Chulanie De Silva

This is a Controlled Document

Printed copies of this document may not be up to date. Please check the hospital intranet for the latest version and destroy all previous versions.

Introduction

Joint and soft tissue injections are commonly undertaken in patients with joint and soft tissue pathology in both primary care and a hospital setting. This is an established therapy which has been embedded in standard clinical practice for many years, but the evolving evidence base and the improved access to radiological imaging for targeted injection therapy has changed current practice and it is timely to unify practice across the Trust.

Medical staff from the following departments are trained in joint and soft tissue injections in their speciality training posts:

- Orthopaedics.
- Pain Team.
- Radiology.
- Rheumatology.

Other health care professionals who may undertake joint and soft tissue injections having undertaken the relevant courses are:

- Physiotherapists.

This guideline does not intend to cover the training requirements, nor does it cover the management pathways of each condition, for example investigations, rehabilitation, biomechanical assessment, orthotic provision and exercises. For doctors, training will be covered within the procedural competencies laid out by the General Medical Council but does not exist specifically for intra-articular and soft tissue injections.

Physiotherapists will hold a postgraduate qualification in injection therapy, accredited by the Association for Chartered Physiotherapists with an interest in orthopaedic medicine and Injection therapy or similar.

It does cover the evidence base for commonly undertaken soft tissue and joint injections.

A quick reference guide is not appropriate as the diagnosis and anatomical location are all subject to individual factors.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

Objective

To provide a contemporary, evidence-based approach to joint and soft tissue injections and to unify practice across all departments in the Trust based on recent published and nationally-driven best practice opinion. This guideline does not cover the treatment pathways for joint/soft tissue aspiration but aims to cover the therapeutic indications for steroid and local anaesthetic injections.

It also provides a guide to the management of patients with musculoskeletal and rheumatic conditions who require a corticosteroid injection during the COVID-19 pandemic to ensure patient safety (1).

Rationale

Increasingly there is emerging evidence that the efficacy of some procedures is not as strong as has been anecdotally reported and indeed there may be potential to cause harm. This guideline summarises the current evidence base.

Broad recommendations

Joints which are synovitic should only be injected within the Rheumatology service or by Radiologists following a request from Rheumatology after appropriate clinical assessment.

Lower limb joint injections should be pre-planned i.e. be followed by a period of 24 hours absolute rest and transport home, such as currently provided in the Rheumatology Day Unit (2).

If a joint is injected with steroid, arthroplasty will not be undertaken for a minimum of 6 months due to increased risk of post-operative infection (3).

Lower limb tenosynovitis injections around the foot and ankle should only be undertaken following podiatry input and appropriate imaging, and only in cases of localised disease in patients with inflammatory arthritis (4).

Injections can only be administered by a medical practitioner or other health professional, following appropriate training, and for non-prescribers, this can only be done under the remit of a Patient Group Directive (PGD). Physiotherapists and Rheumatology practitioners have a more stringent list of contraindications outlined in their PGDs. See Appendices.

Reference should be made to relevant national and local guidance during the COVID-19 pandemic for the management of patients with musculoskeletal and rheumatic conditions who require an intra-articular or soft tissue corticosteroid injection to ensure patient safety (1).

Patients must be made fully aware of the potential increased risk and the lack of clear evidence related to risk during the COVID-19 pandemic.

Consideration should be made to reduce the maximum dose of the steroid to minimise systemic effects of corticosteroid e.g. by injecting bilateral joints at separate times.

Informed consent to proceed with injection therapy should be obtained and documented:

- Rheumatology Consent Form ([Trust Docs ID 12073](#)).

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

- Physiotherapy Consent Form ([Trust Docs ID 18052](#)).

Relative contraindications

Injection in the presence of the following must only be undertaken by a medical practitioner or after discussion with a medical consultant. These include:

- Bleeding diathesis/ anticoagulation.
- Prosthetic joint.
- Infection in overlying skin.
- Lack of response to previous injection.

Frequency of injections

- Soft tissue – every 3-6 weeks.
- Joints – every 3-4 months.

There is no upper limit to the number of injections that can be undertaken although physiotherapists are more restricted in their PGDs than medical staff. See appendices

Anticoagulation

For patients who are taking warfarin, an INR of 3 or less is not a contraindication for joint injection. For patients on low molecular weight heparins and Direct Oral Anticoagulants (DOACS) no other precautions are necessary.

Local anaesthetic

1 - 4mL of 1% or 2% lidocaine can be mixed with depomedrone. Non medical practitioners who administer injections should not mix lidocaine and steroid, in line with national guidance (5) and local PGD.

Bupivacaine is a long acting local anaesthetic and is preferred for diagnostic injections undertaken in the Radiology Department.

Steroid

Depomedrone is the steroid preparation which is listed for the majority of injections, but an equivalent dose of another corticosteroid for example triamcinolone would be acceptable and can be used at the clinician's discretion.

Procedure

This covers "blind" injections (not those undertaken under radiological guidance where antiseptic techniques cover the equipment used for imaging).

A "no touch" technique is utilised, ensuring the skin is not touched once it has been cleaned.

- Ensure no drug allergies.
- Confirm is the patient is not taking anticoagulants.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

- Take verbal consent (see below) and record this in the health record.
- Skin preparation – Medi swabs/Alcohol.
- Local anaesthetic can be administered to the skin and underlying tissue prior to the injection being administered, if the injection is technically difficult or particularly uncomfortable. 2mL of 1% lidocaine is usually sufficient for this purpose.

Complications of corticosteroid injections and verbal consent

Verbal consent must always be taken prior to injection having discussed the potential risks and this must be documented in the medical record.

Risks of injections include:

1. Pain.
2. Worsening of symptoms e.g. carpal tunnel syndrome.
3. Infection (<0.001%).
4. Fat atrophy or hypopigmentation.
5. Post injection steroid flare for 24-48 hours (10%).
6. Tendon rupture (0.1%).
7. Transient blood sugar elevation in patients with diabetes.
8. May not work.
9. Risk of bleeding, especially if on anticoagulants.
10. Flushing (40%).

Post procedure advice should cover duration of rest which includes limiting weight bearing for lower limb joints for 24 hours rest.

**Trust Guideline for the Management of:
Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions**

Recommendation by process and anatomical location

Index	Page
<u>1. Joint disease</u>	7
• Osteoarthritis	7
○ Glenohumeral joint	7
○ Acromioclavicular joint	7
○ Sternoclavicular joint	7
○ The elbow capsule	7
○ Wrist	8
○ Distal radioulnar joint	8
○ Thumb carpometacarpal joint	8
○ Hip	8
○ Knee	8
○ Ankle mortice joint	9
○ Subtalar joint and midtarsal joints	9
○ First metatarsal interphalangeal joint	9
• Capsulitis	9
• Synovitis	9
<u>2. Soft tissue</u>	10
• Bursitis	10
○ Subacromial space and rotator cuff	10
○ Subscapularis bursa	10
○ Olecranon bursa	10
○ Trochanteric bursa	10
○ Ischial bursa	10
○ Iliotibial band bursa	11
○ Infrapatellar bursa	11
○ Anserine bursa	11
○ Achilles tendon and bursa	11
• Tendinopathy	11
• Tenosynovitis	11
○ De Quervain's tenosynovitis	12
○ Trigger finger	12
○ Adductor tendinitis	12
○ Patellar tendinitis	12
○ Peroneal tendinitis	12
○ Achilles tendon and bursa	12
• Tendon insertions	12
• Entrapment neuropathies	13
○ Carpal tunnel syndrome	13
○ Suprascapular nerve block	13
○ Morton's neuroma	13
• Ganglia	14
• Ligaments	14
• Plantar fasciitis	14

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

1. Joint disease:

Osteoarthritis

There is data indicating that 1 in 4 patients with osteoarthritis of the knee respond to an intra-articular steroid injection (6). Other osteoarthritic joints can be injected but there is less evidence to support efficacy.

Glenohumeral joint

Osteoarthritis of the shoulder joint is uncommon and imaging is required to confirm the diagnosis prior to injection. The glenohumeral joint is most easily accessed from the posterior approach. From behind, palpate the tip of the acromion and identify the coracoid process. The needle should be inserted perpendicular to the skin, 2.5 cm inferiorly and 2.5cm medially to the tip of the acromion, with the tip of the needle aiming towards the coracoid process.

- The anterior approach requires the needle to be inserted just medially to the coracoid process. The anterior approach is less commonly use than the posterior due to the relative proximity of the large vessels and brachial plexus.
- Needle: 21G, inserted to a depth of approximately 4cm.
- Steroid: depomedrone 40 mg.

Acromioclavicular joint

Where there is diagnostic uncertainty, this injection should be undertaken under ultrasound guidance to aid accurate placement of the injection.

- The acromioclavicular joint is identified 1cm medially from the tip of the acromion. It can be felt to move when the shoulder is shrugged. The patient sits with their arm hanging by their side and the needle is inserted at an angle of 30° medially as the joint sits at an angle. This can be a difficult joint to inject, but 'walking' the needle slowly and gently across the acromion can help in identifying the acromioclavicular joint.
- Needle: 25G, inserted 1cm.
- Steroid: depomedrone 20mg.

Sternoclavicular joint

Due to close proximity of the underlying major vessels and pleura, this should only be undertaken under ultrasound guidance.

- Needle: 25G, inserted 1cm.
- Steroid: depomedrone 20mg.

The elbow capsule

Elbow osteoarthritis is uncommon and injection of the joint should only be undertaken following appropriate imaging.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

- The elbow capsule houses the radio-humeral, radio-ulnar and humero-ulnar joints. The joint is most easily accessed from a lateral approach. The patient sits with the elbow at 90° of flexion. The needle is inserted into the space between the head of the radius and the olecranon process of the humerus, with the needle parallel to the top of the radius.
- Needle: 25G, inserted 2cm.
- Steroid: depomedrone 40mg.

Wrist

- The hand is placed palm down, and just proximal to the capitate is a hollow, within the mid-carpus bones. The needle is inserted into the hollow.
- Needle: 23G, inserted 2cm.
- Steroid: depomedrone 40mg.

Distal radioulnar joint

- The hand is placed palm down, and the joint line identified midway between the radial and ulnar styloids. The needle is inserted perpendicular to the skin.
- Needle: 25G, inserted by 1.5cm.
- Steroid: depomedrone 40mg.

Thumb carpometacarpal joint

- The arm is positioned on the ulnar border of the forearm with the thumb uppermost. The joint space between the trapezium and the metacarpal is easily identified. Traction on the thumb helps to open up the joint space. The needle may be inserted in to the joint.
- Needle: 25G, inserted 0.5cm.
- Steroid: hydrocortisone 10mg.

The hip

The hip is a deep joint and should only be injected under radiological guidance, followed by a period of 24 hours absolute rest. These injections should therefore be pre-planned with appropriate post injection rest and transport to the car, such as is currently provided in the Rheumatology Day Unit.

- Needle: 21G, inserted by around 4cm.
- Steroid: depomedrone 80mg.

The knee

As there is evidence that patients have the best clinical response to a steroid injection if they have at least 24 hours of absolute rest these injections should be pre-planned with appropriate post injection rest and transport to the car, such as is currently provided in the Rheumatology Day Unit.

- The patient is positioned lying on their back with the knee in slight flexion and supported. Either a medial or a lateral approach can be taken. The medial approach requires identification of the midpoint of the patellar and insertion of the needle under

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

the patella and above the femoral condyle. In the lateral approach, the same technique is applied, but from the lateral aspect.

- Needle: 21G, inserted 3-4cm.
- Steroid: depomedrone 80mg.

Ankle mortice joint

As there is evidence that patients have the best clinical response to a steroid injection if they have at least 24 hours of absolute rest these injections should be pre-planned with appropriate post injection rest and transport to the car, such as is currently provided in the Rheumatology Day Unit.

- The foot is supported in neutral. The ankle joint lies between the lateral and medial malleoli, and the ankle joint may be followed laterally, and identified by passively flexing and extending the ankle. The needle is inserted directly into the joint, passing through the capsule.
- Needle: 23G, inserted 2cm.
- Steroid: depomedrone 40mg.

Subtalar joint and midtarsal joints

The subtalar and midtarsal joints are difficult to access “blindly” and should therefore be injected under ultrasound guidance.

- Needle: 25G
- Steroid: depomedrone 40mg.

First metatarsal interphalangeal joint

- The patient lies with the foot supported. The joint line can be palpated and identified by passively moving the great toe. The needle is inserted perpendicularly, avoiding the extensor tendon in the midline.
- Needle: 25G, inserted 1cm.
- Steroid: hydrocortisone 25mg

Capsulitis

Capsulitis most commonly occurs in the shoulder joint but is also reported in the wrist. There is little evidence to support steroid injections in this condition (7).

Intra-articular steroid injection may be administered as current best practice advocates early intervention for both primary and secondary contracted frozen shoulder (7,8). Patients should be advised that this will not be curative but may alleviate some symptoms in the short term pending spontaneous resolution of the capsulitis.

Hydrodistension of the shoulder may be useful, at least in the short term but must be undertaken with imaging in Radiology (9).

Synovitis

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

All patients with synovitis should be referred to the Rheumatology service for an assessment.

2. Soft tissue:

Bursitis

Non-infective bursitis responds to steroid injections. Only those bursa discussed here can be injected routinely and those where ultrasound guidance is recommended should not be injected “blindly”.

Subacromial space and rotator cuff

- The patient sits with the arm hanging by their side. This opens up the subacromial space between the acromion and humeral head. The lateral edge of the acromion should be palpated and the needle inserted below the midpoint of the acromion.
- Needle: 21G, inserted 3cm.
- Steroid: depomedrone 40mg.

Subscapularis bursa

This should only be injected in the Radiology department under ultrasound guidance.

- The patient sits supported with arm by their side and held in 45 degrees lateral rotation. The medial edge of the lesser tuberosity should be palpated lateral to the coracoid process. The needle is angled slightly laterally.
- Needle: 23G, inserted 3cm.
- Steroid: depomedrone 20mg.

Olecranon bursa

This should only be injected following Rheumatology input for as the underlying diagnosis needs to be confirmed to inform medical management e.g. gout

- The patient sits with the elbow flexed to 90°. The area of the tenderness is palpated and the needle inserted into the central tenderness.
- Needle: 23G, inserted 2.5cm.
- Steroid: hydrocortisone 25mg.

Trochanteric bursa

- The patient lies on their side with the painful hip uppermost. The site of the maximum tenderness is palpated over the greater trochanter. The needle is injected perpendicular to the skin and the steroid and local anaesthetic mixture injected in a fan like approach in the tender region.
- Needle: 21G, inserted 4cm.
- Steroid: depomedrone 40mg.

Ischial bursa

This should only be injected in the Radiology department under ultrasound guidance and after MRI.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

- Patient lies on the unaffected side with upper leg flexed. Palpate Ischial tuberosity and insert needle into midpoint angled upwards.
- Needle: 21G, inserted 5cm.
- Steroid: depomedrone 20mg.

Iliotibial band bursa

- Patient sits with knee supported; tender area is marked on lateral side of femur. Needle is inserted into bursa and solution is deposited in a bolus.
- Needle: 23G, inserted 2.5cm.
- Steroid: depomedrone 20mg

Infrapatellar bursa

- The knee is slightly flexed and supported. The deep infrapatellar bursae sits beneath the patellar tendon and the needle is inserted beneath the tendon, either from a medial or a lateral approach. It is important not to insert the needle into the patellar tendon.
- Needle: 23G, inserted 2cm.
- Steroid: hydrocortisone 25mg.

Pes anserine bursa

- The knee is supported in extension. The pes anserine tendon is identified by flexing the knee against resistance. The point of insertion can be palpated on the tibia, and the bursa lies deep to this, and is tender. The needle is inserted into the central area of tenderness, and onto the bone.
- Needle: 23G, inserted 2cm.
- Steroid: hydrocortisone 25mg.

Achilles tendon and bursa

The Achilles tendon should not be injected as there is no tendon sheath, and injection may result in rupture (10). The achilles bursa lies in the triangular space anterior to the tendon and posterior to the base of the upper part of the calcaneus. This should only be injected in the Radiology department and under ultrasound guidance. The safest approach is from the lateral side to avoid the posterior tibial artery and nerve.

- Needle: 23G, inserted 2cm.
- Steroid: hydrocortisone 25mg.

Tendinopathy

There is no evidence base supporting the practice of injecting degenerate tendons and as these may rupture, as a consequence of the degenerative process, or as a result of the anaesthetic effect, injections should be avoided.

Tenosynovitis

In the lower limb there is increasing concern that tenosynovitis in patients without an underlying systemic inflammatory disease may result in tendon rupture, so these should not routinely be undertaken.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

In the upper limb, there is evidence that steroid injections are beneficial in De Quervain's tenosynovitis (11). Flexor tenosynovitis should only be injected after Rheumatological assessment to exclude the presence of an underlying systemic inflammatory disease.-

De Quervain's tenosynovitis

- The arm is positioned on the ulnar border of the forearm with the thumb uppermost. The abductor pollicis longus and extensor pollicis brevis tendons run together in one tendon sheath. The gap between the tendons is identified and the needle inserted into the gap. As the injection is administered, there may be a swelling as the fluid moves out of the opposite end of the tendon sheath.
- Needle: 25G, inserted 0.5cm.
- Steroid: hydrocortisone 10mg.

Trigger finger

There is good evidence to support the use of corticosteroids in the management of trigger finger (12).

- A nodule is often palpable at the base of the finger in the flexor tendon sheath. The nodule is directly injected with the steroid.
- Needle: 25G, inserted 0.5cm.
- Steroid: hydrocortisone 10mg.

Adductor tendinitis

These are currently only undertaken following diagnosis with MRI and are injected under ultrasound guidance in the Radiology department.

- Needle: 20mg, inserted 3cm.
- Steroid: hydrocortisone 25mg.

Patellar tendinitis

In view of the risk of rupture, this should not be undertaken routinely.

Peroneal tendinitis

In view of the risk of rupture, this should not be undertaken routinely and not without podiatry and orthotic input, and only in patients with inflammatory arthritis (3).

The Achilles tendon and bursa

The Achilles tendon should not be injected as there is no tendon sheath, and injection may result in rupture (9). This should only be injected in the Radiology department and under ultrasound guidance. The achilles bursa lies in the triangular space anterior to the tendon and posterior to the base of the upper part of the calcaneus. The safest approach is from the lateral side to avoid the posterior tibial artery and nerve.

- Needle: 23G, inserted 2cm.
- Steroid: hydrocortisone 25mg.

Tendon insertions

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

Injections are not recommended routinely for insertional tendinopathies as these are overuse / degenerative pathologies; patients should be advised that an injection may impair the healing process (13).

There is no indication to inject the patellofemoral or the achilles tendon insertion, and these are not routinely undertaken.

Entrapment neuropathies

Injections that may be undertaken in clinical practice are for carpal tunnel syndrome (14), suprascapular nerve block (15, 16) and Morton's neuroma (17). Local anaesthetic is normally administered at the same time, except in carpal tunnel syndrome due to an increase in short term paraesthesia.

Carpal tunnel syndrome

- The hand is placed with the palm facing up. Identify the proximal wrist crease. The palmaris longus tendon should be identified. The needle should be inserted on the ulnar side of the palmaris longus tendon at an angle of 45° with the needle aiming towards the tip of the middle finger. If there is acute worsening of pain and numbness in the distribution of the median nerve, the needle should be removed and repositioned as it is likely to be in the median nerve. Patients should be warned that the symptoms may deteriorate in severe carpal tunnel due to increase in pressure around the nerve. Local anaesthetic is not normally administered as local anaesthetic may worsen the paraesthesia in the short term.
- Needle: 23G, inserted 1.5cm.
- Steroid: hydrocortisone 25mg.

Suprascapular nerve block

A suprascapular nerve block has been shown to be a safe and efficacious treatment for the treatment of shoulder pain in degenerative disease and/or arthritis (16). This should only be carried out in Rheumatology, Radiology or by the Pain Team.

- The patient sits with their arm in the neutral position. Identifying the lateral end of the spine of the scapula, move one-third along medially and mark a spot superiorly in the supraspinous fossa. Insert needle perpendicular to the fossa and touch bone.
- Needle: 21G, inserted 3cm.
- Steroid: depomedrone 20mg.

Morton's neuroma

A nerve block has been shown to be superior to shoe modifications alone for burning pain/paraesthesia, most commonly at the first or second interspace between or slightly distal to the metatarsal heads (17, 18). This injection should only be done under ultrasound guidance.

- The patient sits supported with the foot placed flat on a table. The tender area between MT heads is marked. The needle is inserted perpendicularly through the dorsal skin at this point. If a sharp burning sensation is reported the needle tip is withdrawn slightly. Steroid is deposited around neuroma.
- Needle: 23G, inserted 2cm.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

- Steroid depomedrone 20mg.

Ganglia

These may be deep within the tissues and these should be aspirated and injected under radiological guidance. Superficial, easily palpable ganglia may be aspirated if not next to vital structures (nerve, artery).

Ligaments

There is no indication to routinely inject ligaments. In the foot and ankle, injection around ligament insertions should only be undertaken by the orthopaedic foot surgeons or, by physiotherapists working closely with this team and following discussion.

- Patient lies supported on table. Identify and mark anterior inferior edge of lateral malleolus. Insert needle to touch bone and pepper the solution.
- Needle: 25G
- Steroid Depomedrone 10 mg.

Plantar Fasciitis

The evidence base for steroid injections for plantar fasciitis is evolving and these should only be undertaken in patients with refractory symptoms and in whom a podiatry assessment has been undertaken. Patients should be warned that response may be short lived and there is a risk of rupture (19). If these are undertaken, a medial approach should be used.

- Needle: 21G, inserted 3cm.
- Steroid: depomedrone 40mg.

**Trust Guideline for the Management of:
Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions**

Preparations and properties of injectable corticosteroid

Corticosteroid	Supplied	Dosing	Potency using hydrocortisone as reference agent
Short acting			
Hydrocortisone acetate (licensed but not currently available)	25 mg/ml, 50 mg/ml	Tendon Sheath and bursas: 8-40 mg Small Joints: 8-20 mg Large Joints: 40-100 mg	1.0 (20 mg)
Intermediate-Acting			
Prednisolone (Deltastab®)	25mg/ml	5-25mg depending on joint size	3.5 (5 mg)
Prednisolone tebutate (Hydeltra®)	20 mg/ml	Tendon Sheath and bursas: 4-10 mg Small Joints: 2-5 mg Large Joints: 10-25 mg	4 (5 mg)
Triamcinolone (Adcortyl ®Aristocort, Aristospan, Kenalog®)	Adcortyl 10 mg/ml, Kenalog 40 mg/ml	Tendon Sheath and bursas: 4-10 mg Small Joints: 2-5 mg (use Adcortyl) Large Joints: 10-25 mg(use Kenalog)	5 (4 mg)
Methylprednisolone acetate (Depo-Medrone®I)	40mg/ml, 80mg/2ml	Tendon Sheath and bursas: 20-40 mg Small Joints: 20 mg Large Joints: 80 mg	5 (4 mg)
Depo-Medrone with Lidocaine®	Lidocaine hydrochloride 10mg/ml Methylprednisolone acetate 40mg/ml	Tendon Sheath and bursas: 20-40 mg Small Joints: 20 mg Large Joints: 80 mg	5 (4 mg)
Triamcinolone hexacetonide	20mg/ml	Tendon Sheath and bursas: 2-10mg Small Joints:2-10mg Large Joints: 20mg	
Long acting			
Betamethasone sodium phosphate (Betnesol®)	4 mg/ml, 6 mg/ml, 8 mg/ml	Tendon Sheath and bursas: 1.5-3.0 mg Small Joints: 0.8-1.0 mg Large Joints: 2-4 mg	25 (0.6 mg)

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

Clinical audit standards

Each department should keep data about the indication for and procedure that is undertaken, and should therefore be responsible for their own audit.

Physiotherapists undertake the following monitoring processes to determine levels of compliance with Trust PGDs:

1. All physiotherapy IT practitioners are entered on the live departmental register.
2. All physiotherapy IT practitioners have evidence of attendance at annual mandatory training recorded on the live departmental register.
3. All physiotherapy IT practitioners maintain a log of injections performed.
4. All injections performed have the following detailed on the IT log sheet:
 - Date of administration injection.
 - Patient identifier.
 - Patient diagnosis.
 - Pain score (pre injection).
 - Pain score (post injection).
 - Patient reported clinical outcome.
 - Patient satisfaction.
5. All physiotherapy IT practitioners perform one witnessed injection every two years as recorded on the IT log sheet.

Summary of development and consultation process undertaken before registration and dissemination

The author listed above drafted this guideline on behalf of the Rheumatology Department, Orthopaedic Department, Radiology Department, Pain Team and Physiotherapy Department, who have agreed the final content.

During its development it was circulated for comment to: Dr Karl Gaffney, Mr John Nolan, Dr Andoni Toms, Dr Mark Sanders, Dr Peter Woodhouse, Dr Jennie Wimperis, Ms Carol Payne and Ms Sue Christie.

The comments were aimed at evidence base and current practice. Some are based on current best practice.

The physiotherapy injection protocol, which reflects existing physiotherapy practice, was used as the basis for the development of this clinical guideline.

This version has been endorsed by the Clinical Guidelines Assessment Panel.

Distribution list/ dissemination method

This will be disseminated to each department via the clinical leads.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

References

1. Management of patients with musculoskeletal and rheumatic conditions who: are on corticosteroids; require initiation of oral/IV corticosteroids; require a corticosteroid injection. 16 June 2020. © BSR BOA BASS RCGP BSIR FPM BPS CSP
2. Randomized controlled study of post-injection rest following intra-articular steroid therapy for knee synovitis. Chakravarty K et al. *British Journal of Rheumatology*. 33(5):464-8, 1994 May.
3. Where should patients rest following intra-articular steroid therapy for knee synovitis? Gaffney K et al. *Rheumatology* 2000;39 (suppl 1):87
4. Preoperative Hip Injections Increase the Rate of Periprosthetic Infection After Total Hip Arthroplasty Schairer et al. (<https://doi.org/10.1016/j.arth.2016.04.008>)
5. Best practice as discussed recently with foot surgeons, rheumatology, radiology, physiotherapy and podiatry September 2011 NNUH.5, The use of medicines in physiotherapy injection therapy in NHS settings. 3rd ed. Chartered Society of Physiotherapy, London. 2010.
6. Safety and efficacy of long term intra-articular steroid injections in osteoarthritis of the knee: a randomised, double-blind, placebo controlled trial. Raynauld JP et al. *Arthritis Rheum*. 2003;48:370-7
7. Corticosteroid injections for osteoarthritis of the knee: meta-analysis. Arroll B et al. *BMJ* 2004;328:869
8. Corticosteroid injections for shoulder pain. Buchbinder R. Green S. Youd JM. *Cochrane Database of Systematic Reviews*. 2003
9. Hanchard N, Goodchild L, Thompson J, O'Brien T, Richardson C, Davison D, Watson H, Wragg M, Mtopo S, Scott M. (2011) Evidence-based clinical guidelines for the diagnosis, assessment and physiotherapy management of contracted (frozen) shoulder v.1.5, 'standard' physiotherapy, Chartered Society of Physiotherapy, London.
10. Arthrographic distension of the shoulder joint in the management of frozen shoulder. Khan AA. Mowla A. Shakoor MA. Rahman MR. *Mymensingh Medical Journal: MMJ*. 14(1):67-70, 2005 Jan.
11. Achilles tendonitis: are corticosteroid injections useful or harmful? Shrier I. Matheson GO. Kohl HW 3rd. *Clinical Journal of Sport Medicine*. 6(4):245-50, 1996 Oct.
12. Randomised controlled trial of local corticosteroid injections for de Quervain's tenosynovitis in general practice. Peters-Veluthamaningal C. Winters JC. Groenier KH. Meyboom-DeJong B. *BMC Musculoskeletal Disorders*. 10:131, 2009.
13. Corticosteroid injection for trigger finger in adults. Peters-Veluthamaningal C. van der Windt DA. Winters JC. Meyboom-de Jong B. *Cochrane Database of Systematic Reviews*. (1):CD005617, 2009.

Trust Guideline for the Management of: Steroid Injections in Adult Patients with Joint and Soft Tissue Conditions

14. Efficacy and safety of corticosteroid injections and other injections for management of tendinopathy: a systematic review of randomised controlled trials. Coombes BK. Bisset L. Vicenzino B. *Lancet*. 376(9754):1751-67, 2010 Nov 20.
15. Local corticosteroid injection for carpal tunnel syndrome. Update of Cochrane Database Syst Rev. 2002;(4):CD001554; Marshall S. Tardif G. Ashworth N. *Cochrane Database of Systematic Reviews*. (2):CD001554, 2007.
16. Suprascapular nerve block (using bupivacaine and methylprednisolone acetate) in chronic shoulder pain. Shanahan EM. Ahern M. Smith M. Wetherall M. Bresnihan B. FitzGerald O, *Annals of the Rheumatic Diseases*. 62(5):400-6, 2003 May.
17. Safety and acceptability of suprascapular nerve block in rheumatology patients. Shanahan EM, Shanahan KR, Hill CL, Ahern MJ, Smith MD. *Clin Rheumatol*. 2011 Jul 20.
18. Clinical Inquiry. What is the best way to treat Morton's neuroma? Schreiber K, Khodae M, Poddar S, Tweed EM. *J Fam Pract*. 2011 Mar;60(3):157-8, 168.
19. Best practice as discussed at the Association of Chartered Physiotherapists with an Interest in Orthopaedic Medicine and Injection Therapy Annual Scientific Conference, London, 2011.
20. Incidence of plantar fascia ruptures following corticosteroid injection. Kim C. Cashdollar MR. Mendicino RW. Catanzariti AR. Fuge L. *Foot & Ankle Specialist*. 3(6):335-7, 2010 Dec.

Source document

Saunders, S & Longworth, S 2018, *Injection Techniques in Musculoskeletal Medicine: A Practical Manual for Clinicians in Primary and Secondary Care*, 5th edn. Churchill Livingstone, Edinburgh.

Appendices

- Patient Group Direction for the administration by injection of Methylprednisolone Acetate (40mg) and Triamcinolone Acetonide (40mg), by Qualified Chartered Physiotherapists (Ref 161)
- Patient Group Direction for the administration by injection of Lidocaine Hydrochloride (1%) and Lidocaine Hydrochloride (2%), by Qualified Chartered Physiotherapists (Ref 46)