

MSK Injections in Primary Care

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- 39-78 weeks
- 22 weeks
- 300 days
- BC Orthopedic Society: 'What to do while you wait in pain?'

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This is going to hurt!



"I checked vital signs, screened for concussion and took X-rays ... But it turns out he's just a crybaby."

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Conflict Disclosure Information

Speaker: Dr Jitin Sekhri

Title of session: MSK injections in Primary Care

I had full editorial control over the content of this presentation.

Relationships with financial sponsors:

- None

Potential for conflict(s) of interest:

- None

WHY?



Who benefits?

- RA
- OA
- Crystals
- Bursitis
- Tenosynovitis
- Carpal tunnel
- Adhesive Capsulitis

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Learning Objectives

- Types of Injections/Anaesthetic agent
- Common injections
- Indications/Contra-indications
- Equipment
- Technique
- Complications
- Anatomy/Landmarks

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History of Steroid Injection

- Janet Travell
 - Early 1900s, trigger points
 - 4 cardinal features:
 - Palpable nodular hardness in the muscle
 - Localized spot of tenderness
 - Reproduction of pain by digital pressure
 - Relief of the pain by massage or injection of the tender spot



Fig. 1. Drs. Janet Travell and David Simons, co-authors of the 2-volume textbook *Myofascial Pain and Dysfunction: The Trigger*

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History of Steroid Injection

- Joseph Hollander
 - Steroid injection
 - Synovial analysis



[https://onlinelibrary.wiley.com/doi/pdf/10.1002/1529-0131\(200007\)43:7%3C1430::AID-ANR2%3E3.0.CO;2-K](https://onlinelibrary.wiley.com/doi/pdf/10.1002/1529-0131(200007)43:7%3C1430::AID-ANR2%3E3.0.CO;2-K)

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Common Injections

- Soft Tissue
 - Bursitis
 - Tendonitis
 - Entrapment syndromes
- Joints
 - Effusions
 - Infections
 - Inflammatory
 - OA



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What you/patient should know

- Easy
- Complications
- What is the objective
 - Analgesia
 - Diagnosis
 - Reduce further degeneration
 - Less reliance on meds



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Mrs X

- 62 years
- BMI 36
- Pre-diabetic
- HTN
- Retired



<https://www.mayoclinic.org/diseases-conditions/osteoarthritis/multimedia/knee-arthritis/img-20006349>

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What you should know

- Contra-indications: Absolute/Relative
 - Overlying cellulitis
 - Hx steroid flare
 - Underlying fracture
 - Patient uncertainty
 - Prosthesis
 - Diabetes
 - Anticoagulation
 - >4x

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Equipment

- Needles various sizes
- Syringes various sizes
- Gloves
- EtOH Swabs
- Gauze

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Equipment

- Medication
 - Anaesthetic
 - Lidocaine
 - Bupivacaine
 - Agents
 - Steroids (Depo-Med, Triamcinolone)
 - Hyaluronic Acid
 - Platelets

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Technique

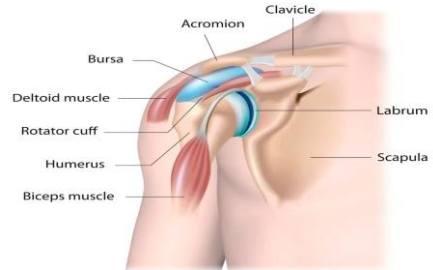
- 3 preps
 - Patient prep
 - Site prep
 - Mark anatomy
 - Skin
 - Aseptic technique
 - Post injection Care/Info
 - Steroid flare
 - Level of activity post injection

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Complications

- Bleeding
- Infection
- Hyperglycaemia
- Soft tissue atrophy
- Tendon rupture

Shoulder



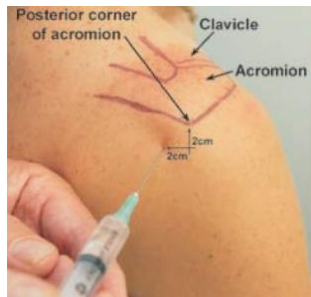
<https://sportssurgerychicago.com/shoulder-anatomy-injuries-pain-westchester-oakbrook-hinsdale-il/>

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Shoulder

- Gleno-humeral
- Sub-acromial
- AC joint



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Shoulder/Sub acromial



Aaafp.org

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Shoulder/subacromial

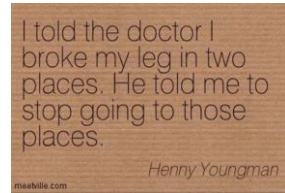
- Anterior approach
- 20 degrees ext rotation
- Aim post, angle laterally



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Shoulder Subacromial

- Post. Approach vs Ant Approach
- Prospective RCTs
- Subacromial Impingement approaches equal
Kang et al



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Shoulder/AC joint



<https://berkshireshoulders.co.uk/treatment/acromioclavicular-joint-acj/>



Aafp.org

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Shoulder



<https://www.hss.edu>



boneandspine

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Shoulder



<https://www.orthobullets.com/shoulder-and-elbow>

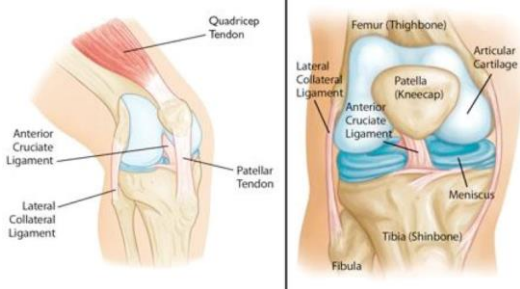
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Knee

- Approaches:
 - Medial (retro-patellar)
 - Lateral (retro-patellar)
 - Supra-patellar bursitis
 - Infra-patellar bursitis
 - Pes Anserine bursitis

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Knee



<https://orthoinfo.aaos.org/en/diseases--conditions/common-knee-injuries/>

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Knee

- OA
- Gout/pseudogout
- Meniscal tears
- RA/Connective tissue diseases

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Knee



https://www.youtube.com/watch?v=_Un4t4q1jvs

Knee



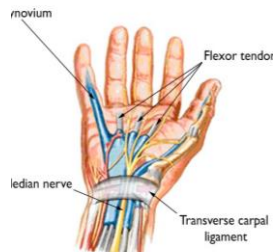
http://www.apollomedicine.org/viewimage.asp?img=ApolloMed_2018_15_4_201_246904_f1.jpg

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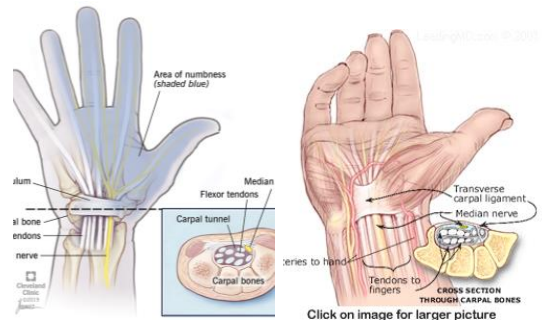
Carpal Tunnel

- What is it?
- Who?
- Dx
- Rx options



<https://orthoinfo.aaos.org/en/diseases-conditions/carpal-tunnel-syndrome/>

Carpal Tunnel



<https://my.clevelandclinic.org/health/diseases/4005-carpal-tunnel-syndrome>

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Carpal Tunnel



<https://www.aafp.org/afp/2003/0215/p745.html>

The evidence

- CT: Systematic reviews of RCTs: steroid injection provides > clinical improvement at one month compared with placebo ⁽¹⁰⁾
- OA: World Journal Orthopedics 2014
 - corticosteroid superior to placebo up to 26wks ⁽¹²⁾
 - hyaluronic acid⁽¹³⁾. Tsai *et al.* Rat model⁽¹⁴⁾. Safe ⁽¹⁵⁾, Efficacy 5-13 wks ⁽¹⁶⁾, Conflict ⁽¹⁷⁾
 - platelet rich plasma ⁽¹⁸⁾
 - Efficacy Kon et al.,⁽¹⁹⁾.
 - Newer comparative studies ⁽²⁰⁾

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Take Away

- Wait times
- Diagnostic
- Therapeutic
- Analgesia
- Minimal equipment
- Complications rare
- Reassuringly easy



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- ▶ FMF app Session #: **T275**
- ▶ Fmf.cfpc.ca Session Name: **Intra-articular
Injections in Primary Care**

**YOUR FEEDBACK IS
IMPORTANT TO US!**

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