

# Shoulder: Bursitis to Frozen



**Assessment & Evidence Based Management**

## Zoom Hygiene



- Keep zoom 'running'
- Keep your Microphone mute
- Set your zoom name
- Use speaker view
- 'Pin' the therapia screen/window
- Use 'chat' function to 'ask questions'
- Engage & ask questions and make the most of it :-)

# Why Shoulder?



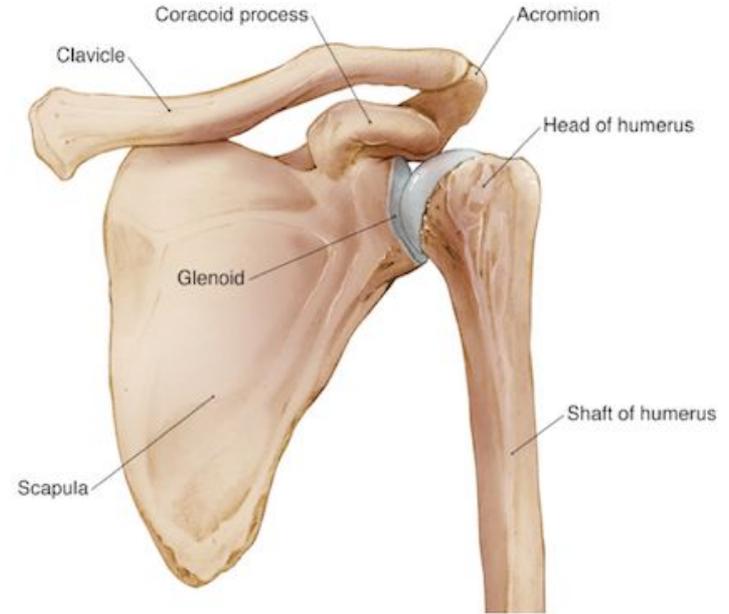
- Most commonly injured
- Most mobile joint (at cost of stability)
- Active or Sedentary
- Cause: trauma v/s postural
- Part of larger dynamic chain: often associated with neck & back
- Conditions Spectrum: mild impingement >> Chronic tear/FS
- Need to incorporate full body rehabilitation

(Liaghat et al 2022, Reijneveld et al 2016, Bolia 2021, Diercks 2014)

# Normal Anatomy and Movement

## Normal anatomy and movement

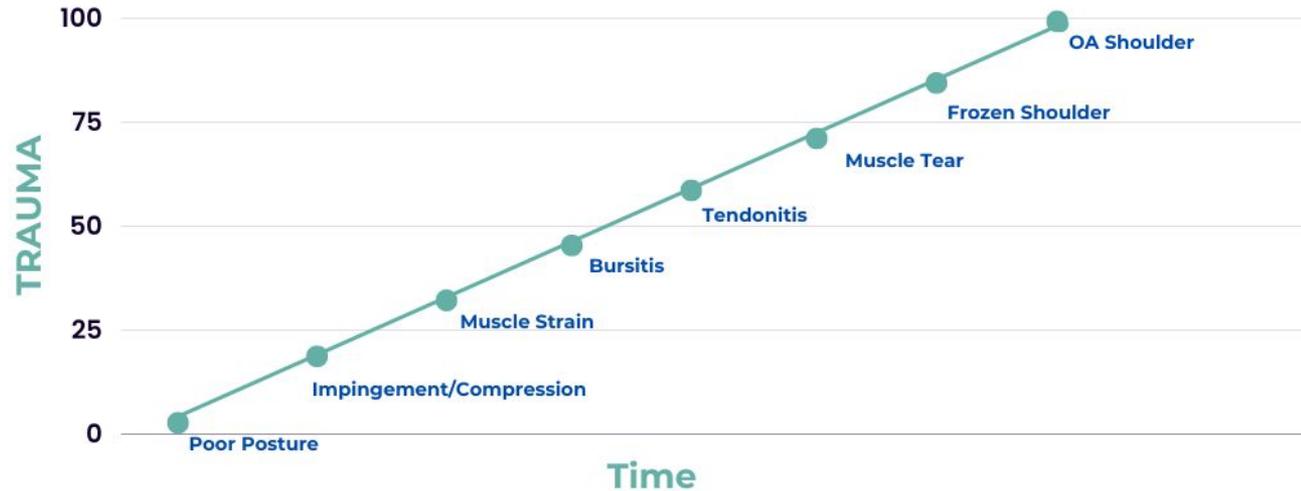
- 4 joints (GHJ, SCJ, ACJ, STxJ)
- **Rotator cuff (Sup, Inf, Tm, Ss)**
- **Biceps/triceps**
- **Bursa**
- **Scap-Tx muscles: Pect, Latt, Rl  
Trap, LS, SA**
- **Physiological Movement v/s  
Anatomical movements**
- **Let's move our shoulders..!**



# Shoulder problem: 'a snapshot in time' on a spectrum

## Common dysfunctions/conditions

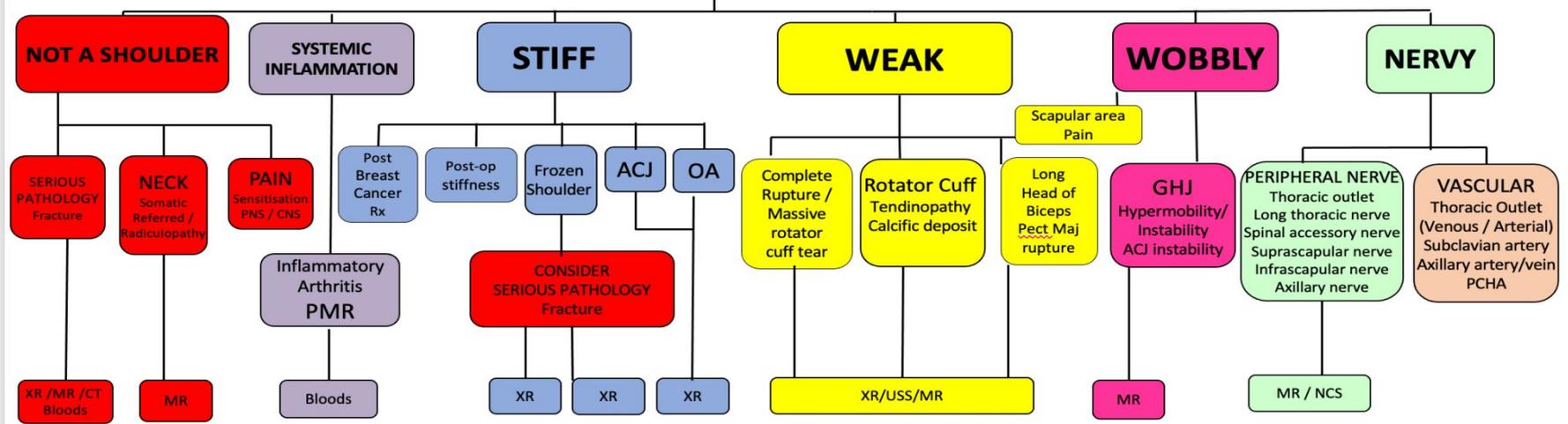
- Poor posture
- Impingement
- Muscle strain
- Bursitis
- Tendonitis
- Muscle tear
- Frozen Shoulder
- OA shoulder



The problem 'can improve' on this spectrum with treatment or 'corrective measures'

# Assessment of Shoulder conditions can be complex..!

## SHOULDER ASSESSMENT FRAMEWORK



## LISTENING TO THE PATIENT'S STORY

**ASSESSMENT OF NERVOUS SYSTEM INVOLVEMENT**

Reflexes	Unusual Patterns	Motor testing
Hyperalgesia	Altered sensory thresholds: vibration, thermal	Skin condition
Allodynia	Neurodynamic sensitivity	CNS / UMN testing

**ASSESSMENT OF PSYOSOCIAL IMPACT**

Attitudes	Compensation	Family	Catastrophising	Impact of events / PTSD
Beliefs	Expectations	Diagnosis	Work	Fear-avoidance Social support
Behaviours	Emotions	Self efficacy	Sleep	Culture

**PAIN** (as an expression of what is happening in the nervous system)

# Common Signs to help identify the presentation

	Shoulder Impingement	Shoulder Bursitis	Frozen Shoulder
Common findings	<p><b>Posterior shoulder pain/tightness - common</b></p> <p>Muscle imbalance</p> <p>Rotator cuff weakness</p> <p>Clicking sounds</p>	<p><b>Painful arc: 70-120 deg</b></p> <p>Limited OHA, catching</p> <p>Localised swelling, tenderness</p> <p>Interrupted sleep</p>	<p><b>Approx 50+ years old</b></p> <p><b>X-ray findings normal</b></p> <p>Shoulder movement decreased by 25% in 2 or more planes (Abd, ER)</p> <p>At least 1 month duration</p>
Common causes	<p><b>Repetitive OH ADL</b></p> <p><b>Posture</b></p> <p>Weight bearing on shoulder</p> <p>Most common in the athlete population</p>	<p>Activities/posture that cause swelling or inflammation: <b>FHP, ergonomics, overload</b></p> <p>Other uncommon types include: <b>Infection, trauma</b></p>	<p><b>Unknown, spectrum...?</b></p> <p>Usually occurs patients who are older than 40</p> <p>Inflammation?</p> <p>Thickening and contracture of capsule</p>

## A case study

49 yo Male (Manager)

- L) Shoulder/neck pain for 8/52
- Pain: 6-7/10
- **No h/o trauma, incident, injury**
- Agg: reaching, HBB, OHA
- Ease: painkillers, rest

H/o: Shl injury 10yrs ago, 'tennis'

- Pain running down arm
- Dr/Surgeon > US > supra tear
- Advised: **rest, 'avoid overhead ADL'**
- Took 6-7 months to recover

**Fitness: Tennis stopped after episode, rides bike now**



# Physical Assessment

Posture & Function:

- **Tx Kyphosis (1 shoulder higher)**
- Cx lordosis & Shoulder issues (go together...!)

ROM:

- **Shoulder limited Ab, Flx, HBB, HBH,**
- Cervical: stiff Rot & Thoracic: stiff Ext/Rot

Muscle imbalance:

- **Tight: UT, Pect, SOE**
- Weak: Supra, ER, Rhombi

Special test: **Empty can, Bursa compression testing**

**Ergonomic assessment** often needed for Workplace related injuries

Consider: Referred symptoms (Neural), **Core strength...?**

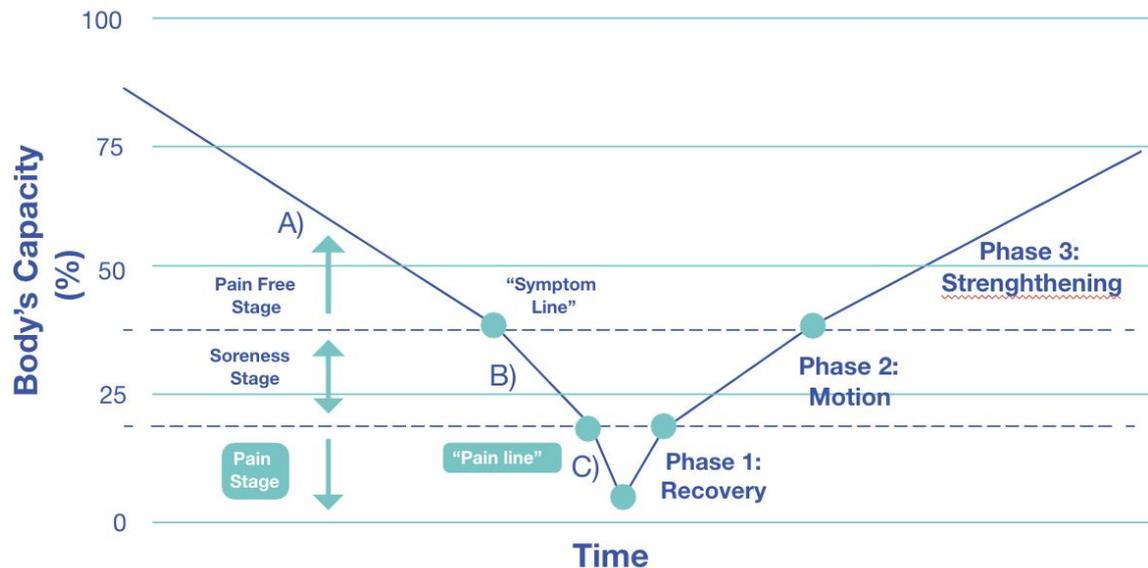
# Goals of conservative treatment

- Patient Education: ‘various causes’ (Diercks 2014, Mckenzie 2021)
- Stabilise & Decompress Shoulder (Diercks 2014)
- Improve blood circulation/DN (Diercks 2014, Bazzaz-Yamchi et al. 2021)
- Reduce spinal stiffness (Mckenzie 2020, Mckenzie 2021)
- Stretch tight muscles (Liaghat et al 2022, Bolia 2021)
- Scapula strength exercises (Reijneveld et al 2016, Bolia 2021, Diercks 2014)
- Full body strength (Bolia 2021, Diercks 2014,)
- Posture correction, Workstation (Diercks 2014, Mckenzie 2021)
- ?.....Cortisone

**Treat the MOI & Strengthen for long term stability**

# Three Phases of Shoulder Rehab/Strengthening

1. Prepare the body + relieve the symptoms
2. Targeted strengthening + symptoms free
3. Active strengthening + lifestyle changes



## Phase 1: Prepare the body

- **Education: posture correction in sitting/ADL** (Bolia 2021, Diercks 2014, Mckenzie 2021)
- **Dry needling to improve blood circulation** (Bazzaz-Yamchi et al. 2021)
- **Mobilisation loosen up GHJ, Cervical, Scap-Tx** (Bolia 2021, Diercks 2014, Mckenzie 2020, Mckenzie 2021)
- **Gentle HEP** (Mckenzie 2021)
- **Brace & taping** (Bolia 2021, Diercks 2014)



## Phase 2: Targeted Strengthening/Stretching

- Stretch tight muscles (Pect, UT, ect.) (Bolia 2021, Diercks 2014)
- Strengthen Core muscles (Sengul et al. 2021, Stuber et al. 2014, Yu et al. 2023)
- Functional training (Weight bearing, Overhead, etc)



## Phase 3: Active Strength + Lifestyle

- Full body strength (Prat-Luri et al. 2023)
- Posture correction, Workstation (Kripa & Kaur 2021, Mckenzie 2021)
- Motor control ex, Clinical Pilates, Yoga, Swimming (Ibrahim et al. 2023)
- Stretch regime before/after Gym (Nwodo et al. 2022)
- Active Lifestyle (stretch frequently)



## Take Home messages:

- **Patient understanding** and compliance is the key to success
- Shoulder issues due to posture issues are very common
- ‘Avoid aggravating movement’ is not enough
- Conditions are usually a **snapshot on a spectrum**
- **Identify trauma v/s developmental/postural**
- Addressing of **risk factors for long term recovery**
- Functional strength is important
- Full Rehab includes: Neck, Back, Shoulder, Pelvis, Ergonomics

# References:

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Lumbar Spine. Part A: The Mckenzie Institute: Centre for Postgraduate Study in Mechanical Diagnosis and Therapy (2020)

Cervical and Thoracic Spine. Part B: The Mckenzie Institute: Centre for Postgraduate Study in Mechanical Diagnosis and Therapy (2021)

Polestar Pilates 2014, Polestar Pilates: Professional Education, Comprehensive Levels 1-3, Comprehensive Levels 4-6, Teaching to heal through movement.

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Stuber K.J., Bruno P., Sajko S. & Hayden J.A. (2014). Core stability exercises for low back pain in athletes: A systematic review of the literature. *Clinical Journal of Sport Medicine*, no pagination. <https://doi.org/10.1097/JSM.000000000000081>

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Salik Sengul Y., Yilmaz A., Kirmizi M., Kahraman T. & Kalemci O. (2021). Effects of stabilization exercises on disability, pain and core stability in patients with non-specific low back pain: A randomized controlled trial. *Work (Reading, Mass.)*, no pagination. <https://doi.org/10.3233/WOR-213557>

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# Thank You

What information do you need...?

How can we help Further..?

## Useful Links:

Therapia Physiotherapy & Pilates:

<https://www.therapia.com.au/>

Therapia Blogs:

<https://therapia.com.au/conditions-we-treat/shoulder-pain/>

<https://www.therapia.com.au/blogs/>

## **Common related conditions (Differential diagnosis):**

- Cx facet presentations
- Headaches
- Radicular syndrome
- UL weakness >>> UL conditions (tennis elbow, golfer's elbow, etc.)
- Thoracic conditions: kyphosis, scoliosis