



# Clinical Weekly - 141<sup>st</sup> Edition

## #JOURNALTUESDAY - by Abi Peck

**Sham surgery versus labral repair or biceps tendodesis for type 2 SLAP lesions of the shoulder: a three-armed randomised clinical trial**

[Download here](#)

### 1. What is a SLAP lesion?

It is a labral tear in the SLAP (superior labrum anterior-posterior) area of the shoulder where the long head of biceps tendon attaches.

### 2. What causes a SLAP lesion?

Shoulder dislocation, forceful pull on the arm, weight lifting, throwing injury or tackling.

### 3. What is a Bankart lesion and how does this differ?

- Soft tissue: Lesion in the anterior glenoid labrum, which is normally caused by anterior dislocation.
- Bony injury: anterior inferior # of glenoid rim

### 4. What are the most common interventions for this lesion and what does it involve?

- Keyhole surgery: Debridement = shaving away some of the glenoid labrum + reattaching labrum – sutures and anchors
- Bicep tendodesis – if long head of biceps tendon is torn during SLAP lesion, it is reattached to the humerus inferior to tubercular groove and held in place with anchors.

### 5. How successful was surgery compared to SHAM for the three groups mentioned in this study?

No statistically significant difference between all 3 groups. All the groups' outcomes improved from the initial assessment after surgery/SHAM.

### 6. Could this study be useful clinically?

Yes, this study could provide justification for patients as to why surgery may not always be recommended initially based on MRI findings

## #CLINICALSKILLSFRIDAY - by Josh Featherstone

### Cranial Nerve 4 – Trochlear nerve

#### General anatomy and motor function

The trochlear nerve is a somatic efferent nerve (somatic nervous system = control of voluntary movement) and is similar to the oculomotor nerve as it is entirely motor in function. It is closely integrated with both the 3rd and 5th cranial nerve to enable ocular motility and alignment.

The trochlear nerve innervates only a singular muscle called the superior oblique muscle and its role is to abduct, depress and internally rotate the eye.

The trochlear nerve is unique compared to the other cranial nerves in that

- It exits the brainstem posteriorly as opposed to anteriorly
- It innervates the superior oblique muscle contra-laterally





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#CLINICALSKILLSFRIDAY - by Josh Featherstone

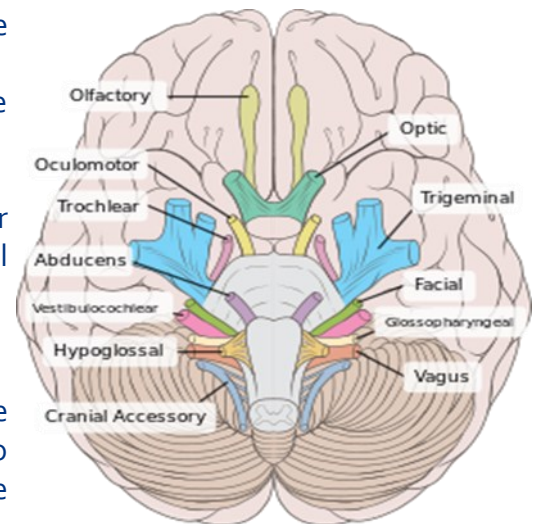
## Diseases of the trochlear nerve

Vertical diplopia = weakness of downward movement of the eye caused by injury.

- The affected eye will drift upwards in comparison to the unaffected eye.
- There will be two visual fields
- Head tilting with chin tucked in maybe used to compensate for visual field discrepancy in an attempt to regain a singular visual field

Torsional diplopia = weakness of torsional rotation of eyeball.

- Torsion is a normal response to tilting the head sideways. The eyes automatically rotate in an equal and opposite direction, so that the orientation of the environment remains unchanged i.e vertical things remain vertical.
- Torsional diplopia will mean that two different visual fields can occur when the head is tilted. To compensate, patients with trochlear nerve palsies tilt their heads to the opposite side in order to fuse the two images into a single visual field.
- The characteristic appearance of patients with fourth nerve palsies (head tilted to one side, chin tucked in) suggests a diagnosis, but other causes must be ruled out such as torticollis.
- Torticollis (diagnosis for basically a painful neck which in latin means tortus = twisted and collum = neck) can present as similar characteristics due to pain being felt when trying to turn or orientate the head toward neutral.



## Trochlear nerve testing for therapists.

See last week's edition of cranial nerve testing for oculomotor function. The same test can be used to determine trochlear nerve dysfunction.

On next weeks #ClinicalSkillsFriday we will be looking at:

- Anatomy and function of cranial nerve 5
- Diseases of cranial nerve 5
- Nerve testing for therapists of cranial nerve 5

I bet you cannot wait....I sure can't!!  
#thoughtprovoking

## References:

- Butler DS (2000) 'The sensitive nervous system' Australia: Noigroup publications  
 Herzau V (2007) 'Infranuclear disorder of ocular motility' In: Scheifer U, Wilhelm H, Hart W Clinical neuro-ophthamology (137 – 152) Germany: Springer  
 Snell RS (date) 'The cranial nerve nuclei and their central connections and distributions' In: Snell RS Clinical Neuroanatomy





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#NEWSOFTHEWEEK - by Liz Wright

## 1. Should exercises be painful in the management of chronic musculoskeletal pain? A systematic review and meta-analysis

A new form of exercise therapy focused on loading and resistance programmes that temporarily aggravates a patient's pain has been proposed. This review compares the effect of exercises where pain is allowed/encouraged compared with non-painful exercises on pain, function or disability in patients with chronic musculoskeletal pain within RCTs. Results indicated protocols using exercises (typically higher loads and dose of exercise) into pain offer a small but significant benefit over pain-free exercises in the short term, with moderate quality of the evidence for outcomes of pain in chronic musculoskeletal pain in adults. No difference at medium-term or long-term follow-up is apparent, with moderate to low quality of evidence. This demonstrates pain during therapeutic exercise need not be a barrier to successful outcomes.

<http://bit.ly/2siMe1s>

Clare Ardern  
@clare\_ardern

Exercise is THE BEST pain killer we have. Brilliant @ewa\_roos at #FSPAcongress

**#TWEETOFTHWEEK**- The evidence based sports physiotherapy congress in Finland, organized by the Finnish Sports Physiotherapists Association (search #FSPAcongress) was held in Helsinki 9th – 10th June 2017.

Recommendations for

## GLUTEAL TENDINOPATHY

Based on Physio Edge podcast 63 with Benoy Mathew @function2fitnes

### Bursitis or Tendinopathy?

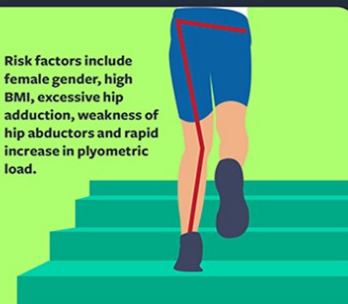
Trochanteric bursitis is present in only minority of patients (around 20%) with chronic lateral hip pain on ultrasound imaging. The main cause of pain is a combination of pathology involving the gluteus medius and minimus tendons (Long et al. 2013).

Pain is mainly localised around the greater trochanter region but can radiate into the posterolateral hip region, into the groin or down the lateral thigh but rarely below the knee.

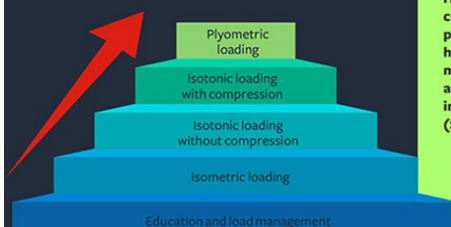
4:1 female to male ratio



Risk factors include female gender, high BMI, excessive hip adduction, weakness of hip abductors and rapid increase in plyometric load.



### Treatment



Holding a dumbbell on the contralateral side, when performing a forward lunge highly activated the gluteus medius (90% MVIC), and is an effective exercise to increase GMed strength (Stastny et al. 2015).



### Assessment

Grimaldi et al. (2017) concluded that patients with lateral hip pain who don't have palpable tenderness over the greater trochanter are unlikely to have gluteal tendinopathy.

### References

- Grimaldi et al. (2017). Utility of clinical tests to diagnose MRI-confirmed gluteal tendinopathy in patients presenting with lateral hip pain.
- Long et al. (2013). Sonography of greater trochanteric pain syndrome and the rarity of primary bursitis.
- Stastny et al. (2015). Does the dumbbell carrying position change the muscle activity in split squats and walking lunges?

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clinicaledge.co @davidkpope

## 2. Treatment of posterior hip and gluteal pain

Infographic based on episode 63 of the Physio Edge podcast (Benoy Mathew and David Pope) explores common causes of posterior hip pain; gluteal tendinopathy; deep gluteal syndrome and differentiation.  
<http://bit.ly/2s5Obfa>



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## #FRACTUREOFTHEWEEK BY SAM ACKERLEY

### Acromioclavicular Dislocations

Acromioclavicular joint injuries are classified most commonly using the 6-grade system described by Rockwood (1998).

**Type I:** clavicle not elevated with respect to the acromion

AC ligament: mild sprain      Joint capsule: intact  
CC ligament: intact              Deltoid muscle: intact  
Trapezius muscle: intact

**Type II:** clavicle elevated but not above the superior border of the acromion

AC ligament: ruptured              Joint capsule: ruptured  
CC ligament: sprain detached      Deltoid muscle: minimally detached  
Trapezius muscle: minimally detached

**Type III:** clavicle elevated above the superior border of the acromion but coracoclavicular distance is less than twice normal (i.e. <25 mm)

AC ligament: ruptured              Joint capsule: ruptured  
CC ligament: ruptured              Deltoid muscle: detached  
Trapezius muscle: detached

**Type IV:** clavicle displaced posteriorly into trapezius

AC ligament: ruptured      Joint capsule: ruptured  
CC ligament: ruptured      Deltoid muscle: detached  
Trapezius muscle: detached

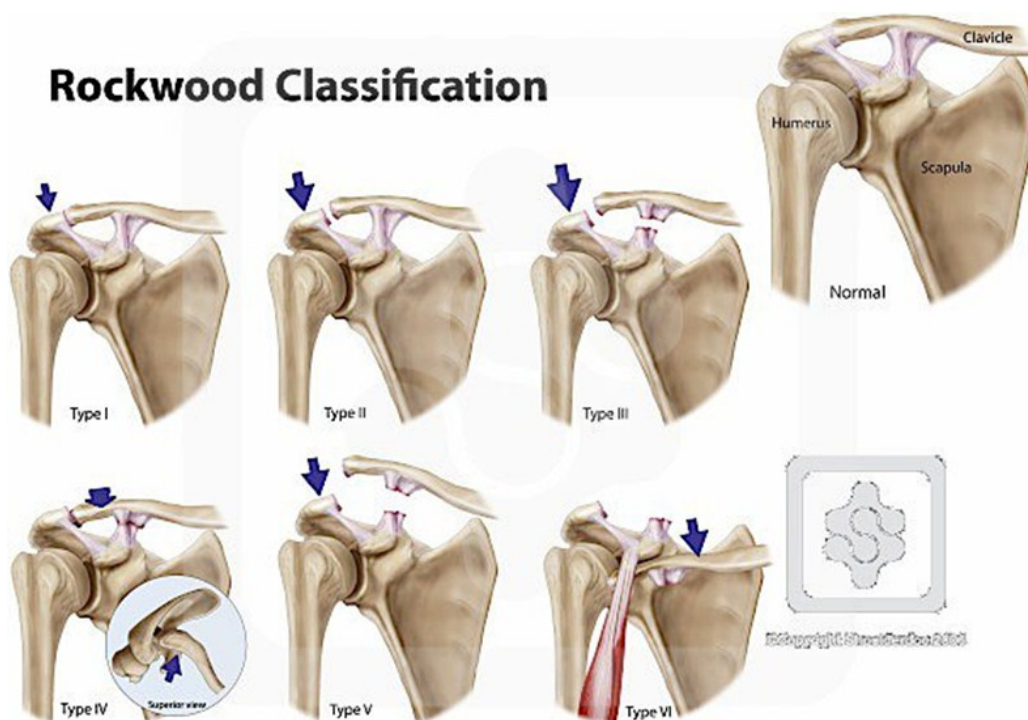
**Type V:** clavicle is markedly elevated and coracoclavicular distance is more than double normal (i.e. >25 mm)

AC ligament: ruptured      Joint capsule: ruptured  
CC ligament: ruptured      Deltoid muscle: detached  
Trapezius muscle: detached

**Type VI:** clavicle inferiorly displaced behind coracobrachialis and biceps tendons, which is rare

AC ligament: ruptured      Joint capsule: ruptured  
CC ligament: ruptured      Deltoid muscle: detached  
Trapezius muscle: detached

### Rockwood Classification





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### Articulations

Acromioclavicular (AC) joint is a plane synovial joint of the pectoral girdle lined with hyaline cartilage. A fibrocartilaginous wedge-shaped articular disc separates the two articular surfaces

### Attachments

No muscles act directly on this joint. In turn, it permits passive movements only.

Static stabilisation is provided by:

- Coracoclavicular ligament: main stabiliser
- Superior and inferior acromioclavicular ligaments: reinforce the relatively weak joint capsule.

### Blood supply

Suprascapular and thoraco-acromial arteries

### Mechanism of injury

Acromioclavicular joint injuries usually occur from a direct blow or following a fall onto the shoulder with an adducted arm. This pushes the acromion forcibly inferiorly and medially with respect to the clavicle.

### Symptoms

Soft tissue swelling.



### Rehab/Treatment

Grades I and II: conservative management consists of ice, analgesics and shoulder rest in a sling.

Grade III: the current evidence does not support surgical intervention on grade III injuries as a general rule.

Patients with grade III injuries who require surgical intervention often are particularly thin, require great range of motion or do heavy lifting therefore may benefit from operative repair more so.

Grades IV-VI: surgical internal fixation is typically achieved with a hook plate, which in most cases needs to be eventually removed.

### References

- <https://www.shoulderdoc.co.uk/article/1448>
- <https://radiopaedia.org/articles/acromioclavicular-injury>
- <https://radiopaedia.org/articles/rockwood-classification-of-acromioclavicular-joint-injury>
- [https://www.shoulderdoc.co.uk/images/uploaded/sd\\_rockwood\\_classification.jpg](https://www.shoulderdoc.co.uk/images/uploaded/sd_rockwood_classification.jpg)
- <https://radiopaedia.org/articles/acromioclavicular-injury>

