Clinical Weekly - 143rd Edition

#JournalTuesday - by Abi Peck

Physical examination tests for hip dysfunction and injury

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1. How would you differentiate these conditions mentioned with subjective questioning?

-Location of pain (Groin, lateral hip, thigh pain)
-Onset and irritability of symptoms (sudden, traumatic, gradual)
-Aggs /eases
-General health/ PMH (childhood conditions, female triad, OP/menopause)

2. What are the tests recommended for each of these conditions and how do you perform them? Please practise with colleagues.

A) Osteoarthritis: Trendelenburg
B) Gluteal tendinopathy: FABER-R, Trendelenburg
C) Impingement/ labral tears: FADIR, flexion and MR, Thomas test
D) Femoral #/ stress #: patella pubic percussion test, fulcrum test
E) Sports related groin: single adductor test, squeeze test, bilateral adduction test.

3. How useful are these tests in terms of specificity and sensitivity? What does this mean?

A) Osteoarthritis:
-Trendelenburg = SN: 55%, SP: 70%
B) Gluteal tendinopathy:
-FABER-R = SN: 88%, SP: 97.3%
C) Impingement/ labral tears:
-FADDIR = SN: 94%, SP: 9%
-flexion and MR = SN: 96%, 17%
-Thomas test = SN: 89%, SP: 92%
D) Femoral #/ stress #:
-patella pubic percussion test = SN: 95%, 86%
-fulcrum test = SN: 93%, SP: 75%
E) Sports related groin:
-Single adductor test = SN: 30%, SP: 91%
-squeeze test = SN: 43%, SP: 91%
-bilateral adduction test = SN: 54%, SP: 93%

4. What childhood conditions should you be aware of when assessing a hip joint?

-Perthes disease
-Slipped capital femoral epiphysis
-Hip dysplasia

5. What were the conclusive findings of this paper?

-Limited research on clinical tests for the hip
-More research needs to be conducted on these clinical tests to prove useful

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#ClinicalSkillsFriday - by Josh Featherstone

Cranial nerve 6 – Abducens Nerve

General anatomy and motor function

The Abducens nerve is a somatic efferent nerve (somatic nervous system = control of voluntary movement) and is similar to the trochlear and oculomotor nerve as it is entirely motor in function.
The Abducens nerve innervates only a singular muscle called the lateral rectus muscle of the eye and its role is to abduct the eye outwards.

Emerging from the brainstem, the Abducens nerve has quite an extensive path in the cranium until eventually exiting through the superior orbital fissure in the eye socket from the cavernous sinus and innervating the lateral rectus muscle. With this in mind, the abducens nerve is vulnerable to injury at various levels.

Diseases of the Abducens nerve

Abducens nerve palsy

Abducens nerve palsy leads to a loss in abduction of the eye, causing diplopia due to the unopposed action of the medial rectus muscle. The eye will therefore be pulled toward midline.

Causes (non-exhaustive):

Variety of cavernous sinus pathologies
Trauma
Intracranial Aneurysms
Atherosclerosis
Hypertension
DM neuropathy
Tumor
Stroke
MS

Abducens nerve function testing for therapists.

Using the same test as previously mentioned for cranial nerve 3 and 4; with the patient sitting in front of you, ask them to follow your finger with their eyes both upward, downward, medially and laterally without their head moving also. Whilst doing so assess the smoothness of eye movement, and speed of eye movement as well as any nystagmus of the eyes when at rest. As mentioned above, the occulomotor nerve also has a parasympathetic supply for the pupil of the eye that are responsible for pupillary actions therefore it is also important to assess pupillary responses, dilation and constriction. If interested on how to test this also then please refer back to last weeks weekly in which assessment of pupillary action was covered.

On next weeks **#ClinicalSkillsFriday** we will be looking at:
Anatomy and function of cranial nerve 7
Diseases of cranial nerve 7
Nerve testing for therapists of cranial nerve 7

#thoughtprovoking

References:

Butler DS (2000) 'The sensitive nervous system' Australia: Noigroup publications
Baidoo EA, Tubbs SR (2015) 'Anatomy of the Abducens Nerve' In: Tubbs RS, Rizk E, Mohammadali MS, Loukas M, Barbaro N, Spinner RJ Nerves and Nerve Injuries (351-355) London: Elsevier
Wikipedia (N.D) Abducens Nerve Online at: https://en.wikipedia.org/wiki/Abducens_nerve [Accessed on: 24 June 2017]

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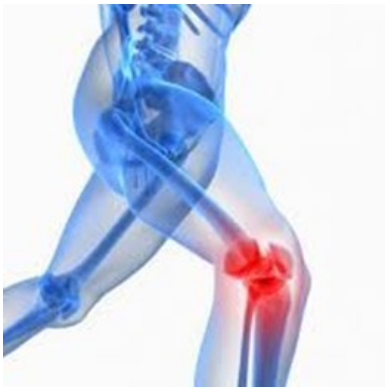
#NewsOfTheWeek - by Liz Wright

1. Effectiveness of conservative interventions in shoulder impingement, including exercise, manual therapy & injections

The aim of this systematic review and meta-analysis of RCTs was to provide an overview of the effectiveness of all relevant non-surgical interventions for adults with shoulder impingements and outcomes on impairment based on an a priori stated hierarchy. Key findings include exercise was superior to non-exercise interventions; specific exercises were superior to generic exercise, when combined with exercise, manual therapy was superior to exercise alone (only in the shortest follow-up), corticosteroid injections are superior to no treatment but unclear how they compare with exercise, ultrasound guided injections have been reported to be superior to non-guided. Evidence was low quality and requiring caution from clinicians applying this evidence. http://bjsm.bmj.com/content/bjsports/early/2017/06/19/bjsports-2016-096515.full.pdf

2. Hip muscle rate of force development is impaired in females with patellofemoral pain



To compare rate of force development i.e. power (RFD) and isometric muscle strength of the hip abductors and extensors between females with and without patellofemoral pain. Females with PFP have deficits in isometric strength and RFD in hip abduction and extension. RFD deficits (power) are greater than strength deficits which may highlight their potential importance. Impaired rate of force development may drive excessive hip motion in females with PFP. Therefore both power and strength exercises should be considered during exercise rehabilitation.
http://bit.ly/2sjoxPI

3. Speed of recovery after arthroscopic rotator cuff repair

This study aimed to outline the time taken to achieve maximum improvement (plateau of recovery) and the degree of recovery observed at various time points (speed of recovery) for pain and function after arthroscopic rotator cuff repair. Outcome measures were analysed for preoperative, 3-month, 6-month, 1-year, and 2-year intervals. The plateau of maximum recovery after rotator cuff repair occurred at 1 year with high satisfaction rates at all time points. At 3 months, approximately 75% of pain relief and 50% of functional recovery can be expected. Larger tears have a slower speed of recovery.
http://bit.ly/2tTsDD2

4. The importance of dose in land-based supervised exercise for people with hip osteoarthritis. A systematic review and meta-analysis

A systematic review with meta-analyses of supervised exercise programmes in people with symptomatic hip OA was conducted. The results show that land-based, supervised exercise interventions with high compliance to the American College of Sports Medicine's (ACSM) recommendations result in significantly larger improvements in pain and non-significantly larger improvement in self-reported physical function compared with land-based, supervised exercise interventions with uncertain compliance.
If patients comply exercise helps- what methods do you use to aid compliance?
http://bit.ly/2thHoSX

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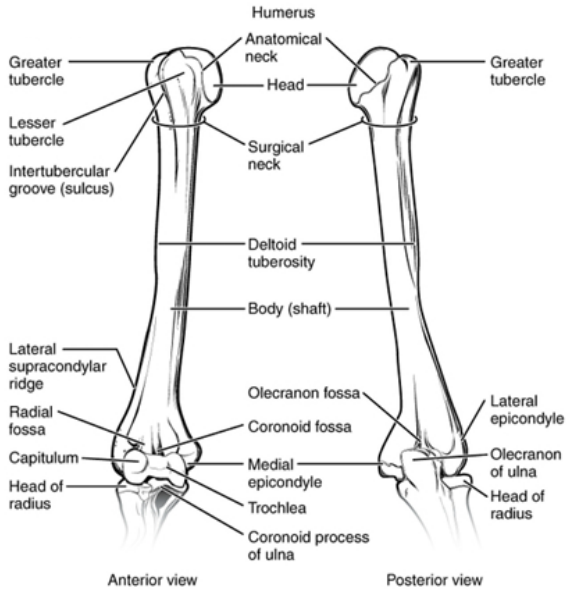
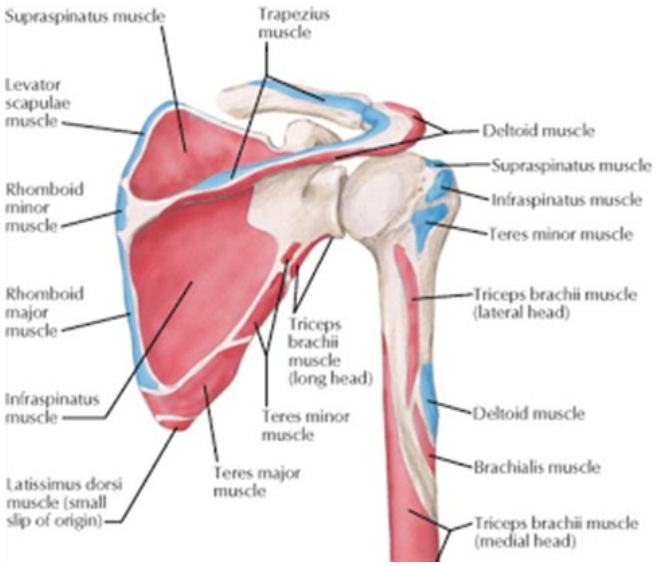
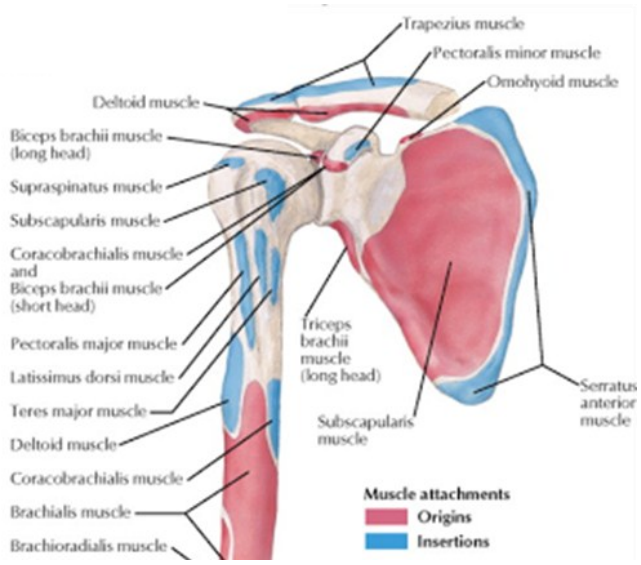
#FractureOfTheWeek by Sam Ackerley



Proximal humeral fracture
Accounts for 5% of all fractures.

Symptoms
Pain, swelling, and discoloration of the skin at the site of the fracture.
Bruising appears a few days after the fracture.
Damage to the neurovascular bundle of the arm may cause loss of nerve function and diminished blood supply beneath the fracture.
Will often cause a loss of shoulder or elbow function.





Articulations
Proximally - head of the humerus with the glenoid cavity of the scapula

Attachments (Proximally)
Greater tubercle: insertion of the supraspinatus superiorly, infraspinatus intermediately, and the teres minor inferiorly
Lesser tubercle: insertion of the subscapularis
Bicipital groove: located between the greater and lesser tubercles, is the insertion of the latissimus dorsi and contains the long head of the biceps brachii
Deltoid tuberosity: insertion of the deltoid
Anterior-medial surface: insertion of the latissimus dorsi superiorly, partial insertion of the coracobrachialis intermediately, and origin of the brachialis inferiorly
Lateral border: partial insertion site of the teres minor and partial origin to the triceps brachii
Medial border: insertion of the teres major and coracobrachialis

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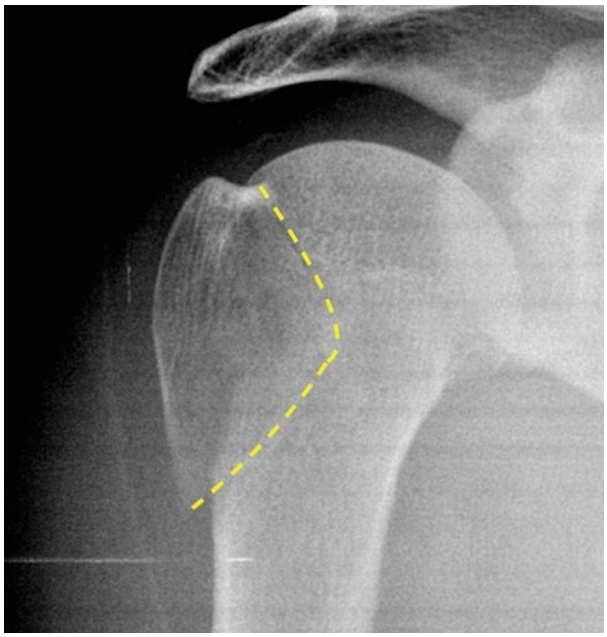

Greater tuberosity

Surgical neck of humerus

Mechanism of injury
Largely in older patients following a relatively innocuous fall.
Younger patients usually present following a high-trauma incident, e.g. a motor accident or fall from height fall on an outstretched arm.
Indirect forces transmitted through the proximal humerus and shoulder are the cause of most fractures.

Population
The majority of proximal humeral fractures occur in the elderly (mean age 65 years) with ~70% occurring in women. Of these 90% occur at home due to a fall.
There is a slightly higher incidence in the younger population where trauma is the cause.

Clinical tests
None

Rehab/ Treatment
In almost all cases undisplaced fractures are treated conservatively.
For displaced fractures operative open reduction and internal fixation with a variety of intramedullary nails, plates and screws and K-wires.
Hemi-arthroplasty is also an option especially for three and four part fractures, where the risk of malunion and avascular necrosis are high .

Resources
https://radiopaedia.org/articles/humerus
https://radiopaedia.org/articles/proximal-humeral-fracture-1
https://radiopaedia.org/articles/humerus
http://cmsruanatomy.blogspot.co.uk/2013/04/muscle-origin-and-insertion-are-terms.html