Clinical Weekly - 149th Edition

#JournalTuesday - by Abi Peck

Article: Femoral neck stress fracture: the importance of clinical suspicion and early review.

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1. **What is a stress fracture?**
   -Break in the bone
   -Most common sites: tibia and metatarsals
   -Most commonly in the femoral neck of the hip

2. **What are the symptoms?**
   -Aching pain in the groin/lateral hip with activity
   -Eases with rest
   -Restricted movements in the hip
   -Leg shortening

3. **What are the risk factors?**
   -Female triad
   -Eating disorders or lack of vitamin D/Calcium
   -Osteoporosis
   -Tumours
   -Steroids
   -Infections
   -Overloading

4. **Why should stress fractures be treated/ managed appropriately?**
   -Can become displaced (requires surgery)
   -Can lead to AVN

5. **How should a stress fracture be managed?**
   -Undisplaced: avoid aggravating factors, modify activity levels
   -Displaced: surgery – screws/plates

6. **What would be the imaging of choice?**
   -Xray doesn't always show a stress fracture acutely. It may be several weeks to months before they become apparent.
   -MRI scans can normally visualise a stress fracture within 1 week of injury

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#ClinicalSkillsFriday - by Josh Featherstone

Cranial nerve 12 – Hypoglossal Nerve

General anatomy and function

The hypoglossal nerve is solely motor in function. The nerve arises from the brain stem as a number of small rootlets pass through the hypoglossal canal, down through the neck and eventually arising at the tongue. There are two hypoglossal nerves in the body: one on the left, and one on the right.

The hypoglossal nerve innervates all the extrinsic and intrinsic muscles of the tongue, except for the palatoglossus which is innervated by the vagus nerve and its purpose is to elevate the tongue. Control of tongue movement is important as it is required for speech and swallowing.

Diseases of Hypoglossal nerve function

Damage to the nerve or neural pathways can affect tongue movement and appearance with the most common sources of damage being injury from:

-Trauma
-Surgery
-Motor neuron diseases.

Typically a patient may report difficulties with manipulating food in their mouth and difficulties with speech.

Testing of accessory nerve function for clinician's

Ask the patient to stick their tongue out and look for any deviations or differences in appearance.
Strength can be assessed by asking the patient to push their tongue left and right into a tongue blade

References:
Butler DS (2000) 'The sensitive nervous system' Australia: Noigroup publications
Wikipedia (2017) Hypoglossal nerve Online at: https://en.wikipedia.org/wiki/Hypoglossal_nerve [Accessed on: 04 August 2017]

That is the end of our cranial nerve series. Many thanks for reading and a big thank you to Josh for providing us with such interesting and useful content. To replace our Friday segment, we will now be focussing on fractures, linking in nicely to our #FractureoftheWeek section. Introducing #FractureFriday!

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#NewsOfTheWeek - by Liz Wright

1 . When chronic pain is not chronic pain: a viewpoint.
This viewpoint poses the question, why, when we as a profession appear to have been so wrong before (according to the new gurus), do we appear to think we are right this time? There is a current move in physiotherapy towards the biopsychosocial management of chronic pain, which some may say has led to a less hands-on approach, as awareness of central sensitization leads to specific management trends and a move away from pathoanatomical considerations. The viewpoint uses a case study to illustrate this phenomenon, which reflects 3 decades of physiotherapy 'fashion'. The authors explain how any management approach can never be 100% right for every patient, persistent pain may well be indicative of central sensitization but there are subgroups of patients with chronic pain who display little/no central sensitization, and there is countless cases of delayed/misdiagnosis. Evidence base changes daily, and thus may suggest that many things we are sure about today will be questioned in the future. The authors suggest that to abandon appropriate physical examination and clinical reasoning in favour of 'fashionable' trends is foolish. Using the best of the research to guide us, yet at the same time be able to recognize bias, conflicts of interest, and fashionable trends when we see them is recommended. http://www.jospt.org/doi/pdf/10.2519/jospt.2017.0606

2. What I learnt from my stress fracture - London running physio's experience
Scott Newton, an ESP and highly specialised clinician in running rehabilitation, produces this blog to highlight key findings which have influenced his own clinical practice through first-hand experience after sustaining a grade 4 stress fracture to his right sacral ala. Scott Newton reflects on his injury, stating he continued to try and train in exactly the same way as I had before the birth of his daughter and failed to recognise that his life had changed and that him and his partner needed to operate on < 4 hours of solid sleep each night. The consistency of his weekly strength sessions slipped, which may have been a contributing factor. Less resilient muscles fatigue more quickly and are potentially less able to shock absorb when running. As a preventive strategy for re-occurrence he explains the role of monitoring a training workload, guided my Dr Tim Garbett's work (Australian Sports Scientist-see link below). The basic aim is to stay within an acute:chronic workload ratio of between 0.8 and 1.3, the so-called injury prevention 'sweet spot'.
http://londonrunningphysio.com/what-i-learned-from-my-stress-fracture/
http://bjsm.bmj.com/content/50/5/273.info

3. Facilitators and barriers to physical activity in people with chronic low back pain: A qualitative study
One of the main objectives of rehabilitation for people with chronic low back pain is improved adherence to physical activity. This study set out to determine the barriers to physical activity and facilitatory methods for this population. Discussion groups and semi-structure interviews were implemented for those people with non-specific low back pain who were currently involved in specific rehabilitation programmes/seen in primary care setting. 3 themes were identified which posed as barriers; physical; psychological and socio economic factors (see table). Facilitators identified supervision from professionals and group practice improved adherence.

		Individual interviews (n)	Focus group (n)
Physical barriers			
	Low back pain	12	16
	Feeling of disability	5	5
Psychological barriers			
	Psychological impact of the pain	5	9
	Kinesiophobia / fear of pain	10	14
	Lack of perceived benefits	4	6
	Lack of motivation / physical occupation	9	12
	False beliefs	6	3
Socio-occupational barriers			
	Occupational PA: aggravating factor	12	1
	Erroneous medical information	6	4
Environmental barriers			
	Lack of time	5	9
	Immediate family	4	9
Psychological facilitators			
	Will to engage in PA		14
	Desire to recover previous physical aptitude		4
Socio-environmental factors			
	Supervision/Self-exercise training		10
	Follow-up		6
	Group practice		7
	Multimedia supports		4
	Daily life obligations		6
	Notion of pleasure		4
	Weather season		4

n = number of citations

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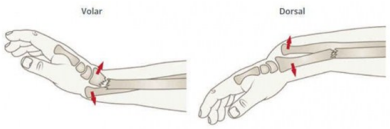
#FractureOfTheWeek by Sam Ackerley

Radial Fractures

Galeazzi fracture dislocation

Fracture of the distal radius combined with dislocation of distal radioulnar joint with an ulna fracture. Primarily occurs in children, with a peak incidence at age 9-12 years. Typically occur due to a fall on an outstretched hand with the elbow in flexion.



Galeazzi fractures are classified according to the position of the distal radius:
Type I: dorsal displacement
Type II: volar displacement

Colles fracture

Colles fractures are very common extra-articular fractures of the distal radius that occur as the result of a fall onto an outstretched hand. They consist of a fracture of the distal radial metaphyseal region with dorsal angulation and impaction, but without an involvement of the articular surface.

Colles fractures are the most common type of distal radial fracture and are seen in all adult age groups and demographics.

They are particularly common in patients with osteoporosis, and as such, they are most frequently seen in elderly women. Younger patients who sustain Colles fractures have usually been involved in high impact trauma or have fallen, e.g. during contact sports, skiing, horse riding

Most Colles occur due to a fall on an outstretched hand with a pronated forearm in dorsiflexion.

Treatment depends on the type of fracture, stability and ability to successfully reduce the fracture. In most cases, these fractures can be treated with closed reduction and cast application.
Malunion, with residual volar displacement of the distal radius results in a cosmetic deformity, referred to as a garden spade deformity. More importantly, it also narrows and distorts the entry to the carpal tunnel and can result in carpal tunnel syndrome.

Chauffeur fractures / Hutchinson fractures / backfire fractures

Intra-articular fractures of the radial styloid process.

These injuries are sustained either from direct trauma typically a blow to the back of the wrist or from forced dorsiflexion and abduction.
The former accounts for its name; trying to start an old-fashioned car with a hand crank sometimes resulted in the crank rapidly spinning backwards (backfire) out of the driver's grasp and striking the back of the wrist

Although these fractures are often undisplaced, they are relatively unstable and often benefit from percutaneous lag-screw fixation .

Other radial fractures:

Essex-Lopresti fracture-dislocations :
Comminuted fracture of the radial head accompanied by dislocation of the distal radioulnar joint (DRUJ). The force of trauma is transmitted down the forearm through the interosseous membrane causing disruption.

Smith fractures (Goyrand/ Reverse Colles fracture):
Distal radius fracture with associated palmar angulation of the distal fracture fragment.

Resources

https://radiopaedia.org/articles/galeazzi-fracture-dislocation
https://radiopaedia.org/articles/colles-fracture
https://radiopaedia.org/articles/smith-fracture
https://radiopaedia.org/articles/essex-lopresti-fracture-dislocation
https://www.aci.health.nsw.gov.au/networks/eci/images/images.css/galeazzi-fracture-classification-image-2.png
http://up.1aim.net/uploads/images/www.1aim.net-9f0b4819ac.jpg