Physio Edge 050 Treating the TMJ and jaw pain with Dr Stephen Shaffer

1. Temporomandibular joint assessment and treatment
2. How do we refer to pathology of the TMJ?
3. Which structures are involved in TMD?
4. How is the Cx spine relevant?
5. How do Sx present?
6. What are associated red flags?
7. What is the tongue blade test?
8. What should we objectively look at?
9. What may patients present with arthrokinematically?
10. What is the treatment for TMD?

and related blog by Adam Meakins: http://tinyurl.com/gqpgqff

This week we are looking at the paper by Budoff et al (2016) ‘The effect of a coracoacromial ligament excision and acromioplasty on the amount of rotator cuff force production necessary to restore intact glenohumeral biomechanics’

**Background**
Subacromial decompression (SAD) is one of the most common shoulder procedures. It involves a release or excision of the coracoacromial ligament and removal of the acromial undersurface.

Although studies have shown benefits of this procedure, there are also many patients who continue to experience significant problems following the surgery.

The coracoacromial ligament and acromial undersurface that are targeted have been shown to be static restraints against anterosuperior and superior glenohumeral translation.

The rotator cuff is one of the major dynamic stabilisers of the glenohumeral joint that prevents excessive translation of the same planes of movement.

**Null hypothesis:** no increase in rotator cuff force production would be necessary to reproduce the anterosuperior and superior translations of intact specimens after coracoacromial ligament excision and acromioplasty.

**Methods**
Nine cadaveric glenohumeral joints were used and rigged up to a custom shoulder testing system. Anterosuperior and superior translation of the humeral head was measured.
Results
Coracoacromial ligament excision and acromioplasty increase the maximum rotator cuff force required to maintain the baseline glenohumeral biomechanics of the intact specimen.

Implications
The forces required by the rotator cuff to maintain glenohumeral biomechanics in this study are similar to those in the presence of a 6cm rotator cuff tear.

During activities which require increased rotator cuff force production e.g. repetitive overhead work or overhead athletic activities, SAD may result in increased muscle fatigue which may limit the speed, agility, power as well as increasing pain levels.

This has the potential to lead to overuse injuries or disadvantages when competing.

Limitations
- Cadaveric study
- Older specimens used which may not represent younger populations who undergo SAD
- Weight of full arm not modelled
- Excludes forces of latissimus dorsi, pec major, scapulothoracic articulation
- Only one position of shoulder function studied

For the next #WHATSNEWFRIDAY- Discussion around the importance of the words we use when talking to patients. Take a look at this blog by Alicia Rayner and send in your thoughts to Jessica.z.miller@ahpsuffolk-cic.nhs.uk to be included in the next edition.

Words of Wisdom from Peter O’Sullivan by Alicia Rayner
http://www.raynersmale.com/blog/2016/7/15/words-of-wisdom-from-peter-osullivan

#NEWSOFTHEWEEK by Joe Russell
1. More doubt around meniscal surgery
A really interesting Danish study looking at over 440 patients with knee pain and how their symptoms relate to their structural pathology. They found no correlation between type of injury and reported symptoms. There was some slight correlation between pain and demographic factors like age, gender, BMI. There is a really good table in this paper looking at rates of pathology in knees. The authors conclude: ‘Our findings question the role of arthroscopic surgery to address structural pathology as a means to improve patient-reported outcomes in patients having surgery for a meniscal tear’

2. ‘General practice physiotherapists’
There has been some great feedback recently to the first point practitioner pilot featured in both the Bury and Haverhill news (see links). NHS England has also stated its commitment to supporting expansion of physiotherapy provision in primary care. Naturally there has been some concern on social media, from some physio’s and GP’s, regarding the risks of clinicians in these settings and that the NHS may be getting some very inexpensive practitioners – watch this space.
3. IASP conference 2016
The International Association for the Study of Pain conference 2016 was on this week. I have included a selection of some of the most interesting tweets I have seen.

4. Lumbar kinematics in LBP pts.
A novel study using movement tracking to assess the differences in lumber movement in normal patients and those with LBP. LBP patients had typically less movement of their lumbar spines, however lordosis angle was similar to both groups. Is this contrary to long held beliefs of physiotherapists?
Opioid Metabolism
As a continuation from last week –
A brief look at why patients have a differing response to specific opioids, and why a trial of several different opioids may be needed to find an effective level of analgesia and tolerability for a patient.

All down to genetic differences in pharmacokinetics (how the body alters the drug)

- Variations in metabolism of opioids can result in the drug:
  - Being excreted too rapidly
  - Not reaching its therapeutic target
  - Staying in the body too long and producing a toxic effect

- Opioid metabolism results in the production of both inactive and active metabolites
  - Active metabolites may be more potent than the parent compound
  - These may have clinically useful effects, be associated with toxicity, or both

Taking codeine as an example...

- Exerts analgesic effect after metabolism to morphine
- Genetically-poor metabolizers of codeine are susceptible to toxicity as they are unable to produce the morphine metabolite
- Rapid metabolizers (5% of white northern Europeans) have been shown to produce a 45x higher concentration of codeine metabolites than poor metabolizers leading to toxicity, severe opioid side effects (listed last week) and addiction
- Poor and rapid metabolizers will have huge variations in the proportions of enzymes responsible for opioid metabolism, proportions of opioid receptors, or both
- As pre-screening for genetic variations in rate of metabolism is very rarely carried out, matching patients with opioids to optimise efficacy and tolerability remains a trial-and-error procedure

References:

Disclaimer: This edit is for information/education use only and does not entitle people to advise patients on medication.

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