Clinical Weekly - 137th Edition

#JournalTuesday - by Abi Peck

Iliocapsularis: Technical application of fine-wire electromyography, and direction specific action during maximum voluntary isometric contractions Download here

1. **Where is the origin and insertion site of the iliocapsularis?**
   Inferior border of AIIS and anterior capsule to lesser trochanter
2. **What is the role of EMG and its value?**
   -Electromyography enables recordings of muscle activity
   -Used to detect electrical potential of muscles cells
3. **What movement and position was measured highest and lowest with the EMG?**
   -Hip flexion at 90 degrees
   -Hip extension
4. **What is the proposed role of iliocapsularis?**
   Proposed to prevent impingement between the head of the femur and the acetabulum by applying tension to the anterior capsule
5. **How could this study change practice?**
   Activating iliocapsularis muscle at 90 degrees of hip flexion to reduce impingement symptoms

#ClinicalSkillsFriday - by Jess Miller

Cauda Equina Syndrome

https://www.youtube.com/watch?v=8rRq5Qq0K30

This video by the CSP is a valuable resource for clinicians to reflect on our practice regarding Cauda Equina Syndrome.

The cauda equina provides innervation for the lower limbs and sphincter. It controls the function of the bladder and bowel and sensation around the back passage and bottom. The most common cause is a prolapsed disc of the lumbar spine but it can also be caused by spinal stenosis or metastatic spinal cord compression.

There is no agreed definition but the British Association of Spinal Surgeons use the following:
-Acute back and/or leg pain
-Disturbance of bladder or bowel +/- saddle sensory disturbance
Most patients will not have a critical cauda equina compression but in the absence of reliable predictive signs and symptoms, these patient should be scanned urgently.

Take home messages:

-**Communication-** use language the patient understands and ensure they are aware of the consequences of cauda equina syndrome

-**Safety netting-** use cue cards and resources that patients can take home with them and to A+E if necessary

-**Standards of practice-** ensure you document any advice given or symptoms in your notes

For the next **#CLINICALSKILLSFRIDAY–** Testing for Cranial Nerve II.
Any pictures, suggestions or comments to Jessica.z.miller@ahpsuffolk-cic.nhs.uk

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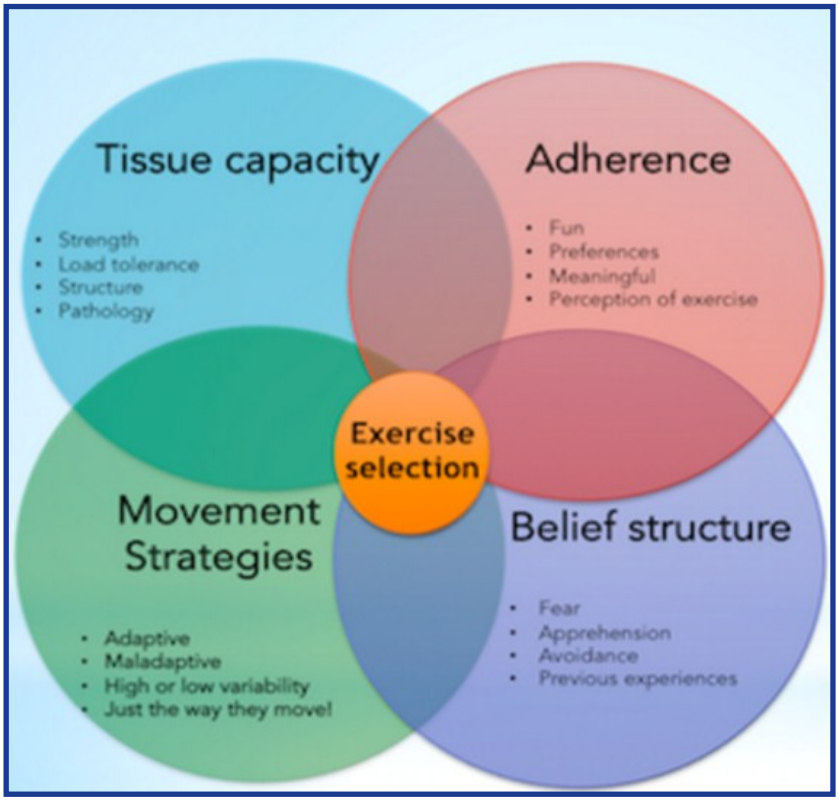
#NewsOfTheWeek - by Liz Wright

1. 'Physio advice on managing back pain' – recent CSP 1 minute video – ideal for patients.
CSP has launched a new animated film and evidence-based guide for the management of back pain. Clear and concise -perhaps this one can be utilised further in the education provided within our rehabilitation classes?
http://bit.ly/2rpVwEO

2.What makes a great rehab program?
There is no 'gold standard' check list, though this useful blog discusses well-reasoned components of an effective rehab program. Consider the model (right) after asking each patient 'what is the outcome you want to get from your rehab?' This will ultimately influence what we do and how we do it. Key factors which may influence the success of a rehab program are discussed including time, patient perceptions and expectations of rehab and ability to perform desired activities. There are also useful tips for advice and providing on-going support to patients.
http://bit.ly/2rprMIy



3. Ballet dancers – observation, principles of management and unique considerations at the barre.
In order for this area of sports medicine to be optimally managed we need to ensure we are aware of the demands required for these athletic artists to reach their peak performance. In the BJSM blog, Luke Abnet, sole practitioner for the Royal Ballet School, shares his experiences, demystifying some of the 'quirks' of this population. Explored are;
Basic principles of ballet (e.g. the most important outcome is how a performer subjectively looks whilst performing rather than objectively measuring physical speed/strength. Dancers dance in external rotation at the hip, knee and foot, female dancers frequently dance on pointe)
Habits of artists (technical practice involves repetition of set positions, often at the end of a joint's available range, increasing risk of injury specilaised equipment used and the typical balletic body. Often techniques involve 'whole-body' movement which can prove difficult if a dancer is purposefully avoiding a certain joint range during recovery.
Further discussion continues around equipment used and the ballet physique.
http://bit.ly/2pJJKJj

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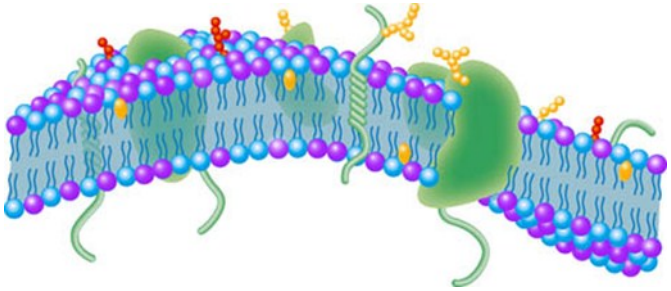
#VitaminOfTheWeek by Sam Ackerley

VITAMIN E

Vitamin E is a fat-soluble antioxidant which has 4 forms alpha- (α-), beta- (β-), gamma- (γ-), and delta- (δ-). γ-tocopherol is the most common found within the diet and α-tocopherol is the most biologically active form of vitamin E the second-most common form in the diet. There is current no scientific evidence to support supplementation in health individuals however it can harmful in excess especially in those on blood thinners as Vitamin E can act as an anticoagulant.



Functions:

Vitamin E acts as an antioxidant, disabling damaging free radicals in tissues. As it is fat-soluble, it is incorporated into cell membranes, which protects them from oxidative damage.

It can act as an enzymatic activity regulato, α-tocopherol for example stimulates an inhibiting enzymes which halts smooth muscle growth.

Vitamin E also plays a role in eye and neurological functions, and inhibition of platelet coagulation.

Vitamin E can also effect gene expression and has been shown to down regulate genes responsible for the repair of wounds and regeneration of the extracellular tissue lost or damaged during atherosclerosis.

Top 10 sources: (Per 100 grams)

Sunflower Seeds 36.3mg (176%)
Nuts (Almonds) 26.2mg (127%)
Plant Oils (Olive Oil) 14.4mg (69%)
Fish (Rainbow Trout) 2.8mg (13%)
Shellfish (Shrimp) 2.2mg (11%)
Dark Leafy Greens (Cooked Spinach) 2.1mg (10%)
Avocados 2.1mg (10%)
Broccoli (Cooked) 1.5mg (7%)
Fruits (Kiwifruit) 1.5mg (7%)
Squash & Pumpkin (Cooked Butternut Squash) 1.3mg (6%)

Deficiency

Vitamin E deficiency (hypovitaminosis E) causes nerve problems due to poor electrical conduction along nerves due to changes in nerve membrane structure. This may cause:

Neuromuscular problems- such as spinocerebellar ataxia and myopathies.
Neurological problems- including dysarthria, absence of deep tendon reflexes, loss of vibratory sensation and proprioception, and positive Babinski sign.
Anemia-due to oxidative damage to red blood cells
Retinopathy – retina damage resulting in impaired vision.
Impairment of the immune response

Resources:

https://en.wikipedia.org/wiki/Vitamin_E
https://www.healthaliciousness.com/articles/vitamin-E.php
https://en.wikipedia.org/wiki/Vitamin_E_deficiency
http://www.scs.illinois.edu/~mlkraft/images/cell%20membrane%20small.jpg
http://4cnhcy85iru30r27y5v439zq.wpengine.netdna-cdn.com/wp-content/uploads/2015/02/healthy-nerves.jpg