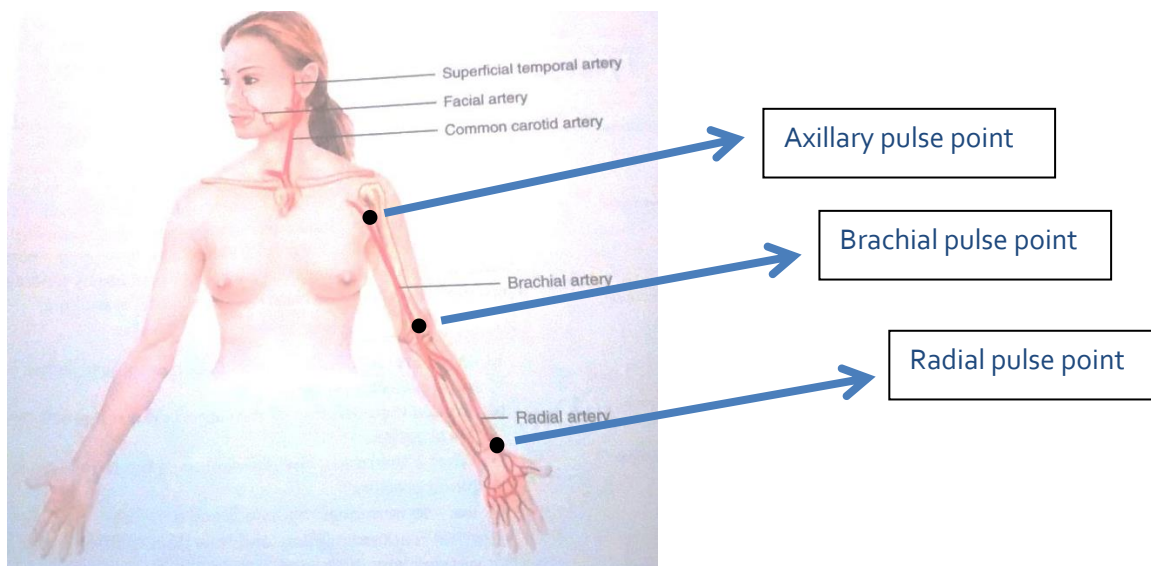


#JOURNALTUESDAY - by Abi Peck

The pathophysiology of patellofemoral pain – Scott Dye (2006; Clinical Orthopaedics and Related Research). Download [here](#).

- 1) What level of evidence does this paper provide and why?
  - a. Poor level of evidence, based on a clinicians opinion
- 2) What is homeostasis?
  - a. Active maintenance of constant conditions in the internal environment
- 3) Explain what is meant by the envelope of function?
  - a. The acceptable loading force tissues can accept to maintain homeostasis. This level of function is changeable dependent on progressive loading.
- 4) How can we change the envelope of function?
  - a. Training in the zone of Supraphysiological overload
- 5) How would you apply this theory in clinical practice?
  - a. Please discuss in your teams
- 6) In practice, how would you achieve the zone of supraphysiological overload when treating a patient?
  - a. Working within levels of pain tolerance
  - b. Improve quality of movement
  - c. Modifying activity levels and loading

#CLINICALSKILLSFRIDAY by Jess Miller- Upper limb pulses



(Picture from Tortora and Derrickson- Anatomy and Physiology 13th Edition )

Axillary pulse

The axillary artery is derived from the subclavian artery. It runs through the axilla, bordered by the branches of the brachial plexus.

**To palpate:** The artery is located behind the anterior wall and against the lateral wall. Press gently upwards and laterally with the fingers to palpate.

Brachial pulse

The brachial artery originates as a continuation of the axillary artery at the inferior border of the teres major muscle.

**To palpate:** Subject's arm is abducted, elbow slightly flexed and forearm supinated. Palpate along the course of the artery just medial to the biceps tendon and lateral to the humeral medial epicondyle

Radial pulse

The radial artery arises from the bifurcation of the brachial artery in the cubital fossa. It runs down the radial side of the forearm to the wrist and into the hand.

**To palpate:** Subject's forearm supinated and relaxed. Examiner palpates the radial side of the anterior wrist.

Pulses should ideally be examined in a warm room and fingertips should be used rather than thumbs to reduce the possibility of the examiner feeling their own pulse.

For the next **#CLINICALSKILLSFRIDAY**- Wartenberg's Sign

Any pictures, suggestions or comments to [Jessica.z.miller@ahpsuffolk-cic.nhs.uk](mailto:Jessica.z.miller@ahpsuffolk-cic.nhs.uk)

**#NEWSOFTHEWEEK by Liz Wright**

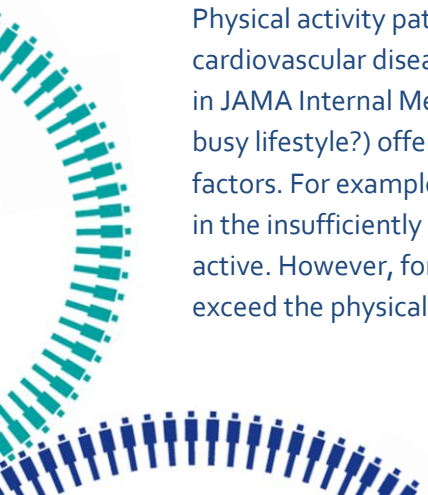
**1. No evidence for the use of stem cell therapy for tendon disorders: a systematic review**

Stem cells have emerged as a new treatment option for tendon disorders. Examples reviewed in the paper include; 2 trials which evaluated bone marrow-derived stem cells in rotator cuff repair surgery and found lower re-tear rates compared with historical controls or the literature. 1 trial used allogenic adipose-derived stem cells to treat lateral epicondylar tendinopathy and showed improved Visual Analogue Pain scale and ultrasound findings after 1-year follow-up compared with baseline. One trial reported adverse events and found them to be mild (eg, swelling, effusion). However, all trials were at high risk of bias and subsequently no evidence (level 4 only) was found for the therapeutic use of stem cells for tendon disorders. The use of stem cell therapy for tendon disorders in clinical practice is currently not advised.

<http://bjsm.bmj.com/content/early/2017/01/11/bjsports-2016-096794.short?rss=1>

**2. 'Weekend Warriors' share health benefits**

Physical activity patterns of just 1-2 sessions per week may be enough to reduce deaths from cardiovascular disease and cancer, regardless of adherence to exercise guidelines. Findings reported in JAMA Internal Medicine suggests that less frequent bouts of activity, (fitting more easily into a busy lifestyle?) offer significant health benefits, even in the obese and those with other medical risk factors. For example, compared to those who reported no physical activity, all-cause mortality risk in the insufficiently active was 31 % lower, in weekend warriors and 35 % lower in the regularly active. However, for optimal health benefits from physical activity it is always advisable to meet and exceed the physical activity recommendations. These results mean that 'weekend warriors' and



other physical activity patterns characterised by 1-2 sessions per week may provide beneficial health outcomes even when they fall short of physical activity guidelines.

[http://sydney.edu.au/news-opinion/news/2017/01/10/\\_weekend-warriors-less-likely-to-die-from-cancer--cardiovascular.html](http://sydney.edu.au/news-opinion/news/2017/01/10/_weekend-warriors-less-likely-to-die-from-cancer--cardiovascular.html)

**3. Free online NHS Fitness Studio**

24 instructor-led videos in aerobics, strength and resistance, pilates and yoga categories, ranging from 10 minutes to 45 minutes. Additionally there is postnatal yoga. We all know regular exercise has been proven to help reduce the risk of chronic illness, boost self-esteem, mood, sleep quality and energy. Every contact counts – encouragement to patients to maintain adequate physical activity levels is paramount.

<http://www.nhs.uk/conditions/nhs-fitness-studio/pages/welcome-to-nhs-fitness-studio.aspx>

**#TWEETOFTHEWEEK** – Note load is not damaging. An effective training intervention for the tendon should apply a high loading intensity over a longer intervention duration (>12 weeks)

<http://sportsmedicine-open.springeropen.com/articles/10.1186/s40798-015-0009-9>



**RunningPhysio**  
@tomgoom

Approximate patellofemoral joint loads with activity #RunningRepairs  
[pic.twitter.com/MWGGDrh8H8](http://pic.twitter.com/MWGGDrh8H8)

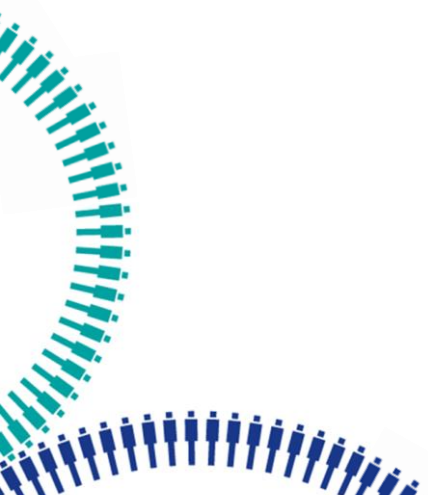
10:35 AM - 8 Jan 2017 from Saltdean, England

### PATELLOFEMORAL JOINT LOAD WITH ACTIVITY

Activity	Patellofemoral Joint reaction force
Level walking	0.5 × Body weight
Cycling (stationary bike)	1.5 × Body weight
Ascending & descending stairs	3-4 × Body weight
Running	4.5-7.6 × Body weight
Squatting	7-8 × Body weight
Jumping	20 × Body weight

Approximations based on Lenhart et al. (2014) & Sanchis-Alfonso et al. (2016)

**RUNNINGPHYSIO** 



#MEDOFTHEWEEK – by Alex Courtney-Hatcher

STATINS

A class of lipid-lowering medication which reduce cardiovascular disease (CVD) and mortality in high risk populations

- Primary prevention
  - Prevention of CVD in those with high LDL cholesterol but no history of heart disease
  - NICE recommends statin treatment for adults with 10 year risk of developing CVD of greater than 10%
- Secondary prevention
  - Effective in decreasing mortality rates in people with pre-existing CVD

Action

- Can lower LDL cholesterol by 1.8 mmol/L
- Equates to 60% decrease in likelihood of MI/sudden cardiac death, and 17% reduced risk of stroke after long-term treatment
- Improve outcomes in cardiac and vascular surgery

Available forms

- Synthetic: Atorvastatin, Fluvastatin, Rosuvastatin
- Fermentation derived: Simvastatin, Pravastatin
- LDL-lowering potency varies between agents

Adverse effects:

Muscles

- Rare cases of myopathy, myositis and rhabdomyolysis associated to statin use have been reported
- Higher risk in patients with high alcohol intake, renal impairment, hypothyroidism or elderly

Diabetes

- Increased risk of developing diabetes mellitus in those with other risk factors

Cognitive effects

- Anecdotal reports of memory loss and confusion – 2013 Cochrane review concluded that available evidence could not support these reports

Caution: consumption of grapefruit inhibits metabolism of certain statins. Increased risk of rhabdomyolysis if taken with other lipid-lowering drugs e.g. niacin and fibrates.

National Institute for Health and Clinical Excellence (March 2013) "Lipid modification – Cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease – Quick reference guide"

[http://www.cochrane.org/CD004816/VASC\\_statin-primary-prevention-cardiovascular-disease](http://www.cochrane.org/CD004816/VASC_statin-primary-prevention-cardiovascular-disease)

<https://www.evidence.nhs.uk/formulary/bnf/current/2-cardiovascular-system/212-lipid-regulating-drugs/statins>

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