

Upper Limb Osteoarthritis (OA) – a perspective from Community MSK

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23rd April 2022 – Rheum 101

About me...

- Consultant Physiotherapist & Head of MSK
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- PhD Candidate
 - Manchester Metropolitan University
- Associate Editor
 - Shoulder & Elbow Journal
- Ambassador
 - Personalised Care Institute

Session Objectives



- Define what we mean by OA
- The role of guidelines in OA
- Consider 'best practice' for clinical management
- Application to two common OA presentations:
 - Glenohumeral
 - Hand

Community MSK

Primary Care

- GP
- FCP

Intermediate Care

- **Rehabilitation**
 - Physiotherapists, Sports Therapists etc.
 - Advanced Physiotherapists

Secondary Care

- **Orthopaedics**

Self-Referral



CPGs: Disease specific **or** body site specific?

Where do we turn for guidance in Community MSK?

Clinical Practice Guidelines (CPG)

‘statements that include recommendations intended to optimise patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options’.

- Considered one of the key efforts to improve healthcare (*Eccles et al., 2012*).

Disease-specific

Osteoarthritis: care and management

Clinical guideline

Published: 12 February 2014

www.nice.org.uk/guidance/cg177

- hip/knee evidence base
- single-joint specificity
- short-term studies
- exclude frail patients with co-morbidities

Body site specific...



BESS/BOA Patient Care Pathways **Glenohumeral osteoarthritis**

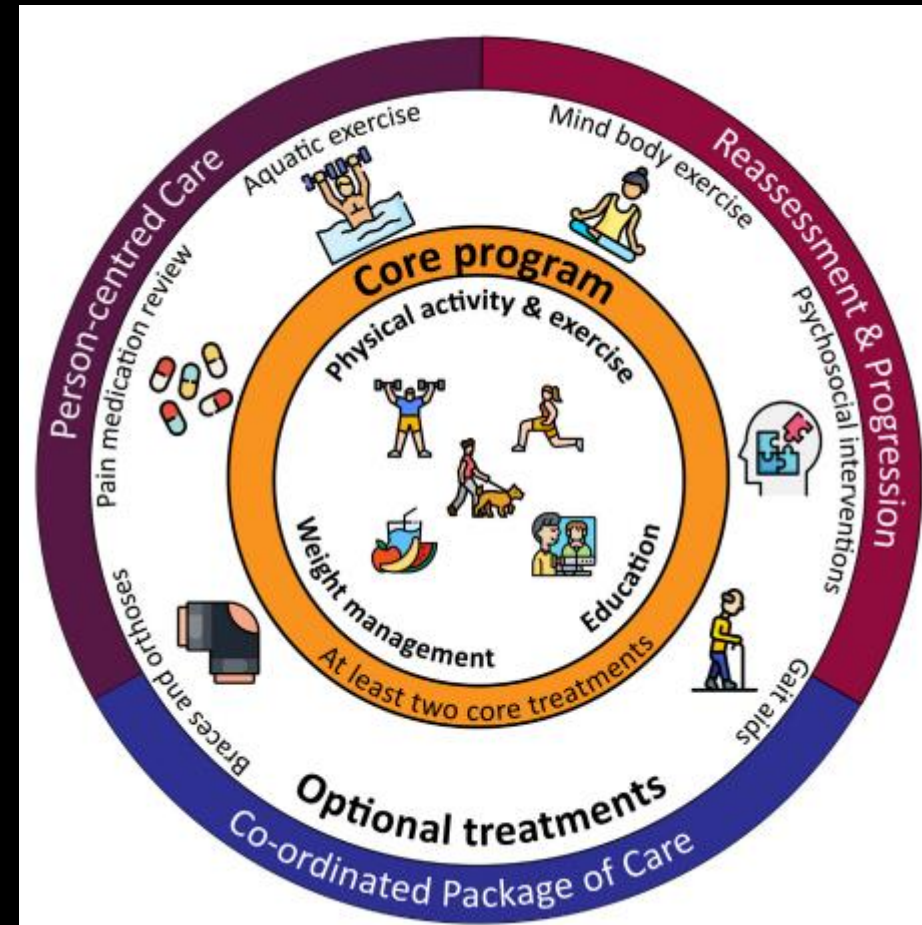
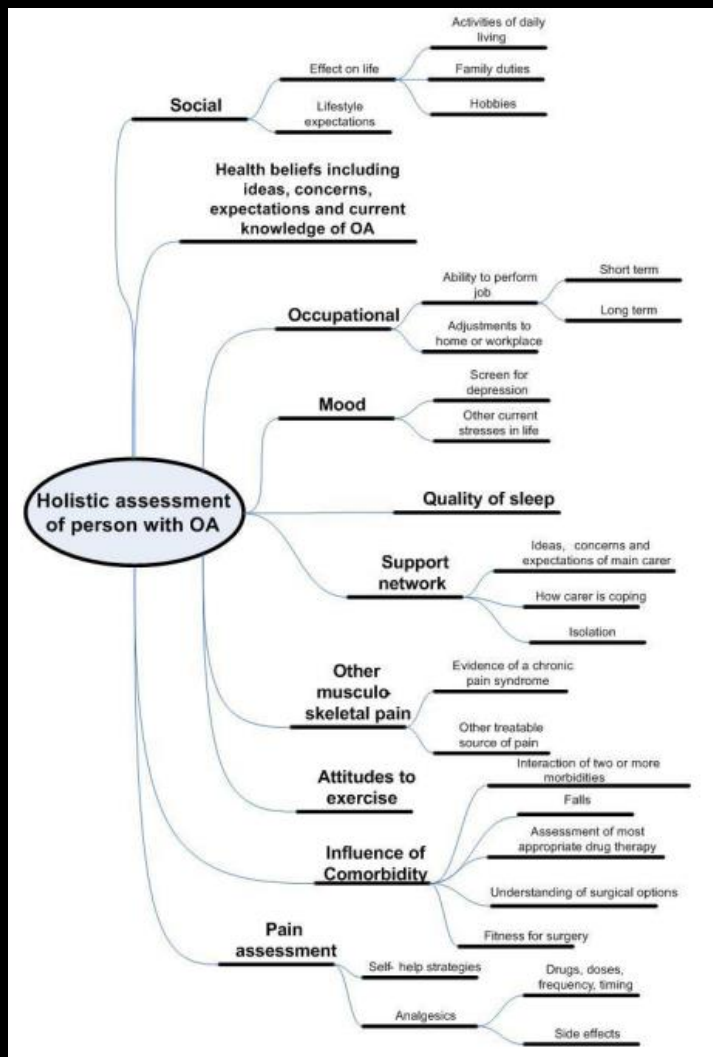
2018 update of the EULAR recommendations for the management of hand osteoarthritis

Thomas 2016* Kloppeburg 2018



‘Best Practice’ for clinical management







What do we mean by OA?



“A type of chronic articular rheumatism affecting the articular joint structures, it is likely that the resistance of the joint structures is reduced by ‘wear and tear’ throughout life”.

Cash 1956

“A disease that is the result of the degeneration of the articular cartilage of a joint”.

Boyd 1998

“A chronic disease of articular cartilage, associated with secondary changes in the underlying bone, causing joint inflammation and degeneration”.

Kenyon 2009

“A degenerative disease in which the body suffers a loss of cartilage, leading to stiff, painful joints”.

Peters 2010

“It is a common disabling condition in older patients”.

Avand and Green, 2017

- “Osteoarthritis is the most common form of arthritis...causes the cartilage in your joints to thin and the surfaces of the joint to become rougher, which means that the joints may not move as smoothly as they should, and they might feel painful and stiff”.

Versus Arthritis, 2018

“**Wear and tear** in the joints. It is not an inflammatory condition like rheumatoid arthritis. It occurs in the synovial joints and is a result of a combination of genetic factors, overuse and injury.”

Watchman 2019

‘Common’ does not mean well understood.

“The forgotten disease”

What, not why.

“Osteoarthritis refers to a **clinical syndrome** of joint pain accompanied by varying degrees of functional limitation and reduced quality of life... is characterised pathologically by localised loss of cartilage, remodelling of adjacent bone and associated inflammation”.

NICE, 2014

Largely clinical:

- 45+ years old
- Activity-related joint pain (**for 3-months+**)
- Morning stiffness: none **or** <30mins
- Alternative diagnosis unlikely

Diagnosis: GHJ OA

Clinical Profile:

- Pain, stiffness +/- crepitus
- Loss of function e.g. reach, carry
- Initial activity-related pain → constant
- Night pain
- Muscle atrophy/weakness
- Reduced ROM – passive ER

Risk Factors:

- Age (60+)
- Trauma
- Obesity
- Systemic inflammation
- Female sex
- Genetics
- White, European heritage
- Recurrent instability

Diagnosis: Hand OA

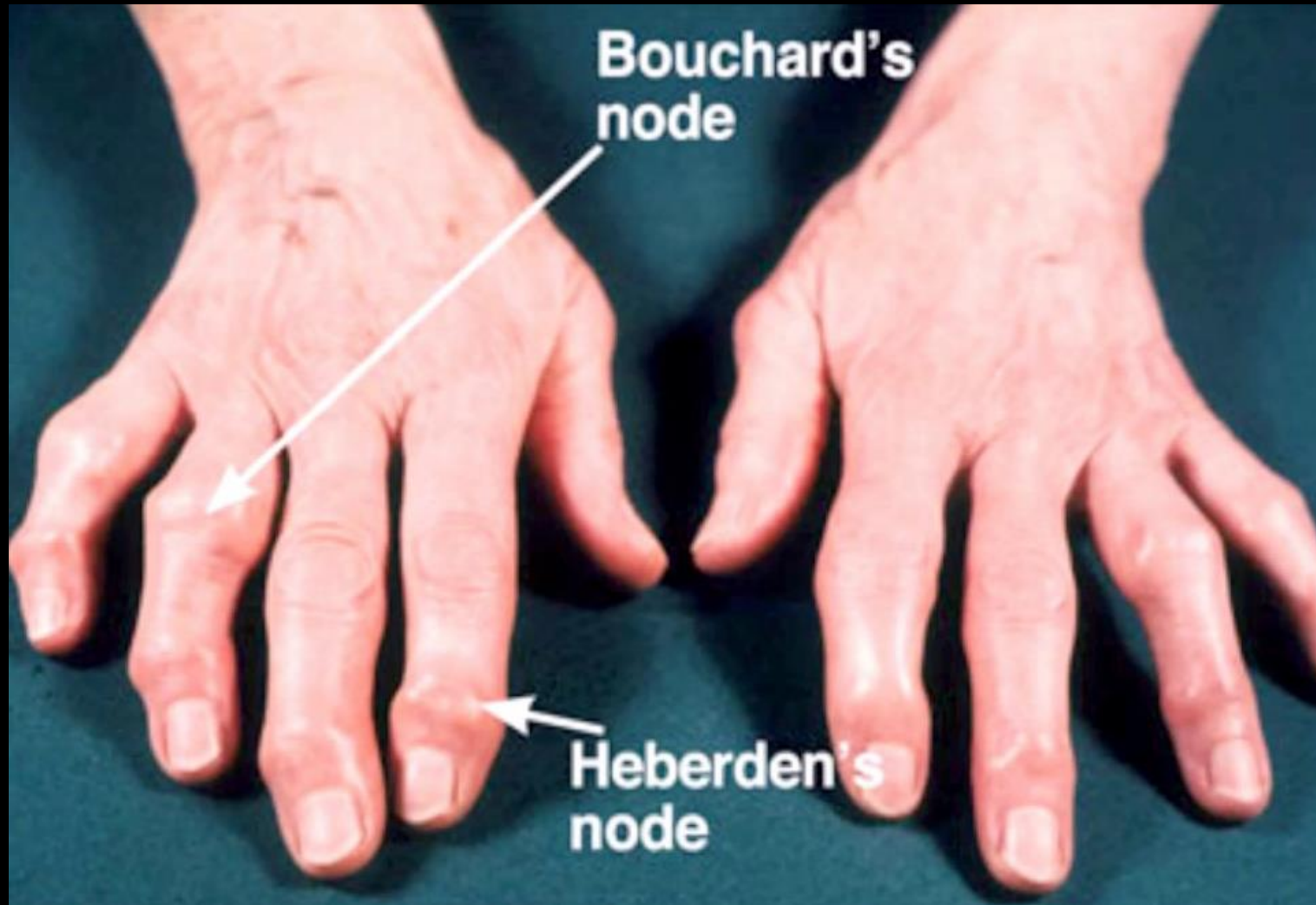
Clinical Profile:

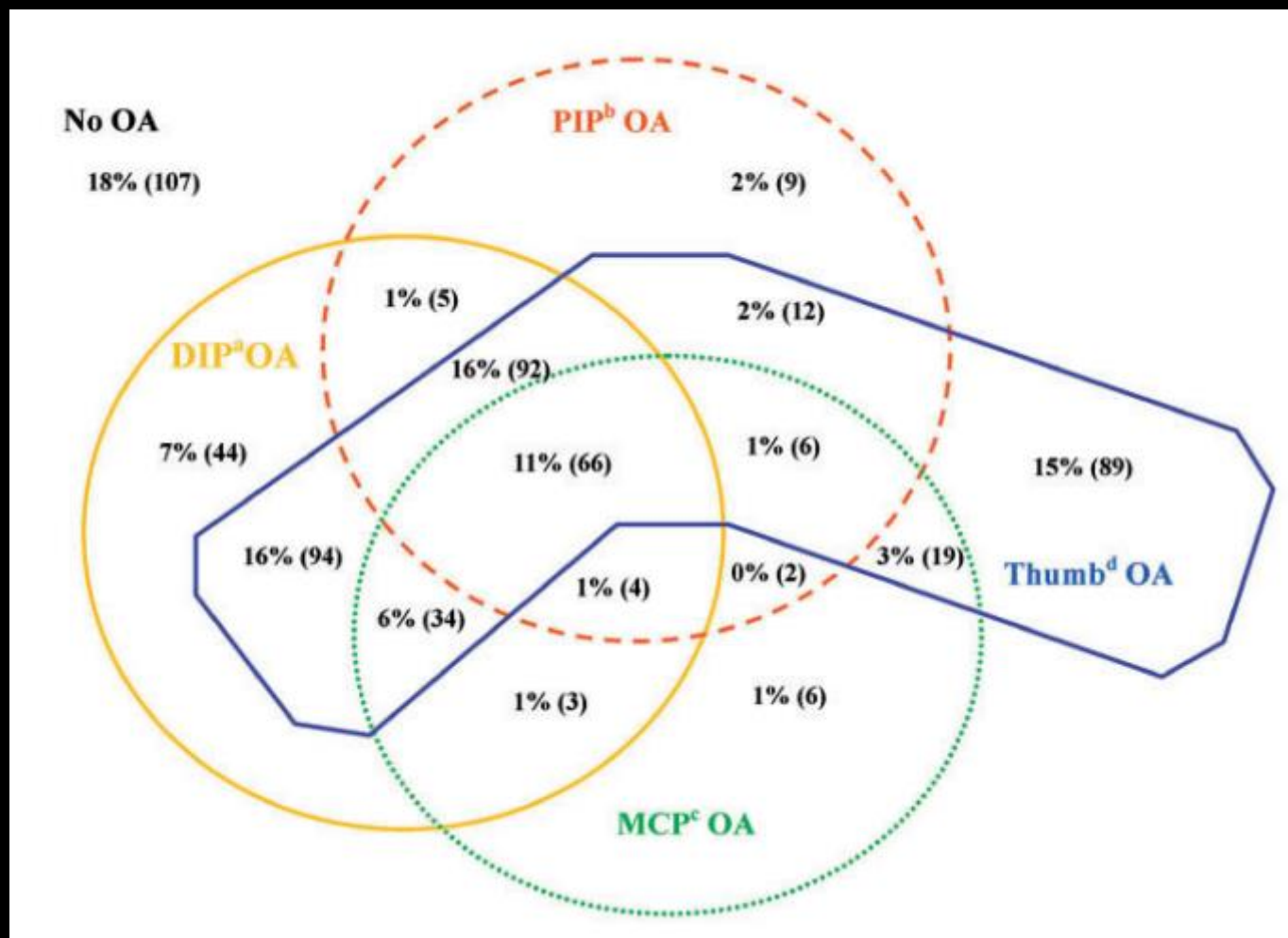
- Pain, stiffness +/- crepitus
- Loss of function e.g. grip, pinch, opening jars
- Gradual onset
- Night pain
- Isolated or part of a more generalised OA pattern
- Muscle atrophy/weakness e.g. grip strength
- Deformity e.g. Heberden's nodes

Risk Factors:

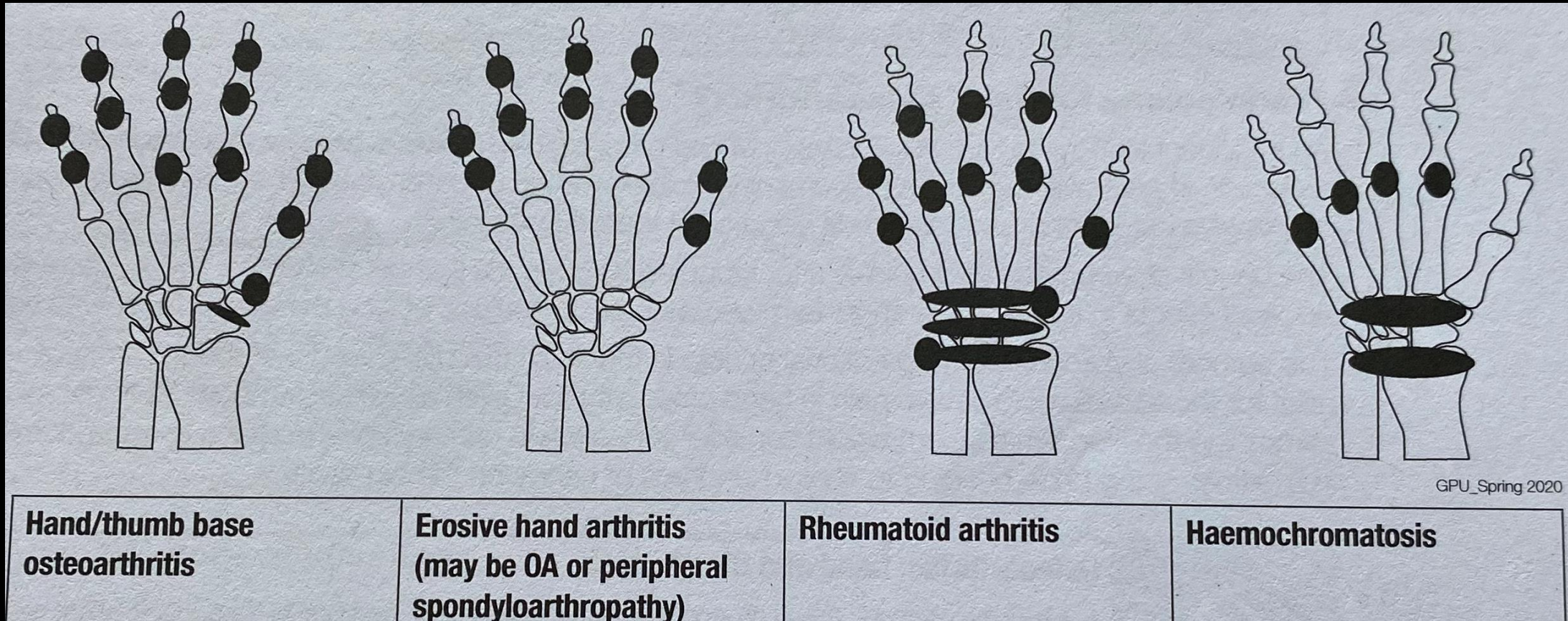
- Female sex
- Post-menopause
- Genetics
- Trauma
- Repetitive hand use – loaded

Diagnosis: Hand OA





Diagnosis: Hand OA



Diagnosis: Hand OA

To meet the CASPAR criteria for PsA, a patient must have inflammatory articular disease (joint, spine, or enthesal) and score ≥ 3 points based on these categories.

	POINTS
1. Evidence of psoriasis Current psoriasis Personal history of psoriasis Family history of psoriasis	2 or 1 or 1
2. Psoriatic nail dystrophy Pitting, onycholysis, hyperkeratosis	1
3. Negative test result for rheumatoid factor	1
4. Dactylitis Current swelling of an entire digit History of dactylitis	1 or 1
5. Radiologic evidence of juxta-articular new bone formation Ill-defined ossification near joint margins on plain x-rays of hand/foot	1



Andrew Cuff^{1,2,3}  | Stephen Parton⁴ | Robert Tyer² | Lisa Dikomititis³ |
Nadine Foster³ | Chris Littlewood¹ 

Imaging:

- Not routinely required
- Consider if:
 - Atypical presentation e.g. gout, CPPD
 - Assist exclusion of alternative diagnoses e.g. infection, Ca, inflammatory arthritis

“Pain is a very variable feature and does not necessarily bear and relationship to the degree of cartilaginous or bony change”
– Cash, 1956

“Too much emphasis should not however, be laid on X-ray findings since the actual bony changes do not necessarily tally with the degree of pain or loss of function” – Cash, 1956

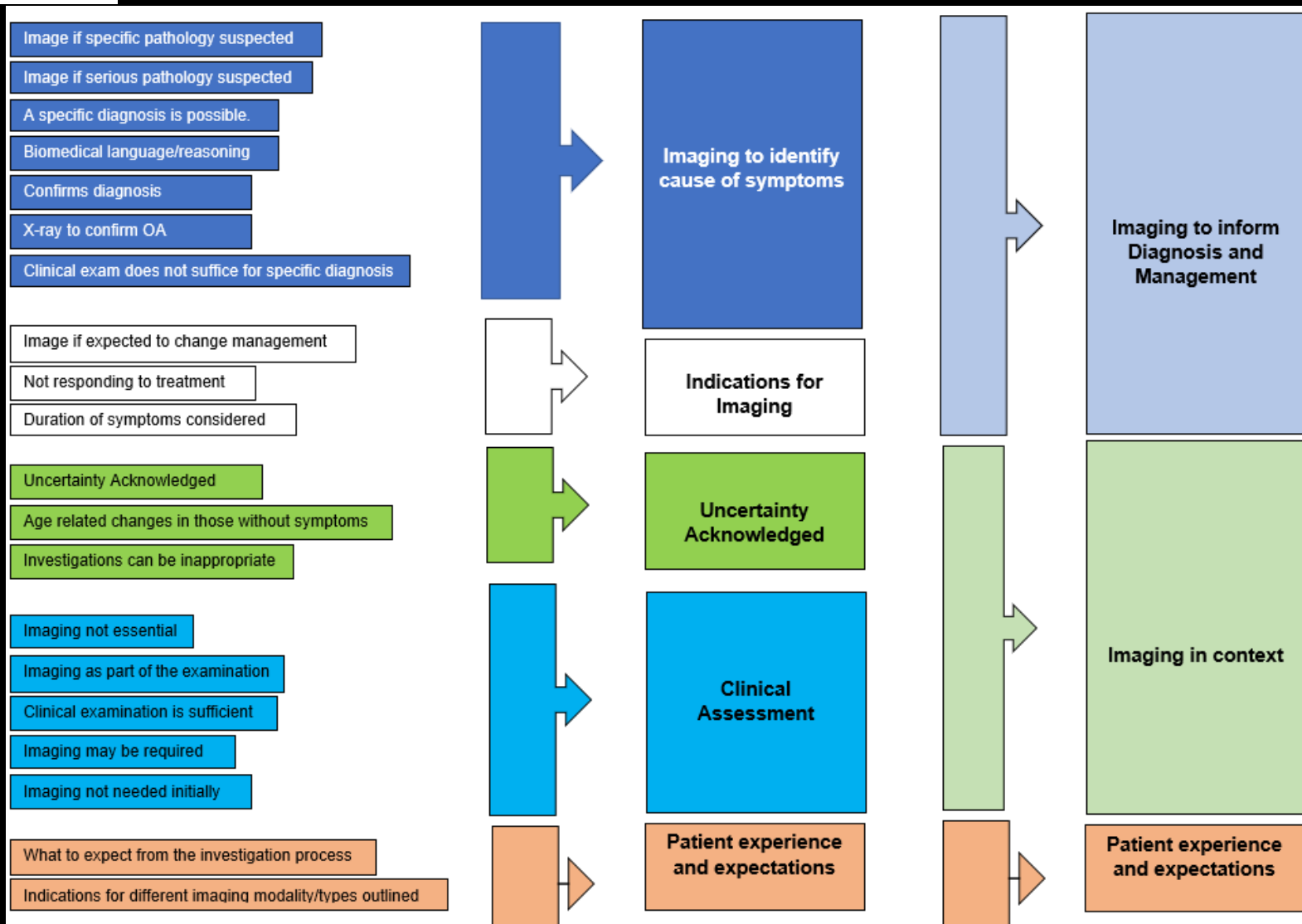
A Textbook of MEDICAL CONDITIONS for PHYSIO- THERAPISTS

Joan E. Cash











Patients expect a treatment plan that matched their understanding of the problem for it to be deemed worthwhile.

Cuff and Littlewood 2018



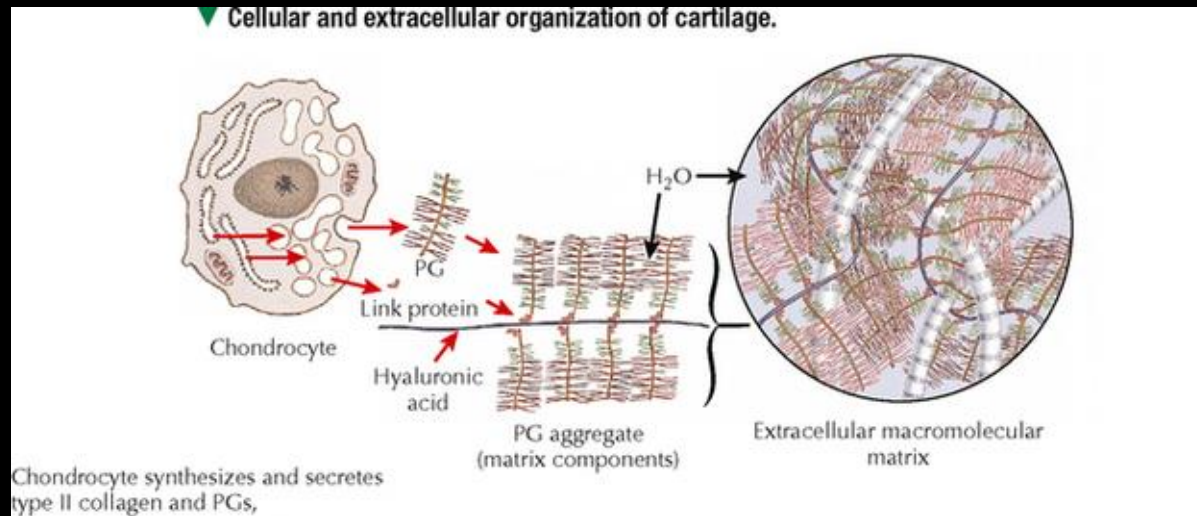
Osteoarthritis (OA) - Definition

Osteoarthritis may result from wear and tear on the joint



- The normal cartilage lining is gradually worn away and the underlying bone is exposed.

Term	Emotional Impact
Arthritis	Generally no adverse impact
Osteoarthritis	Variable – <i>according to understanding</i>
Wear and Tear	Negative impact for many, especially women
Inflammation	No negative impact
Degenerative Changes	Very negative impact
Effusion	Negative – if misinterpreted as fused bones



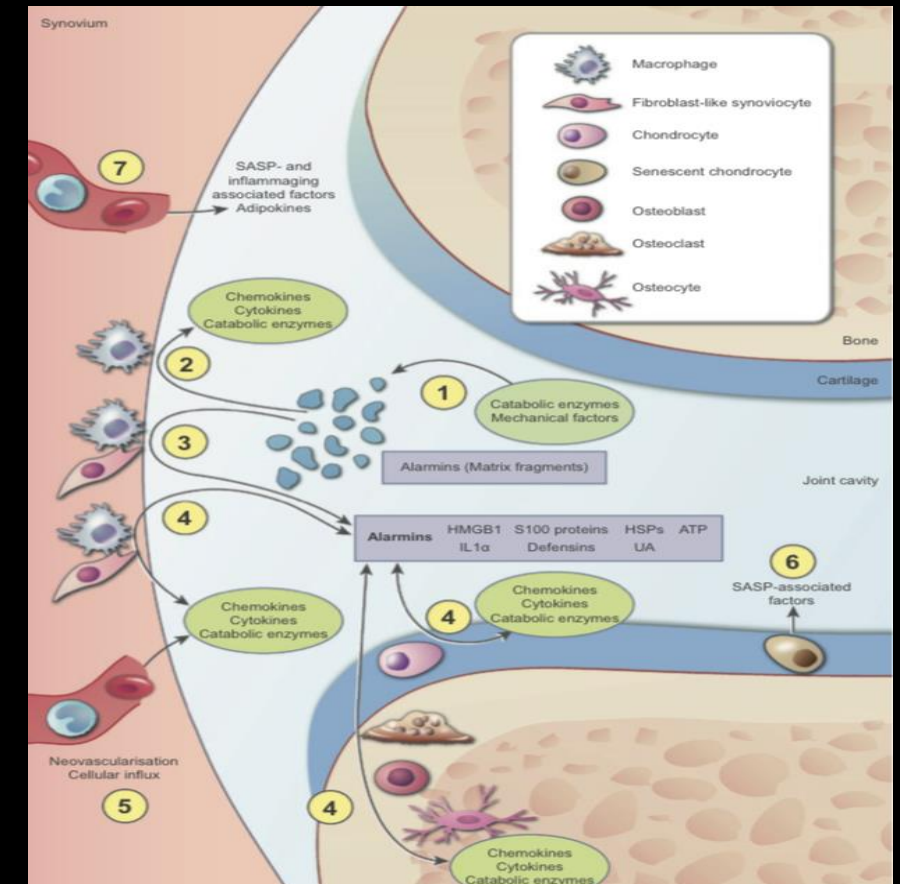
Physical activity

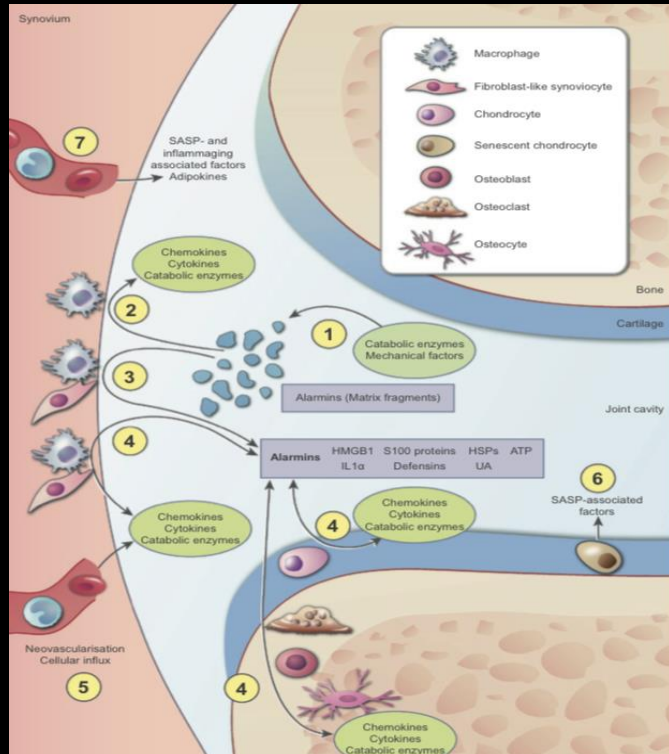
Exercise

Age

Obesity - Systemic Inflammation

e.g. abdominal fat = adipokines = downregulate cartilage restoration & enable osteoclast function





Metabolic factors in osteoarthritis: obese people do not walk on their hands

Systemic Inflammation

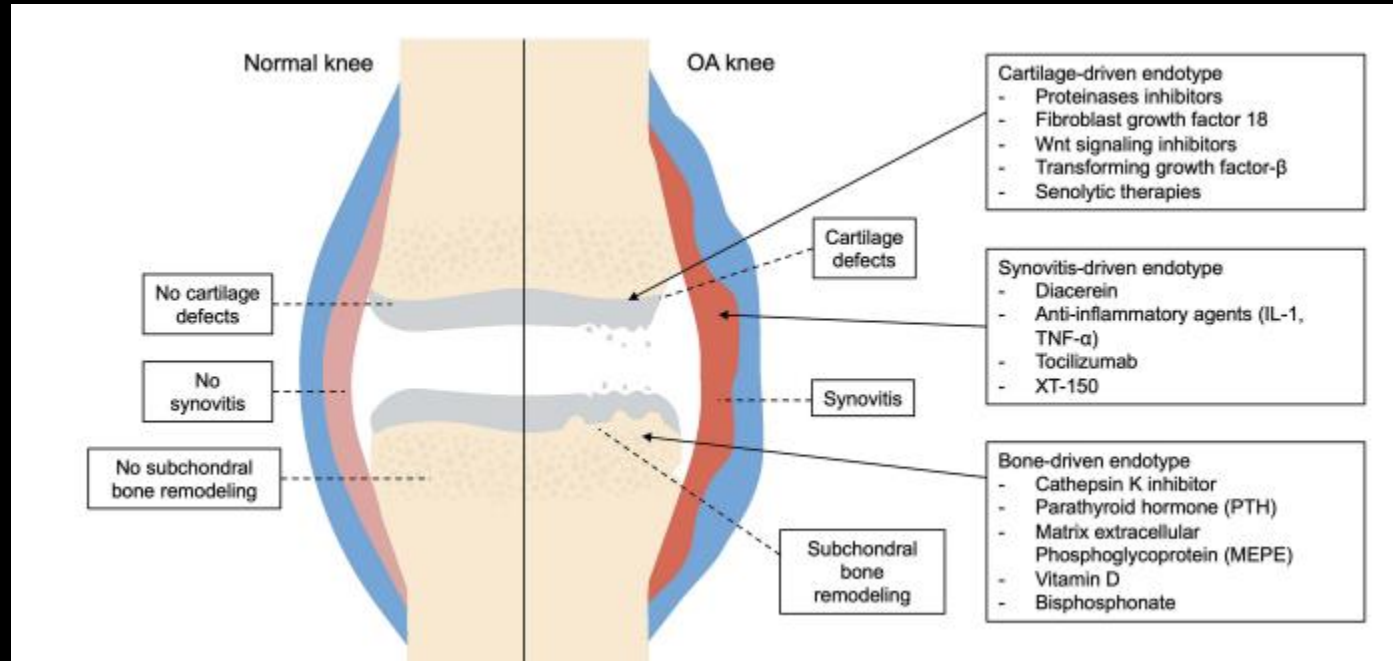
e.g. abdominal fat = adipokines = pro-inflamm
downregulate cartilage restoration & enable
osteoclast function

The Development of Disease-Modifying Therapies for Osteoarthritis (DMOADs): The Evidence to Date

Research activity++

☹️Results

Not licensed for
use



Inc. risk of CVA and MI

Higher disease specific mortality for CV disease, Ca and dementia

OA + additional co-morbidities:

50% HTN

20% CV disease

14% T2DM

12% Anxiety and Depression

LTC

Persistent Pain

Biopsychosocial



Education

- What is OA?
- How to achieve regular physical activity
- Weight loss support
- Surgery is often **not** necessary
- Reasons why imaging is not helpful

The goal of education is **learning** – Lorimer Moseley



Explore how that person best learns:

“How do you tend to retain things the best?”

“We can explore some information around your shoulder pain, in what format would you like that information?”

Written, Audio, Video, Pictorial

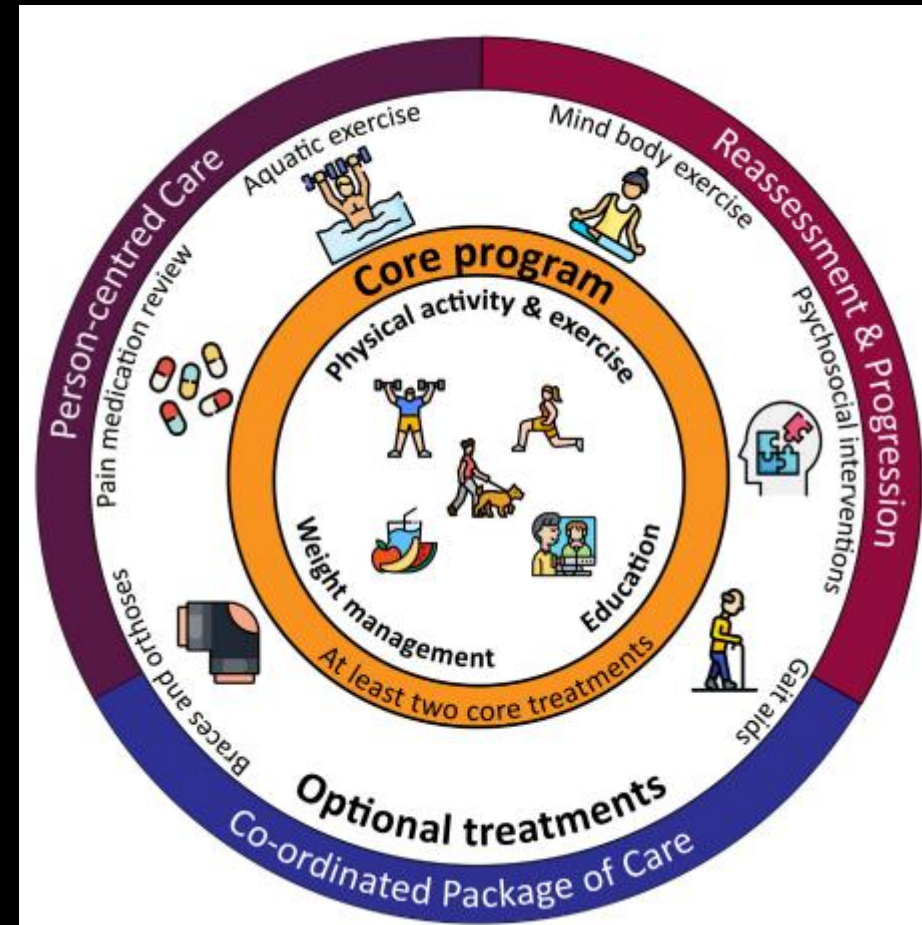
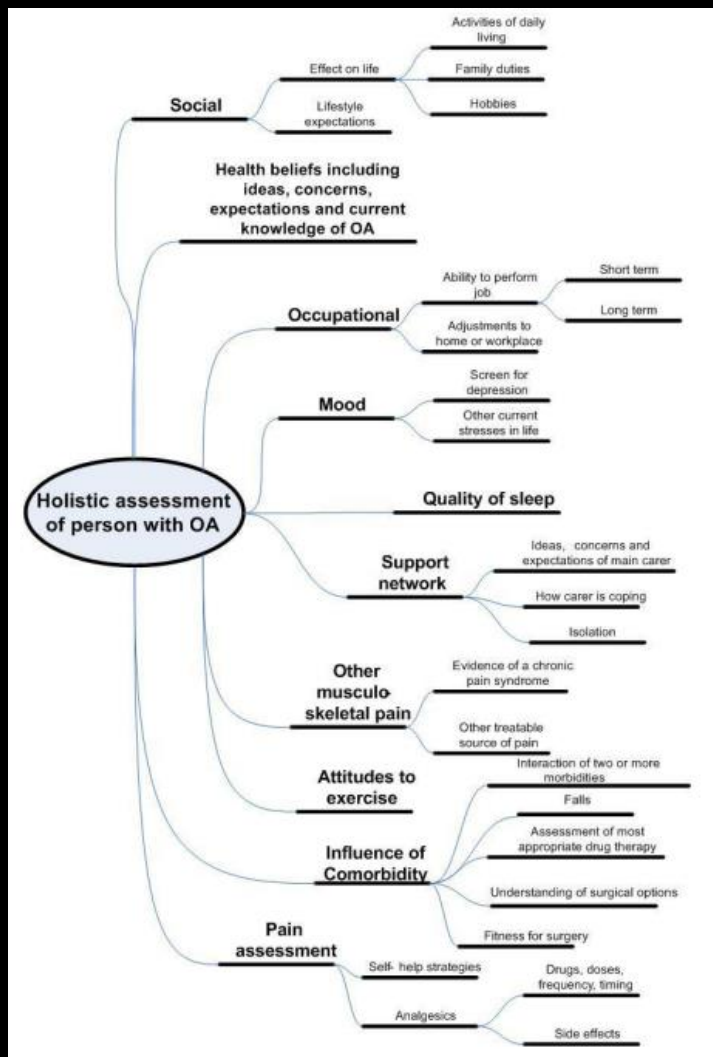
Consider health education ‘strategies’ e.g. KOST

What message/lesson/information are you trying to get across?

Reflect on outcome:

- How did that go?
- Did the person 'get it'?
- What do I need to consider for next time?
 - What went well – celebrate the wins!





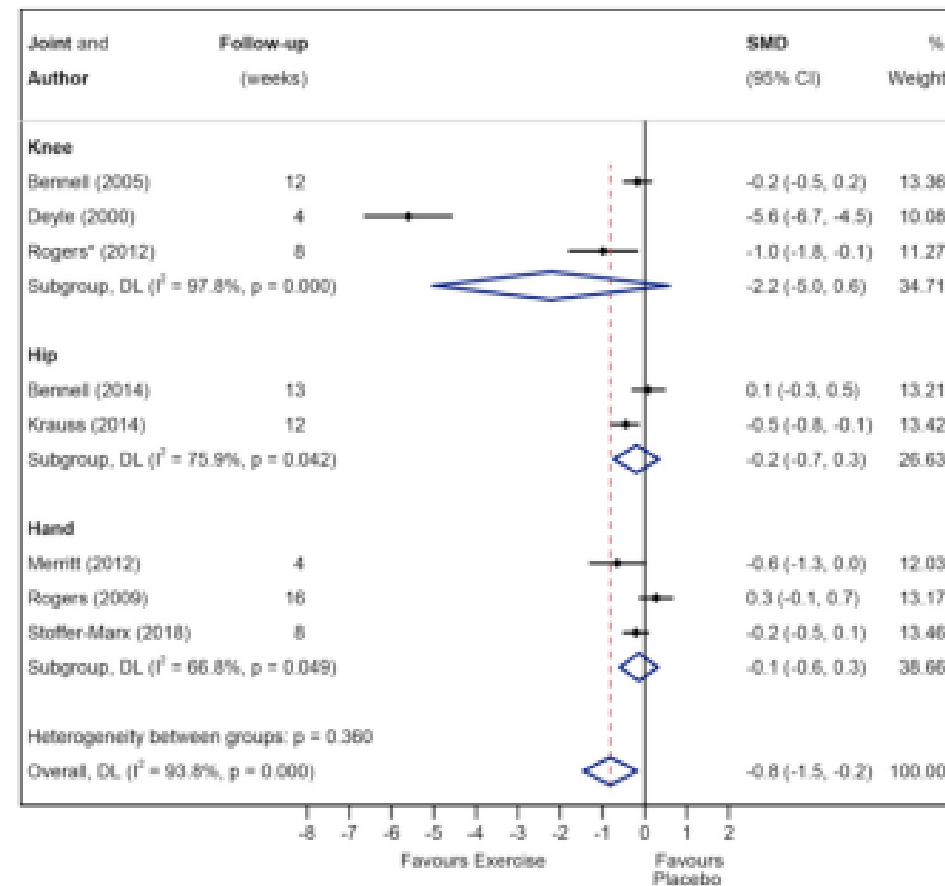
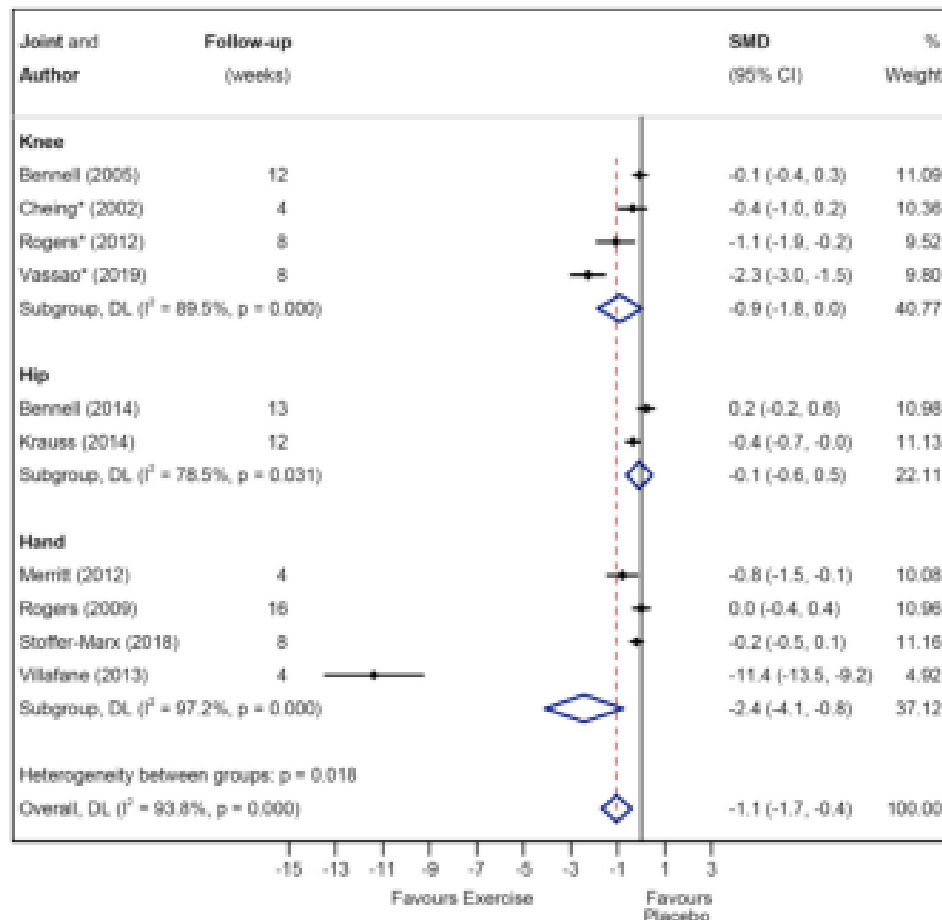
- **Commonly prescribed** - “core treatment”
- **Dearth of evidence for use or type** – intensity, duration?
 - No studies have looked at the efficacy of rehabilitation in isolation
- **Holistic programme lasting a minimum of 12weeks** – recommended based on expert opinion
 - Physical activity
 - Relevant lifestyle factors
 - Function-based exercise toward individual values-based goals

The Rule of Three e.g. right GHJ



- **Local:** e.g. active-assisted, isometric
- **Functional:** e.g. push press, carry
- **Global:** e.g. aerobic activity of your choice; **30+** minutes, moderate intensity
 - *5 x per week.*



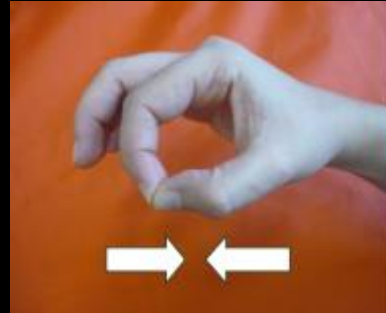
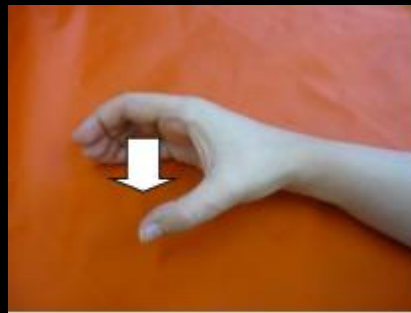


1st CMC: Exercise Therapy

- Otter II RCT
- n = 349
 - Therapist supported self-management (SSM)
 - SSM + Thumb splint
 - SSM + Placebo splint
- All groups improved.

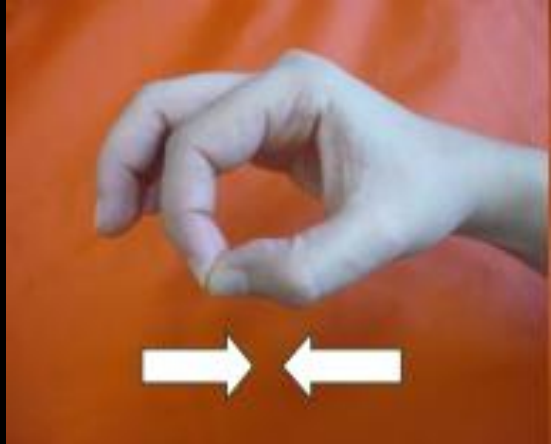
No additional benefit of adding a splint to a rehabilitation programme.

1st CMC: Exercise Therapy



- **Progressive**
- **Functional**

The Rule of Three e.g. right 1st CMC



- **Local:** e.g. active thumb abduction, extension
- **Functional:** e.g. pinch grip
- **Global:** e.g. two whole-body strength sessions
 - *2 x per week.*

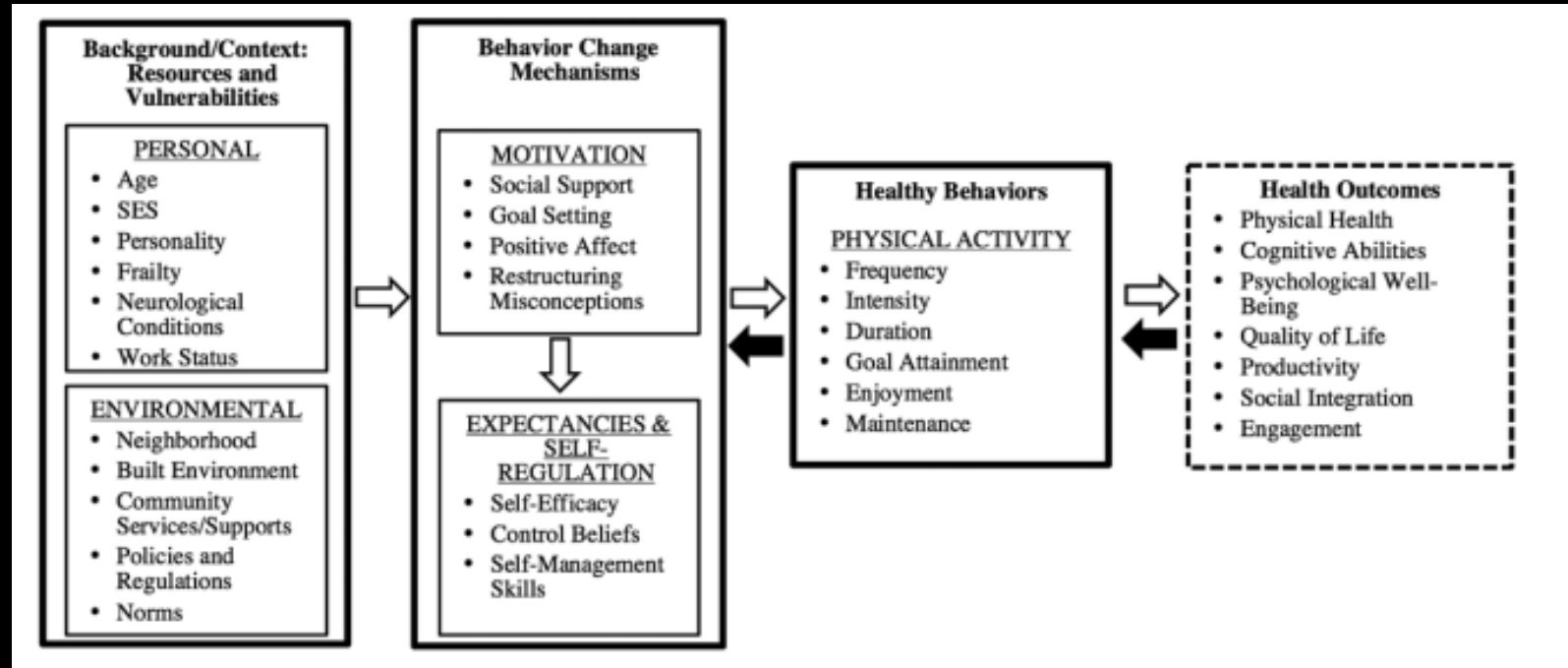




Management Principles

- Progressive > 12/52 within acceptable symptom response.
 - Optimal dose unknown.
- Graded exposure to painful movements or activity.
 - Function, values-based goals
- Consider wider determinants of health & metabolic factors.
- Programme designed for behaviour change.
 - Brief interventions
 - COM-B

- Personalised
- Social support
- Goal setting
- Positive affect
- Cognitive restructuring



Self-management

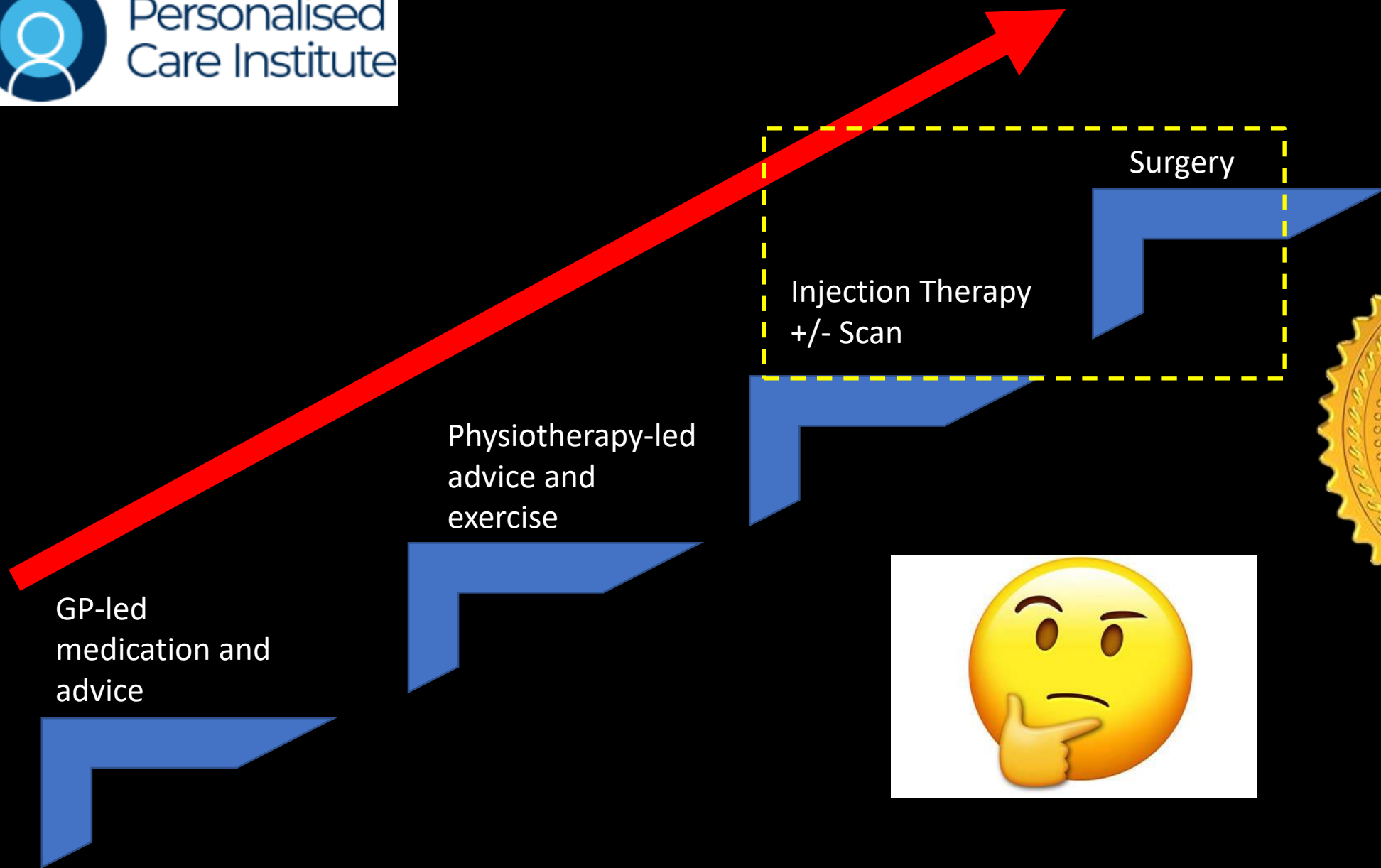
- “People have a key role in protecting their own health, choosing appropriate treatments and managing long-term conditions. Self-management is a term used to include all the actions taken by people to recognise, treat and manage their own health.” – NHS England (2020)

Self-management

- Therapeutic Alliance – **positive affect**
- Education
- Exercise & Physical Activity
- Lifestyle - **sleep hygiene, weight loss, alcohol intake, smoking cessation, stress management etc.**







- Corticosteroid most used.
- Anecdote > evidence
- ?Hyaluronic acid
 - Poor quality studies
 - NICE: Do not recommend



BMJ Open Injection therapy for base of thumb
osteoarthritis: a systematic review
and meta-analysis

- **Equivocal evidence**
 - CSI vs HA vs. Dextrose vs. Placebo vs. Non-injection
- **EULAR (Kloppenburger 2018):**
 - Should not generally be used for 1st CMC, but may be considered in painful interphalangeal joints

When should an Orthopaedic opinion be considered?

(When discussed, and agreed with the person with OA)...

- Degree of pain/stiffness causes considerable functional compromise despite optimised, non-surgical treatment.
- Diagnosis not clear*

Shared-decision making

- “therapists and patients collaboratively making a health-related decision after having discussed the options, the likely benefits and harms of each option, and considered the patient's values, preferences and circumstances.” – Hoffmann et al. (2020)
 - Who does this work for?
 - Will I have less pain?
 - Will I be able to do more?
 - What are the disadvantages?
 - What are the risks?

Nottinghamshire Integrated Care System

Osteoarthritis at the base of the thumb

QUESTIONS	WHAT IF I DO NOTHING?	LIFESTYLE CHANGES, REST AND GADGETS TO HELP WITH DAILY ACTIVITIES	EXERCISES, PAINKILLERS AND SPLINTING	LOCAL STEROID INJECTION INTO THE BASE OF YOUR THUMB.	THERE ARE A FEW SURGERY OPTIONS - THE MOST COMMON IS A TRAPEZIECTOMY WHICH IS WHERE A SMALL BONE AT THE BASE OF THE THUMB IS REMOVED
Who does this treatment work best for?	This is suitable for everyone.	This is suitable for everyone. People with mild to moderate symptoms.	This is an option which is suitable for everyone. People with mild to moderate symptoms.	People with moderate to severe symptoms. If you have tried other treatments (apart from surgery) and they have not helped.	If you have tried other treatments and they have not helped. If you can't use your thumb because it is painful.
Will I have less pain? Will I be able to do more?	Your symptoms can improve by resting the joint.	You may find it easier to do the things you normally do every day.	These methods can help to make day to day tasks easier.	This may improve your symptoms.	If other treatments have not worked, this may provide long term symptom relief. You may continue to have pain. You should be able to go home on the same day.
What are the disadvantages?	Your symptoms may come and go and everyday tasks may get harder to do.	You may need to change the way you do some of the things you normally do every day.	You may need to change the way you do some of the things you normally do every day.	Steroid injections are not suitable for people with certain medical conditions.	You may not be able to use your thumb normally for up to 6 months. You will have a scar. You may need between 3 weeks to 3 months off work, depending on your job. You may be unable to drive for up to 6 weeks.
Are there any risks?	There are no risks.	There are no risks.	There is a small chance of having a skin reaction to the splint.	Repeat injections may speed up wear and tear of the joint. There is a very small chance of infection/ allergic reaction. Other mild side effects may occur.	There is a risk of infection, nerve injury or scar pain.
How successful is this treatment?	You might notice your symptoms improve, but your symptoms could also get worse.	You may find it easier to manage your pain and use your thumb.	You may find it easier to manage your pain and use your thumb.	You may find it easier to manage your pain and use your thumb. The more injections you have the less successful they become.	There is a high success rate for improving pain. Your grip strength may not improve.

Nottinghamshire Integrated Care System

Osteoarthritis of the finger (s)

QUESTIONS	WHAT IF I DO NOTHING?	LIFESTYLE CHANGES, REST AND GADGETS TO HELP WITH DAILY ACTIVITIES	EXERCISES, PAINKILLERS AND SPLINTING	LOCAL STEROID INJECTION INTO THE FINGER	THERE ARE A FEW SURGERY OPTIONS - THE MOST COMMON IS FUSION OF THE JOINT AND THEN REPLACING THE JOINT
Who does this treatment work best for?	This is suitable for everyone.	This is suitable for everyone. People with mild to moderate symptoms.	This is an option which is suitable for everyone. People with mild to moderate symptoms.	People with moderate to severe symptoms. If you have tried other treatments (apart from surgery) and they have not helped.	If you have tried other treatments and they have not helped. If you can't use your finger(s) because they are painful.
Will I have less pain? Will I be able to do more?	Your symptoms can improve by resting the joint.	You may find it easier to do the things you normally do every day.	These methods can help to make day to day tasks easier.	You may have less pain and be able to use your finger more.	You should be able to go home on the same day. If other treatments have not worked, this may provide long term symptom relief.
What are the disadvantages?	Your symptoms may not improve and may stop you doing some of the things you normally do every day.	You may need to change the way you do some of the things you normally do every day.	You may need to change the way you do some of the things you normally do every day.	Steroid injections are not suitable for people with some medical problems. The injection may be painful.	Movement of your joint will be reduced after surgery. You may need more surgery to remove metal work. You will have a scar
Are there any risks?	There are no risks.	There are no risks.	There is a small chance of having a skin reaction to the splint.	The fleshy part of your finger may get thinner. Repeat injections may speed up wear and tear of the joint. There is a very small chance of infection/allergic reaction. Other mild side effects may occur.	Your pain may continue. There is a risk of infection, nerve injury or scar pain (about 1 in 10 people). For a small number of people surgery will not work.
How successful is this treatment?	Some people may notice their symptoms improve, but other people might notice their symptoms get worse.	Some people may notice their symptoms improve, but other people might notice their symptoms get worse.	You may find it easier to manage your pain and use your finger(s).	You may find it easier to manage your pain and use your finger(s). There is limited research evidence into how helpful this treatment is for this condition. The more injections you have the less successful they become.	There is limited research evidence into how helpful surgery is, but pain relief is common.



OA whilst common ≠ well understood.

“Forgotten disease” of the Upper Limb

Paucity of evidence for ‘core treatments’ in the Upper Limb

Clinicians demonstrate good OA management through:

- Positive, considered language
- Clinical diagnosis with judicious use of imaging
 - Personalised care inc. SDM
 - Facilitating behaviour change
- Keeping abreast of the evidence base surround management options

Shameless Plugging...

The Complete Upper Limb Course

1-2 Days, Face-to-Face or Online

www.ncore.org.uk

Tennis Elbow – Online Masterclass

https://members.physio-pedia.com/course_tutor/andrew-cuff/

Tennis Elbow – A Clinical Update

<https://www.trustme-ed.com/lectures/tennis-elbow>

Rotator Cuff Related Shoulder Pain – A Clinical Update

<https://www.trustme-ed.com/lectures/rotator-cuff-related-shoulder-pain/andrew-cuff-shoulder-trailer>

Thank you & questions..?

