

Physiotherapy approaches to pain management in haemophilia care

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Te Whatu Ora

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Types of pain

- **Acute pain**

- Injury / damage related - bleed, inflammation
- Usually short lived
- Can usually be fixed
- Normally ends

- **Chronic pain**

- Peripheral changes e.g. joint damage / degeneration
- Neural changes – central or peripheral sensitisation
- Long lasting, possibly never goes away
- Not easily fixed
- Can be associated with other sensations
- Can be emotionally draining and fatiguing



Which person has pain?

1



2



3



Who is unable to work due to knee pain?

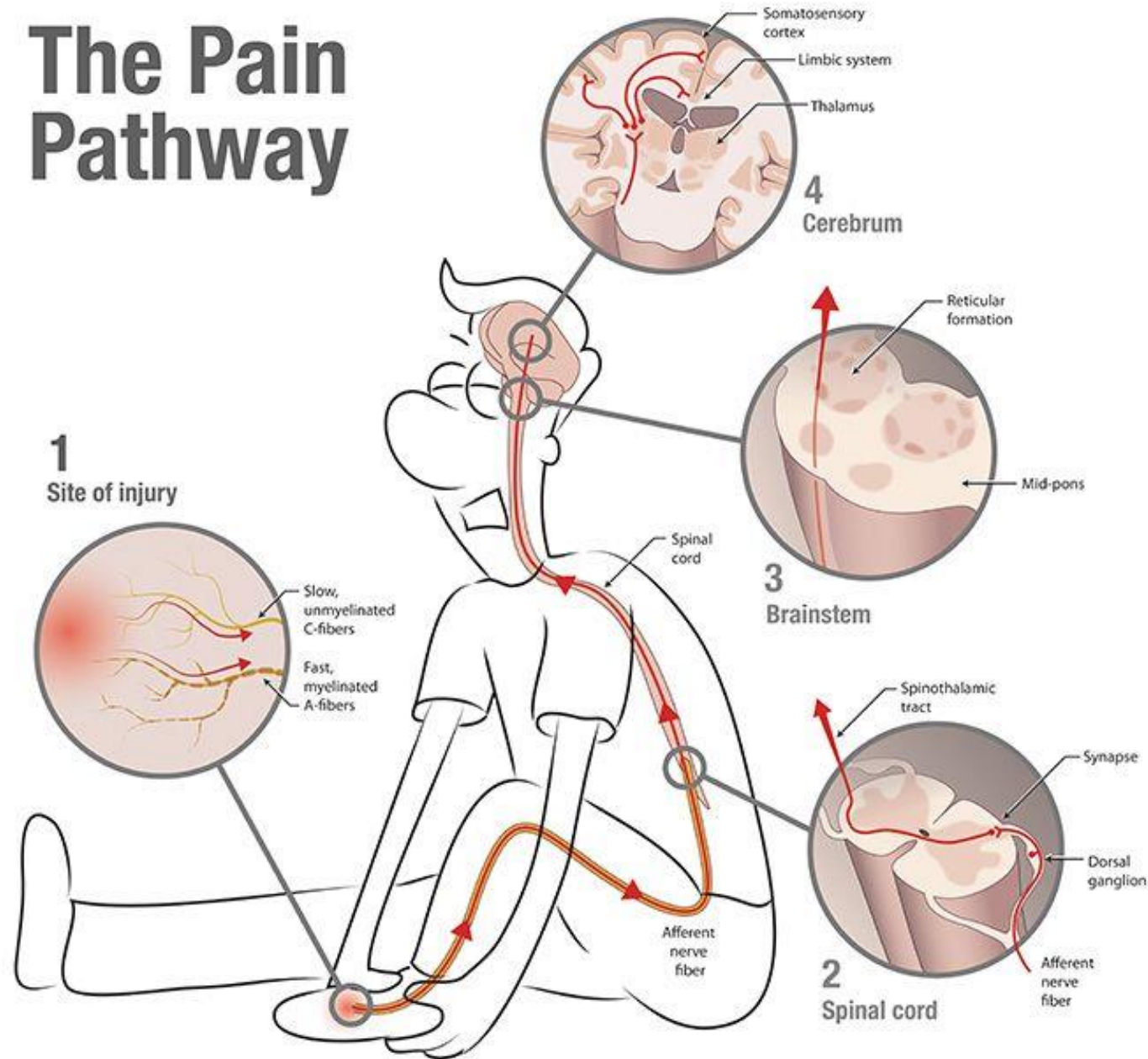


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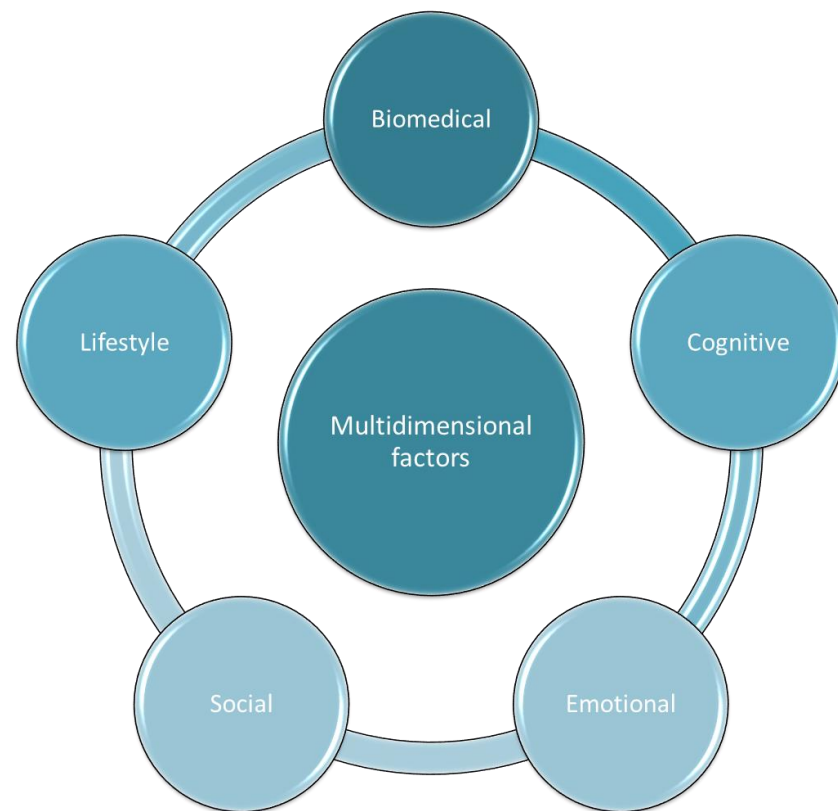
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The Pain Pathway



Multidimensional factors to pain:



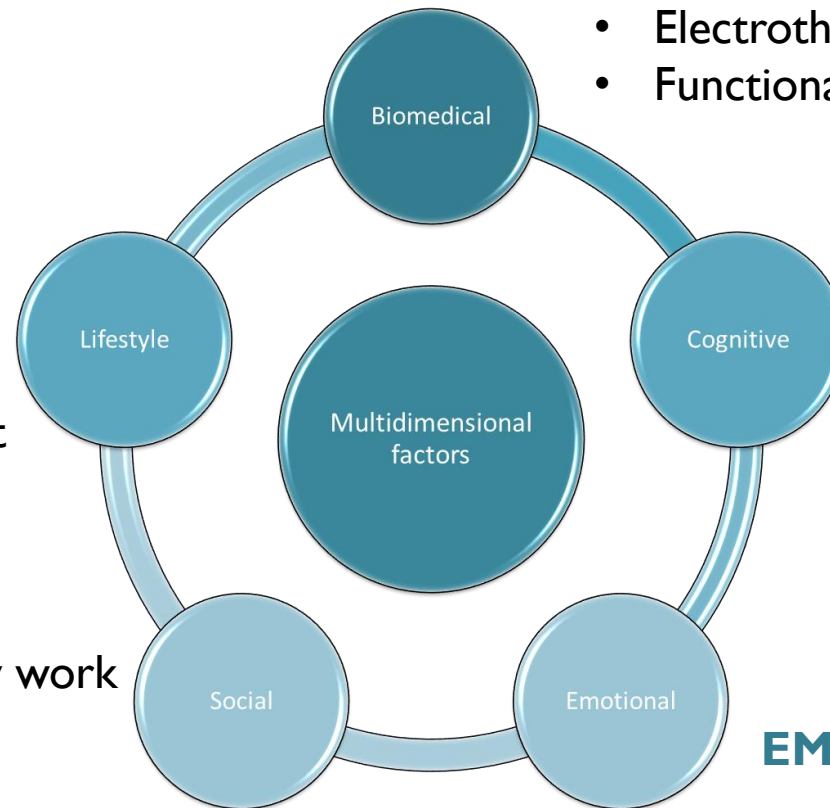
Multidimensional factors management options:

LIFESTYLE:

- Dietary advice
- Smoking cessation
- Exercise advice
- Social work involvement

SOCIAL:

- Education – patient, family work school
- Pacing education
- Functional activation
- Social work involvement
- Support networks – haemophilia service, haemophilia foundation



BIOMEDICAL:

- Surgery
- Steroid injections
- Orthotics
- Exercise
- Electrotherapy, acupuncture
- Functional adaptations

COGNITIVE:

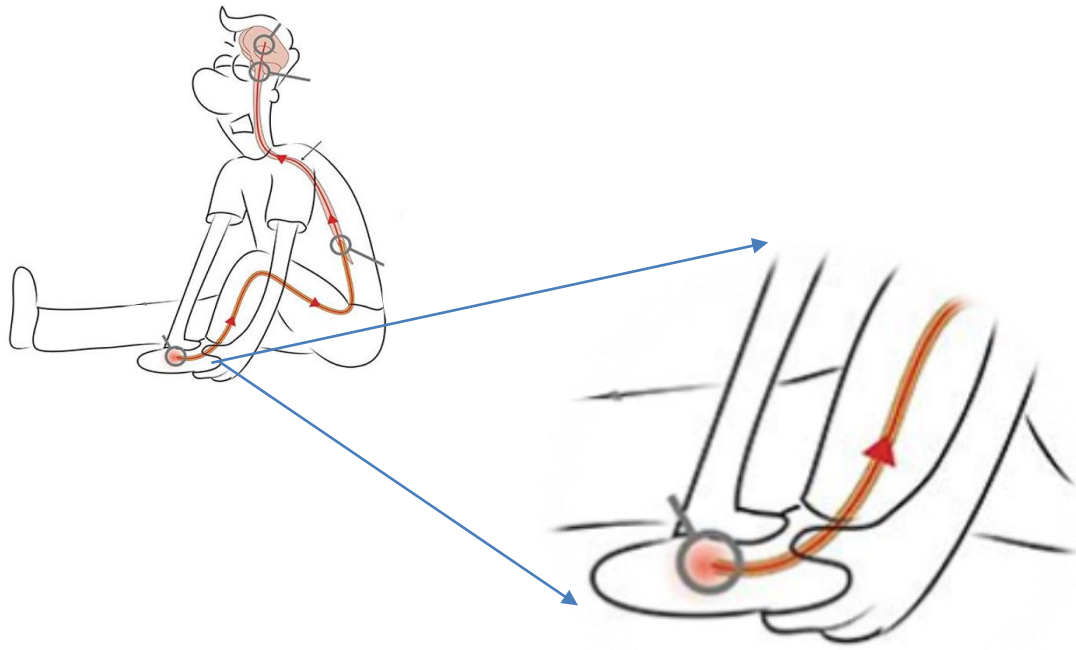
- Psychology input
- Pain education
- Graded exposure therapy
- Functional activation
- Cognitive behavioural therapy
- Acceptance and commitment therapy

EMOTIONAL:

- Psychology input
- Relaxation / meditation
- Stress management

Where does physio fit in?



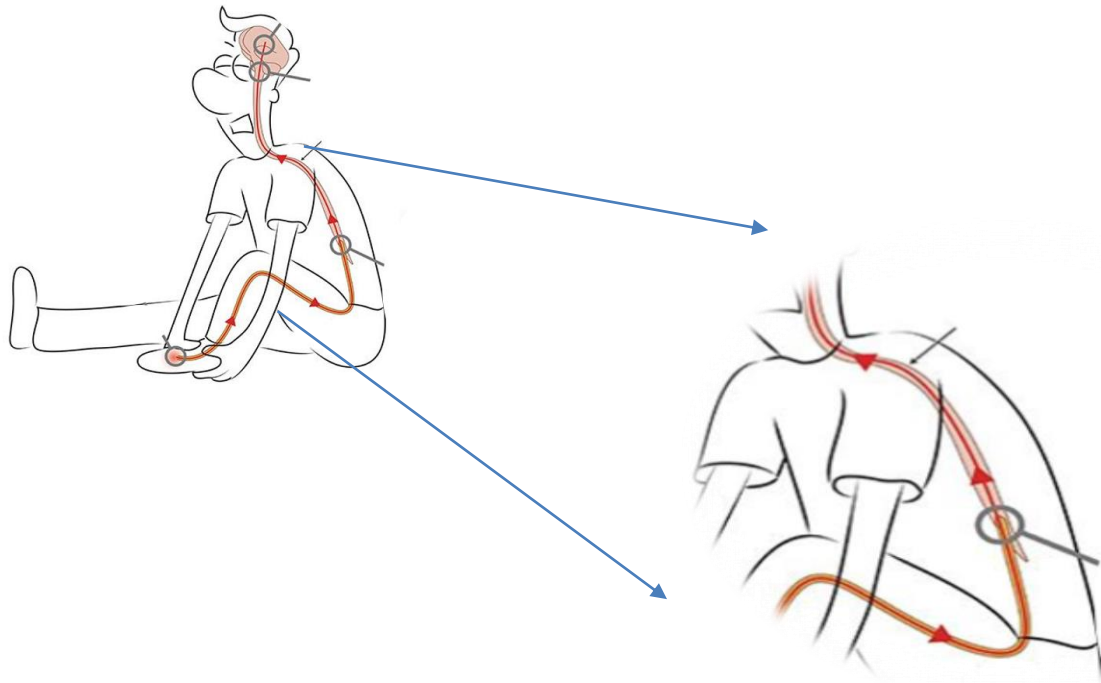


Focusing on the periphery

- Acute bleed management advice and first aid care
- Joint mobilisations
- Manual treatments
- Exercise
- Hydrotherapy
- Taping techniques
- Splinting/ orthotics
- Surgical recommendations

Aims :

- Limit further joint damage
- Improve joint alignment, strength and control

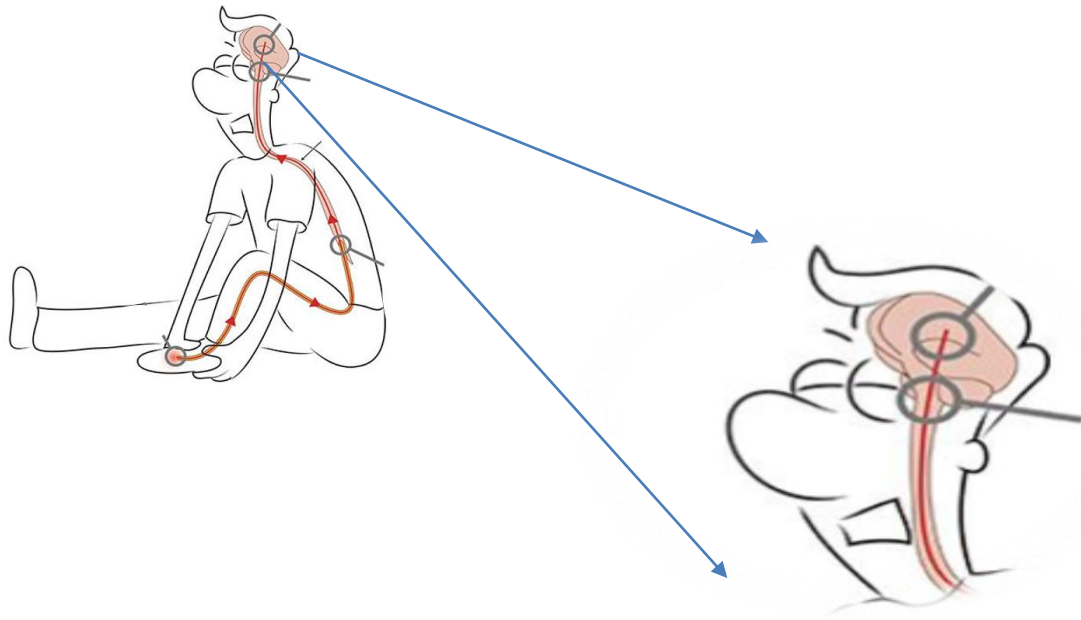


Focusing on nerve signalling

- Exercise
- Taping techniques
- Electrotherapy
- Acupuncture

Aims :

- Stimulate the pain gate mechanism
- Release of endogenous opioids



Focusing on the brain

Aims :

- Increase understanding about pain
- Reduce fear avoidance, health anxieties
- Increase overall fitness and activity engagement in a manageable manner
- Working towards goals
- Promote better quality of life

- Individualised pain education
- Functional reactivation
 - goal and task specific
- Building fitness for function
- Activity modification
- Pacing
- Graded exposure to feared activities
- Establishing positive routines
- Reinforcement of psychological concepts
- Desensitisation techniques
- Mirror therapy
- Visualisation and meditation
- Virtual reality

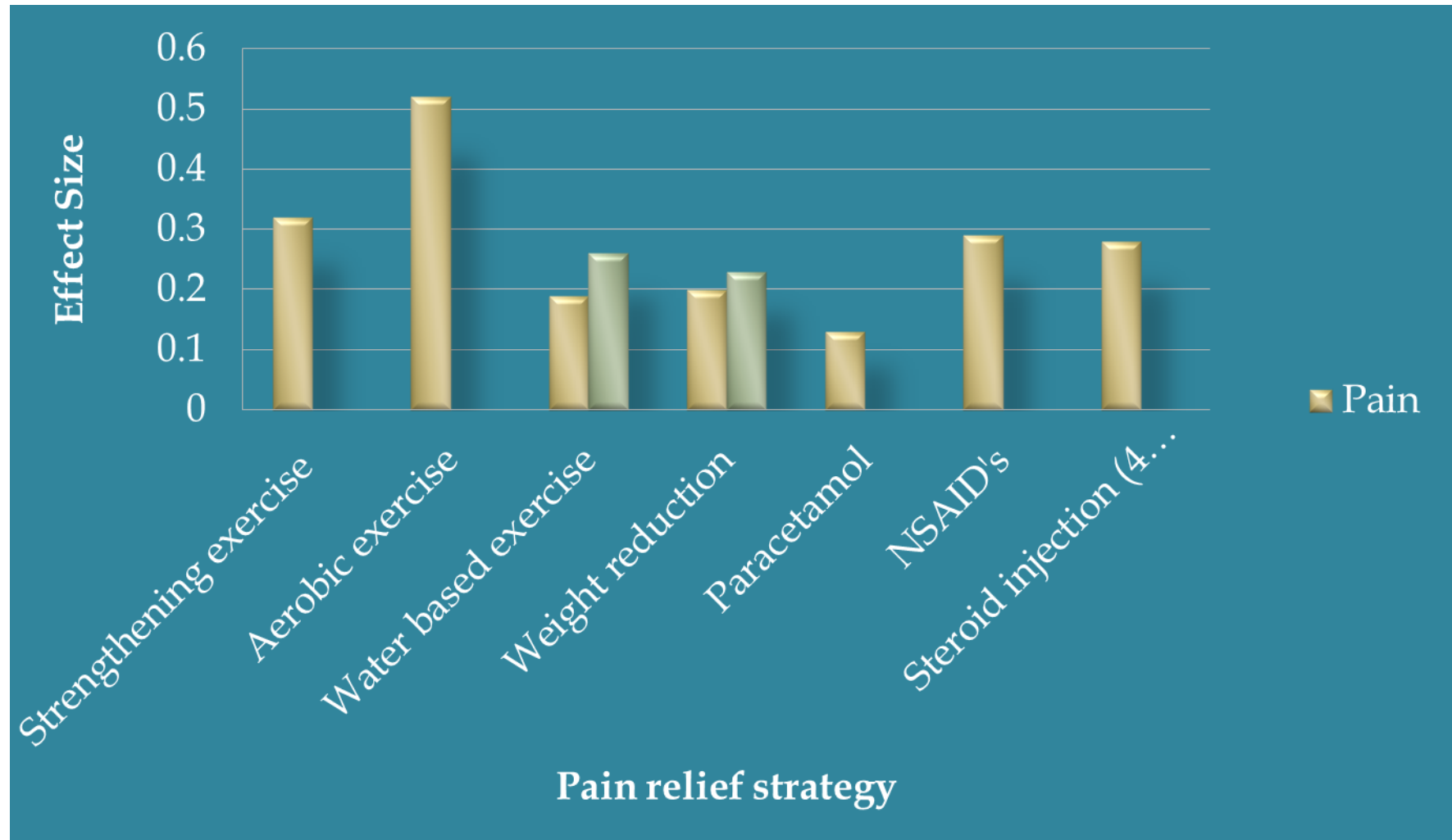
The Exercise Pill...



“To treat your high blood pressure, diabetes, hyperlipidemia, osteoporosis... take this new pill every day. Take it out for a jog, then take it to the gym, then take it for a bike ride...”

Pain relief effect size

Exercise versus Medication



Common exercise approaches

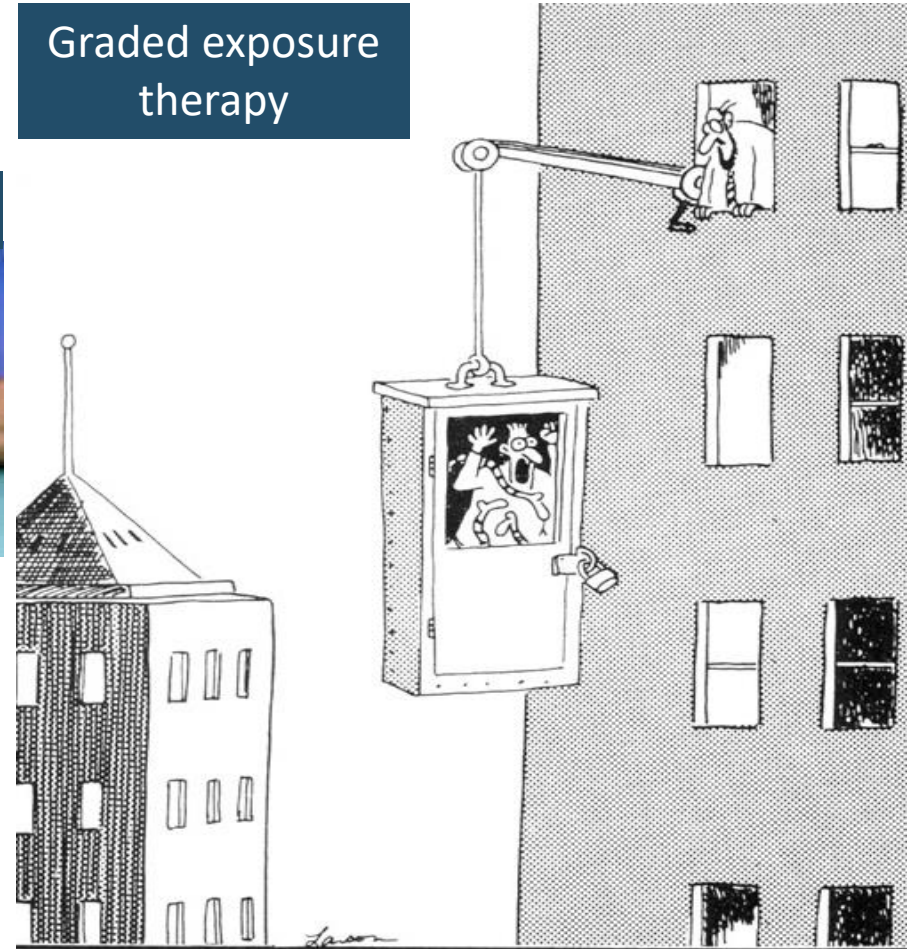
Building fitness for function



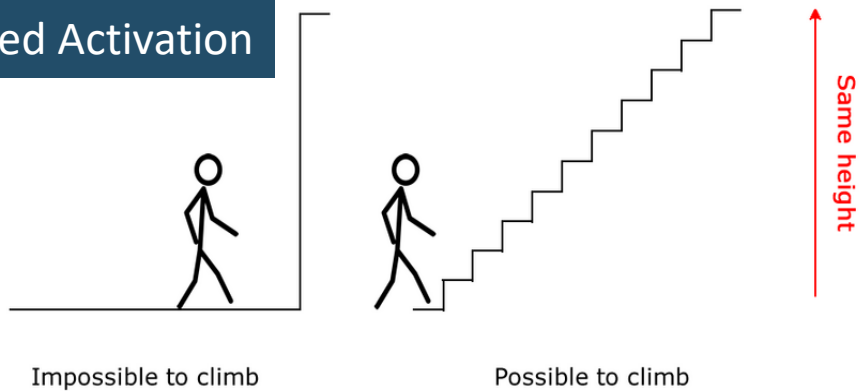
Targeted rehab



Graded exposure therapy



Graded Activation



Professor Gallagher and his controversial technique of simultaneously confronting the fear of heights, snakes, and the dark.

Psychologically Informed Physiotherapy

- Cognitive behavioural therapy (CBT)
 - Changing unhelpful thought processes to alter behaviour. Includes:
 - goal setting
 - activity pacing
 - exposure therapy
 - relaxation
 - distraction
 - problem solving.
- Acceptance and Commitment Therapy (ACT)
 - Accept pain and direct focus away from searching for a cure towards meaningful activities. Incorporates:
 - mindfulness,
 - activity engagement,
 - working towards values and goals
- CBT + physiotherapy for people with haemophilia and chronic pain improved pain, quality of life and fear avoidance (Garcia-Dasi et al., 2021)
- Superior outcomes for physiotherapy used alongside psychological approaches compared to physiotherapy alone for many chronic pain conditions (Kamper et al., 2015; Hajjhasani, et al., 2019; Godfrey et al. 2020)

Case I



Multidimensional factors to pain

Factors	Description
Biomedical factors	<ul style="list-style-type: none">• Severe haemophilia A• Haemarthropathy right ankle• Acute ankle bleed• Altered right lower limb mechanics and alignment
Cognitive factors	<ul style="list-style-type: none">• Uncertainty of why bleed not settling• Prior history of ankle problems – traumatic memories from this
Emotional factors	<ul style="list-style-type: none">• Fed-up• Frustrated
Social factors	<ul style="list-style-type: none">• Working from home, but reduced concentration secondary to pain• Not able to do usual exercise and sports
Lifestyle factors	<ul style="list-style-type: none">• Sedentary at present• Poor sleep

Physiotherapy input

- Bleed management advice - RICE
- Temporary shoe inserts and equipment provisions
- Referral to orthotics
- Exercise advice for general fitness
- Provision of TENS machine
- Sleep management advice
- MDT liaisons
- Referral to Orthopaedics

Outcomes

- Managing the pain better but not resolved
- Continued work
- Increased engagement socially
- Awaiting ankle fusion surgery through Orthopaedics



Case 2



Multidimensional factors

Factors	Description
Biomedical factors	<ul style="list-style-type: none">• Severe haemophilia A• Early arthropathy• Thickened synovium with repeated bleeds• Reducing range of motion (though functionally not significant)
Cognitive factors	Nil concerns
Emotional factors	Nil concerns
Social factors	Nil concerns
Lifestyle factors	Nil concerns

Physiotherapy input

- Education on bleed recognition and management advice
- Provision of equipment to off load joint
- Liaisons with the MDT to increase prophylaxis dosage

Outcomes

One year later

- No further bleeding episodes
- Synovium improved on repeat imaging
- Still no pain

- Continuing to enjoy soccer



Case 3



Multidimensional factors to pain

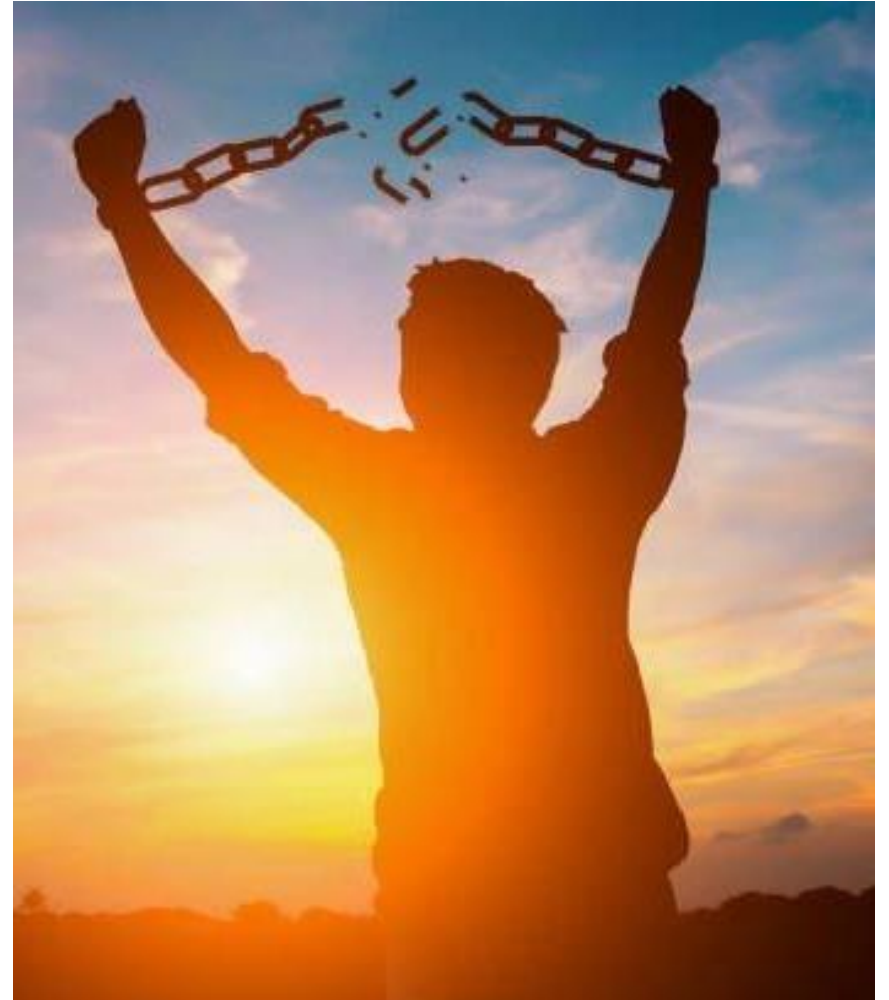
Factors	Description
Biomedical factors	<ul style="list-style-type: none">• Severe haemophilia A• Multi-joint haemarthropathy (especially ankles, left elbow)• Altered lower limb and left elbow mechanics and alignment• Deconditioned – stiff, weak and reduced cardiovascular capacity
Cognitive factors	<ul style="list-style-type: none">• Pain hypervigilance• Concern of severity of pathology – not wanting to end in a wheelchair• Low self-efficacy• Lack of understanding about pain• Avoidance behaviour• Poor motivation
Emotional factors	<ul style="list-style-type: none">• Anxiety• Depression• Helplessness• Guilt and frustration
Social factors	<ul style="list-style-type: none">• Social withdrawal (friends, family, hobbies)• Unable to work (identity, income, social network)• Financial restraints
Lifestyle factors	<ul style="list-style-type: none">• Highly sedentary lifestyle• Activity avoidance

Physiotherapy input

Factors	Therapy offered:
Biomedical factors	<ul style="list-style-type: none">• Referred to orthotics• Education• Home and gym based exercise prescription
Cognitive factors	<ul style="list-style-type: none">• Education – understanding pain, management options, benefits of exercise• Exercise – improving physical functioning, generalise strength and graded exposure to concerning tasks• Cognitive behavioural therapy –incl. goal setting, activity pacing, relaxation, distraction and problem solving.
Emotional factors	<ul style="list-style-type: none">• Cognitive behavioural therapy – considering goals, aspirations, hope for the future• Routine building• Exercise - endorphins
Social factors	<ul style="list-style-type: none">• Encourage engagement in hobbies previously consider impossible• Encourage social engagement• Routine building• Consider viable work options
Lifestyle factors	<ul style="list-style-type: none">• Building activity intake• Encourage less time at home, engaging in nature• Diet advice

Outcomes

- HJHS score unchanged **BUT**,
- Increased fitness
- Increased confidence
- Reduced depression and anxiety levels
- Increased social engagement
- Participating in sporting events
- Commenced employment



Summary

- Not all pain is related to a bleeding episode
- Chronic pain is complex and needs to be assessed from all angles
- There are a large variety of non-pharmacological approaches that can help for managing pain and improving quality of life
- Contact your team for assessment and support