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LBP
Treatment
Interventions &
Management
(Conservative)

Module 5a



Treatment Interventions Overview

1. An individualised approach to LBP treatment is imperative
2. LBP is complex & multifactorial, multiple treatment interventions are generally required
3. A multidisciplinary biopsychosocial approach will optimize treatment outcomes




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P R E S E N T S

Treatment Interventions Overview

1. Education & Advice
2. Biopsychosocial Rehabilitation
3. Cognitive Behavioural Therapy
4. Cognitive Functional Therapy
5. Passive Interventions
6. **EXERCISE**



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P R E S E N T S

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Education & Advice

- **Educate** - Pathology and/or Non-Specific/Multifactorial aspect of pain, Imaging
- **Reassure** - Likelihood of non-serious pathology and resolution, keep active and engaged with work, friends, leisure and social activities
- **Motivate** - Move with confidence, ensure mental and physical wellbeing





Education & Advice

Practical Application O'Sullivan et al - 2019

1. Persistent back pain can be scary, but it's rarely dangerous

- It can be distressing and disabling, but it's rarely life-threatening and you are VERY UNLIKELY to end up in a wheelchair.

2. Getting older is not a cause of back pain

- Although it is a widespread belief and concern that getting older causes or worsens back pain, research does not support this, and evidence-based treatments can help at any age.

3. Persistent back pain is RARELY associated with serious tissue damage

- Backs are strong – if you have an injury, tissue healing occurs within three months. So if pain persists beyond this timeframe, it usually means there are other contributing factors. A lot of back pain begins with no injury or with simple, everyday movements. These occasions may relate to stress, tension, fatigue, inactivity or unaccustomed activity which make the back sensitive to movement and loading.



Education & Advice

Practical Application O'Sullivan et al - 2019

4. Scans rarely show the cause of back pain

- Lots of scary-sounding terms can be reported on scans such as “disc bulges”, “protrusions” or “prolapse” etc. However, the reports don't say that these findings are very common in people without back pain symptoms and they don't relate to how much pain you feel or how disabled you are. Scan results can also change and most disc prolapses shrink over time.

5. Pain with exercise and movement doesn't mean you are doing harm

- When pain persists, the spine and surrounding muscles can become really sensitive to touch and movement. The pain you feel during movement and activities reflects how sensitive your structures are, NOT how damaged you are. So it's safe and normal to feel some pain when you start moving and exercising, and it usually settles down with time as you get more active. In fact, exercise is one of the most effective ways to treat back pain.



Education & Advice

Practical Application O'Sullivan et al - 2019

6. Back pain is not caused by poor posture

- How we sit, stand or bend does not cause back pain even though these activities may be painful. A variety of postures are healthy for the back. It is safe to relax during everyday tasks such as sitting and bending.

7. Back pain is not caused by a “weak core”

- Weak “core” muscles do not cause back pain, in fact, people with back pain often tense their “core” muscles as a protective response. Imagine this is like clenching your fist very tightly after you’ve sprained your wrist, which can cause your forearm muscles to feel tense all the time and doesn’t help in relieving the ache that has now spread to the forearm muscles. Learning to relax the “core” muscles will be more helpful in managing back pain.

8. Backs do not wear out with everyday loading and bending

- In the same way, lifting weights makes muscles stronger, moving and loading make the back stronger and healthier. So activities like running, twisting, bending and lifting are safe if you start gradually and practice regularly.



Education & Advice

Practical Application O'Sullivan et al - 2019

9. Pain flare-ups don't mean you are damaging yourself

- While pain flare-ups can be very painful and scary, they are not usually related to tissue damage. The common triggers are things like poor sleep, stress, tension, worries, low mood, inactivity or unaccustomed activity. Controlling these factors can help prevent exacerbations, and if you have a pain flare-up, instead of treating it like an injury, try to stay calm, relax and keep moving!

10. Injections, surgery and strong drugs usually aren't a cure

- Spine injections, surgery and strong drugs like opioids aren't very effective for persistent back pain in the long term. They can have unhelpful side effects. Finding low-risk ways to put yourself in control of your pain is the key.



Education &
Advice


Chronic Pain

@Honest_Physio

PAIN MANAGEMENT GUIDEBOOK

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Helping people to live well with persistent pain by
developing strategies to manage the associated effects and
distress



**PAIN MANAGEMENT
GUIDEBOOK**

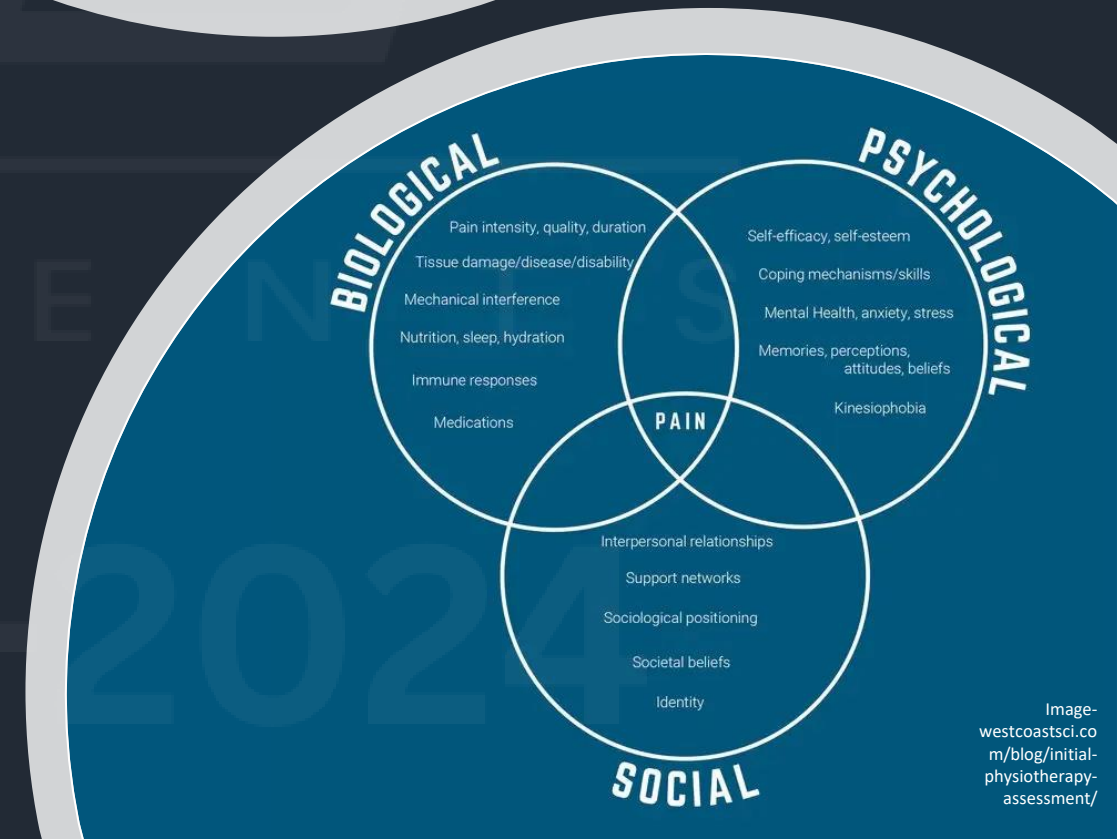
For those interested, here is a fantastic FREE resource on pain management for people living with chronic pain created by **The Honest Physio** – Helpful to explain and educate clients on pain science

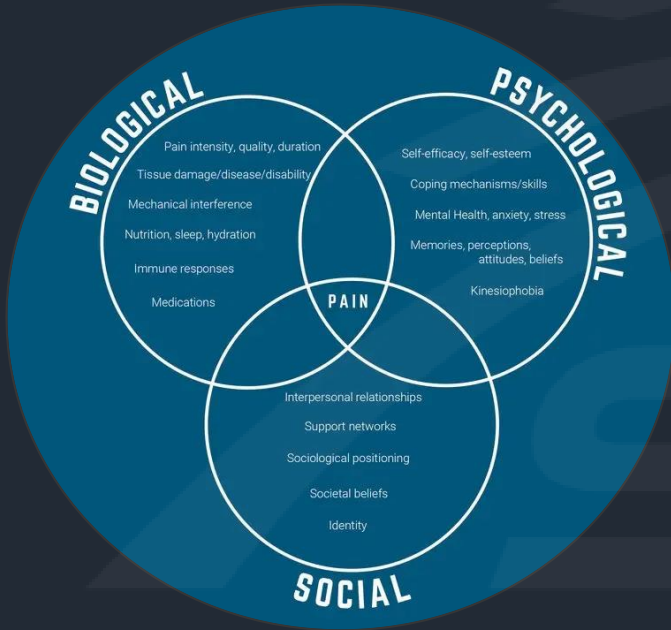
Download the free "Pain Management Guidebook" here <https://thehonestphysio.com/resources-to-download/>

Biopsychosocial Rehabilitation



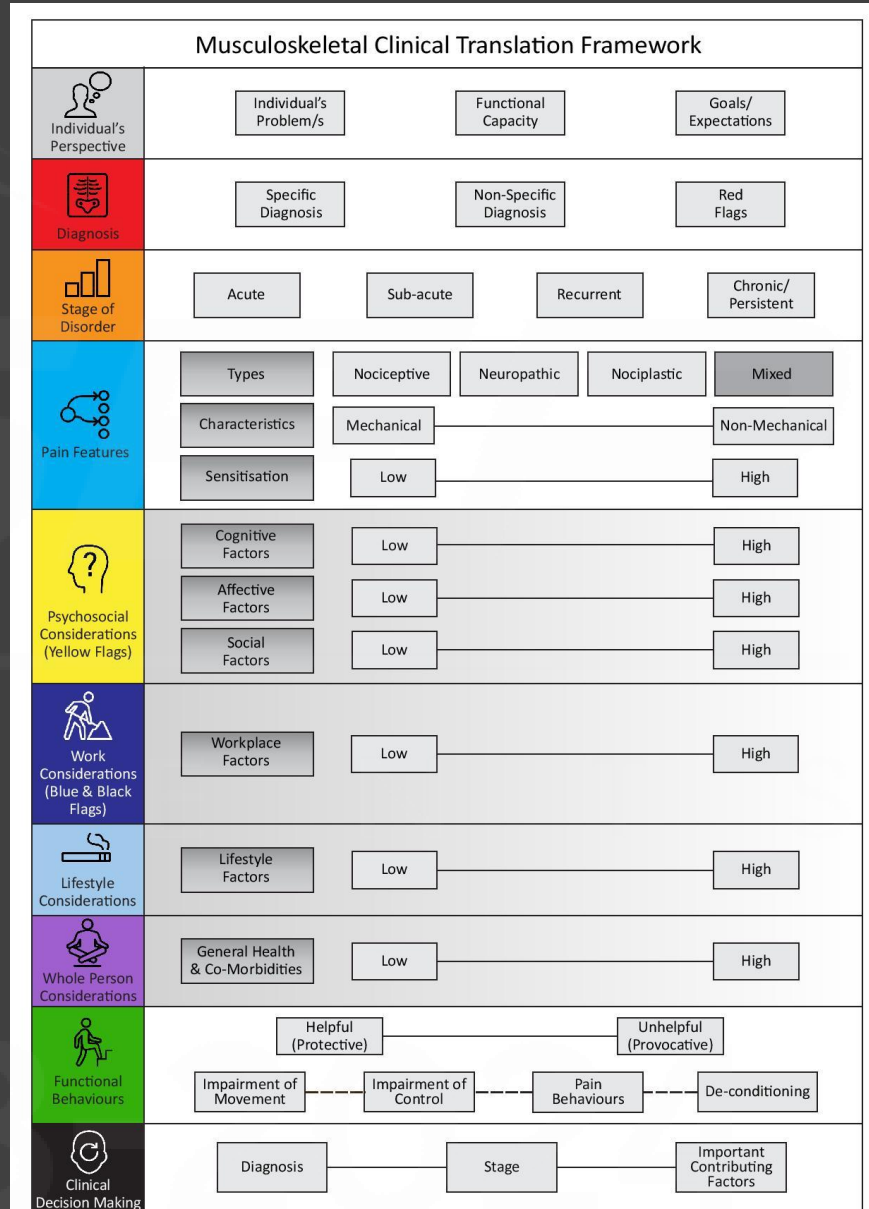
- Current best practice approaches for exercise interventions for chronic low back pain (CLBP) involve the addition of pain education under a biopsychosocial framework
- Consider the relationship between biological, psychological and social factors
- Identify factors specific to the individual that require intervention
- Assist with planning, referral, multidisciplinary management to target specific areas of concern
- Monitor effectiveness of plan and interventions

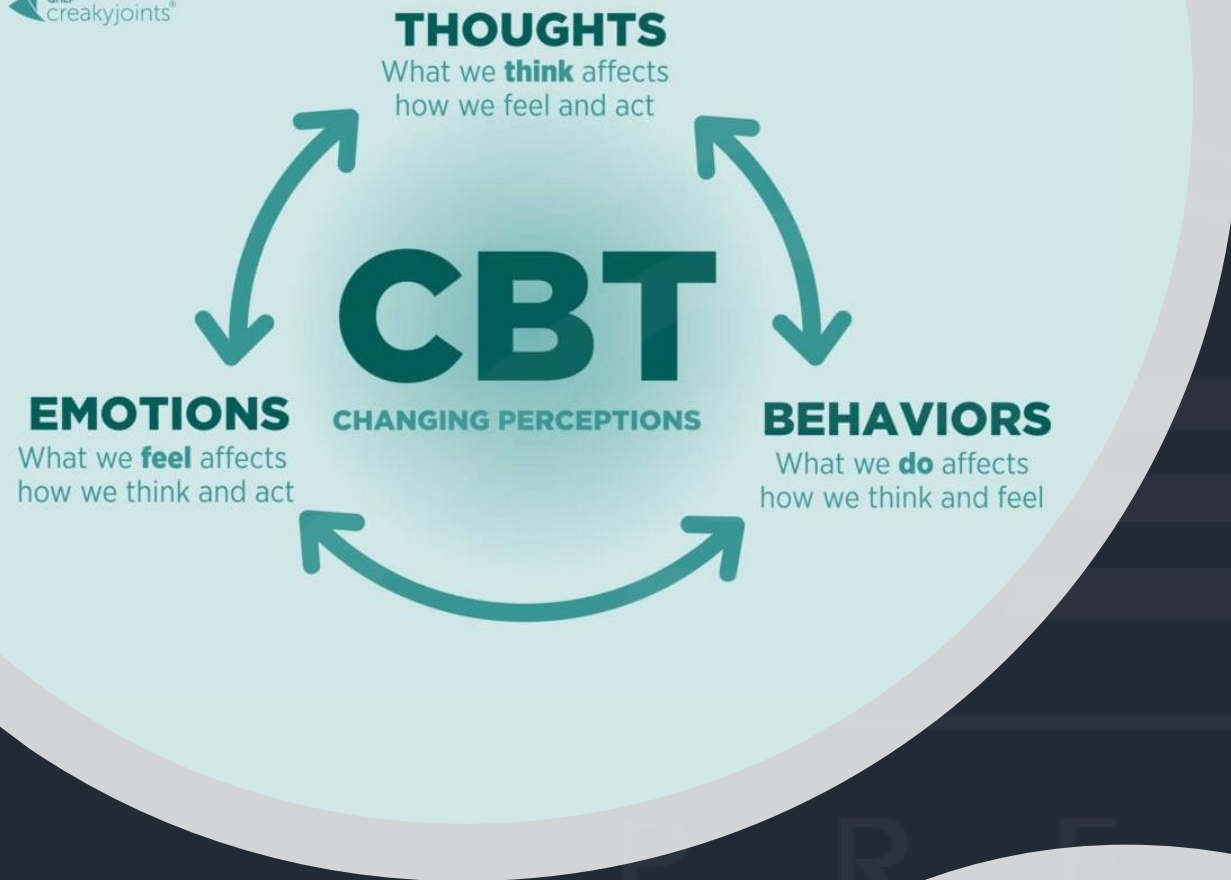




Biopsychosocial Rehabilitation

Practical Application

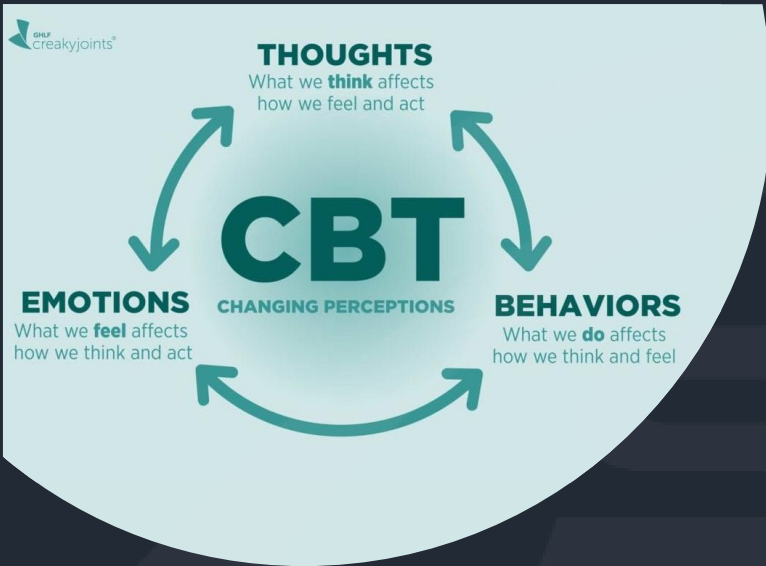




Cognitive Behavioral Therapy (CBT)

- To be completed or led by Qualified Psychologist
- CBT is an effective treatment intervention for a range of mental health conditions including; anxiety and depression
- CBT aims to identify and challenge unhelpful thoughts and to learn practical self-help strategies – BetterHealth AusGov
- CBT has been identified as a helpful treatment intervention for patients with chronic LBP





Cognitive Behavioral Therapy (CBT)

Practical Application

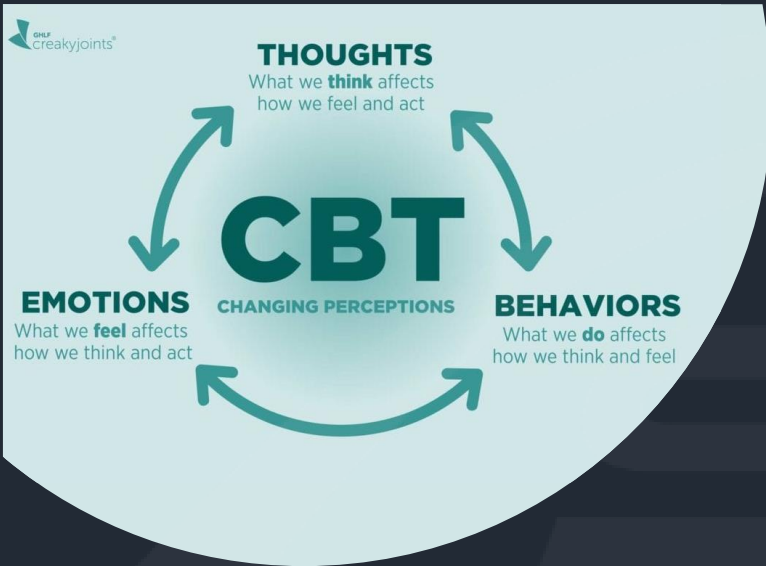
1. Referral to Psychologist

- Psychoeducational information on depression prevention and back pain
- Mood diary
- Planning for regular behavioral activation
- Learning and training of problem solving skills
- Recognition and prevention of rumination
- Introduction to mindfulness and acceptance
- Improving self-care and relaxation skills
- Integration of physical activity into daily life
- Techniques to build robust self-esteem
- Information on further treatment options regarding mental health

Optional content

- Healthy sleep: sleep hygiene, sleep restriction and stimulus control
- Partnership and sexuality: Communication skills, physical closeness and sexuality with focus on back pain specific problems
- Returning to workplace: Stress management, interpersonal competencies, problem-solving and physical exercises at the workplace

Fig. 3 Intervention content, based on Cognitive Behavioral Therapy (CBT), including back pain specific self-management



Cognitive Behavioral Therapy (CBT)

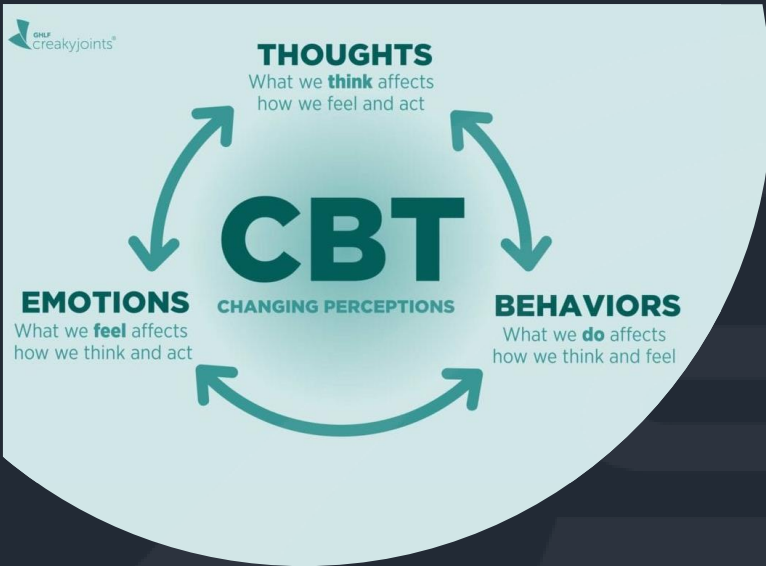
Practical Application

2. Ex Phys Interventions

- The combination of Physical Exercise and CBT has been shown to improve outcomes in regard to pain management, quality of life and improvements in mental health (specifically anxiety and depression)
- Literature has been shown Physical Exercise needs to be administered several times per week (2-3+) over several week (6-8wks +) to have greatest effect.
- Research suggests implementation of more individually tailored exercise programs will have most positive outcomes



Frederiksen et al 2021, Heinzl 2022



Cognitive Behavioral Therapy (CBT)

Practical Application

3. Ex Phys Interventions

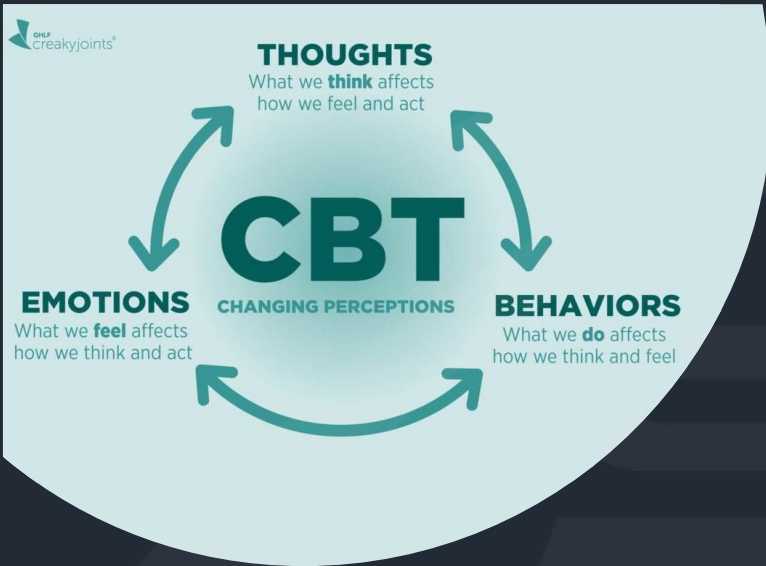
Activity Scheduling

Pacing

Graded Exposure



Cognitive Behavioral Therapy – info@cogbtherapy.com



Cognitive Behavioral Therapy (CBT)

Practical Application

3. Ex Phys Interventions

Mindfulness and Meditation

Relaxation & Breathing Exercises

Cognitive Restructuring

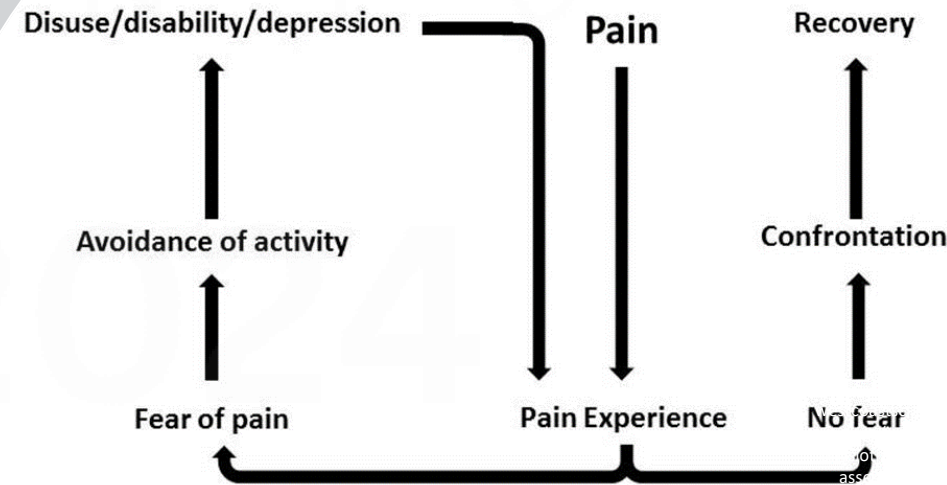


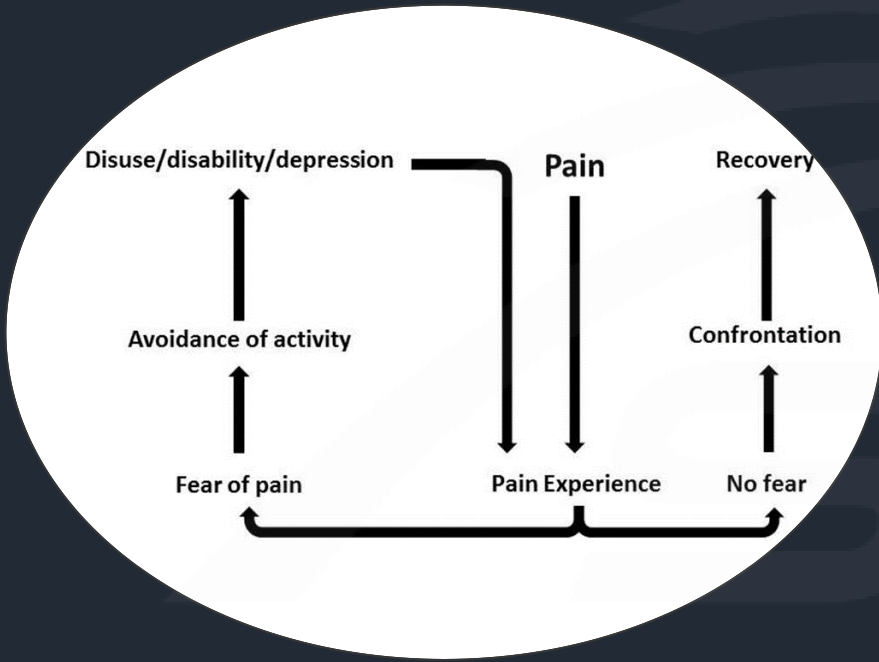
Cognitive Behavioral Therapy – info@cogbtherapy.com

Cognitive Functional Therapy (CFT)



- As presented by Prof Peter O'Sullivan - Cognitive functional therapy (CFT) is an individualized approach that targets unhelpful pain-related cognitions, emotions, and behaviors that contribute to pain and disability
- **Goals of CFT include:**
 - Providing effective patient centered education
 - Promoting active coping strategies
 - Facilitating goal-orientated behavioral change
 - Training mindfulness of body and movement
 - Targeted strengthening and conditioning as required by the functional goals of the patient





Cognitive Functional Therapy (CFT)

Practical Application

1. Addressing Negative Beliefs

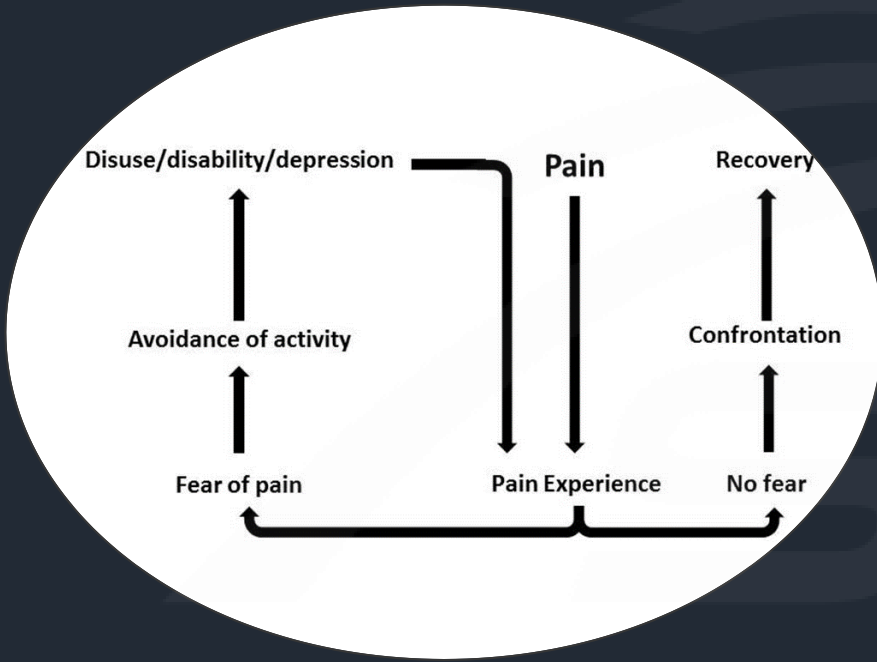
- Providing effective patient-centered education regarding the multidimensional mechanisms that drive the vicious cycle of pain and disability

2. Coping Strategies

- Promoting active coping strategies for pain and instilling confidence and hope for change

3. Goal Setting

- Facilitating goal-orientated behavioural change regarding stress management, sleep hygiene, physical activity, pacing, and diet



Cognitive Functional Therapy (CFT)

Practical Application

4. Mindfulness of Body & Movement

- Mindfulness of the body-mind responses to pain, movement, and its perceived threat
- Maladaptive movement and pain behaviors are identified and provocative movement patterns are broken down into component parts and retrained in a mindful/relaxed manner

5. Graded Exposure & Functional Goals

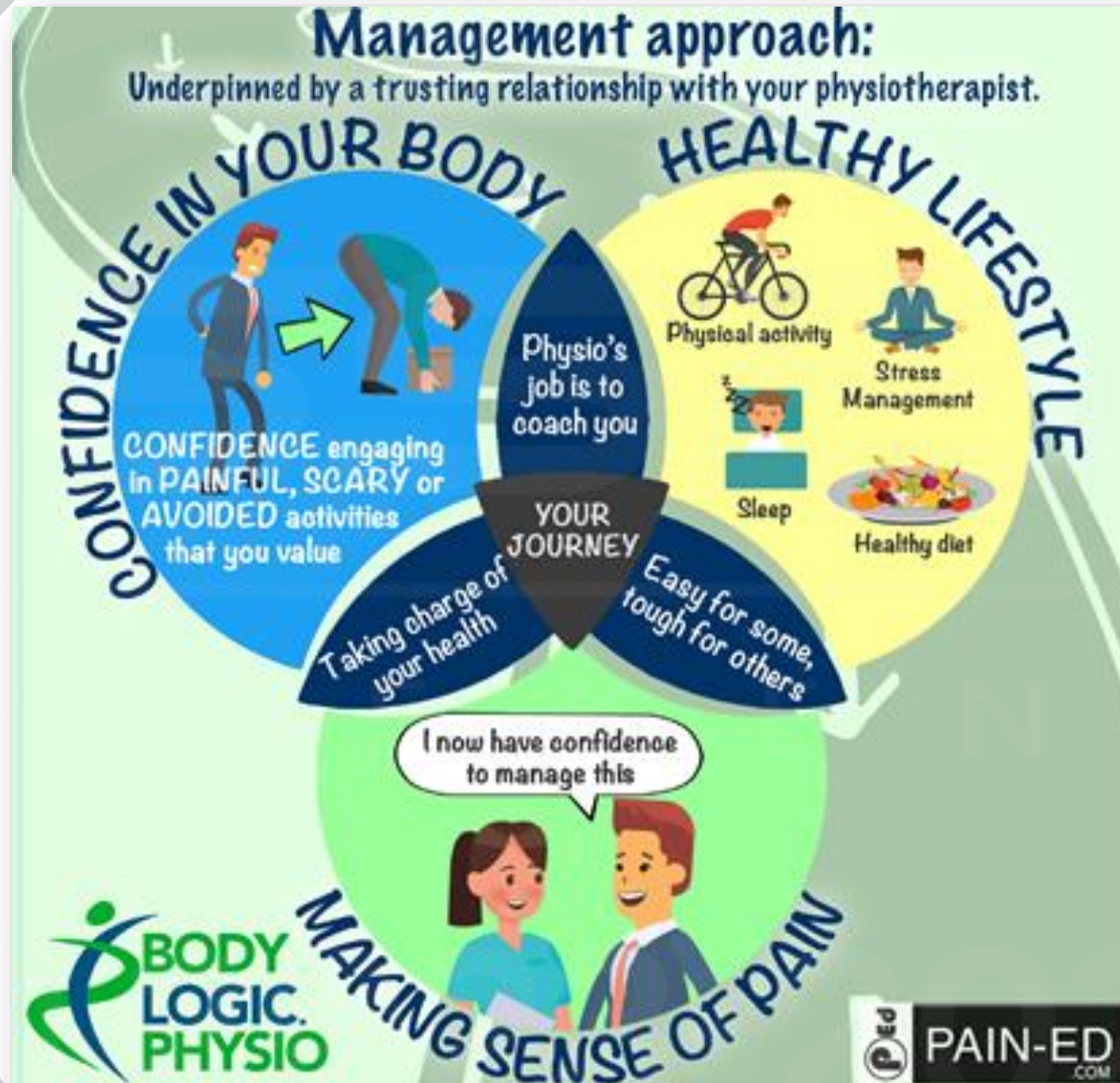
- Targeted strengthening and conditioning are incorporated as required by the functional goals of the patient

Adam Meakins Summary of CFT 2016

TAKING CONTROL OF PERSISTENT PAIN: THE JOURNEY

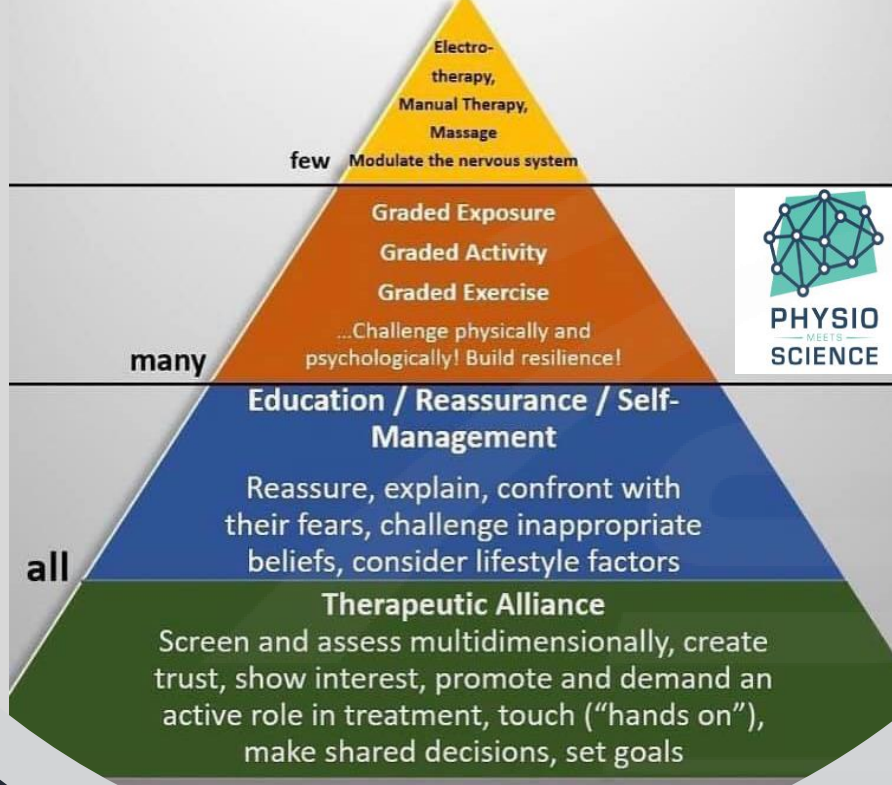
Infographic by: [KWernliPhysio](#) [PeteOSullivanPT](#) [JPCaneiro](#)



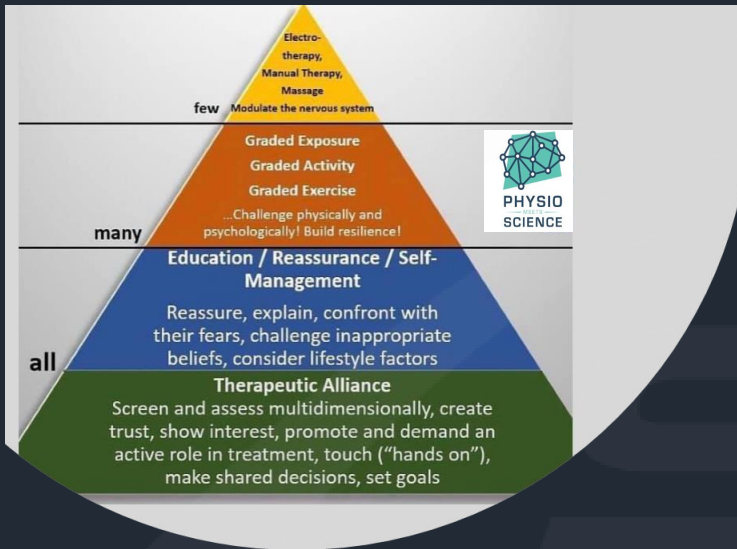




Passive & Manual Interventions



- To be completed by Qualified Physiotherapist, Chiropractor, Osteopath or another qualified manual therapist
- There is limited literature and evidence to support the use of passive based interventions in the treatment of chronic low back pain
- Some limited literature supports specific passive interventions IF used in conjunction with education and active based treatment approaches



Australian Low Back Pain Clinical Care Standard 2022

- Prioritizing active management strategies (such as physical activity, social connection, healthy sleep habits and use of heat) over passive strategies (such as pain medicines, activity avoidance and massage)

NICE Guidelines – Low Back Pain and Sciatica in over 16s 2017

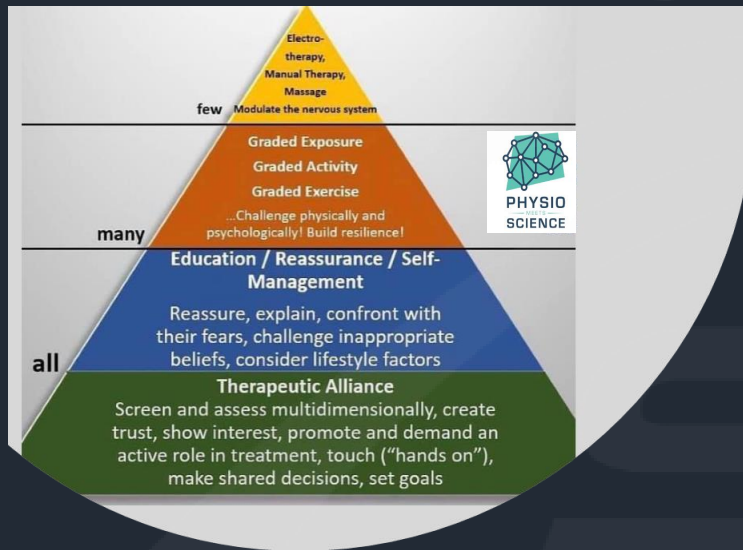
- Consider manual therapy (spinal manipulation, mobilization or soft tissue techniques such as massage) for managing low back pain with or without sciatica, but only as part of a treatment package including exercise, with or without psychological therapy
- There is no research or literature to support the use of; traction, acupuncture or electrotherapies

Passive Interventions

Literature & Evidence Review (1)



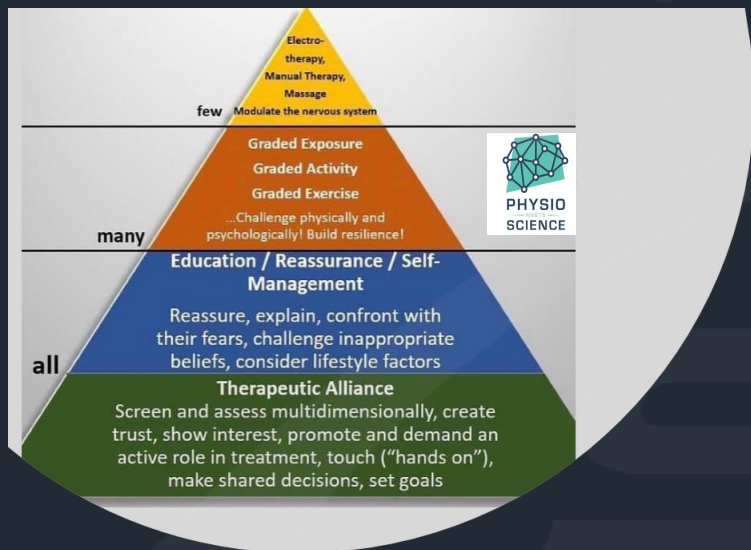
The Physio Treatment Pyramid – Adam Meakins – The Sports Physio



Interventions for the management of acute and chronic low back pain – JOSPT 2021

Passive Interventions Literature & Evidence Review (2)

- KEY POINTS FOR MANUAL AND OTHER DIRECTED THERAPIES
- Acute LBP: Thrust or non-thrust joint mobilization, massage, and soft tissue mobilization have some evidence of reducing pain and disability for individuals with acute LBP. There is no evidence to support the use of other directed therapies for individuals with acute LBP. Chronic LBP
- Chronic LBP: Most studies support only short-term effectiveness for any manual or passive therapies. Traction is not supported by the current evidence as beneficial when added to other interventions for individuals with chronic LBP with leg pain



The Lancet – Non-Specific Low Back Pain 2017 & 2021

- Acute Low Back Pain: Non-pharmacological therapies for acute low back pain include treatments such as manual therapy, exercise, massage, and acupuncture. Guidelines vary in their recommendations for these therapies. One approach is to only consider these therapies for patients who do not respond to first-line care (education, reassurance, and analgesic medicines).
- Chronic Low Back Pain: Non-pharmacological treatments are emphasized over pharmacological interventions in the management of persistent non-specific low back pain. A broader range of non-pharmacological therapies are endorsed, but these vary by endorsing body.
- Employing a multidisciplinary rehabilitation team was endorsed by nine of 11 guidelines for chronic low back pain in the Lancet review

Passive Interventions Literature & Evidence Review (3)

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“There is unequivocal evidence supporting exercise in the treatment and management of chronic low back pain” – Booth 2014

EXERCISE

“Guidelines recommend education that supports self-management, and resumption of normal activities and safe exercise is most appropriate for acute & chronic low back pain management” –

Low Back Pain Clinical Care Standard 2022



Exercise Interventions

- Exercise in conjunction with education
- Exercise interventions for acute low back pain should focus on restoring capacity to return to normal activities, exercise, hobbies and work duties
- Exercise interventions for chronic low back pain should focus on building confidence and capacity



Exercise Interventions

Goals

1. Improve or eliminate any impairments to back flexibility and strength, and improve performance and endurance during activities



Rainville, J., Hartigan, C., Martinez, E., Limke, J., Jouve, C., & Finno, M. (2004). Exercise as a treatment for chronic low back pain. *The Spine Journal*, 4(1), 106-115.

Exercise Interventions

Goals

2. Reduce the intensity of back pain and/or symptoms



Rainville, J., Hartigan, C., Martinez, E., Limke, J., Jouve, C., & Finno, M. (2004). Exercise as a treatment for chronic low back pain. *The Spine Journal*, 4(1), 106-115.

Exercise Interventions

Goals

3. Minimizing disability by desensitization of excessive fears and concerns about back pain



Rainville, J., Hartigan, C., Martinez, E., Limke, J., Jouve, C., & Finno, M. (2004). Exercise as a treatment for chronic low back pain. *The Spine Journal*, 4(1), 106-115.

Exercise Interventions

What type of exercise works?

The many different forms of exercise have shown similar benefits for chronic LBP. Therefore, exercise programs are probably best chosen according to issues such as patient and clinician preferences, accessibility and costs



Exercise Interventions

What type of exercise works?



Exercise interventions reported in the literature generally include one or more of the following elements:

- Core or trunk strengthening
- Flexibility and stretching
- Aerobic exercises, resistance training and functional restoration activities



Education and incorporation of psychological principles (pacing or goal setting) is an important aspect of delivering exercise and advice to clients



Exercise Interventions

Specific Exercise Modalities

There has been a series of specific exercise modalities presented in the literature for the management of lower back pain. These are generally presented/given to patients in the acute stages based on Physiotherapist or Exercise Physiologist experiences, biases, preferences and/or assessments



Exercise Interventions

Specific Exercise Modalities

Ongoing literature supports that there is no exercise better than another; the best exercise is something that gets done, can be graded and improves a person's confidence and self-efficacy in recovery and ongoing maintenance of high-level function

Walking & strengthening exercise work equally well – Vanti et al 2016

Core Stability & aerobic exercise work equally well – Saragiottiet al 2016

Stabilisation & strengthening exercise work equally well – Searle et al 2015

Low load control & heavy load deadlifts work equally well – Aasa et al 2015

There is low quality evidence that presents core stability, motor control, resistance and aerobic exercise work equally effective – Owen et al 2020

• As Presented by Adam Meakins – Back Pain Fundamentals



Review of Learning #6

Treatment Interventions

- You have been treating a 40yr old male client with back pain for the last 3 months, he is currently seeing his Physiotherapist 2 x per week for manual treatment and seeing you 1 x per week for active based Exercise Physiology
- He reports only short-term pain relief from manual treatment and wants advice as to why he isn't improving from 3 treatment sessions per week
- He is self-employed and reports he is very stressed about having extended time off work and is unsure as to when he will be able to return to work as bending & lifting is the most provocative movement



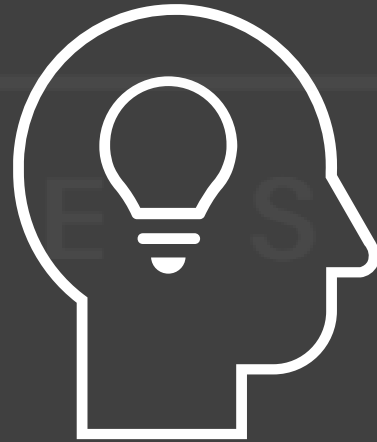
Review of Learning #6 Treatment Interventions



What advice would you give to him regarding optimal treatment interventions & self-management? He appears to be stressed regarding his injury what else could you do to support him?



Review of Learning #6 Treatment Interventions



- Provide advice as on manual therapy, supervised exercises and self-managed rehabilitation
- Increase exercise uptake
- Set goals for RTW
- Discuss psychological interventions to improve condition management and outlook



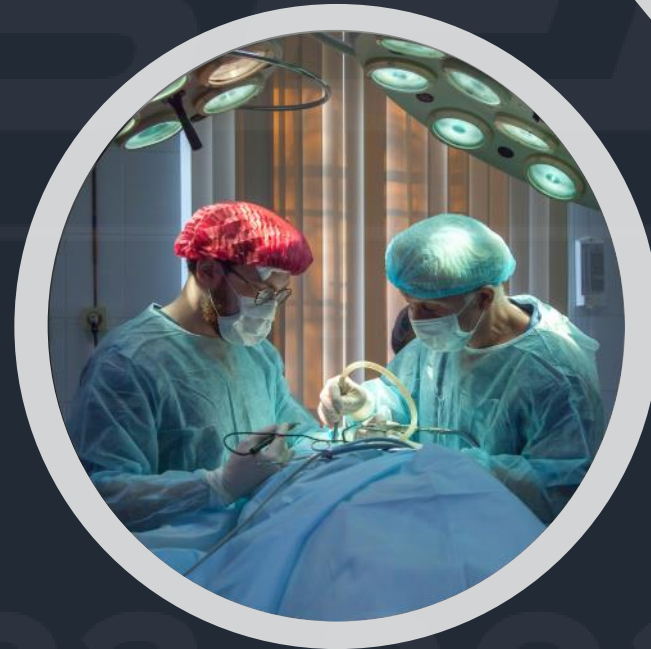
LBP Surgical Interventions

Module 5b



Surgical Interventions Overview

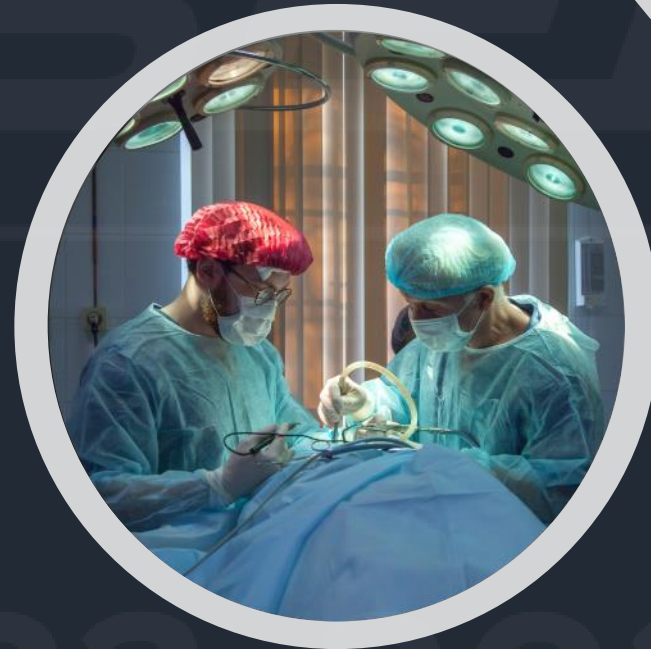
1. Acute LBP if frequently self-resolving although can lead to Chronic LBP
2. The transition of Acute LBP to Chronic LBP is often accompanied by anatomical, biological, psychological and social factors
3. Chronic LBP is generally best managed by a holistic biopsychosocial approach with generally non-surgical measures




P R E S E N T S

Surgical Interventions Overview

4. Although the above factors should be noted “**spinal surgery has an important role in alleviating radicular pain and disability resulting from neural compression or where back pain relates to cancer, infection and/or gross instability**” – Evans et al 2023

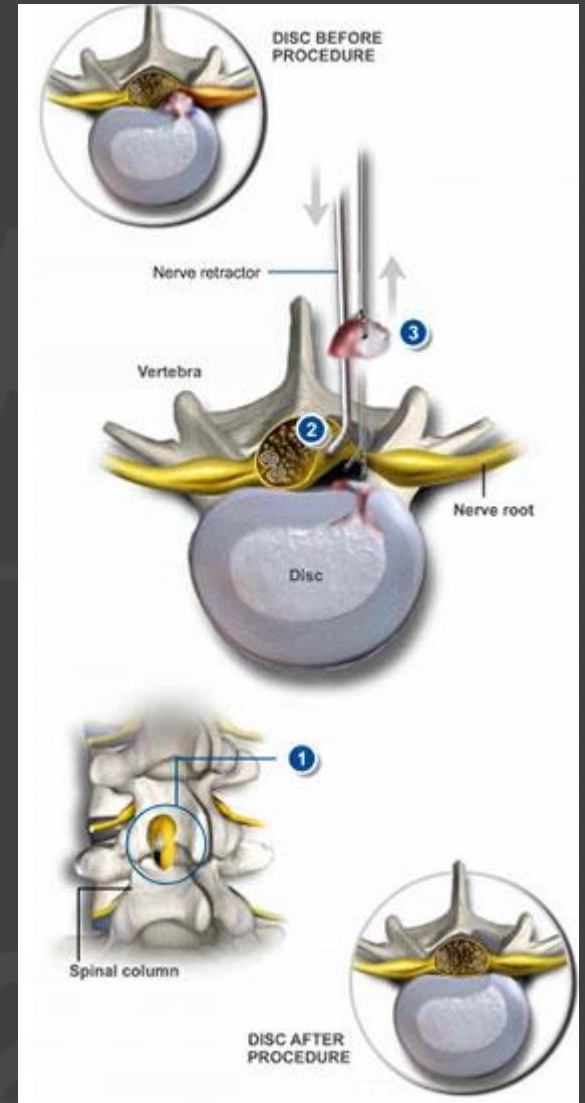




Surgical Interventions & Common Surgeries

1. Lumbar Disc Microsurgery

- This minimally invasive technique is used to remove the herniated portion of a vertebral disc. It is relatively effective in eliminating leg pain (sciatica) caused by nerve root compression. The procedure is performed through a small incision on the back



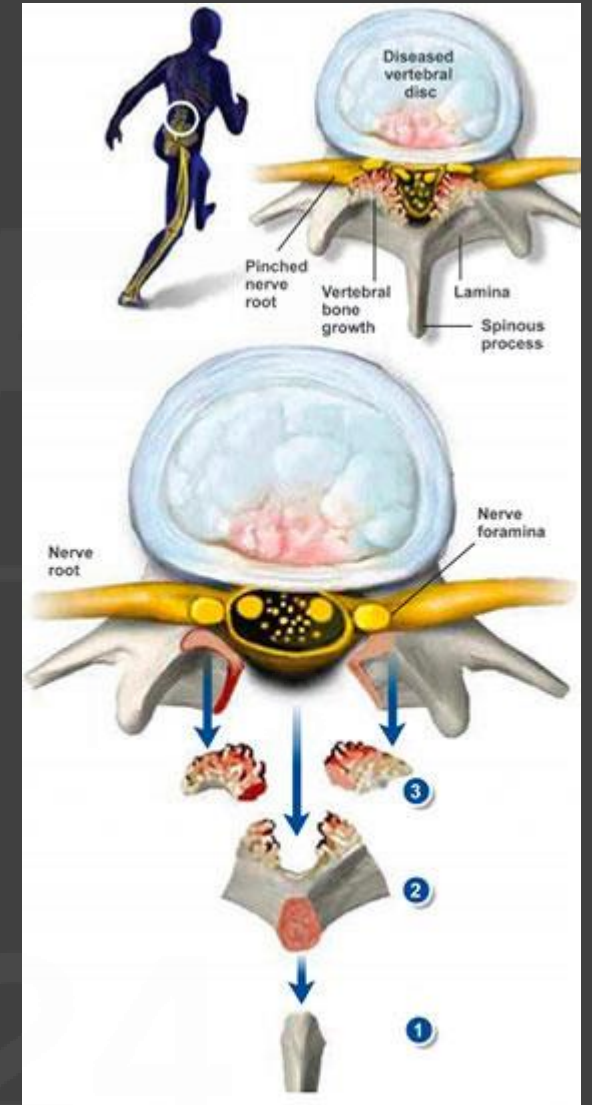
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Surgical Interventions & Common Surgeries

2. Laminectomy

- This procedure relieves pressure on the nerve roots in the spine. It is most commonly performed to relieve the pain of stenosis. This is a narrowing of the spinal canal that is often caused by the formation of bony growths that can press against the nerve roots. This may be completed on one or more vertebrae



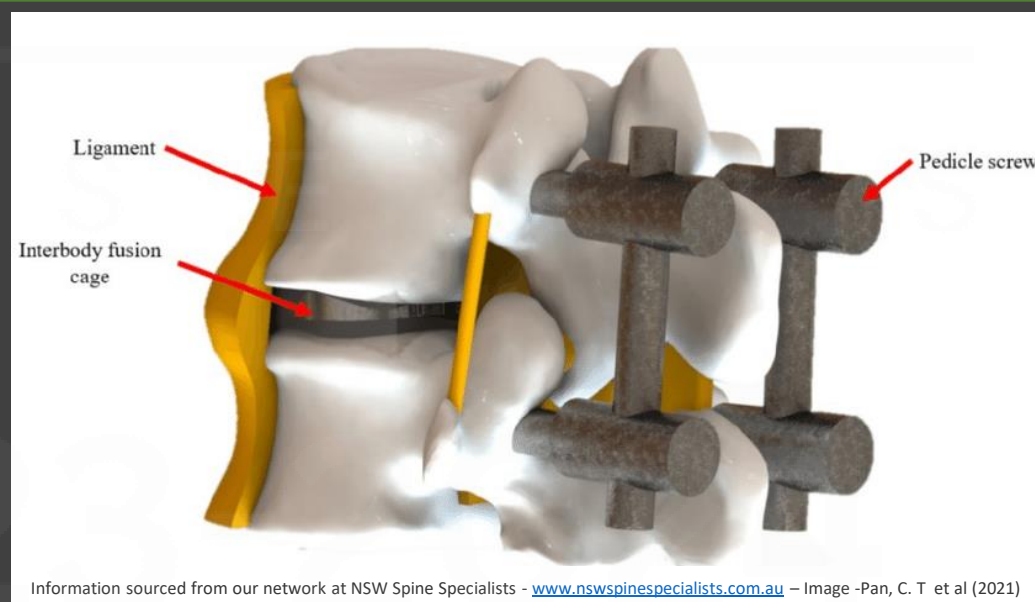
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Surgical Interventions & Common Surgeries

3. Spinal Fusion

- Spinal fusion surgery joins (fuses) two or more vertebrae together with bone grafts and internal fixation devices to eventually form one solid piece of bone. The ultimate goal of the surgery is to alleviate the patient's pain by generating bone growth which fuses the vertebrae and limits movement in that area of the spine. Spinal fusion surgery can be performed by an open incision. Surgeons decide whether to approach the spine through the back, abdomen, or neck, depending on the area to be fused - this will be the location of your incision.

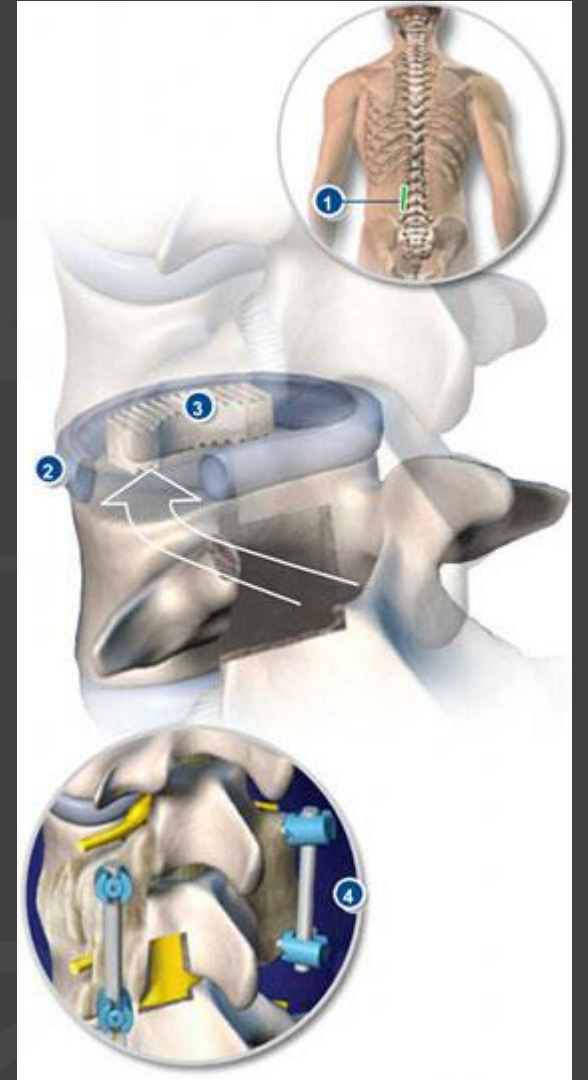




Surgical Interventions & Common Surgeries

4. Lumbar Disk Replacement

- Lumbar disk replacement is generally seen as an alternative to the more common spinal fusion surgery. Disc replacement surgery involves the removal and replacement of a damaged or aged-disc with an artificial or synthetic disc. A disk replacement requires greater access to the spine than standard lumbar fusion surgery. This also makes it a riskier procedure



Information & Images sourced from our network at NSW Spine Specialists - www.nswspinespecialists.com.au

LBP Surgical Management

Surgical Options & Rehab Considerations



Rehabilitation

As per surgeons' post operative protocol

Common Precautions (1)

- Avoid excessive lifting, twisting, or bending of the lumbar spine in the acute phases
- Limit lumbar extension and impact activities in the acute phases
- Avoid overhead or heavy lifting



LBP Surgical Management

Surgical Options & Rehab Considerations

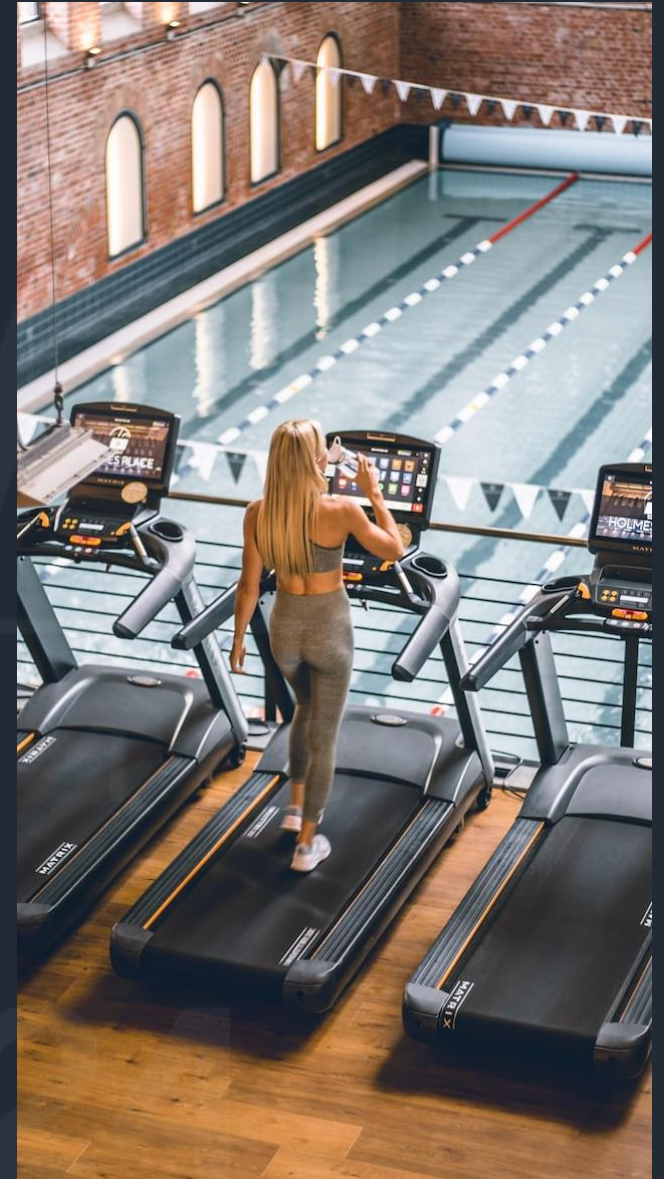


Rehabilitation

As per surgeons' post operative protocol

Common Precautions (2)

- Hydrotherapy may be initiated upon wound healing
Limit time in sustained postures, move regularly as per tolerances
- Progression to appropriate mobility, strength, endurance and conditioning exercises as per rehab protocol



LBP Treatment Interventions & Management

Quiz 4

