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Content

First session

- What is osteoarthritis?
- Risk factors and diagnosis
- Treatment (overview)

Second session

- Exercise therapy as treatment
- Help to self-manage your Osteoarthritis



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'Physical Activity' and 'Exercise' are not the same thing, but both are beneficial and necessary

Physical activity:
Beneficial for people with and without osteoarthritis



Any body movement that makes your heart beat more rapidly

Exercise therapy:
Beneficial for people with osteoarthritis



Activity with a specific focus, such as strength, fitness, confidence, movement patterns.



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Are you physically active?

World Health Organisation recommendations:

- A minimum of 150 minutes of moderate or 75 minutes of intensive physical activity – or any combination of these in a week
- Do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week
- Limit the amount of time spent being sedentary and remember that ALL activity counts!




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Physical Activity can have positive effects on:

- Blood pressure
- Blood cholesterol
- Blood sugar
- Physical fitness
- Muscle strength
- Bone density
- Cartilage health
- Body weight
- Pain
- Mood



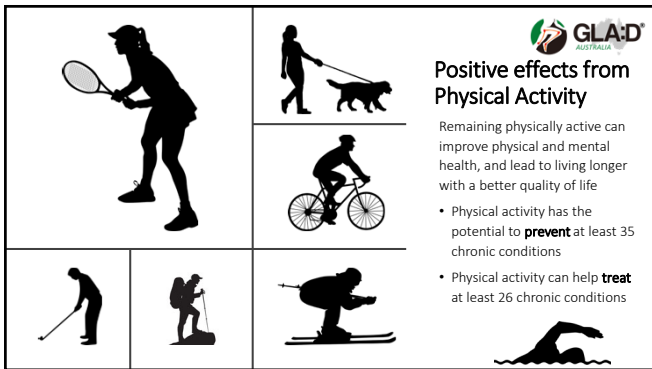
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Positive effects from Physical Activity


Remaining physically active can improve physical and mental health, and lead to living longer with a better quality of life

- Physical activity has the potential to **prevent** at least 35 chronic conditions
- Physical activity can help **treat** at least 26 chronic conditions

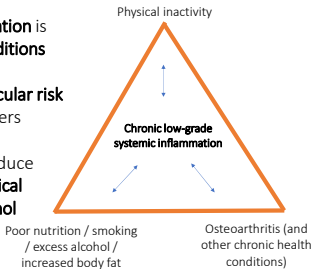


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Anti-inflammatory effects of Physical Activity 


- **Chronic systemic low-grade inflammation** is common in people with **chronic conditions** and **more fat** on their bodies
- It is associated with a **high cardiovascular risk** and predisposes to metabolic disorders and muscle wasting
- Health-enhancing habits can help reduce chronic systemic inflammation: **physical activity, not smoking, moderate alcohol consumption, good nutrition.**




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Anti-inflammatory effects of Physical Activity 

- In osteoarthritis, local inflammation in the joint is also common.
- Joint inflammation can lead to:
 - Joint pain (e.g. rest pain)
 - Joint stiffness
 - Joint swelling
 - Physical limitations
- The **anti-inflammatory effects of exercise** may contribute to explaining the positive effects of physical activity and exercise therapy in many diseases



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How to remain physically active 



- **6-8 weeks** of exercises may help increase your ability to do your preferred physical activity
- Set **realistic goals** – modify your training and introduce some variation
- Find ways to introduce physical activity in your **daily life**, for example:
 - Walking your dog a bit longer
 - Take your bike instead of your car
 - Do more gardening
 - Stand up and sit down while watching TV

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Physical Activity – what are some options?


- Walking
- Cycling
- Swimming
- Dancing
- Gym
- Sports like soccer, golf, tennis etc.
- What else?



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Physical Activity is not harmful

- It takes a lot to damage the muscles and joints
- Excessive inactivity is usually worse than activity
- You do not get more osteoarthritis by being physically active!





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Exercise Therapy as treatment

Several different types of exercises can have positive effects on symptoms from osteoarthritis (e.g. strength, aerobic or neuromuscular training)

... but supervised exercise therapy is more effective than home exercises.

Why??



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Why exercise with osteoarthritis?

- Improves joint range of motion, stability and function
- Improves confidence in knee or hip
- Effect from exercise is **not** dependent on:
 - Imaging findings
 - Pain intensity
 - Previous physical activity level



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GLA:D[®] Exercises – how do they help?

Trunk Strength
Exercises that focus on core/spine stability as this affects a person's ability to stabilize and control his or her hip and knee joints

Alignment of joints
Exercises that focus on an appropriate position of the joints in relation to each other, i.e. that the hip, knee and ankle joints are best aligned for the individual

Leg strength
Exercises that focus on strengthening the hip and knee muscles

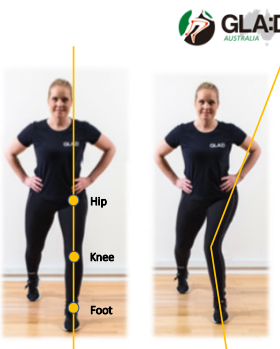
Functional exercises
Exercises that prepare the body for daily activities

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GLA:D[®] Training Principles: Neuromuscular Exercises

- **Control** and **quality** of the movement is important
- To improve joint control, **be aware** of the position of your hip, knee and foot.
- The best alignment and movement can **vary from person to person**, depending on structural and function differences.



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Exercise – how much?

- Exercise needs to be adequately dosed in order to be helpful – just like medication
- A minimum of 6 weeks, minimum 2 sessions per week (remember days for recovery)
- The best exercise is the exercise that gets done!



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Pain is OK. Two simple guiding principles:

- Pain when exercising is OK, as long as the pain is at an **acceptable** level
- Increased pain from exercise should go back to 'normal' or pre-exercise level **within 24 hours**


| | | |
|----------|------------|----------------------------|
| progress | continue | change/modify |
| No pain | Acceptable | Pain as bad as it could be |

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The brain and pain




Pain depends on many factors, but involves two main processes:

- Warning signals from the body (e.g., following a burn)
- Interpretation in the spinal cord and brain


= 'Pain system'

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The pain system




- Our body's pain system can act like an alarm to let us know when something has happened.
- A smoke alarm sounds uncomfortably loud but saves lives, so we accept it – even if the alarm turns out to be **false**.



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Acute pain




- When you experience an **acute injury** – such as a burn – your pain system serves to protect you
- Pain makes you react and helps you avoid further tissue damage

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Over-sensitive pain system



However, alarms can be **too sensitive** (steam, or candles) and **so can your body's pain system** – especially when the pain has lasted for some time.




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Prolonged pain

- If you have a prolonged painful condition like osteoarthritis your body's **pain system** may become **too sensitive**
- This means the joint pain can **increase** and even spread to **other body parts**
- A sensitive pain system will increase your sensation of pain, **even when there is no current injury** or tissue damage




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Your brain can turn up and down the volume of pain depending on...

- Your thoughts and feelings
- Your experiences and beliefs
- Your expectations
- Your mood

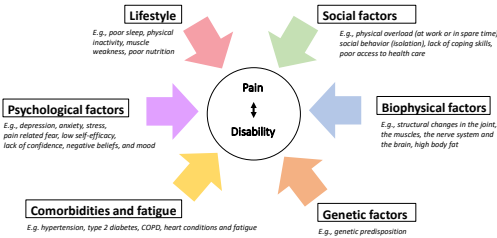
Your pain can feel worse if you believe it is a sign of tissue damage or serious injury



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Factors affecting pain and disability in people with knee and hip osteoarthritis



Lifestyle
E.g., poor sleep, physical inactivity, muscle weakness, poor nutrition

Social factors
E.g., physical overload (at work or in spare time), social behavior (isolation), lack of coping skills, poor access to health care

Biophysical factors
E.g., structural changes in the joint, the muscles, the nerve system and the brain, high body fat

Genetic factors
E.g., genetic predisposition

Comorbidities and fatigue
E.g., hypertension, type 2 diabetes, COPD, heart conditions and fatigue

Psychological factors
E.g., depression, anxiety, stress, pain related fear, low self-efficacy, lack of confidence, negative beliefs, and mood

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Self-management strategies

- Try to **move** as often as you can
- **Avoid limping** and strive for natural movements
- Move your joint through its full **range of motion**
- Start new activities **slowly** and **intentionally**
- Do not 'fight your pain at any price' – learn to manage it and **set realistic goals** for your daily activities



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Coping strategies

Three main options:

- Stop the activity
- Continue as before
- Doing things differently

What strategies do you use?


Doing 6-8 weeks of exercise-therapy may help increase your ability to do activities you enjoy



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OUTCOMES OF




FOR AUSTRALIANS WITH KNEE OSTEOARTHRITIS

'Real world' improvements in pain and quality of life following GLAD® are **consistent or better** than what is found in controlled clinical trials evaluating exercise therapy for osteoarthritis

3 IN 4 PEOPLE Report clinically meaningful **improvement** in pain or quality of life at 12-month follow up


3 IN 4 PEOPLE desiring surgery before GLAD® have **not had surgery and no longer desire surgery** at 12-month follow up



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What can you expect from participating in GLA:D®?



- Less pain / less need for pain medication
- Improved walking speed, greater ability to manage daily activities
- Higher quality of life


How do we know? From our data collection

Remember to fill out the GLA:D® questionnaires at baseline, 3 months and 12 months.


They give valuable information about GLA:D®, osteoarthritis and exercise therapy to continue improving osteoarthritis care for all Australians.

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How to move ahead after GLA:D®





- Attend your 3-month follow up consultation – for re-testing, evaluation and further planning – to ensure that you continue to progress.
- Stay physically active after GLA:D® to maintain the results you have achieved.
- Think about ways to incorporate exercise (and physical activity) into your life.



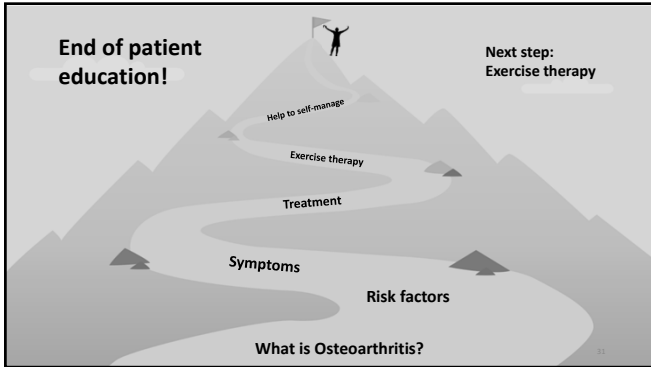
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Summary

- Exercise therapy can improve joint range of motion, stability and function – and reduce pain
- Remain active to improve general health, to live longer and with better quality of life
- Pain (to an acceptable level) when exercising is OK – and common
- Your brain can turn up and down the volume of pain
- Manage your symptoms and set realistic goals for your everyday life

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