



ADVANZ HEALTH

SPORTS MEDICINE | PHYSIOTHERAPY

LOWER LIMB OA

REHABILITATION PROTOCOL

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Sports Medicine & Physiotherapy

922 Anzac Parade, Maroubra, NSW 2035 | Level 1, 213 Bronte Road Waverley, NSW 2024
ABN: 95 730 992 792 | Phone: 02 8068 7161 | admin@ahsmp.com

OSTEOARTHRITIS

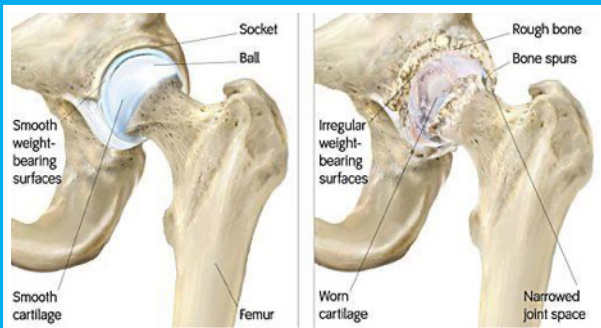
Osteoarthritis (OA) is a common condition that can affect any of the joints in the body. There are structural changes within a joint or multiple joints, including a loss of the cartilage that lines the joint surfaces, causing pain and loss of function. There are many factors associated with osteoarthritis, including genetic, mechanical, hormonal and inflammatory factors, and is not just a disease of ageing or an 'older persons' disease.

Each individual experiences different levels of pain when they're diagnosed with osteoarthritis and the level of pain does not necessarily correlate with the changes seen in the joints on x-rays.

JOINT ANATOMY

In normal joints, each bone is covered by a firm, rubbery material called cartilage. Cartilage acts as a cushion between the joints and also provides a smooth, gliding surface for movement. In OA, proteins and enzymes cause an inflammatory process and breaks down the cartilage. This causes pain, swelling and problems when the joint is moved through its range of motion. As OA progresses, the bones may also wear down and develop spurs. In the final stages of OA, the cartilage wears away and the exposed bone surfaces move on one another causing friction which leads to joint damage and more pain.

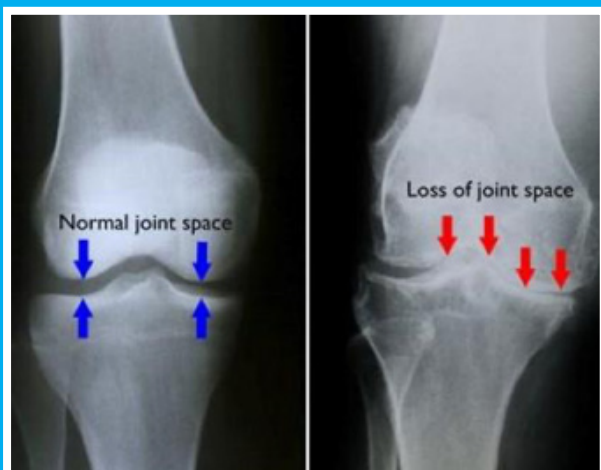
HIP OA



ANKLE OA



KNEE OA



1st MTP JOINT OA



EXERCISE – THE BEST MEDICINE

Many people believe that exercising with osteoarthritis can harm joints and cause pain, however the research shows the opposite. The current leading research explains that exercise is the most effective non-drug treatment for reducing pain and improving movement in OA. The role of the physiotherapist is to guide patients through a rehabilitation program with exercises suitable for each person, given the stage of progression of their OA. Weight management is also supported by evidence as being effective in managing pain from OA, which goes hand in hand with the exercise program formed by the physiotherapist.

PROTOCOL USER GUIDE

This protocol is a guide for both clinicians and patients who have been diagnosed with osteoarthritis. Every person's situation is different, therefore you should move through the protocol at your own pace. The criteria should dictate progression (it is not timeline based).

To progress through the protocol as fast as possible with minimal problems:

- Use pain and swelling as a guide (do not push through excessive pain or swelling).

Clinicians should use a clinical reasoning approach in prescribing an exercise rehabilitation program and management advice for each phase. This protocol briefly suggests typical exercises for each phase, but programs should always be individualised.

PHASE 1 – EARLY REHAB (0-6 WEEKS)

GOALS	PRECAUTIONS	RECOMMENDED PROGRAM	CRITERIA TO PROGRESS TO NEXT PHASE (TICK WHEN COMPLETE)
<ul style="list-style-type: none"> • Patient understands condition and lifestyle changes needed. • Normal gait pattern • Muscle re-education and activation especially in the quadriceps. • Maintain fitness • Improve joint mobility • Settle swelling 	<ul style="list-style-type: none"> • Screen for contraindications and red flags 	<ol style="list-style-type: none"> 1. Education on importance of compliance of rehab program 2. Stretching program to increase range of motion of joint 3. Activation and strengthening of joint 4. Single leg balance 5. Reformer Pilates based rehab 6. Fitness maintenance and weight management Gym-based exercises for upper body, bike, swimming 	<ul style="list-style-type: none"> <input type="checkbox"/> No swelling <input type="checkbox"/> Normalised gait <input type="checkbox"/> Single leg squat and single leg bridge within 85% of other side <input type="checkbox"/> Minimal pain with activity

Please note that the below timeframes are a guide. Your surgeon or physio may request slight variations for optimum outcome.



PHASE 2 – STRENGTH PHASE (6-12 WEEKS)

GOALS	PRECAUTIONS	RECOMMENDED PROGRAM	CRITERIA TO PROGRESS TO NEXT PHASE <i>(TICK WHEN COMPLETE)</i>
<ul style="list-style-type: none"> • Full AROM • Normal gait at higher speeds • Regain balance and proprioception 	<ul style="list-style-type: none"> • Avoid exercise that causes more than moderate pain (>3/10) 	<ol style="list-style-type: none"> 1. Stretching program to increase range of motion in joint 2. Reformer pilates based rehabilitation 3. Strengthening program whole body 4. Aerobic/ endurance activity with weightbearing as tolerated 	<ul style="list-style-type: none"> <input type="checkbox"/> No swelling <input type="checkbox"/> Pain free AROM and higher-level gait <input type="checkbox"/> Single leg squat and single leg bridge within 95% of other side <input type="checkbox"/> Minimal pain with activity



PHASE 3 – FUNCTIONAL STRENGTHENING (12 WEEKS +)

GOALS	PRECAUTIONS	RECOMMENDED PROGRAM	CRITERIA TO PROGRESS TO NEXT PHASE
<ul style="list-style-type: none"> • Pain free functional weightbearing activity • Advanced strengthening • Initiate sport specific exercise/ agility 	<ul style="list-style-type: none"> • Avoid activity that causes pain greater than 3/10 on VAS 	<ol style="list-style-type: none"> 1. Advanced proprioception/ balance exercises 2. Advanced strengthening for ankle and hip/ knee/core 3. Continue aerobic activity, return to weightbearing activity (running) as tolerated 4. Running program if this is one of the patient's goals <ul style="list-style-type: none"> • L1: Straight line running • L2: S curves • L3: Figure 8 • L4: Zig zag 	<p>These tests passed (95% in comparison to other leg)</p> <ul style="list-style-type: none"> • Strength • Single hop test • Mobility/ROM • Balance <p>D/C to HEP if:</p> <ul style="list-style-type: none"> • Full functional strength, balance and proprioception • Understanding of condition and how to manage symptoms <p>Refer onto other health professionals if pt needs to learn how to lead a healthier lifestyle</p> <p>NB: It is recommended to continue your phase 3 program as a long term maintenance program or you can discuss other exercise options with your physiotherapist</p>

References

<https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/osteoarthritis>

<https://www.arthritis.org/about-arthritis/types/osteoarthritis/articles/oa-prevention.php>

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