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better medicine

OSTEOARTHRITIS
A FOCUS ON EXERCISE

KEY PRACTICE POINTS

- Exercise is a first-line treatment for all patients with osteoarthritis, irrespective of age, disease severity, pain intensity, functional capacity and co-morbidities; the type, intensity and duration of exercise will vary, but all patients should aim to include physical activity in their weekly regimen
- Increasing exercise participation is at least as effective as non-steroidal anti-inflammatory drugs (NSAIDs) for improving pain and function scores in patients with osteoarthritis
  - Exercise is also associated with wider health benefits, particularly when applied in combination with healthy eating and calorie restriction, e.g. reducing cardiovascular disease risk, improving muscle/joint stability, limiting local joint and systemic inflammation
- A good exercise regimen includes a range of activities and is tailored to the patient's functional capacity. A general weekly target for a "non-frail" or otherwise "well " patient is:

1 **Daily "range of motion" exercises**	2 **150 minutes** (or more) of **cardiovascular exercise**	3 **Two sessions** of **resistance/ strengthening training**
• Help warm-up for exercise and improves functional capacity, e.g. side bends, arm circles, torso rotations, shoulder shrugs	• Moderate-to-vigorous • Increase duration as endurance builds • Complete over multiple sessions, e.g. 5 × 30 minute bike ride or walk	• 6–10 repetitions at moderate intensity or 10–15 repetitions at low intensity • 2–3 sets of repetitions per exercise • Resistance level is dependent on the patient's pre-existing level of strength; can be increased using dumbbells or exercise bands • Examples include bicep curls, squats, hip extensions, knee extensions, step ups
Spread activity out over the day/week as needed; **dedicated rest days are not usually required**		

- Patients with frailty, particularly those living in residential care, require a less intensive regimen with exercises modified depending on their clinical status. For example, patients may undertake two or three exercise sessions per week, lasting 30-45 minutes, with rest days in between. The session should ideally include warm-ups (e.g. range-of-motion at wrists, shoulders, hips, knees and ankles, light walking), balance/co-ordination exercises (e.g. standing balance, walking in a line, changing direction, standing with eyes closed), and light strength training (e.g. chair rises, band-exercises for upper body, weighted leg extension/ flexion), with short bursts of aerobic exercises in between if tolerated (e.g. walking further distances or for a longer continuous period). The session can end with a cool-down (e.g. very light walking, stretching).
- While some clinicians may be confident in tailoring a structured exercise programme, physiotherapist input provides the greatest benefits for patients with osteoarthritis. If this is not possible, local mobility action programmes or other group-based activities can be considered.
- Many patients are concerned that exercise will cause further damage to their joint; they can be reassured that osteoarthritis is not simply due to "wear and tear" and exercise will not worsen their condition. Some discomfort while performing exercise is to be expected
- If patients are reluctant to engage in exercise, identify barriers and re-emphasise the long-term benefits of exercise; these often outweigh short-term concerns. Progressive steps may be needed to achieve goals.
- There is no evidence that NSAID use before exercise provides a physiological benefit for patients with osteoarthritis but if it encourages them to more effectively engage in exercise then it can be considered
- In most cases, people diagnosed with osteoarthritis who already engage in high levels of physical activity (e.g. long distance runners) should not be discouraged from continuing at this level as doing so is unlikely to influence disease progression
- Ultimately, exercise engagement should be guided by pain and function. Modifications such as reducing the intensity or duration of activity may be required if people experience a high level of pain during exercise or prolonged pain afterwards.