

THE ROLE OF EXERCISE IN THE MANAGEMENT OF OSTEOARTHRITIS

INTRODUCTION: According to research data out of the United States, osteoarthritis is the most common joint disorder among Americans. The situation is no different in Canada where osteoarthritis affects more Canadians than all other forms of arthritis combined. So common, in fact, is osteoarthritis, that there is hardly a family in Canada or the United States that does not have at least a few members suffering from the condition, especially in those above the age of 65.

With osteoarthritis being so common, there is usually the tendency in most of us to feel that we know all that there is to know about the condition, but....do we? Finding answers to the questions below should help us find out how much we know about osteoarthritis:

---What, exactly, is osteoarthritis, and what are its characteristic symptoms?

---What are the limitations, physical or functional, that result from those symptoms of osteoarthritis?

---Is there a role for exercise in the management of osteoarthritis?

THE BARE FACTS: Osteoarthritis may be defined as degeneration of joint cartilage and underlying bone, most commonly in individuals of middle age and beyond. It usually causes pain, swelling, and stiffness in the affected joints. Additionally, it might lead to weakness in the ligaments, tendons, and muscles that support the affected joints. Ultimately, the individual's mobility and general function may be affected, and the extent of limitation usually depends on which particular joint(s) are affected, and how severe the symptoms are. In cases where the symptoms are located in the joints of the lower limbs, especially in the hips or knees, mobility may become limited, or simply impossible due to the presence of pain and stiffness in the joints, coupled with weakness in the muscles and tendons. Laxity in the ligaments may lead to joint instability, which may further add to the mobility problems. In cases where the symptoms are present in the spine or upper limbs, performance of most activities of daily living may be limited, for the same reasons listed above.

It is obvious, then, that anyone suffering from osteoarthritis would more than likely be looking for effective ways of managing the symptoms to ensure that any related limitations or disabilities are kept to the minimum. In that regard, sufferers from osteoarthritis may benefit from the intervention of physiotherapists, occupational therapists, dieticians, nurses, pharmacists, and in the more severe cases, surgeons. However, this report is intended to focus on the benefits of physiotherapy, specifically the role that exercise may play in the management of osteoarthritis therefore I shall proceed to do just that, and save comments on the other disciplines for another day.

ROLE OF EXERCISE: Exercise comes in various forms, e.g. active, active-assisted, assisted, passive, and resisted. To that list may be added endurance/conditioning, and perhaps even manipulation. Each form of exercise is geared towards a specific benefit. Therefore, it is imperative that the application of exercise in the management of osteoarthritis start with the process of identifying what symptoms and

disabilities need to be addressed. Once those symptoms and disabilities have been identified, the next step is to select which exercise(s) would ensure or yield the desired benefits. Many exercise programs that were initiated with good intentions have often ended in failure because exercise activities were selected without due attention to the need to match specific exercises with the anticipated benefits.

The chart below sheds some light on the various forms of exercise, and what specific benefits may be expected from each form of exercise, in the management of osteoarthritis:

- 1) For improved ROM:
 - (a) Active
 - (b) Active-assisted/self-assisted
 - (c) Assisted
 - (d) Passive
 - (e) Manipulation
- 2) For improved Muscle Strength:
 - (a) Resisted (free weights, theraband)
- 3) For improved Endurance/Conditioning:
 - (a) Swimming
 - (b) Regular walking over shorter distances
- 4) For Pain Management:
 - (a) Patient education (Teach stairs, positioning)
 - (b) Fit with gait aids, and appropriate orthoses
- 5) For Improved Mobility:
 - (a) Fit with gait aids and appropriate orthoses
 - (b) Regular walks over shorter distances, and on even terrain
- 6) For improved General Function:
 - (a) Practice ADLs to improve dexterity and efficiency

CONCLUSION: The above chart is not necessarily a comprehensive outline of the benefits of exercise in the management of osteoarthritis, but it shows clearly that exercise can be of much benefit to individuals diagnosed with osteoarthritis, and applied correctly, as prescribed by a qualified practitioner, may play an indispensable role in the management of the condition.