ALCOA
Active Living Coalition for Older Adults
CVAA
Coalition d'une vie active pour les aîné(e)s

October 2004
(Revised)

Research to Action

Practical and leading edge knowledge on healthy living presented in plain language.

Aging, Arthritis and Active Living

By: Monique Camerlain, MD, FRCPC

This article describes how proper medication combined with physical activity can help older adults with arthritis control pain, limit disease progression and better carry out the activities of daily living. Additional benefits include an increased confidence to remain physically independent.

Active Living Coalition for Older Adults

33 Laird Dr., Toronto
ON, M4G 3S9
Toll-free: 1-800-549-9799
www.alcoa.ca

This information was produced in consultation with:

The Arthritis Society
www.arthritis.ca
1-800-321-1433

AHPA
ARTHRITIS HEALTH PROFESSIONS ASSOCIATION
www.ahpa.ca
(416) 979-7228, ext. 321

Canadian Centre for Activity and Aging
www.uwo.ca/actage
1-866-661-1603

Health Canada / Santé Canada
www.hc-sc.gc.ca/hppb/paguide/
1-888-334-9769 (for Guides)

MERCK FROSST
Discovering today for a better tomorrow.
www.merckfrosst.com
1-800-361-7031

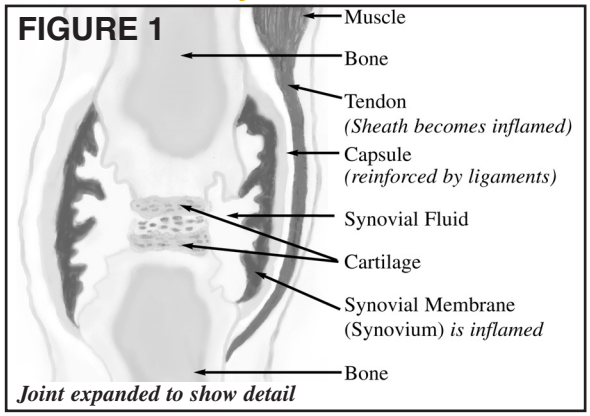
ISBN: 0-9685384-1-X

According to Health Canada's **Arthritis in Canada** publication, there are more than 100 different forms of arthritis and related conditions affecting 4 million Canadians aged 15 or older. These are disorders of the musculoskeletal system - bone, joints, bursae, muscles, and tendons. The prevalence of arthritis among Canadians increases by almost 1% every 5 years. By the year 2026, about 6 million Canadians, or 20% of the population aged 15 or older, will be affected, with the largest increases among adults 55 and older. Arthritis is not just a disease of the elderly. Although prevalence does increase with age, 3 out of 5 people with arthritis are younger than 65.

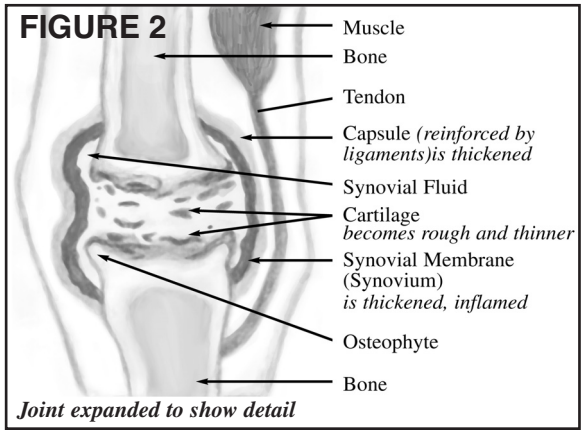
Arthritis can be divided in two broad categories. Inflammatory conditions such as rheumatoid arthritis (RA) are characterized by synovial inflammation, which is a swelling of the joint lining (Figure 1). Non-inflammatory conditions include osteoarthritis (OA), which is characterized by cartilage degradation (Figure 2). RA affects 1 to 2% of the population, with onset occurring mainly in women of childbearing age. OA is present on the X-rays of 80% of people over 60, but only about one third experience the symptoms.

If left untreated, both OA and RA can affect the structure and functioning of the joints, leading to pain and difficulty performing the activities of daily living. Arthritis is the number one cause of long term disability in Canada and one of the most common reasons that people visit their doctors. Compared to people with other chronic diseases, people with arthritis have more pain. They report having to stay in bed and reduce activities more than people with other chronic diseases.

Joint Affected by Rheumatoid Arthritis



Joint Affected by Osteoarthritis



Acknowledgements

Author:
Monique Camerlain, MD, FRCPC

Committee Chair:
Philippe Markon, PhD
University of Quebec
Chicoutimi, PQ

Committee Members:
Lisa Cirella
The Arthritis Society
Toronto, Ontario

Marlène Gauthier
Merck Frosst Canada Ltd.
Kirkland, Quebec

Gareth Jones, PhD
Canadian Centre for Activity and Aging
London, Ontario

Imran Syed
ALCOA
Toronto, Ontario

Bruce Taylor
Health Canada
Ottawa, Ontario

Jean Wessel, PhD
Arthritis Health Professions Associations
Hamilton, Ontario

Reviewed by:
Dr. Arthur Bookman
Chair
Medical Advisory Council
The Arthritis Society

Photos:
Health Canada

Additional copies are available in print and electronic formats from the ALCOA office at www.alcoa.ca

In 1998, Health Canada estimated that arthritis cost Canadians $4.4 billion. This does not include the cost of medicines purchased over the counter or the cost of visits to health professionals other than doctors. These costs will increase as our population ages.

Impact on Older Adults

Arthritis and related conditions are the most frequent causes of chronic illness in older adults, affecting men and women equally. Older adults with arthritis are often coping at the same time with other diseases, as well as diminishing vision, hearing, balance, coordination, memory, and cognitive function. The pain of arthritis can be greater in the elderly when it is compounded by loneliness, depression, and malnutrition. The reduced mobility that comes with pain can lead to muscle weakness, brittle bones and bone loss, and these further reduce mobility and independence.

Signs and Symptoms of Arthritis and Aging

Arthritis and related conditions are characterized by pain, stiffness, and swelling in and around the joints. Joint motion may be limited and the affected joints may become deformed. Over time, with decreased movement, there is instability and muscle atrophy around the affected joint.

When older adults show symptoms of arthritis, they should have a thorough physical examination with their family doctor. Unfortunately, older adults sometimes do not seek treatment because they assume that they have to simply cope with and endure the pain and discomfort, yet their quality of life can be greatly improved with a program that seeks to relieve pain, preserve function, and maintain independence, dignity and self-respect.

The family doctor should develop a complete picture of the person's health, including other problems associated with age, such as osteoporosis, heart disease, diabetes, and hypertension, in order to apply proper medical guidelines. Depending on the type of arthritis and its severity, the doctor may prescribe X-rays and laboratory tests. There may be referrals to an internist, rheumatologist, or orthopaedist, depending on how much specialized care is available.

The clinical evaluation can lead to a variety of treatments with or without medication. More complex forms of arthritis will require treatment that is progressive and multidisciplinary and may involve physiotherapists, occupational therapists, dieticians, psychologists, social workers, and other health professionals. Early diagnosis and treatment is important.

Research has consistently shown that disability has been postponed when regular physical activity is part of the treatment, thus prolonging independent living, even in the presence of chronic disease.

Medications and Physical Activity

Medications and physical activity go hand in hand in the treatment of arthritis. While pain and inflammation are brought under control with medication, a physical activity program helps to maintain joint motion and muscle strength. Physical activity also helps to increase energy levels and leads to a sense of well being. Interestingly, those who are the least active before beginning a physical activity program are the first to see gains, and they ultimately realize the greatest health benefits.

Health literacy - the capacity to understand and act on health information - is of particular importance for the older population. Older adults sometimes have to cope with confusion and memory loss. Rates of illiteracy are higher in older adults as well. Therefore all aspects of the treatment, from instructions on taking medication to information on the physical activity program, must be given clearly and carefully, checking for comprehension on all points. For example, the doctor should ask the patient "Could you go over your instructions for taking your medications or for doing exercise?"

Older people remember to take their medicines and take them correctly when:

- they do not have a lot of different kinds of medicine to take
- the medicine must be taken only once or twice a day
- the medicines are in easy to open containers, with large, clear labels. Dispensing units prepared by the pharmacist are often best.

Because aging increases the risk of side effects, treatment in older adults may begin with lower doses. Doctors should carefully evaluate kidney and liver function before prescribing, as these organs must eliminate medication efficiently. The prescribing doctor should also have a complete list of all other conditions and treatments the patient is undergoing, as well as any history of drug reaction or allergy.

Drugs used in the treatment of arthritis

Current medications for treating arthritis include non-steroidal anti-inflammatory drugs, low-dose corticosteroids, disease modifying anti-rheumatic drugs, and the newly available biologic response modifiers.

Non-steroidal anti-inflammatory drugs (NSAIDs) form the basic component of arthritis care. They are widely used in the treatment of OA and RA. There are two categories: conventional and the more recently developed Cox-2 inhibitors. Conventional NSAIDs effectively treat pain and inflammation caused by arthritis, but with long-term use they may lead to a variety of side effects, such as gastrointestinal, liver, or renal injury, and heart failure. People over 60 are at higher risk of gastrointestinal complications with NSAIDs. Other risk factors are:

- a history of ulcers and their complications
- multiple NSAIDs and high doses of NSAIDS
- blood thinners such as low dose aspirin and anti-coagulants (coumadin)
- low dose corticosteroid
- associated illnesses.

Research has shown that Cox-2 inhibitors are as effective as traditional NSAIDs. Cox-2 inhibitors have similar side effects on the heart and kidneys, but they reduce the risk of stomach ulcers and further complications such as perforation and haemorrhaging. Their gastrointestinal safety has been documented in two studies involving more than 4,000 patients each.

Corticosteroids (derivatives of cortisone) are not usually used to manage osteoarthritis, but are successfully used in the treatment of many other arthritic conditions to reduce pain and inflammation and to maintain function. They may be lifesaving in certain forms of arthritis and save organs in others. Orally administered, they may increase weight and induce or aggravate diabetes, hypertension, and osteoporosis. Proper monitoring is mandatory for older adults.

Corticosteroid injections can be given in the joints with fewer side effects. They are used in this way for tendinitis, bursitis, several forms of inflammatory arthritis, and occasionally for osteoarthritis. However, injections should not be repeated more than four times a year. For osteoarthritis, derivatives of hyaluronic acid or viscosupplements (that act as lubricants) can also be injected in the knee joints. These viscosupplementation injections can be quite costly.

Disease-modifying anti-rheumatic drugs (DMARDs) are currently recommended as an early aggressive treatment of RA to control the activity of the disease and to limit joint destruction. DMARDS are not used for OA. Their side effects need meticulous and constant monitoring, but DMARDs have proven to be very effective in preventing bone and joint damage. Patients who do not improve on traditional DMARDs may need to consider moving on to Biologic Response Modifiers. These agents can be quite effective, but because of their cost and still not fully understood side effects, they are generally used after traditional agents fail.

Physical Activity

Once the person with arthritis is taking the right medication to control pain and inflammation, physical activity can be integrated into the total care of the individual. The goals of physical activity are the preservation or restoration of function and the prevention of disability. Physical activity also helps with weight control, improves self image, and brings a sense of well being.

Recent reviews of the scientific literature have confirmed the value of exercise for older adults with OA or RA. Regular aerobic and strengthening activities reverse disability, improve walking speed and augments ability to do transfers. Physical activity does not increase the pain or inflammation in those with RA, nor does it increase pain or joint damage in those with OA.

There are some contraindications to physical activity for people with arthritis. Medical evaluation should be sought at once if any of these signs are present:

- severe pain
- fever
- symptoms of serious illness
- joint very tender to touch
- joint red or hot
- joint markedly swollen or tensed.

If you are in doubt, you should consult your physician before beginning any type of exercise

program. A comprehensive program should include:

- flexibility (stretching)
- range of motion (ROM) activities (pain free movement around the joint)
- balance activities (both static and dynamic)
- muscle strengthening
- aerobic activities to maintain endurance.

Older people should warm up for 5 to 10 minutes with gentle range of motion (ROM) activities and cool down with 5 minutes of stretch and hold movements. Research reports that the health benefits of physical activity begin after one has achieved 10 minutes of continuous activity. Once the 10 minute mark has been achieved, the duration should then progress by 10 minute increments, accumulating from 30 to 60 minutes of low impact, moderate, physical activity on most days of the week. To help performance or to compensate for physical limitations, health care practitioners should prescribe or recommend physical aids, such as heat and cold (to relax muscles and relieve pain), orthotic devices, or specially adapted footwear.

Recreational activities, as opposed to the repetitive therapeutic exercises that are a traditional part of arthritis therapy, are more enjoyable and just as useful in improving neuromuscular functioning and general conditioning. They can help older adults to be more aware of their bodies, expand their skills, and recruit social support. For instance, the traditional Chinese exercise series, tai chi, is an enjoyable group activity that improves strength, balance, flexibility, and mobility in patients with knee OA, while reducing pain and providing an opportunity for relaxation. Grasping and coordination exercises help to train weakened hand and finger muscles. Walking on soft surfaces, such as grass, trails, or woodchip paths improves hip muscle strength. Weight training (isotonic strengthening) machines are another option, as long as exercises are performed through a pain-free range and are designed to impact specific muscle groups around an affected joint. Some sports are particularly suited to musculoskeletal conditions. A good example is swimming. Activities such as walking, golf, low impact aerobics, and cross country skiing are also options. Jogging should be avoided by patients who have arthritis in the weight bearing joints. Walking, on the other hand, is good for those with mild to moderate disease. Contact sports should of course be avoided.

Conclusion

The World Health Organization has declared the first decade of the 21st century "Bone and Joint Decade", (www.boneandjointdecade.org) signalling the need to place musculoskeletal disease higher in priority for research and health care.

More than 4 million Canadians have arthritis, and that number will increase as our population ages. Advances in surgery, rheumatology, and pharmacology are already bringing hope to bone and joint disease sufferers. Now, physical activity has been shown to enhance physical function, postpone disability, and preserve independence.

Getting physically active is a way for older people to join the fight against arthritis and be active participants in creating their own wellness.

The views expressed in this article are those of the author and do not necessarily reflect the views of Health Canada or ALCOA.

References

A good general reference on physical activity for older adults is Canada's Physical Activity Guide to Healthy Active Living for Older Adults. In Canada, free copies can be ordered at 1-888-334-9769. The guide can be downloaded from www.paguide.ca.

1. Health Canada. Arthritis in Canada. An On going Challenge. Ottawa: Canada 2003.

2. Hampton J. Aches and Pains. Living with arthritis and Rheumatism. Published by Oxford Health Publications for the International League Against Rheumatism Oxford UK 1992.

3. Spirduso W W, Cronin D L, Exercise dose-response effects on quality of life and independent living in older adults. Med.Sci.Sports Exerc, 33:6,Suppl,2001 S598-S608

4. Kempner N, Health Literacy in a Changing World. The Patient Network, June 2003, 4-8.

5. Bombardier C, Laine L, Reicin A, Shapiro D, Burgos-Varga R, Davis B, et al. Comparison of upper gastrointestinal toxicity of rofecoxib and naproxen in patients with rheumatoid arthritis. New Engl. J Med 2000; 343(21): 1520-1528.

6. Silverstein FE, Faich G, Goldstein JL, Simon LS, Pincus T, Whelton A et Al. Gastrointestinal toxicity with celecoxib vs nonsteroidal anti-inflammatory drugs for osteoarthritis and rheumatoid arthritis: the Class study: A randomized controlled trial . Celecoxib long-term arthritis safety study (CLASS). JAMA 2000; 284(10) 1247-1255.

7. Brosseau L, MacLeay L, Robinson V. Wells G, Tugwell P. Intensity of exercise for the treatment of osteoarthritis (Cochrane Review) In: The Cochrane Library, Issue1,2003.Oxford:Update Software

8. Van den Ende CHM, Vliet Vlieland TPM, Munneke M, Hazes JMW: Dynamic exercise therapy for treating rheumatoid arthritis (Cochrane Review). In The Cochrane Library, Issue 1, 2003: Oxford : Update Softwar

9. Mosher D, Stein H, Kraag G, Living well with arthritis, Ch. 12: Exercise Viking Canada, Toronto 2002, 258-272.

10. Stucki G. Kroeling P, Principles of Rehabilitation Chap 50; 517-529, Rheumatology , third edition edited by Hochberg MC, Silman A J, Smolen J S, Weinblatt M E, Weisman M.H Mosby,2003.

11. Camerlain M, Morrice D, Making the Connection: Bones, Joint, & Patients. The Canadian Journal of Diagnosis. 20:10 119-120,October 2003