Rheumatoid arthritis (RA) is a disease that causes inflammation of the joints, usually in the hands, feet and knees. It can also affect other parts of the body, such as the heart, eyes, nerves and lungs. RA is the second most common form of arthritis after osteoarthritis.

The Royal Australian College of General Practitioners (RACGP) has recently released a guideline for the management of rheumatoid arthritis, Clinical guidelines for the diagnosis and management of early rheumatoid arthritis (August 2009). The guideline is intended to assist in decision making for the management of this chronic disease which can cause long-term pain and physical disability and reduced quality of life.

What is rheumatoid arthritis?
RA is an inflammatory disease that affects around 2.5% of the Australian population. People with RA have an increased risk of cardiovascular disease, heart attack and stroke than general population.

Women are three times as likely as men to develop rheumatoid arthritis. It usually starts to develop between the ages of 25 and 50 years.

Patients may experience periods of remission for short periods of time or for several years.

Causes
Around 10% of people with RA have a first-degree relative affected by the disease.

Environmental factors such as smoking are also thought to trigger the disease.

Signs and symptoms
Early diagnosis and management of RA presents an important opportunity to alter the course of this progressive disease. Over half of patients will either need to significantly reduce or stop work within 10 years of onset of the disease.

The main signs and symptoms of early disease include:

- tenderness
- pain
- early morning stiffness in joints
- swelling in joints
- tiredness
- muscle weakness
- weight loss
- loss of mobility

Several joints are usually affected early in the disease, typically in a symmetrical fashion. With time, RA usually affects 5 or more joints.

RA in the older person
Routine laboratory tests used to diagnose RA have limitations in the elderly. Inflammatory markers such as erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) have limited value in older people as ESR tends to be elevated due to age and concomitant disease. CRP can also be elevated with diseases such as atherosclerosis, elevated cholesterol and malignancies.

Medication management is the same as in younger people with RA.

Medications
In recent years a number of new medications called cytokine modulators have been available to treat RA. It is generally considered that aggressive RA treatment should not be withheld in the geriatric population.

Treatment needs to be individualised, taking into consideration other conditions, frailty and quality of life issues.

In general, disease-modifying antirheumatic drugs (DMARDs) are usually considered first line treatment. Anti-inflammatory drugs (NSAIDs) and low dose prednisone are used for symptomatic treatment.

NSAIDs
NSAIDs including the newer COX-2 inhibitors such as celecoxib (Celebrex) and meloxicam (Mobic) have a number of side effects which makes them less than ideal in the elderly:

- renal failure
- gastro-intestinal bleeding
- central nervous system dysfunction

Paracetamol (maximum of 4g/day) is preferred in the elderly with heart and renal disease and peptic ulcer disease. NSAIDs reduce pain and inflammation but there is no evidence they prevent joint damage. The addition of paracetamol may enable a reduction in the dose of a NSAID if required.

Steroids
Low dose corticosteroids such as 5 to 10mg prednisone or prednisolone daily may be used during flare-ups to reduce pain and swelling, but long-term use is not recommended.
They should be withdrawn slowly to avoid rebound flare of symptoms.

Long-term complications include osteoporosis, glucose intolerance and diabetes, cataracts, infections, immunosuppression, increased blood pressure and gastric bleeding. NSAIDs should be avoided in patients taking corticosteroids.

**DMARDs**

DMARDs are recommended for all patients with RA and should be started as soon as possible after diagnosis. They improve clinical symptoms and signs of inflammation (pain and stiffness) as well as slowing joint damage, improving physical function and long-term outcomes.

Conventional DMARDs include:
- methotrexate (*Methoblastin, Methotrexate*)
- hydroxychloroquine (*Plaquinil*)
- sulfasalazine (*Salazopyrin*)
- leflunomide (*Arava, Arabloc*)

Low dose once weekly methotrexate (MTX) is usually the treatment of choice in moderate to severe disease. Folic acid supplements reduce gastrointestinal side effects such as nausea and diarrhoea. MTX has an early onset of action (4-6 weeks), good efficacy, favourable side effect profile, and relatively low cost. MTX can reverse the cardiovascular risk associated with RA.

Combination treatment is often needed to slow progression of joint damage e.g. methotrexate, hydroxychloroquine, and sulfasalazine. Leflunomide can be used in combination with methotrexate.

MTX requires routine monitoring of liver function tests and blood counts. Smoking cessation and limited alcohol intake are important for people on methotrexate or leflunomide.

Sulfasalazine is more effective and acts sooner than hydroxychloroquine. Hydroxychloroquine is often used for mild disease. Both drugs are usually well tolerated and therefore may be suitable in older patients with significant underlying conditions.

**bDMARDs**

Biological disease modifying anti-rheumatic drugs (bDMARDs) are new groups of antirheumatic drugs and are available on the PBS on authority for people with severe active rheumatoid arthritis. They have a rapid onset of action (often within days).

bDMARDs include:
- tumour necrosis factor (TNF) alpha antagonists (adalimumab, etanercept, infliximab)
- chimeric anti-CD20 monoclonal antibody (rituximab)
- interleukin-1 inhibitor (anakinra)
- T-cell co-stimulation modulator (abatacept)

**TNF-alpha antagonists**

TNF-alpha antagonists or cytokine modulators have a rapid onset of action compared with older antirheumatic medicines and are used when methotrexate is inadequate in controlling the disease.

- adalimumab (*Humira*)
- etanercept (*Enbrel*)
- infliximab (*Remicade*)

TNF-alpha antagonists should not be used in patients with heart failure or multiple sclerosis. There is also evidence of increased risk of serious infections and malignancies.

**Other antirheumatics**

Other antirheumatics are used less often. Methotrexate is considered more effective and better tolerated. Cyclosporin and azathioprine are reserved for use when other agents have failed.

- gold salts - auranofin (*Ridaura*)
- penicillamine (*D-Penamine*)
- azathioprine (*Imuran*)
- cyclosporin (*Neoral, Cicloral*)

**Other therapies**

Simple analgesics such as paracetamol and omega-3 fatty acids are also effective as initial therapy.

Omega-3 fatty acids in doses of 2.7g/day can be effective as an adjunct for management of pain and stiffness. They can also enable a reduction of NSAID doses.

Gamma-linolenic acid supplements (1.4-2.8g daily) in evening primrose, borage seed and blackcurrant oils may provide relief of pain, morning stiffness and joint tenderness in some patients.

The Chinese herb *Tripterygium wilfordii* is not recommended due to serious side effects such as impaired renal function, blood disorders, hair loss, diarrhoea and nausea.

**Non-drug management**

Patient self-management and education is important at all stages of rheumatoid arthritis. Weight control, exercise, appropriate foot care, thermotherapy, sleep promotion and psychosocial support play important roles in the management of the disease.