

## Module 4: Extra-articular features of rheumatoid arthritis (RA) and co-morbid conditions

### Key concepts

- Morbidity and mortality associated with cardiovascular disease is one of the most common extra-articular manifestations related to RA. Monitor cardiovascular status closely and address risk factors for cardiovascular disease. If in doubt, on-refer.
- On-refer early to a GP for further investigation if you notice changes in a patient's cardiopulmonary capacity and exercise tolerance.
- On-refer to a GP if you suspect skin cancers.

### Extra-articular features of RA

Body system	Manifestation	What to look for
<b>Skin</b>	Nodules	Single/ multiple subcutaneous nodules >5mm diameter. Usually painless and on extensor surfaces.
	Raynaud's Sign	Colour change (paleness) of fingers/toes in response to cold or stress
	Major cutaneous vasculitis*	Red/purple skin spotting which doesn't blanch with pressure. Leg ulcers and peripheral gangrene
<b>Pulmonary</b>	Bronchiolitis obliterans organizing pneumonia (BOOP)	Dry cough, dyspnoea, wheezing, crackles on auscultation
	Pleuritis* and pleural effusion	Sharp chest pain with deep breathing, coughing, sneezing, laughing
	Interstitial lung disease*	Dyspnoea, cough
<b>Cardiovascular</b>	Pericarditis*	Chest pain, dyspnea, palpitations.
	Vasculitis	Signs of ischaemia/necrosis in affected organs/ tissues.
	Ischaemic Heart Disease	Reduced cardiac capacity
<b>Neurological</b>	Mono neuritis multiplex* or peripheral neuropathy	Acute sensory and/or motor neuropathy in one or more nerve trunks secondary to vasculitis, compression or diabetes

Body system	Manifestation	What to look for
<b>Visual</b>	Sjögren's syndrome	Dry eyes and mouth +/- skin, nose and vaginal dryness
	Episcleritis or scleritis* click to see image	'Red eye' - redness of the white part (sclera) of the eye, eye pain with possible radiation to the jaw, photophobia, decreased visual acuity
<b>Haematological</b>	Felty's syndrome*†	High rate of bacterial infections, fever, weight loss, fatigue.
<b>Skeletal body System</b>	Osteoporosis	Minimal trauma fracture, height loss. Be vigilant about bone fragility

\* severe manifestations † defined as chronic polyarthritis, neutropenia and splenomegaly. SOURCE: [Briggs et al 2013](#)

### Co-morbid conditions and complications

Body system	Co-morbidities/ Complications	What to look for
<b>Neurological</b>	Cervical myelopathy*	Neck pain, upper limb pain, sensory and motor changes in upper limbs, gait disturbances.  Be vigilant about possible cervical spine instability (C1/2 specifically). <i>Avoid strong manual therapy techniques in the upper cervical spine. On-refer if in doubt</i>
	Osteoporosis	Minimal trauma fracture, height loss. Be vigilant about bone fragility ( <i>consider exercise type, intensity and avoid use of strong manual therapy techniques if severe osteoporosis</i> ).
<b>Metabolic / Endocrine</b>	Steroid-induced diabetes	Painful peripheral neuropathy

\* occurs as a consequence of subluxation of cervical spine joints. SOURCE: [Briggs et al 2013](#)

### Management Considerations:

- Extra-articular features can cause considerable disability and MUST be considered and monitored when formulating individualised physiotherapy management plans and goals.
- Work with patients to address modifiable risk factors such as obesity, smoking and alcohol. Use education and exercise based strategies including liaising/referring to other multidisciplinary team members.