



Professional issue

Physiotherapy co-management of rheumatoid arthritis: Identification of red flags, significance to clinical practice and management pathways



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ABSTRACT

Rheumatoid arthritis (RA) is a chronic, systemic, autoimmune disease. Physiotherapy interventions for people with RA are predominantly targeted at ameliorating disability resulting from articular and peri-articular manifestations of the disease and providing advice and education to improve functional capacity and quality of life. To ensure safe and effective care, it is critical that physiotherapists are able to identify potentially serious articular and peri-articular manifestations of RA, such as instability of the cervical spine. Additionally, as primary contact professionals, it is essential that physiotherapists are aware of the potentially serious extra-articular manifestations of RA. This paper provides an overview of the practice-relevant manifestations associated with RA that might warrant further investigation by a medical practitioner (red flags), their relevance to physiotherapy practice, and recommended management pathways.

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1. Introduction

Rheumatoid arthritis (RA) is a systemic, autoimmune, inflammatory condition that affects multiple tissues and organs in the body, in particular the synovial joints and peri-articular tissues. It is the most common of the inflammatory joint diseases. RA is associated with significant pain, functional impairments and co-morbid health conditions (Kvien, 2004). In recognition of the substantial health, psychosocial and community impacts imposed by RA, this condition is recognised as a National Health Priority Area in Australia and current health policies address the need to optimise health service delivery (Department of Health (Western Australia), 2009; National Health Priority Action Council, 2006). The systemic and progressive nature of the condition and associated co-morbidities (Briggs et al., 2009) also contribute to premature mortality (Myasoedova et al., 2010), particularly in individuals who experience extra-articular (EA) manifestations associated with the disease. In order to ensure safe and effective patient care, clinicians working in primary care need to be able to readily identify manifestations which may contribute to morbidity and mortality and influence prognosis.

Physiotherapy represents a critical component of the overall management for patients with RA, as substantiated by a strong evidence base, and reflected in clinical practice guidelines (Bell et al., 1998; Ottawa Panel, 2004a,b; Li et al., 2006a,b; Forestier et al., 2009; Royal Australian College of General Practitioners, 2009; Hurkmans et al., 2011). Recent data suggest that the physiotherapy workforce needs professional development in the safe and effective delivery of clinical physiotherapy services. In particular, the ability of physiotherapists to identify the presence of red flags in patients with RA and implement appropriate on-referral was highlighted as an essential skill required for safe and effective care (Briggs et al., 2012; Fary et al., 2012). Red flags have been defined as the “clinical indicators of possible serious underlying conditions requiring further medical intervention” (Hunter New England NSW Health, 2005, p. 1) and “...manifestations that suggest that physician referral may be warranted” (Leerar et al., 2007, p. 42). The broader definitions of red flags may equally be attributed to those serious physical findings whose management is outside the scope of physiotherapy practice, e.g. visual disturbances related to scleritis. This professional issue article is written within the context of this broader definition. The aim of this paper is to provide an overview of articular, peri-articular and EA red flags associated with RA and highlight specifically what clinicians need to *look* and *listen* for in practice, and the practice implications.

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2. Rheumatoid arthritis

Although there is no cure for RA, early identification and initiation of appropriate therapies are important to arrest the progression of symptoms and improve longer-term outcomes (Finckh et al., 2006; van der Linden et al., 2010). Physiotherapists need to be able to: (i) recognise signs and symptoms (musculoskeletal and other body systems) that at pre-diagnosis suggest RA, and (ii) identify any serious disease or medical condition associated with RA that may lead to irreversible damage or premature death (Beattie et al., 2011).

The following sections outline the articular, peri-articular and EA red flags associated with RA that are relevant to contemporary clinical practice.

2.1. Articular and peri-articular red flags in RA

Early recognition of the articular and peri-articular features of RA that may indicate disease-specific severity and that require on-referral is important for the primary care clinician, as these

have implications for patient safety and best-practice care (Table 1).

The typical disease course of RA involves chronic low-grade inflammation with periodic flares which may present as articular or peri-articular manifestations (Prete et al., 2011). Inflammatory mediators contribute to the progressive destruction of joint tissue in the absence of disease-modifying treatment (Tarner et al., 2005). Chronic synovial inflammation, bone erosion, and cartilage destruction within the joint may lead to joint instability in both appendicular and axial skeletons.

Up to 86% of people with RA have involvement of the cervical spine (Mukerji and Todd, 2011), of whom 17–85% will progress to cervical spine instability (Wolfs et al., 2009). Furthermore, neurological deterioration is almost inevitable in patients with RA treated conservatively for cervical spine instability associated with myelopathy (Wolfs et al., 2009). The presence of cervical spine instability in RA also leads to a higher mortality rate (Paus et al., 2008; Wasserman et al., 2011). Recognising the potential association between RA and joint instability and identifying risk is particularly critical in the cervical spine, where instability and subluxation (particularly in the upper cervical spine) can have catastrophic

Table 1

Articular and peri-articular manifestations associated with rheumatoid arthritis, representing potential red flags.

Articular and peri-articular manifestations	Listening for: reports of	Looking for: examination and findings
Cervical spine instability	Pain at the back of the head and/or neck. Sensory and motor changes in the upper limbs. Vertebro-basilar artery insufficiency symptoms. Lips and tongue sensory disturbance. Symptoms of spinal cord compromise, including possible lower limb symptoms such as gait disturbances.	Thorough subjective and physical examination including comprehensive neurological examination; view computed tomography/magnetic resonance images to ascertain cervical cord compromise, especially C1/C2; Babinski/Hoffman sign, clonus, reflexes, sensation (see Slater et al., 2013).
Tenosynovitis Tendon rupture and/or joint dislocations of the hand/wrist or foot/ankle joints	Swollen, painful tendons. Pain on resisted movement/load. Loss of function; deformity	Crepitus on movement; warmth; evidence of swelling. Rupture: loss of tendon function, joint instability and tendon discontinuity. Discordance between active and passive joint movement. Dislocation: lack of synovial joint congruity in active and passive movement.
Boutonnière deformity	Mechanical dysfunction related to fine motor tasks using the digits and gross motor tasks using the hand and wrist.	Combination of flexion of proximal IP joint and hyperextension of distal IP joint.
Swan neck deformity	Mechanical dysfunction related to fine motor tasks using the digits and gross motor tasks using the hand and wrist.	Limitation of active flexion of the proximal IP joint. IP joint instability. Combination of flexion at MCP joint, hyperextension of the proximal IP joint and flexion of the distal IP joint.
Carpal tunnel syndrome	Pain and/or sensory disturbance in the hand in the median nerve distribution; wasting or weakness with gripping; dropping things; symptoms worse at night; shaking the hand helps.	Sensory and motor examination of relevant peripheral median nerve distribution (negate differential spinal root compression that may mimic carpal tunnel involvement). Positive Phalen's and Tinel's tests. Screen for diabetes, thyroidism, B12 deficiency. Weakness or wasting in abductor pollicis brevis.
Hallux valgus, medial longitudinal arch flattening and claw toe	Pain in the foot. Reports of increased disability with gait and weight-bearing.	Postural and alignment changes in the foot, including: medial deviation of the first metatarsal and lateral deviation of the hallux. Pattern of dorsiflexion at MTP joint combined with plantar flexion at PIP and DIP joints for claw toes.
Synovitis-driven rotator cuff and/or glenohumeral symptoms	Shoulder girdle pain (e.g.; impingement or lateral shoulder pain) not mechanically-patterned and not responding consistently to therapy (e.g. tendon unloading).	Pattern of movement dysfunction (control or impairment of range) consistent with subjective complaint; warmth; crepitus; check for rotator cuff rupture. Partial or no response to simple analgesia.
Secondary osteoarthritis	Pattern of symptoms mechanically-patterned (i.e.; stimulus-response coupled: hurts with movement and pain eases when resting), non-inflammatory joint degeneration.	Age-dependent. Longer RA disease duration and/or chronic synovitis. Insidious onset. Responds to simple analgesia. Bony tenderness on palpation. Bony enlargement. Crepitus with movement. No palpable warmth (difficult if patient also has a flare). Loss of joint space, osteophytes, subchondral cysts on plain X-ray.

Abbreviations: MCP – metacarpophalangeal; IP – interphalangeal; MTP – metatarsophalangeal; PIP – proximal interphalangeal; DIP – distal interphalangeal.

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