RAP-eL

Physiotherapy interventions evidence table – Managing fatigue

The following table provides a summary of level I or II evidence (according to the NHMRC evidence hierarchy) for physiotherapy-relevant interventions in RA published between January 2012 and June 2015. Interpreting the evidence can be complex. RAP-eL users should consider the following:

- Further research is required into the effects of exercise on patients with RA who report fatigue to be a significant symptom (i.e. not including patients with RA who don't report fatigue as a symptom). Further research is also required into the optimal dose of exercise to reduce fatigue in patients with RA.
- There are no current studies investigating the optimal timing of interventions to reduce fatigue in early versus late rheumatoid arthritis.
- Further research is needed into the optimal content, format (individual vs. group), mode of delivery (face to face, internet, phone, self-directed, supervised), duration and frequency of exercise and psychosocial interventions targeting fatigue.
- Future studies may determine if the lack of significant long term reductions of fatigue with aerobic exercise are due to a lack of compliance with exercise following a fully supervised programme, or if clinicians can only expect short to medium improvements, despite compliance.
- It is important to note that the interventions studied are done so in isolation, so the evidence refers to the effect of the single intervention, and not the effect of a multimodal intervention.

Physiotherapy-related intervention(s)	Sources of evidence (see key below)	Results	Making sense of the evidence
Managing fatigue	RCT | SR | MA | CSR | | | ✓ Cramp et al 2013 Cochrane Database of Systematic Reviews. [link] RCT | SR | MA | CSR	There is some evidence that physical activity including: • aquatic exercise • yoga • dynamic strength training • static cycling • low impact aerobics • Tai Chi and • psychosocial interventions	- Both physical (e.g. exercise) and psychosocial treatments may reduce self-reported fatigue in patients with RA.

	<table><tr><td></td><td>✓</td><td></td><td></td></tr></table> Salmon et al 2017 Physical Therapy Reviews [link] <table><tr><td>RCT</td><td>SR</td><td>MA</td><td>CSR</td></tr><tr><td>✓</td><td></td><td></td><td></td></tr></table> Feldthusen 2017 Archives Phys Med Rehabil.; 97:26-36 [link]	improve fatigue in persons with RA.	
Aerobic exercise training effects on fatigue	<table><tr><td>RCT</td><td>SR</td><td>MA</td><td>CSR</td></tr><tr><td></td><td></td><td>✓</td><td></td></tr></table> Rongen-van Dartel 2015 Arthritis Care & Research; 67(8); 1054-1062 [link]	A meta-analysis (Rongen-van Dartel, 2015) of 5 RCT's found supervised, aerobic land-based exercise programmes (>15 minutes, > x 2 sessions per week, for at least 4 weeks, working at 50-90% maximal heart rate) had significant but small effects on reducing fatigue in patients with RA. These effects were not maintained at long-term follow-up (24 weeks).	- Aerobic exercise is effective at reducing fatigue in the short to medium term. - Based on this meta-analysis a dose of > 15 minutes per session, > twice weekly for at least 4 weeks with patients working at 50-90% of maximum heart rate is a basic guide for exercise prescription.

Key To Evidence Sources:
Randomised Controlled Trial (RCT)
Systematic Review (SR)
Meta-Analysis (MA)
Cochrane Systematic Review (CSR)

List of Table Abbreviations:
ADL's – Activities of Daily Living

RAP-eL

DAS28 – Disease activity score calculator for Rheumatoid arthritis [click here for link to PDF]
DASH – "Disabilities of the Arm Shoulder and Hand" outcome measure
HEP – Home Exercise Programme
HRQ – Health Risk Questionnaire
JP – Joint Protection
LBP – Lower Back Pain
OA – Osteoarthritis
OT – Occupational Therapy
QOL – Quality Of Life
RA – Rheumatoid Arthritis
RCT – Randomised Controlled Trial
TENS – Transcutaneous Electrical Nerve Stimulation
US - Ultrasound
1^{st} MTPJ – 1^{st} Metatarsophalangeal Joint