

## Assistive technology for rheumatoid arthritis: a Cochrane systematic review

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**Introduction:** Provision of assistive technology is a widely used intervention for persons with rheumatoid arthritis. Yet, there is very limited research on the effectiveness of assistive technology in this population.

**Objectives:** To assess the benefits of assistive technology for adults with rheumatoid arthritis in terms of improving functional ability and reducing pain, and to assess potential adverse effects in terms of psychological discomfort, personal injury or material damage related to device use.

**Methods:** An extensive systematic literature search was performed for articles published in Cochrane Library, MEDLINE, EMBASE, CINAHL, AMED, ISI Web of Science, PEDro and OTseeker, searching for randomised controlled trials, clinical controlled trials, controlled before and after studies, interrupted time series and comparative observational studies if addressing adverse effects. In addition, we scanned reference lists, sought grey literature and had personal communication with authors. The search results were screened applying predefined inclusion and exclusion criteria.

**Results:** A total of 13 studies were retrieved in full text, of which 12 were excluded, either due to study design (n=11) or participants' characteristics' (n=1). One clinical controlled trial with 29 participants was included in the review. The study compared the use of an eye drop delivery device to a standard bottle in persons with rheumatoid arthritis suffering from persistent dry eyes. The study results gives moderate evidence that use of the eye drop device improves the ability squeeze out drops, aim drops, control the number of drops, and prevents adverse effects. The results also demonstrate that there is a lack of high quality research on the effectiveness of assistive technology.

**Conclusion:** There is very limited evidence for the effect of assistive technology for adults with rheumatoid arthritis. Thus, there is an urgent need for high-quality research addressing the effectiveness of assistive technology in this population.

**Contribution to the practice/evidence base of occupational therapy:** Provision of assistive technology is a commonly used intervention within our profession. This review demonstrates the research gap that exists in this field. We encourage occupational therapist researchers to contribute to a better evidence base when it comes to effectiveness of assistive technology for persons with rheumatoid arthritis.