

# What is the added value of ultrasound joint examination for monitoring synovitis in rheumatoid arthritis and can it be used to guide treatment decisions? A systematic review and cost-effectiveness analysis

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## Plain English summary

### Ultrasound joint examination for monitoring synovitis in rheumatoid arthritis

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## Plain English summary

The aims of this study were to investigate the value of ultrasound (US) in addition to clinical examination (CE) for monitoring synovitis (swelling of joint synovial lining) in rheumatoid arthritis (RA) and whether or not US could be used to make treatment decisions. A systematic literature review identified 58 studies providing relevant evidence. Studies indicated that US-detected synovitis was associated with later development of structural progression assessed by radiography, a sign that RA is causing permanent joint damage. Studies suggested that US was better than CE at predicting response to treatment and tapering (dose reduction) or discontinuation of a particular treatment. US was used to make treatment decisions and could increase clinician and patient confidence in those decisions. However, studies varied in the types of US and CE that were used and how outcomes were measured, making it difficult to draw firm conclusions about the overall usefulness of adding US to CE.

No studies on the cost-effectiveness of US for monitoring synovitis were identified, but studies assessing the impact of reducing treatment doses were identified. These reported that some patients who had achieved good control of their disease could have their treatment reduced without harmful effects. It may also be possible to withdraw treatment for some patients although this is rare in established RA. Reduced dosages can save large sums of money in terms of drug costs. It was estimated that a 2.5% reduction in dose of biological treatment would more than pay for the use of US every 3 months. The reduction in dose needed to cover the costs of US rose when less expensive treatments were used but did not become larger than 6%, assuming that multiple cheaper treatments were used. It appears likely that using US to monitor synovitis could potentially represent value for money. However, more evidence is needed to reduce the uncertainty in the current findings.



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