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**Strictly Embargoed until 00:01 hours (BST), 7<sup>th</sup> October 2009**

This alert highlights four reviews of arthritis interventions and their implications for practice publishing next week in [The Cochrane Library](#), 2009, Issue 4.

To receive a full copy of the reviews highlighted in this newsletter, or to arrange an interview with an author, please contact Jennifer Beal on +44 (0)1243 770633 / +44 (0) 7802 468863 or by email, [medicalnews@wiley.com](mailto:medicalnews@wiley.com).

### Reviews highlighted in this newsalert:

- **[Biologics for Rheumatoid Arthritis Work, But Which Is Best? Clear Differences Shown in Efficacy and Adverse Effects](#)**  
More studies that directly compare the effectiveness of different biologic drugs for rheumatoid arthritis (RA) are needed, say Cochrane Researchers. The researchers reviewed all previous Cochrane Systematic Reviews assessing the effectiveness of biologic disease-modifying drugs for treatment of RA and found that although all were very effective, there was little data on direct comparisons between the drugs that could help doctors decide which to prescribe.
- **[TENS For Osteoarthritis: Not Enough Evidence To Recommend](#)**  
Despite twenty years of research on the use of electrostimulation techniques (TENS) for treatment of osteoarthritis in the knee, researchers still cannot say whether it reduces pain or physical disability. This is the conclusion of a Cochrane Systematic Review of electrostimulation trials in osteoarthritis.
- **[New Biologic Drug Is Effective Against Rheumatoid Arthritis](#)**  
Abatacept, a member of a new class of drug that targets immune cells to treat rheumatoid arthritis is effective according to a new Cochrane Systematic Review. The review examines recent trials to assess the safety and efficacy of the drug.
- **[Exercise Programs Recommended As Standard For Rheumatoid Arthritis](#)**  
Exercise programs designed to improve strength and stamina are safe and effective treatments for rheumatoid arthritis, according to a new Cochrane Systematic Review. The researchers reviewed dynamic exercise program trials in people with the disease, and found moderate benefits associated with this type of treatment.

### **Biologics for Rheumatoid Arthritis Work, But Which Is Best? Clear Differences Shown in Efficacy and Adverse Effects**

More studies that directly compare the effectiveness of different biologic drugs for rheumatoid arthritis (RA) are needed, say Cochrane Researchers. The researchers reviewed all previous Cochrane Systematic Reviews assessing the effectiveness of

biologic disease-modifying drugs for treatment of RA and found that although all were very effective, there was little data on direct comparisons between the drugs that could help doctors decide which to prescribe.

RA is an autoimmune disease that affects up to 1 in 100 people in Western countries. Patients experience chronic pain and inflammation as a result of the body's own immune system attacking the lining of the joints. In recent years, biologic disease-modifying anti-rheumatic drugs (DMARDs) have been introduced that can help to modify this irregular immune response and improve symptoms of the disease. Although these drugs may have fewer side effects than traditional DMARDs such as methotrexate, they are more expensive.

The six previous reviews considered by the researchers used two measures to make indirect comparisons between different biologic drugs. The first was doctor or patient assessment of symptoms including the number of swollen joints. For adalimumab, etanercept and rituximab, an increase of at least 40% was seen in the number of people experiencing improved symptoms, when the drugs were compared to placebos. Anakinra was the least effective at just 6% improvement compared to placebos. The second measure was the number of people who dropped out of studies due to adverse effects. Less than 10% dropped out in most cases, however, etanercept, abatacept and infliximab seemed to be responsible for the fewest withdrawals, showing little difference to the numbers dropping out when taking placebos.

“Doctors are faced with a difficult dilemma when choosing biologics to prescribe to RA patients. Although anakinra seemed less effective in the trials we looked at, we did not have any data from direct comparisons between different drugs,” says lead researcher Jasvinder Singh, who is based at the Minneapolis Veterans Affairs Medical Center in Minneapolis in the US.

“We believe that direct head-to-head comparisons of biologic drugs in patients suffering from RA are needed. These trials should examine efficacy and safety at different stages and severity levels of the disease, as well as prior treatment with other drugs.”

**Full citation;** Singh JA, Christensen R, Wells GA, Suarez-Almazor ME, Buchbinder R, Lopez-Olivo MA, Tanjong Ghogomu E, Tugwell P. Biologics for rheumatoid arthritis: an overview of Cochrane reviews. *Cochrane Database of Systematic Reviews* 2009, Issue 4. Art. No.: CD007848. DOI: 10.1002/14651858.CD007848.pub2.

\*\*\*SEE [WWW.COCHRANE.ORG/PODCASTS](http://WWW.COCHRANE.ORG/PODCASTS) FOR A PODCAST BY THE AUTHOR OF THIS REVIEW,  
AVAILABLE FROM WEDNESDAY 7<sup>th</sup> OCTOBER 2009\*\*\*

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## **TENS For Osteoarthritis: Not Enough Evidence To Recommend**

Despite twenty years of research on the use of electrostimulation techniques (TENS) for treatment of osteoarthritis in the knee, researchers still cannot say whether it reduces pain or physical disability. This is the conclusion of a Cochrane Systematic Review of electrostimulation trials in osteoarthritis.

Osteoarthritis is the most common cause of pain and physical disability in older people. In one widely used form of treatment for the disease, called transcutaneous electrical

stimulation (TENS), an electrical current is applied to the skin at the joint to stimulate the nerves and try to relieve pain.

The authors reviewed data from 18 small trials that together included 813 patients. According to their findings for physical disability, 29 out of 100 people who received TENS treatment responded to treatment, compared to 26 out of 100 people who received fake TENS treatment or took their usual treatments. There was no difference in pain relief or in the number who dropped out due to adverse effects.

“Although some people who have electrostimulation treatment for osteoarthritis of the knee show some improvement, our data suggest that this may not be greater than the improvement experienced by those who receive placebo treatment,” said lead researcher, Anne Rutjes of the Institute of Social and Preventive Medicine at the University of Bern in Switzerland. “After two decades of research on the use of these methods there is still no clear evidence that they work.”

Data was only available for a few small trials and many of these were of very poor quality. In particular, most did not provide enough information about the number of drop outs and some failed to make any mention at all of adverse effects. “To clarify the effectiveness of TENS as a treatment for osteoarthritis we need larger, better quality trials,” says Rutjes.

The work was funded by the Swiss National Science Foundation in Switzerland.

**Full citation:** Rutjes AWS, Nüesch E, Sterchi R, Kalichman L, Hendriks E, Osiri M, Brosseau L, Reichenbach S, Jüni P. Transcutaneous electrostimulation for osteoarthritis of the knee. *Cochrane Database of Systematic Reviews* 2009, Issue 4. Art. No.: CD002823. DOI: 10.1002/14651858.CD002823.pub2.

\*\*\*SEE [WWW.COCHRANE.ORG/PODCASTS](http://WWW.COCHRANE.ORG/PODCASTS) FOR A PODCAST BY THE AUTHOR OF THIS REVIEW (IN BOTH ENGLISH AND GERMAN), AVAILABLE FROM WEDNESDAY 7<sup>th</sup> OCTOBER 2009\*\*\*

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## **New Biologic Drug Is Effective Against Rheumatoid Arthritis**

Abatacept, a member of a new class of drug that targets immune cells to treat rheumatoid arthritis (RA), is effective against RA, according to a new Cochrane Systematic Review. The review examines recent trials to assess safety and efficacy of the drug.

RA is an autoimmune disease affecting up to 1 in 100 people in Western countries. RA patients experience chronic pain and inflammation as a result of the body's own immune system attacking the lining of the joints. Abatacept is a new “biologic” drug that works by blocking the actions of the immune cells, called T cells, which cause joint inflammation.

The review combined data from seven trials including 2,908 patients, whose symptoms were assessed after one year of taking the drug or a placebo. Compared to placebo, patients given abatacept were twice as likely to achieve a 50% improvement in symptoms, including pain and the number of tender and swollen joints. Patients who took the drug also experienced improvements in physical ability. There was no progression in damage to joints of people who took abatacept at 12 months follow up. However, serious adverse effects increased if the drug was given in combination with other biologics.

“Like other biologics, abatacept is an expensive drug, but if the benefits are evident, it may be of great interest to patients with rheumatoid arthritis who fail standard therapy or other biologic treatment. Our review shows that it is indeed effective, and generally well-tolerated, but we would strongly recommend that it is not used with other biologics,” says lead researcher, Lara Maxwell, of the Institute of Population Health at the University of Ottawa in Ontario, Canada.

“There is a need for more long term studies to determine whether the drug is safe and the effect sustained over longer periods. Better designed studies in the future are likely to have a longer follow-up and high retention rates, and it would be useful to conduct trials of one biologic versus another.”

**Full citation:** Maxwell L, Singh JA. Abatacept for rheumatoid arthritis. *Cochrane Database of Systematic Reviews* 2009, Issue 4. Art. No.: CD007277. DOI: 10.1002/14651858.CD007277.pub2.

**\*\*\*SEE [WWW.COCHRANE.ORG/PODCASTS](http://WWW.COCHRANE.ORG/PODCASTS) FOR A PODCAST BY THE AUTHOR OF THIS REVIEW, AVAILABLE FROM WEDNESDAY 7<sup>th</sup> OCTOBER 2009\*\*\***

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## **Exercise Programs Recommended As Standard For Rheumatoid Arthritis**

Exercise programs designed to improve strength and stamina are safe and effective treatments for rheumatoid arthritis (RA), according to a new Cochrane Systematic Review. The researchers reviewed dynamic exercise program trials in RA patients and found moderate benefits associated with this type of treatment.

“Based on the evidence in this study, we would recommend aerobic capacity training combined with muscle strength training as routine practice for RA patients,” said lead researcher Emalie Hurkmans of the Leiden University Medical Center in Leiden, Netherlands. “But we need more research to establish the recommended length and type of exercise programs, whether patients need to be supervised and if these programs are cost effective.”

RA affects up to 1 in 100 people in Western countries, causing chronic pain and inflammation of the joints. There is currently no cure for the disease, so dynamic exercise programs are often recommended as a complement to drug therapy to try to improve physical function through physical exercise.

The researchers combined data from eight trials involving a total of 575 patients. The results reaffirm the previous study’s findings that dynamic exercise programs are safe and have positive effects on aerobic capacity and muscle strength in RA patients, and when performed long term also have a positive effect on functional ability. However, the researchers say the benefits are only seen immediately after the intervention. They also suggest water-based programs may help to improve functional ability of patients.

“One important omission from this study is evidence for long term follow-up effects, so without further studies we can’t rule out that the obtained effects vanish if exercise programs are not continued over long periods. There are also other types of exercise that

weren't included in our review, such as flexibility and stability training, and it would be interesting to find out whether these also have positive effects," said Hurkmans.

**Full citation:** Hurkmans E, van der Giesen FJ, Vliet Vlieland TPM, Schoones J, Van den Ende ECHM. Dynamic exercise programs (aerobic capacity and/or muscle strength training) in patients with rheumatoid arthritis. *Cochrane Database of Systematic Reviews* 2009, Issue 4. Art. No.: CD006853. DOI: 10.1002/14651858.CD006853.pub2.

**\*\*\*SEE [WWW.COCHRANE.ORG/PODCASTS](http://www.cochrane.org/podcasts) FOR A PODCAST BY THE AUTHOR OF THIS REVIEW, AVAILABLE FROM WEDNESDAY 7<sup>th</sup> OCTOBER 2009\*\*\***

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## **Notes for editors**

1. The Cochrane Library contains high quality health care information, including Systematic Reviews from The Cochrane Collaboration. These Reviews bring together research on the effects of health care and are considered the gold standard for determining the relative effectiveness of different interventions. The Cochrane Collaboration (<http://www.cochrane.org>) is a UK registered international charity and the world's leading producer of systematic Reviews. It has been demonstrated that Cochrane Systematic Reviews are of comparable or better quality and are updated more often than the Reviews published in print journals<sup>5</sup>.
2. The Cochrane Library can be accessed at <http://www.thecochranelibrary.com>. Guest users may access abstracts for all Reviews in the database, and members of the media may request full access to the contents of the Library. For further information, see contact details below.

A number of countries have national provisions by which some or all of their residents are able to access The Cochrane Library for free. These include:

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3. The Cochrane Library is available with free one-click access to all residents of countries in the World Bank's list of low-income economies (countries with a gross national income (GNI) per capita of less than \$1000). Access to The Cochrane Library for low-income countries is via Wiley-Blackwell IP recognition, a system which recognises the country a user is in. Users in low-income countries can access The Cochrane Library via <http://www.thecochranelibrary.com>.

There are also several programmes, such as the Health InterNetwork Access to Research Initiative (HINARI) and the International Network for the Availability of Scientific Publications (INASP) that provide access in developing countries. To find out whether your country is included in any of these programmes/provisions, or to learn how to get access if you don't already have it, please visit: <http://www.thecochranelibrary.com>.

4. The Cochrane Database of Systematic Reviews received its second Impact Factor in 2008 and has an IF of 5.182, giving it a ranking of 12 out of 107 in the ISI category Medicine, General & Internal.
5. The Cochrane Library Issue 4, 2009 Podcasts: a collection of podcasts on a selection of Cochrane Reviews by the authors will be available from <http://www.cochrane.org/podcasts> from Wednesday 7th October 2009.  
**For Issue 4, 2009, the podcasts are:**
  - Antiviral treatment for Bell's palsy (idiopathic facial paralysis)

- Transcutaneous electrostimulation for osteoarthritis of the knee (Also in Dutch & German)
- Blood pressure lowering efficacy of diuretics as second-line therapy for primary hypertension
- Pharmacotherapy for hypertension in the elderly
- Drugs for preventing malaria in travellers (Also in French)
- Area-wide traffic calming for preventing traffic related injuries
- Oral or transdermal opioids for osteoarthritis of the knee and hip (Also in German)
- Abatacept for rheumatoid arthritis
- Oestrogen therapy for urinary incontinence in post-menopausal women
- Dynamic exercise programs (aerobic capacity and/or muscle strength training) in patients with rheumatoid arthritis
- Biologics for rheumatoid arthritis: an overview of Cochrane reviews
- Hypothermia for neuroprotection in adults after cardiopulmonary resuscitation (Also in German)
- Homocysteine lowering interventions for preventing cardiovascular events
- Minimally invasive synthetic suburethral sling operations for stress urinary incontinence in women

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**Contact:** Jennifer Beal  
**Direct line:** +44 (0) 1243 770633  
**Mobile:** +44 (0) 7802 468863  
**Email:** [medicalnews@wiley.com](mailto:medicalnews@wiley.com)

<sup>a</sup> Wen J, Ren Y, Wang L, Li Y, Liu Y, Zhou M, Liu P, Ye L, Li Y, Tian W. The reporting quality of meta-analyses improves: a random sampling study. *Journal of Clinical Epidemiology* 2008; 61: 770-775.