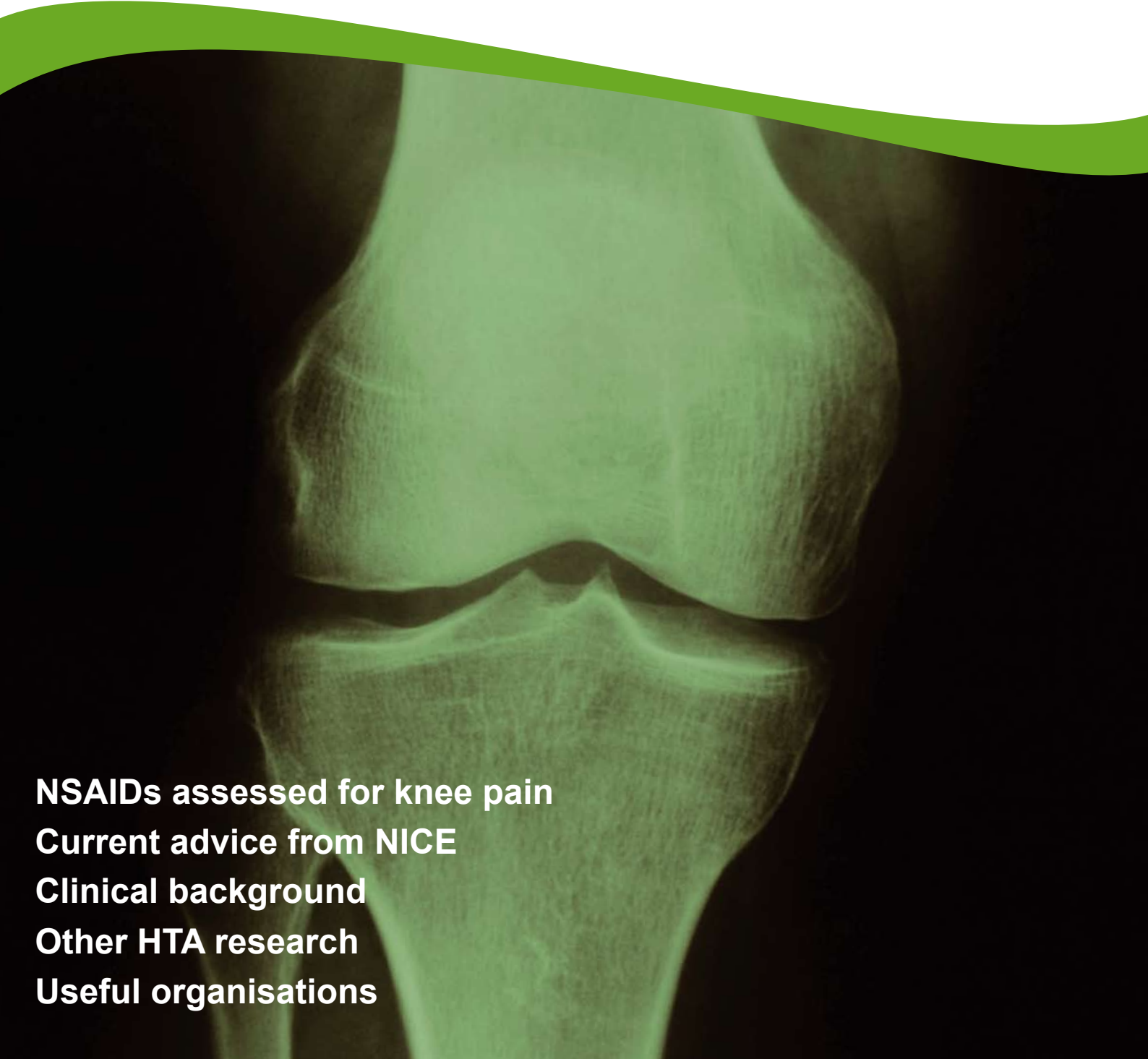




Spotlight

Treatment for knee pain

A large, semi-transparent X-ray image of a human knee joint, showing the femur, tibia, and patella. The image is tinted with a light green color and is positioned in the lower half of the page, partially overlapping a dark green curved banner.

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NSAIDs assessed for knee pain

Advising older patients to use non-steroidal anti-inflammatory (NSAIDs) ointments/gels has an equivalent effect as advising them to use tablets for the treatment of chronic knee pain, research published by the National Institute for Health Research Health Technology Assessment (NIHR HTA) programme has found. Currently both topical and oral NSAID preparations of drugs like ibuprofen, naproxen and diclofenac are used to treat knee pain which, in older people, is often attributed to osteoarthritis.

Oral NSAIDs, however, are associated with gastrointestinal, cardiovascular, and respiratory adverse effects, which are a particular risk for this group of people. Topical preparations should produce fewer side effects and so could be a good alternative treatment.

Around 40 per cent of hospital admissions with upper gastrointestinal bleeding, and 40 per cent of associated deaths in older people, are related to NSAID use.

The ‘topical or oral ibuprofen for chronic knee pain in older people (TOIB) study’ was a collaboration between Queen Mary, University of London, and the Medical Research Council General Practice Research Framework. The study recruited 585 people aged 50 or over from 26 general practices across the UK, to compare the clinical and cost-effectiveness of oral with topical NSAIDs for the treatment of chronic knee pain. They also looked at patients’ preferences and their attitudes to the adverse side effects associated with the treatments, as this can influence their perception of the effectiveness of the medication.

The results showed that advice to use topical NSAIDs has an equivalent effect as advice to use oral NSAIDs on chronic knee pain in older people, and that those treated with oral preparations had more minor adverse effects. However, participants with more severe widespread pain preferred oral rather than topical medication, as they believed it might help other areas of pain whilst circulating around the body.

Oral NSAIDs versus topical NSAIDs

The objective of the study, led by Professor Martin Underwood, now based at the University of Warwick, was to determine whether GPs should advise their older patients with chronic knee pain to use topical or oral NSAIDs.

“Chronic knee pain is a common problem in older people and until now there has been little evidence to suggest which form of medication, either topical or oral, is preferred,” says Professor Underwood.

Using a randomised controlled trial and a patient preference study, an equivalence study was designed to compare the effects of: advice to use either oral or topical ibuprofen (an NSAID) on knee pain and disability; NSAID-related adverse effects; and NHS/societal costs. A qualitative study looked at reasons for patient preferences for topical or oral preparations, and attitudes to adverse effects.

More minor adverse effects for oral NSAIDs

Clinical outcomes in the two groups were similar in almost every measure at every time-point. This finding was consistent across the trial, suggesting that the two treatment strategies are either equally effective or equally ineffective, although the data does not confirm which.

There were no differences in the rate of major adverse effects, however, there were some differences in the number of minor adverse effects.

Clinical background

Knee pain in older people is often attributed to osteoarthritis. Osteoarthritis is a multifactorial, metabolically active process beginning in middle age or younger, having both degenerative and reparative factors. There are five important contributing risk factors: the ageing of connective tissue, an inherited disposition, abnormal joint loading, obesity (although this has only been proven in the knee) and female gender.

Treatment

The core treatments for osteoarthritis are education, exercise (strengthening and aerobic fitness), and weight loss (if overweight). Some patients need drug treatment: this involves the use of analgesics, NSAIDs and local steroid injection. Other non-drug therapies are available and can reduce the need for higher doses of medication.

Because of the large number of serious side effects from NSAIDs, simple analgesics such as paracetamol are preferred as first line pain relief for people with osteoarthritis.

Current guidance from NICE

The current National Institute for Health and Clinical Excellence (NICE) guidance for the use of NSAIDs states that all can cause side effects such as gastrointestinal problems. These can include stomach ulcers or bleeding, and possibly life threatening perforations in the wall of the stomach or intestine. These drugs should therefore only be prescribed after a careful consideration of the risks and benefits for the person who would be taking them. Special care should be taken in people who are considered at a 'high-risk' of such gastrointestinal problems.

To view the full guidance visit <http://guidance.nice.org.uk/TA27>

In the trial, 17 per cent and 10 per cent in the oral and the topical group respectively, had a defined respiratory adverse effect. After 12 months, the change in renal function was less favourable in the oral than in the topical group. Of those in the oral group, 11 per cent reported changing treatment because of adverse effects, compared with one per cent in the topical group.

Patient preference for medication type was affected by previous experience of medication (including adverse reactions), other illness, pain elsewhere, anecdotes, convenience, severity of pain and perceived degree of degeneration. Participants with more severe widespread pain chose oral rather than topical ibuprofen.

Lack of understanding about knee pain and the action of medication led to increased tolerance of symptoms. Symptoms such as indigestion, sensitive stomach and poor general well-being were explained by patients as an effect of age rather than medication.

Potentially important symptoms may inadvertently have been disregarded, increasing participants' risk of suffering a major adverse effect.

"The results of our research suggest that advising older people with chronic knee pain to use topical rather than oral NSAIDs could be appropriate," says Professor Underwood.

"However, for those who would prefer oral preparations this is still a reasonable treatment option, particularly for those with more widespread or severe pain, provided that patients are aware of the risks of potentially serious adverse effects from oral medication."

"These results will help GPs and their patients decide on whether topical or oral NSAIDs are the best choice for them."

'Topical or oral ibuprofen for chronic knee pain in older people. The TOIB study' is published in *Health Technol Assess* 2008; Vol 12:22. The full text is available for download free of charge from www.hta.ac.uk/1302

The findings of the trial have also been published in the *BMJ* 2008;336:142-145 www.bmj.com/cgi/content/full/336/7636/142

An health economic analysis has been published in *Rheumatology* 2008 doi:10.1093/rheumatology/ken128 <http://rheumatology.oxfordjournals.org/cgi/content/abstract/ken128>



More HTA research

A comparison of the cost-effectiveness of five strategies for the prevention of non-steroidal anti-inflammatory drug-induced gastrointestinal toxicity: a systematic review with economic modelling *Health Technol Assess* 2006; Vol 10:38

The aim of this study was to assess the relative effectiveness, patient acceptability, costs and cost-effectiveness of four strategies for the prevention of NSAID induced GI toxicity.

For full project details visit www.hta.ac.uk/1300

Other titles include:

- ▶ Randomised controlled trial of the cost-effectiveness of water-based therapy for lower limb osteoarthritis, *Health Technol Assess* 2005; Vol 9:31
- ▶ Supplementation of a home-based exercise programme with a class-based programme for people with osteoarthritis of the knees: a randomised controlled trial and health economic analysis, *Health Technol Assess* 2004; Vol 8:46
- ▶ The cost-effectiveness of magnetic resonance imaging for investigation of the knee joint, *Health Technol Assess* 2001; Vol 5:27

For a full listing of knee pain and NSAIDs-related projects funded by the HTA programme, visit the advanced search pages of the website www.hta.ac.uk/ProjectData/projectsearch.asp

Useful organisations

Arthritis Care exists to support people with arthritis. They are the UK's largest organisation working with and for people with arthritis.

www.arthritiscare.org.uk

Arthritis Research Campaign promotes medical research into arthritic conditions.

www.arc.org.uk

British Association of Knee Surgery is a group of medical professionals interested in knee surgery.

www.baskonline.com

NHS Direct delivers telephone and e-health information services day and night direct to the public.

www.nhsdirect.nhs.uk/articles/article.aspx?articleid=268

The National Institute for Health and Clinical Excellence (NICE) is responsible for providing national guidance on promoting good health and preventing and treating ill health. This link will take you directly to NICE guidance on osteoarthritis.

www.nice.org.uk/guidance/cg59

Wikipedia is a multilingual, web-based, free content encyclopedia project.

<http://en.wikipedia.org/wiki/NSAID>

The NIHR Health Technology Assessment programme does not offer endorsement for any of the organisations or practices listed in this publication, nor is this list intended to be exhaustive.



About the NIHR HTA programme

The HTA programme is a programme of the National Institute for Health Research (NIHR) and is funded by the Department of Health. It produces high quality research information about the effectiveness, costs, and broader impact of health technologies for those who use, manage and provide care in the NHS.

It is the largest of the NIHR programmes, with over 400 projects published since its inception in 1993. About 50 are published each year, all available for download free of charge from the website. It is coordinated by the NCCHTA based at the University of Southampton. Visit www.hta.ac.uk for more information.

The NIHR HTA programme is managed by the NIHR Coordinating Centre for Health Technology Assessment (NCCHTA). The NCCHTA is part of the NIHR Evaluation, Trials and Studies Coordinating Centre (NETSCC), based at the University of Southampton.

NETSCC, Alpha House, Enterprise Road, Southampton Science Park, Chilworth, Southampton SO16 7NS
tel: +44 (0)23 8059 5586 fax: +44 (0)23 8059 5639 email: hta@hta.ac.uk web: www.hta.ac.uk