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Topical non-steroidal anti-inflammatory drugs for pain in knee osteoarthritis - an evidence based review

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Background & Aim: Osteoarthritis (OA) is a common form of degenerative joint disease with increasing prevalence. The first line of treatment includes oral analgesics like paracetamol, topical non-steroidal anti-inflammatory drugs (NSAIDs) and oral NSAIDs. Oral NSAIDs are effective in pain relief in OA, but are also associated with risks of adverse systemic side effects, making topical NSAID a possible, safer alternative. The aim of this review is to examine the evidence for the efficacy and safety of topical NSAID in the management of OA of the knee.

Method: The MEDLINE database, The Cochrane Library, National Institute for Health and Care Excellence and others sites of international scientific associations were searched using various keywords, including various combinations of search terms “Topical Administration”, “Non-Steroidal Anti-Inflammatory Agents”, “Osteoarthritis” and “Knee”. It was used the Strength of Recommendation Taxonomy (SORT) of the American Academy of Family Physicians to evaluate the level of evidence and the strength of recommendations.

Results: From the numerous search results, 8 studies (5 guidelines and 3 meta-analyses) were chosen and their data were gathered in order to provide a complete overview of the literature. All studies confirmed beneficial effects of topical NSAIDs, recommending that should be considered ahead of oral NSAIDs, cyclo-oxygenase 2 (COX-2) inhibitors or opioids.

Conclusion: Our review shown that topical NSAIDs were superior to placebo for pain control in OA of the knee, with good tolerability and safety profile and few adverse effects. The heterogeneity of the studies, with different drugs investigated as well as in the duration of treatment, limits the conclusions that can be drawn and the generalizability of results. Further well designed, long term (including follow up) studies are required.