

**TOLERANCE OF TOPICAL IBUPROFEN FOR LOCAL PAIN RELIEF:  
PUBLISHED EXPERIMENTAL AND CLINICAL EVIDENCE SUPPORTING  
ITS HIGH BENEFIT/RISK RATIO**

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**Objectives:** A comprehensive bibliographic review was conducted to evaluate pharmacological evidence supporting the use of ibuprofen releasing dressings in the treatment of painful wounds and to analyze published data concerning cutaneous tolerance of this NSAID.

**Methods:** Through a Medline search 702 references, directly or indirectly related to NSAIDs and cutaneous application (intact or impaired skin), were retrieved and analyzed.

**Results:** Transdermal ibuprofen pharmacokinetics have been extensively studied both after application on intact skin and after abrasion. Deep dermal active concentrations are reached easily with very limited systemic passage. These concentrations, via an inhibition of local prostaglandin synthesis, increase pain threshold to numerous nociceptive stimuli. Various animal studies have shown that topical ibuprofen application has no detrimental effects on wound healing and is devoid of cytotoxicity on fibroblasts. At least three meta-analyses of controlled studies have shown that cutaneous side effects induced by topical ibuprofen are similar to those of placebo treated patients. This is confirmed by worldwide pharmacovigilance data.

**Conclusions:** Topical application of ibuprofen on skin, intact and after abrasion, as well as on wounds appears safe and highly effective to limit pain. To our knowledge no published data has raised concerns that might limit its use as active substance released by dressings.