
Using Nanotechnology to Improve Pain and Function with A Novel, Drug-Free, Topical Pain-Relief Patch

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Pain Relief Technologies LLC, manufacturers of the non-drug, nanotechnology based, and topical Kailo Pain Patch®, today announced interim results of the PREVENT clinical trial administered by Clarity Science LLC, a global international scientific research company, based in Narragansett, Rhode Island, and led by Dr. Jeffrey Gudin, the principal investigator.

The results have been published in [Anesthesia and Pain Research](#), an international peer-reviewed journal devoted to the clinical practice of anesthesia and pain medicine.

Using Nanotechnology to Improve Pain and Function with a Novel, Drug-Free, Topical Pain-Relief Patch: An Interim Analysis,” represents preliminary outcomes from PREVENT (Pain Relief: Experience and Validity: Evaluating NanoTechnology), an IRB-approved, minimal risk, observational study. After 30 days using the [Kailo Pain Patch®](#), 66 patients with mild, moderate, and severe pain and arthritic, neuropathic, or musculoskeletal pain were evaluated for changes in their pain severity, pain interference, medication usage, and for any side effects experienced.

The topline results of the study showed that the mean Brief Pain Inventory (BPI) Severity score decreased 71% (5.2 to 1.5/10; $P < .001$) and mean BPI Interference score decreased 67% (4.5 to 1.5/10; $P < .001$). No side effects were reported while 98% of patients reported “less” or “a lot less” usage of oral medications. 97% of patients were very/extremely satisfied with the patch and preferred the pain-relieving patch to oral medications. Results showed Quality of Life (QoL) improvements in mood, relations with other people, sleep, walking ability, and enjoyment of life.

“Modern science has allowed the incorporation of nanotechnology into topical patch systems, minimizing, and in the case of Kailo, eliminating the need for drugs/pharmacological agents. The interim results of this study are incredibly positive, and we look forward to providing the

next phase of data that we have collected from patients with mild, moderate or severe pain,” said Dr. Gudin.

“This interim analysis showed a marked and a significant decrease in pain severity and pain interference scores while using the Kailo Pain Patch®, as well as a significant decrease in concurrent medication usage,” said Hurwitz. “And due to the current and ongoing opioid crisis, and the need to identify new novel and multi-modal therapies, the outcomes provide pertinent and compelling information to share with clinicians treating patients for mild, moderate, and severe pain.”

Interim results indicate that this novel, nanotechnology-formulated topical analgesic pain-relieving patch can reduce BPI pain severity and interference scores and related pain for adult patients with arthritic, neuropathic, and musculoskeletal pain.



Background Information

Evidence-based multimodal approaches to pain management include use of combination pharmacotherapy, non-pharmacological, and behavioral interventions. Much focus has been on the use of topically applied analgesics in order to spare the need for oral therapies. Topical analgesics, including pain relief patches, have proven a valuable strategy in the management of mild to moderate levels of pain. Advancements have allowed for the incorporation of nanotechnology into the development of patch therapies, yet there remains a paucity of data surrounding these products.

Read the [original article](#) on Business Wire.