

ActiPatch: Can It be a Tool to Empower Chronic Pain Patients?

Sir,

Chronic pain syndrome is a difficult entity to manage for clinicians.^[1] The management is multimodal that comprises pharmacological approach in the form of opioids, nonsteroidal anti-inflammatory drugs, gabapentinoids, antidepressants, antiepileptic agents, and a lot of other nonopioid medications. The patients are also advised nonpharmacological therapies such as physiotherapy sessions, acupressure, acupuncture, aromatherapy, and TENS.

ActiPatch (ActiPatch® – BioElectronics Corporation) is a low-power, pulsed shortwave therapy (PSWT) device that is available and marketed as an over-the-counter (OTC), class II (a) medical device in the European Union right now [Figure 1]. ActiPatch was approved by the US-FDA as an OTC product for managing persistent pain in 2017.^[2] The device is approved and used for managing certain specific categories of chronic pain. The device operates at a frequency of 27.12 MHz and pulses of 1000 times per second; each pulse sustains for a duration

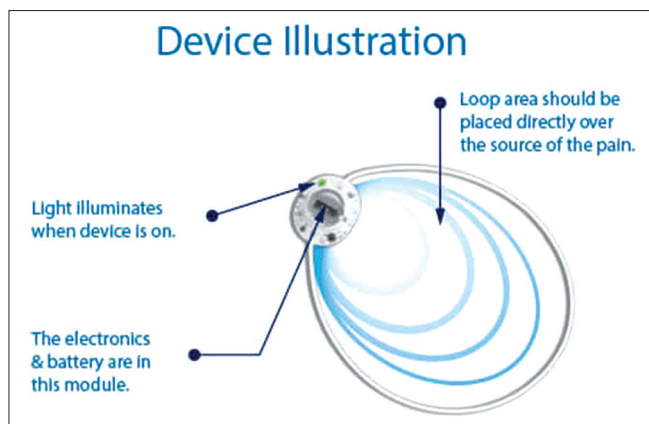


Figure 1: Image showing ActiPatch® (BioElectronics Corporation, MD, USA) which is a commercially available, over-the-counter medical device used for treating chronic pain (reprinted with permission from BioElectronics Corporation) (<https://www.actipatch.com/>)

of 100 μ s. The peak incident power on tissue, as measured into a 50 Ω load, is 73 μ W/cm².^[3] With its use, there is no heat production and neither the patient experiences any abnormal or unpleasant sensation when the PSWT is delivered. The product has no medication which is supposed to get released with its use. Patients can continue the ongoing medication as it does not pose any issues of interaction with ongoing therapy.

The mechanism of action of ActiPatch is by stochastic neuromodulation due to which there is regulation of activity of peripheral afferents at the site of application. The plausible explanation of mechanism of action of ActiPatch is that by delivering PSWT, there is a possibility of reversal of central sensitization which has earlier developed due to persistent peripheral nerve endings triggering. There is a similarity with TENS, but TENS cannot be used for a longer duration due to discomfort such as skin irritation and tingling during stimulation. The product can be used for a total duration of 720 h and also has an on/off option. ActiPatch is available in three forms: back wrap, knee wrap, and as an adhesive which can be applied as per specifications at the site of chronic, persistent pain. The product has been used in several situations such as back pain, knee/shoulder/ankle arthritis, postoperatively after knee/spine surgeries, tendonitis, ligament injury, elbow/wrist persistent pain, plantar fasciitis, and fibromyalgia. The product appears to be a boon for managing musculoskeletal pain, which is difficult to treat and is quite distressing.

Staelin *et al.* collected responses from 1394 participants who took the 7-day trial of ActiPatch.^[4] The authors found that 52% of subjects had a clinically significant pain reduction (40% or more), with an average reduction of 66% at the end of 3 months. 49% of patients suffering from chronic back pain were either able to reduce or stop the regularly used analgesic medications. Even though these data are from a survey, the results appear encouraging. Rawe and Kotak suggested that ActiPatch appears to be an opioid-free, medication-free, addiction-free, or dependence-free treatment modality that

can be used effectively in patients suffering from chronic musculoskeletal pain of varied locations.^[5] The results were from a registry involving 40,000 patients who used the product out of which 5000 assessments were done.

PSWT with ActiPatch appears to be a safe and reasonably effective modality for treating certain types of chronic pain. There are no absolute contraindications to its use and can be safely used with any ongoing pain medication. The device does not lead to adverse effects, which is encountered with pharmacotherapy. Further studies might explore its role in managing chronic pain syndromes of varying etiology and would enlighten clinicians with its safety and efficacy.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Abhijit Nair, Rajendra Sahoo¹

Department of Anaesthesia, Basavatarakam Indo-American Cancer Hospital and Research Institute, Hyderabad, Telangana, ¹Department of Anaesthesia and Pain, Health World Hospitals, Durgapur, West Bengal, India

Address for correspondence: Dr. Abhijit Nair, Department of Anaesthesia, Basavatarakam Indo-American Cancer Hospital and Research Institute, Hyderabad - 500 034, Telangana, India. E-mail: abhijitnair95@gmail.com

Submitted: 03-Dec-19 **Accepted:** 31-Dec-19

Published: 29-Aug-20

REFERENCES

1. Yasaei R, Saadabadi A. Chronic pain syndrome. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2019. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470523/>. [Last accessed on 2019 Oct 02; Last updated on 2019 May 11].
2. Available from: <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm?ID=K152432>. [Last accessed on 2019 Oct 02].
3. Koneru SN, Staelin R, Rawe IM. Chronic pain intervention using pulsed shortwave therapy: The relationship between pain demographics and central sensitization inventory. *Pain Manag* 2019;9:283-96.
4. Staelin R, Koneru SN, Rawe IM. An over-the-counter central sensitization therapy: A chronic back pain registry study of pain relief, medication use and their adverse effects. *Pain Manag* 2017;7:99-111.
5. Rawe IM, Kotak DC. A UK registry study of the effectiveness of a new over-the-counter chronic pain therapy. *Pain Manag* 2015;5:413-23.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online

Quick Response Code:



Website:

www.jpalliativecare.com

DOI:

10.4103/IJPC.IJPC_194_19

How to cite this article: Nair A, Sahoo R. ActiPatch: Can it be a tool to empower chronic pain patients? *Indian J Palliat Care* 2020;26:392-3.