Pain management

Pain management typically follows a structured approach known as the WHO Analgesic Ladder, designed to provide a stepwise method to treating pain. It was originally developed for cancer pain but is now widely applied to various types of pain. There are three main steps in this ladder, though modern pain management sometimes includes a “fourth step” for more complex cases. Here's a summary of each step:

1. Step 1: Non-Opioids (Mild Pain) Drugs Used: Non-opioid analgesics like acetaminophen (paracetamol) and nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, naproxen, or aspirin.

Purpose: Used for mild pain, these medications work by reducing inflammation and blocking pain signals at the source.

Adjuvant Therapies: May include muscle relaxants, antidepressants, anticonvulsants, or topical treatments to enhance pain relief.

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2. Step 2: Weak Opioids (Moderate Pain) Drugs Used: Weak opioids such as codeine, tramadol, or low doses of stronger opioids like hydrocodone. Purpose: This step is for moderate pain that cannot be adequately controlled with non-opioids alone. Combination: Often, weak opioids are combined with non-opioid analgesics for enhanced effectiveness.

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3. Step 3: Strong Opioids (Severe Pain)

Drugs Used: Strong opioids such as morphine, oxycodone, fentanyl, or hydromorphone.

Purpose: This step is used for severe or persistent pain that doesn't respond to weak opioids. Titration: Doses are carefully titrated based on pain relief and side effect management. Opioids are often used alongside adjuvants to reduce side effects and enhance pain control.

Fourth analgesic step

Step 4: Interventional and Advanced Therapies (Complex or Refractory Pain)

Interventions: Nerve blocks (e.g., epidural injections or regional anesthetic blocks) Spinal cord stimulation (neurostimulation techniques) Intrathecal drug delivery (direct administration of medications into the cerebrospinal fluid) Surgical interventions (e.g., nerve ablation, neurolysis) Palliative radiotherapy (for pain relief in cases of bone metastases or tumor-related pain) Purpose: Used when the standard pharmacological steps fail to manage pain adequately. This step is reserved for complex cases such as chronic pain, neuropathic pain, or cancer pain where more invasive approaches are necessary.

Each step in this ladder is intended to be flexible, allowing for movement up or down the ladder based on the patient's pain intensity and response to treatment. The goal is to provide effective pain relief while minimizing side effects.

Pain treatment

see Pain treatment.

PAIN MANAGEMENT MEETINGS

7th London Pain Forum "Advances in Pain Medicine" Winter Symposium 20-25 January 2019 Hotel Village Montana, Tignes Le Lac, France Web: www.winterpainsymposium.com

12th RA-UK/ESRA/LPF Ultrasound in Chronic Pain Medicine Course 22-23 March 2019 Dept of Anatomy, St George's Hospital, London, U Web: www.uspmlondon.com

Headache and Facial Pain Treatment Symposium 5 April 2019 Park Plaza Victoria, Amsterdam Centraal, The Netherlands Web: www.painways.com

British Pain Society Annual Scientific Meeting 1-3 May 2019 Hilton Tower Bridge Hotel, London, UK Web: www.britishpainsociety.org

12th Annual Leeds Hands-on Interventional Workshop 9-10 May 2019 University of Leeds, Leeds, UK Web: www.painandneuromodulationlondon.com

6th SUA Ultrasound Guided Chronic Pain Interventions Workshop 3 September 2019 Royal College of Physicians, London, UK Web: www.painandneuromodulationlondon.com

Neuromodulation Society of the UK & Ireland Annual Scientific Meeting and Hands-on Cadaver Workshop 15-17 November 2019 Aspire Conference Centre & Dept of Anatomy, Univ. of Leeds, Leeds, UK Web: www.painandneuromodulationlondon.com

Prospective observational cohort studies

Spinal cord stimulation is a possible treatment option for pain management; however, patients undergoing this intervention require close follow-up, which is not always feasible. eHealth apps offer opportunities for improved patient follow-up, although adherence to these apps tends to decrease over time, with rates dropping to approximately 60%. To improve adherence to remote follow-up, we developed a remote follow-up system consisting of a mobile app for patients, a website for health care professionals, and a remote support center.

The objective was to evaluate patient adherence to remote follow-up using a system that includes a mobile app and a remote support center.

After review of the literature and approval of the design of the follow-up system by a multidisciplinary committee, a team of experts developed a system based on a mobile app, a website for health care professionals, and a remote support center. The system was developed in collaboration with health

care professionals and uses validated scales to capture patients' clinical data at each stage of treatment (ie, pretreatment phase, trial phase, and implantation phase). Data were collected prospectively between January 2020 to August 2023, including the number of total surveys sent, surveys completed, SMS text message reminders sent, and reminder calls made.

A total of 64 patients were included (n=40 women, 62.5%) in the study. By the end of the study, 19 (29.7%) patients remained in the pretreatment phase, 8 (12.5%) patients had completed the trial phase, and 37 (57.8%) reached the implantation phase. The mean follow-up period was 15.30 (SD 9.43) months. A total of 1574 surveys were sent, along with 488 SMS text message reminders and 53 reminder calls. The mean adherence rate decreased from 94.53% (SD 20.63%) during the pretreatment phase to 65.68% (SD 23.49%) in the implantation phase, with an overall mean adherence rate of 87.37% (SD 15.37%) for the app. ANOVA showed that adherence was significantly higher in the earlier phases of treatment (P<.001).

The remote follow-up system, supported by a remote support center improves adherence to follow-up in later phases of treatment, although adherence decreased over time. Further studies are needed to investigate the relationship between adherence to the app and pain management [1].

This study represents an important step in understanding the role of eHealth in managing SCS follow-up. While it demonstrates the potential to improve adherence, it leaves key questions unanswered regarding the relationship between adherence and clinical outcomes. Addressing these gaps in future research could significantly enhance the design and implementation of remote follow-up systems, ensuring both patient engagement and improved clinical care.

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Gómez-González MA, Cordero Tous N, De la Cruz Sabido J, Sánchez Corral C, Lechuga Carrasco B, López-Vicente M, Olivares Granados G. Following Up Patients With Chronic Pain Using a Mobile App With a Support Center: Unicenter Prospective Study. JMIR Hum Factors. 2025 Jan 22;12:e60160. doi: 10.2196/60160. PMID: 39844381.