

## Opinion

### Opioid-Free Analgesia in Anterior Cervical Spine Surgery: An Evidence-Based Protocol

Schallmo M<sup>1</sup> and Segebarth BP<sup>2\*</sup>

<sup>1</sup>Atrium Health Musculoskeletal Institute, Charlotte, NC USA

<sup>2</sup>OrthoCarolina Spine Center, Charlotte, NC, USA

Commentary on an article by P. Bradley Segebarth, MD, et al., "Opioid-free Analgesia is Safe and Effective in Anterior Cervical Spine Surgery: A Randomized Controlled Trial". *Clinical Spine Surgery*, 2024.

Opioid misuse, abuse, and fatal overdoses remain an on-going public health crisis and economic burden in the United States. It has previously been shown that consumption of legally-prescribed opioids is one of the strongest risk factors for developing opioid addiction and the most common risk factor for later illicit opioid use. Orthopaedic surgeons are some of the highest-frequency prescribers of opioids and such prescribing practices are inextricably linked with the high prevalence of prescription opioid use amongst orthopaedic patients - especially spine patients. It has been firmly established that prescription opioid use is associated with myriad surgical and functional postoperative sequelae in these populations. Opioids are frequently prescribed in excess of patient needs following orthopaedic surgery and are often improperly disposed of, resulting in an increased risk of abuse, non-medical use, and diversion. There is also recent data in animal models demonstrating possible deleterious effects of opioids on bone healing. Conversely, evidence has shown improved patient satisfaction, better physical function scores, and decreased opioid dependence when opioid use is minimized following spine surgery. Notwithstanding, and despite increased awareness of this public health emergency, there remains an unmet need to identify novel pain management strategies to combat opioid use.

While a number of previous studies have compared traditional opioid-based pain regimens to opioid-sparing regimens following a variety of orthopaedic and spine procedures, these have all been

\*Corresponding author: Segebarth BP, OrthoCarolina Spine Center, Charlotte, NC, USA, E-mail: brad.segebarth@orthocarolina.com

**Citation:** Schallmo M, Segebarth BP (2024) Opioid-Free Analgesia in Anterior Cervical Spine Surgery: An Evidence-Based Protocol. *J Addict Addictv Disord* 11: 175.

**Received:** August 05, 2024; **Accepted:** August 14, 2024; **Published:** August 21, 2024

**Copyright:** © 2024 Schallmo M, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited

limited by high rates of crossover, retrospective designs, reliance on indwelling pain catheters, opioid utilization for early postoperative analgesia, and/or lack of patient-reported outcome measures. Accordingly, the purpose of this clinical trial was to compare the efficacy of a multimodal Opioid-Free (OF) pain management pathway to an Opioid-Containing (OC) pathway in patients undergoing anterior cervical discectomy and fusion or anterior cervical disc arthroplasty procedures for degenerative pathology.

In this article, Segebarth et al., report on the use of two different pain management protocols in a total of fifty patients over a six-week postoperative period. The OC pathway included opioid and non-opioid anesthetics administered intraoperatively; as-needed hydromorphone, hydrocodone-acetaminophen, and tramadol administered on the inpatient ward, and as-needed hydrocodone-acetaminophen upon discharge home. The OF pathway was initiated earlier in the surgical encounter (preoperatively, as opposed to intraoperatively for the OC pathway) and included non-steroidal anti-inflammatory drugs, acetaminophen, and gabapentinoids in all phases of care, as well as preincision local infiltration of bupivacaine intraoperatively. The primary outcome variable for the trial was present-moment subjective pain level experienced by patients at 24-hours postoperative. A variety of secondary postoperative outcome variables were also collected. The authors concluded that a comprehensive, multimodal, OF pain management pathway following anterior cervical surgery resulted in equivalent pain control and patient-reported outcome measures compared with a traditional OC pathway. In addition, postoperative comfort levels were higher in the early postoperative period with a OF protocol compared with an OC protocol. What was perhaps one of the most compelling findings of this study was that all patients in this study demonstrated a very high level of resiliency. The authors further qualified this finding with their observation that many prospective subjects declined participation in the study when they learned they may not receive opioid pain medications. Similarly, included patients' overall perceptions of their pain and surgical experience (e.g., pain satisfaction, overall surgical satisfaction, or overall sense of physical and mental well-being) were similar between groups, suggesting that the mere knowledge of an OF regimen did not adversely impact patients' overall perceptions. Taken together, it would seem that patients with strong personal adaptation and coping skills, though a relative minority in the study authors' estimation, may be the ideal candidates for an OF protocol.

This RCT is part of a larger, comprehensive health initiative that commenced in 2018 called the Carolina's Opioid Reduction Effort (CORE) Project, aimed at identifying safe, effective, multimodal pain management strategies in hopes of establishing the necessary foundation for the paradigm shift in how providers manage perioperative analgesia for musculoskeletal conditions. Although providing adequate analgesia is important in perioperative patient care, it is critical that the management of acute pain in the early postoperative period be approached deliberately and precisely in order to minimize the myriad risks associated with persistent opioid use after the surgery. Evidence-based protocols such as those described in the present study address an unmet need and offer providers guidance, as the national medical community continues to work to combat the on-going opioid epidemic. Indeed, this article represents the fourth RCT to-date evaluating opioid-free pain management in elective orthopaedic surgery - and the only such trial in elective spine surgery.



- Advances In Industrial Biotechnology | ISSN: 2639-5665
- Advances In Microbiology Research | ISSN: 2689-694X
- Archives Of Surgery And Surgical Education | ISSN: 2689-3126
- Archives Of Urology
- Archives Of Zoological Studies | ISSN: 2640-7779
- Current Trends Medical And Biological Engineering
- International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X
- Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276
- Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292
- Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370
- Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594
- Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X
- Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562
- Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608
- Journal Of Anesthesia & Clinical Care | ISSN: 2378-8879
- Journal Of Angiology & Vascular Surgery | ISSN: 2572-7397
- Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751
- Journal Of Aquaculture & Fisheries | ISSN: 2576-5523
- Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780
- Journal Of Biotech Research & Biochemistry
- Journal Of Brain & Neuroscience Research
- Journal Of Cancer Biology & Treatment | ISSN: 2470-7546
- Journal Of Cardiology Study & Research | ISSN: 2640-768X
- Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943
- Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771
- Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844
- Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801
- Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978
- Journal Of Cytology & Tissue Biology | ISSN: 2378-9107
- Journal Of Dairy Research & Technology | ISSN: 2688-9315
- Journal Of Dentistry Oral Health & Cosmesis | ISSN: 2473-6783
- Journal Of Diabetes & Metabolic Disorders | ISSN: 2381-201X
- Journal Of Emergency Medicine Trauma & Surgical Care | ISSN: 2378-8798
- Journal Of Environmental Science Current Research | ISSN: 2643-5020
- Journal Of Food Science & Nutrition | ISSN: 2470-1076
- Journal Of Forensic Legal & Investigative Sciences | ISSN: 2473-733X
- Journal Of Gastroenterology & Hepatology Research | ISSN: 2574-2566
- Journal Of Genetics & Genomic Sciences | ISSN: 2574-2485
- Journal Of Gerontology & Geriatric Medicine | ISSN: 2381-8662
- Journal Of Hematology Blood Transfusion & Disorders | ISSN: 2572-2999
- Journal Of Hospice & Palliative Medical Care
- Journal Of Human Endocrinology | ISSN: 2572-9640
- Journal Of Infectious & Non Infectious Diseases | ISSN: 2381-8654
- Journal Of Internal Medicine & Primary Healthcare | ISSN: 2574-2493
- Journal Of Light & Laser Current Trends
- Journal Of Medicine Study & Research | ISSN: 2639-5657
- Journal Of Modern Chemical Sciences
- Journal Of Nanotechnology Nanomedicine & Nanobiotechnology | ISSN: 2381-2044
- Journal Of Neonatology & Clinical Pediatrics | ISSN: 2378-878X
- Journal Of Nephrology & Renal Therapy | ISSN: 2473-7313
- Journal Of Non Invasive Vascular Investigation | ISSN: 2572-7400
- Journal Of Nuclear Medicine Radiology & Radiation Therapy | ISSN: 2572-7419
- Journal Of Obesity & Weight Loss | ISSN: 2473-7372
- Journal Of Ophthalmology & Clinical Research | ISSN: 2378-8887
- Journal Of Orthopedic Research & Physiotherapy | ISSN: 2381-2052
- Journal Of Otolaryngology Head & Neck Surgery | ISSN: 2573-010X
- Journal Of Pathology Clinical & Medical Research
- Journal Of Pharmacology Pharmaceutics & Pharmacovigilance | ISSN: 2639-5649
- Journal Of Physical Medicine Rehabilitation & Disabilities | ISSN: 2381-8670
- Journal Of Plant Science Current Research | ISSN: 2639-3743
- Journal Of Practical & Professional Nursing | ISSN: 2639-5681
- Journal Of Protein Research & Bioinformatics
- Journal Of Psychiatry Depression & Anxiety | ISSN: 2573-0150
- Journal Of Pulmonary Medicine & Respiratory Research | ISSN: 2573-0177
- Journal Of Reproductive Medicine Gynaecology & Obstetrics | ISSN: 2574-2574
- Journal Of Stem Cells Research Development & Therapy | ISSN: 2381-2060
- Journal Of Surgery Current Trends & Innovations | ISSN: 2578-7284
- Journal Of Toxicology Current Research | ISSN: 2639-3735
- Journal Of Translational Science And Research
- Journal Of Vaccines Research & Vaccination | ISSN: 2573-0193
- Journal Of Virology & Antivirals
- Sports Medicine And Injury Care Journal | ISSN: 2689-8829
- Trends In Anatomy & Physiology | ISSN: 2640-7752

Submit Your Manuscript: <https://www.heraldopenaccess.us/submit-manuscript>