# **Acupuncture and the Opiate Crisis**

3.92

## PROBLEM: Too much opioid use resulting in too much opioid abuse

- Oregon has one of the highest rates of prescription opioid misuse in the nation.<sup>1,3</sup>
- ... More drug poisoning **deaths involve** prescription opioids than any



Death Rate per 100,000 Population

other type of drug, including alcohol, methamphetamines, heroin and cocaine. An average of **three Oregonians die each week** from prescription opioid overdose.<sup>1</sup>

- ... \$155 per capita is spent on health care costs related to opioid abuse the highest number in the nation.<sup>3</sup>
- ... More than \$614 million is spent on health care costs related to opioid abuse.<sup>3</sup>

#### Acupuncture is low-risk ...

The Substance Abuse Division of the Lincoln Hospital in the South Bronx, New York has used auricular acupuncture to treat narcotics abuse for over 25 years. It has been so effective for drug and alcohol detoxification that 20 years ago methadone was eliminated as a treatment modality.<sup>16</sup>

#### Acupuncture is safe ...

- Overall, the incidence of serious adverse effects from acupuncture is lower than many drugs or other therapeutic procedures used for the same conditions for which acupuncture is used."<sup>17</sup>
- It is clear that ...acupuncture is relatively safe, especially when provided by properly trained individuals."<sup>17</sup>

#### SOLUTION: Acupuncture is *effective* and safe as an alternative pain treatment

- "... Associated with significant reductions in pain intensity, improvement in functional mobility and quality of life... current evidence supports the use of acupuncture as an alternative for traditional analgesics in patients with osteoarthritis."<sup>4</sup> (systematic review from 2014)
- "... **One of the more effective physical treatments** for alleviating osteoarthritis knee pain."<sup>5</sup> (*meta-analysis from 2013 analyzing 9,709 patients*)
- "... Current estimates of acupuncture's effects on chronic low back pain are statistically significant and clinically important..." and "Acupuncture effectively relieves chronic low back pain."<sup>6</sup> (meta-analysis from 2005, from Annals of Internal Medicine)
- "... Superior to usual care in treating chronic low back pain."<sup>7</sup> (systematic review from 2010)
- "... for the treatment of chronic pain and is therefore a **reasonable referral option.**"<sup>8</sup> (meta-analysis from 2012 analyzing 17,922 patients)
- \* "Results indicate that acupuncture provided by qualified therapists is safe, and patients benefited from the treatment."<sup>18</sup> (studies included were on treatment of headaches, low back pain, and osteoarthritis, analyzing treatment of 454,920 patients; from 2007)

#### Acupuncture is cost-effective ...

- According to the WHO cost-effectiveness threshold values, acupuncture is a cost-effective treatment strategy in patients with chronic LBP."<sup>19</sup>
- According to this threshold, acupuncture as a complement to standard care for relief of chronic LBP is highly costeffective..."<sup>19</sup>
- Acupuncture with or without usual care has acceptable cost-effectiveness."20
- Acupuncture appears to be a cost-effective intervention for some chronic pain conditions."<sup>21</sup>

# Acupuncture reduces consumption of pain meds after surgery

- Analgesic consumption was significantly lower in the acupuncture group compared with the sham placebo group<sup>"9</sup>
- In a meta-analysis of 13 RCTs of acupuncture performed before or after surgery, "the pooled data showed patients in the experimental group had less opioid analgesics usage than those in the control group."<sup>10</sup>
- "Our findings indicate that certain methods of acupuncture improved postoperative pain a day after surgery, supporting the use of acupuncture as adjuvant therapy in treating postoperative pain."<sup>10</sup> (systematic review and metaanalysis from 2016, PLoS One)
- "Use of TENS [transcutaneous electrical nerve stimulation] on six specific acupoints in elderly patients undergoing total hip arthroplasty is a non-invasive, non-pharmacological, and simple technique for use in postoperative analgesia and is associated with reductions in opioid-related side effects."11
- Group Acu[puncture] required 37% and 31% less fentanyl than Group Sham at 24 h and 48 h after surgery, respectively"<sup>11</sup> (in total hip arthroplasty surgeries in elderly, 2012)
- "The differences between the treatment and control groups in postoperative pain scores to be clinically significant, particularly when treatment resulted in an earlier improvement of oral intake."<sup>12</sup> (for tonsillectomies in pediatrics, 2015)

## ACUPUNCTURE also provides opioids — the natural ones ...and thus can treat opioid addiction itself

- "Electroacupuncture blocks pain by activating a variety of bioactive chemicals through peripheral, spinal, and supraspinal mechanisms. These include opioids, which desensitize peripheral nociceptors [pain receptors] and "reduce proinflammatory cytokines peripherally and in the spinal cord..."<sup>13</sup>
- "... Analgesia induced by low-frequency [electroacupuncture] stimulation ... can be reversed by low doses of the opioid antagonist naloxone, suggesting that low-frequency stimulation can **increase the release of opioid peptides** in the CNS."<sup>14</sup>
- \*\* "The US federal government's Center for Substance Abuse Treatment (2007), the United Nations (2006), ... as well as the US Department of Defense/Veteran's Affairs (2010) have each published best practice guidelines that address the value of acupuncture for chemical dependency."<sup>15</sup>



OREGON COLLEGE of ORIENTAL MEDICINE www.ocom.edu



# REFERENCES

1. Reducing Opioid Overdose and Misuse. Oregon Health Authority website https://public.health.oregon.gov/PreventionWellness/ SubstanceUse/Opioids/Pages/index.aspx. Accessed July 17, 2016.

2. Data Dashboard: Prescribing and Overdose Data for Oregon. Oregon Health Authority website https://public.health.oregon.gov/ PreventionWellness/SubstanceUse/Opioids/Pages/data.aspx. Accessed July 17, 2016.

3. Health Care Costs from Opioid Abuse: A State-by-State Analysis by Matrix Global Advisors, LLC for Partnership for Drug-Free Kids website http://www.drugfree.org/wp-content/uploads/2015/04/Matrix\_ OpioidAbuse\_040415.pdf. Updated April 2015. Accessed July 17, 2016.

4. Manyanga T, Froese M, Zarychanski R, et al. Pain management with acupuncture in osteoarthritis: a systematic review and meta-analysis. BMC Complement Altern Med. 2014;14: 312. doi: 10.1186/1472-6882-14-312

5. Corbett MS, Rice SJ, Madurasinghe V, et al. Acupuncture and other physical treatments for the relief of pain due to osteoarthritis of the knee: network meta-analysis. Osteoarthritis Cartilage. 2013 Sep;21(9):1290-8. doi: 10.1016/j.joca.2013.05.007

6. Manheimer E, White A, Berman B, Forys K, Ernst E. Metaanalysis: acupuncture for low back pain. Ann Intern Med. 2005 Apr 19;142(8):651-63. doi:10.7326/0003-4819-142-8-200504190-00014

7. Trigkilidas D. Acupuncture therapy for chronic lower back pain: a systematic review. Ann R Coll Surg Engl. 2010 Oct;92(7):595-8. doi: 10. 1308/003588410X12699663904196

8. Vickers AJ, Cronin AM, Maschino AC, et al. Acupuncture for chronic pain: individual patient data meta-analysis. Arch Intern Med. 2012 Oct 22;172(19):1444-53. doi: 10.1001/archinternmed.2012.3654

9. Sun Y, Gan TJ, Dubose JW, Habib AS. Acupuncture and related techniques for postoperative pain: a systematic review of randomized controlled trials. Br J Anaesth. 2008 Aug;101(2):151-60. doi: 10.1093/bja/aen146.

10. Wu MS, Chen KH, Chen IF, et al. The Efficacy of Acupuncture in Post-Operative Pain Management: A Systematic Review and Meta-Analysis. PLoS One. 2016 Mar 9;11(3):e0150367. doi: 10.1371/journal. pone.0150367.

11. Lan F, Ma YH, Xue JX, Wang TL, Ma DQ. Transcutaneous electrical nerve stimulation on acupoints reduces fentanyl requirement for postoperative pain relief after total hip arthroplasty in elderly patients. Minerva Anestesiol. 2012 Aug;78(8):887-95.

12. Tsao GJ, Messner AH, Seybold J, Sayyid ZN, Cheng AG, Golianu B. Intraoperative acupuncture for posttonsillectomy pain: a randomized, double-blind, placebo-controlled trial. Laryngoscope. 2015 Aug;125(8):1972-8. doi: 10.1002/lary.25252.

13. Zhang R, Lao L, Ren K, Berman BM. Mechanisms of Acupuncture-Electroacupuncture on Persistent Pain. Anesthesiology. 2014;120(2):482-503. doi:10.1097/ALN.0000000000000101.

14. Han, JS. Acupuncture: neuropeptide release produced by electrical stimulation of different frequencies. Trends in Neurosciences. 2003;26(1):17–22.

16. Otto KC. Acupuncture and substance abuse: a synopsis, with indications for further research. Am J Addict. 2003 Jan-Feb;12(1):43-51. doi: 10.1111/j.1521-0391.2003.tb00538.x

17. Birch S, Keppel Hesselink J, Jonkman F, Hekker T, Bos A. Clinical Research on Acupuncture: Part 1. What Have Reviews of the Efficacy and Safety of Acupuncture Told Us So Far? J Altern Complement Med. 2004 Jun;10(3):468-80. doi: 10.1089/1075553041323894

18. Weidenhammer W, Streng A, Linde K, Hoppe A, Melchart D. Acupuncture for chronic pain within the research program of 10 German Health Insurance Funds--basic results from an observational study. Complement Ther Med. 2007 Dec;15(4):238-46. doi: 10.1016/j. ctim.2006.09.005

19. Taylor P, Pezzullo L, Grant SJ, Bensoussan A. Cost-effectiveness of Acupuncture for Chronic Nonspecific Low Back Pain. Pain Pract. 2014 Sep;14(7):599-606. doi: 10.1111/papr.12116.

20. Kim SY1, Lee H, Chae Y, Park HJ, Lee H. A systematic review of cost-effectiveness analyses alongside randomised controlled trials of acupuncture. Acupunct Med. 2012 Dec;30(4):273-85. doi: 10.1136/acupmed-2012-010178.

21. Ambrósio EM, Bloor K, MacPherson H. Costs and consequences of acupuncture as a treatment for chronic pain: a systematic review of economic evaluations conducted alongside randomised controlled trials. Complement Ther Med. 2012 Oct;20(5):364-74. doi: 10.1016/j. ctim.2012.05.002.