Outpatient Opioid Management for Adult Burn Survivors

Update for Community Providers

March 2021 | www.msktc.org/burn/factsheets | BURN Factsheet for Clinicians

INTRODUCTION

People hospitalized for a burn injury often describe it as one of the most painful injuries one can experience Opioids are frequently prescribed to help alleviate this pain.

Although there is not one standard approach to acute burn pain management, a goal is for the hospitalized patient to be awake, alert, and comfortable.[1] Although unrealistic to expect 'no pain' after a burn injury, significant and enduring in-hospital pain has been shown to be a predictor of poor post-discharge adjustment, well-being and lower health-related quality of life.[2, 3]

However, the opioid crisis in the United States is not going away. Overuse of prescribed opioid medications is increasing and misuse is on the rise.[4] The Centers for Disease Control and Prevention (CDC) report that in 2017, 47,600 people died from opioid overuse in the United States and opioids were involved in 67.8% of all deaths from drug overdose.[5]

Postdischarge pain management

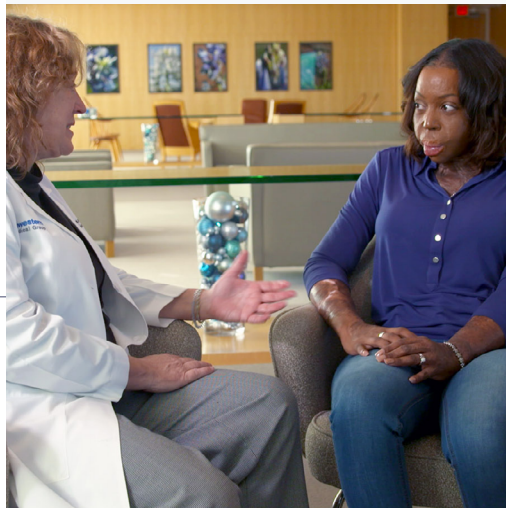
Between 86%[6] and 90%[7] of hospitalized adult burn patients are given opioid prescriptions at discharge. Two weeks after discharge, 90% of patients no longer use opioids,[6] and most patients no longer use opioids 30 days after discharge.[7]

For those that are discharged from the hospital with an opioid prescription, consider the following opioid prescribing practices:

- Lower daily amounts of prescribed opioids; [6]
- Prescribe only short-acting opioids; [6]
- Educate patients about opioid use; [6]
- Ask patients to complete a risk assessment; [6]
- Check the Prescription Monitoring Program to identify other medications or drugs of concern. [8]

Aim: To provide information about opioid management for adults after they have been discharged from a hospital for treatment of their acute burn injury. This information will help community healthcare providers in their provision of comprehensive care in the setting of a national opioid crisis.

The Burn Model System is sponsored by the National Institute of Disability, Independent Living, and Rehabilitation Research, U.S. Department of Health and Human Services' Administration for Community Living. (See http://www.msktc.org/burn/model-system-centers for more information).



Other Options and Factors to Consider:

Scheduled use of nonsteroidal anti-inflammatory agents (NSAIDs) and acetaminophen is an option for non-opioid pain medication. NSAIDs help with pain relief and inhibit cyclooxygenase and prostaglandin synthesis.[a] When added to opioids, NSAIDs produce superior pain relief and an opioid-sparing effect (reduced opioid doses without loss of analgesic efficacy) that is associated with a decrease in some opioid-related adverse side effects.[9] Together, scheduled use of NSAIDS and acetaminophen in outpatient settings may help to reduce opioid use.

Gabapentin may be prescribed to treat neuropathic pain and itching in burn patients. Gabapentanoids (gabapentin and pregabalin) were originally designed as anticonvulsants but have been used to treat chronic neuropathic pain.[b] Gabapentin is increasingly used in burn care. However, the data do not support an opioid-sparing effect with the use of gabapentin.[10, 11] Gabapentin remains in the body for 1 or 2 days after stopping use, and withdrawal symptoms can occur a few days later. Tapering is generally not needed for patients who take lower doses—that is, 300 mg/day or less. If tapering is necessary, daily doses should be reduced at a maximum rate of 300 mg total every few days and based on feedback from the patient.

When added to opioids, NSAIDs produce superior pain relief and an opioid-sparing effect that is associated with a decrease in some opioid-related adverse side effects.[9]

Non-pharmacologic or adjunctive treatment strategies may help to relieve pain and itching. Although the majority of the studies cited below were performed with inpatients, findings may be helpful during outpatient recovery and help when opioids are tapered.

- **Scar massage** (with hypertrophic scarring[c]): Preliminary evidence suggests that scar massage may be effective in treating pain and itch in persons with hypertrophic scarring[12] and promotes wound desensitization. However, because the evidence is of poor quality, more controlled clinical trials are needed.[13]
- **Cognitive Behavioral Therapy** such as cognitive restructuring, mindfulness, meditation, relaxation, hypnosis, and virtual reality have been used to reduce acute and chronic pain.[14]
- **Moisturizer for healed grafts and burn wounds:** Dry, healed burned skin and grafts are associated with increased itch intensity and discomfort. Thus, healed wounds should be kept moisturized with fragrance-free ointments.[15]
- **Interactive gaming:** Interactive gaming has been shown to reduce pain during rehabilitation sessions for minor burn injuries.[16]
- **Other options to consider:** Acupuncture, acupressure, laser therapy.
- **Assessment for other concerns:** Assessment and treatment of coexisting problems that impact pain is recommended. These may include pruritus, insomnia, post-traumatic stress, depression and anxiety.

a NSAIDs have an analgesic ceiling and may be associated with platelet dysfunction, gastrointestinal irritation or bleeding, and renal dysfunction. Like NSAIDs, acetaminophen should be administered on a scheduled basis. When added to opioids, acetaminophen produces better analgesia and an opioid-sparing effect associated with a decrease in some opioid-related events, such as nausea/vomiting and sedation. The maximum dosage of acetaminophen for a normal-sized adult is commonly quoted at 4 g/d, but the manufacturer of Tylenol© in the United States has dropped the maximum daily dose to 3 g/d (https://tylenol.com/safety-dosing/usage/dosage-for-adults). Acetaminophen is hepatically cleared and should not be used by patients with liver insufficiency.

b Gabapentanoids are associated with several adverse effects, including sedation, dizziness, and peripheral edema. In elderly patients, these agents should be used with caution or the dose should be decreased. Gabapentanoids are renally excreted; thus, dosage should be lowered in patients with renal dysfunction.

c A hypertrophic scar is a thickened, raised, red scar that develops where the skin has been injured, as with a burn.

Risk factors for addiction are complex

Genetics, personal history of using addictive substances, and mental health disorders may be the strongest predictors for developing a substance use disorder. Other reasons are most likely multifactorial and involve complex interactions between biological, psychological, and environmental factors. Despite the complexities, addiction is a treatable, chronic medical disease.

Screening tools can be used to identify persons who are at risk for misusing opioids and to monitor those who may be misusing opioids.[17]

- **Opioid Risk Tool (ORT)** is a brief, self-report screening tool designed for use with adult patients in primary care settings to assess risk for opioid abuse among individuals prescribed opioids for treatment of chronic pain. Can be administered and scored in less than 1 minute.[18]
- **Current Opioid Misuse Measure (COMM)** is a self-administered, 17-item questionnaire meant to identify patients who may be misusing opioids. COMM is one of the most commonly used tools to assess patients receiving long-term opioid therapy. A score of 9 or higher suggests problematic drug-related behaviors.

Genetics, personal history of using addictive substances, and mental health disorders may be the stongest predictors for developing a substance use disorder.

Patients may have trouble discontinuing opioid use. Suggestions (including tapering) that may help community providers: [19]

- Never abandon patients with a substance use disorder.
  - For patients who are misusing or abusing or are addicted to prescription opioids, offer help or refer them to an addiction specialist or treatment program, psychiatrist, or psychologist.
  - Enlist family and social support whenever possible.
- Tapering should focus on the patient:
  - Patients *without* opioid use disorder or substance use disorder can generally be slowly tapered from opioid use in a doctor's office. The need for interdisciplinary services varies.
  - Patients *with* opioid use disorder and more or less ongoing pain may benefit from the use of inter-disciplinary services, such as medication-assisted therapy (MAT), mental health, or pain management services.
  - Patients with active addiction need to be tapered from opioid use more quickly for safety reasons. In this case, refer the patient to an addiction specialist or the patient may need admission for detoxification.
- When tapering, consider:
  - Opioid dose, formulation, and duration of use;
  - Long-acting versus short-acting medication tapering, there is no data to support one over the other;
  - Psychiatric, medical, and substance use disorder comorbidities; and
  - Other factors, including social support and coping mechanisms, resilience, self-efficacy, and access to health services.

Other Resources

- Burn-specific factsheets on pain; pain (https://msktc.org/burn/factsheets/Managing-Pain-After-Burn-Injury), itching (https://msktc.org/burn/factsheets/Itchy-Skin-After-Burn-Injury), and Sun Exposure (https://msktc.org/burn/factsheets/sun-protection-after-burn-injury).

References

1. Faucher L, Furukawa K. Practice guidelines for the management of pain. J Burn Care Res. 2006;27(5):659-668.
2. Patterson DR, Tininenko J, Ptacek JT. Pain during burn hospitalization predicts long-term outcome. J Burn Care Res. 2006;27(5):719-726.
3. Spronk I, et al. Predictors of health-related quality of life after burn injuries: a systematic review. Crit Care. 2018;22.
4. National Institute on Drug Abuse. Overdose death rates. https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates. Accessed 08-28-2019, Revised January 2019.
5. Centers for Disease Control and Prevention. https://www.cdc.gov/drugoverdose/data/statedeaths.html. Accessed 08-28-2019.
6. Wibbenmeyer L, et al. An evaluation of discharge opioid prescribing practices in a burn population. J Burn Care Res. 2015;36(2):329-335.
7. Yenikomshian HA, et al. Outpatient opioid use of burn patients: a retrospective review. Burns. 2019; 45(8):1737-1742.
8. WA State Department-of-Health. Prescription Opioids for Acute Pain. 2019. Document # DOH Pub 631-077.
9. Richards D. The Oxford Pain Group League table of analgesic efficacy. Evid Based Dent. 2004;5(1):22-23.
10. Kneib CJ, Sibbett SH, Carrougher GJ, et al. The effects of early neuropathic pain control with gabapentin on long-term chronic pain and itch in burn patients. J Burn Care Res. 2019;40(4):457-463.
11. Wibbenmeyer L, Eid A, Liao J, et al. Gabapentin is ineffective as an analgesic adjunct in the immediate postburn period. J Burn Care Res. 2014;35(2):136-142.
12. Cho YS, et al. The effect of burn rehabilitation massage therapy on hypertrophic scar after burn: a randomized controlled trail. Burns. 2014;40(8):1513-1520.
13. Ault P, Plaza A, Paratz J. Scar massage for hypertrophic burns scarring—a systematic review. Burns. 2018; 4(1):24-38.
14. Scheffler M, Koranyi S, Meissner W. Efficacy of non-pharmacological interventions for procedural pain relief in adults undergoing burn wound care: a systematic review and meta-analysis of randomized controlled trials. Burns. 2018;44:1709-1720.
15. Carrougher GJ, Martinez EM, McMullen KS, et al. Pruritus in adult burn survivors: postburn prevalence and risk factors associated with increased intensity. J Burn Care Res. 2013;34(1):94-101.
16. Parker M, Delahunty B, Heberlein N. Interactive gaming consoles reduced pain during acute minor burn rehabilitation: a randomized, pilot trial. Burns. 2016;42:91-96.
17. Lawrence R, Mogford D, Colvin L. Systematic review to |determine which validated measurement tools can be used to assess risk of problematic analgesic use in patients with chronic pain. Br J Anaesth. 2017; 119(6):1092-1109.
18. National Institute on Drug Abuse. https://www.drugabuse.gov/sites/default/files/files/OpioidRiskTool.pdf. Accessed 12-16-2019.
19. The Opioid Therapy for Chronic Pain Work Group. VA/DoD Clinical Practice Guideline for Opioid Therapy for Chronic Pain (Version 3.01, 2017). https://www.healthquality.va.gov/guidelines/Pain/cot/VADoDOTCPG022717.pdf. Accessed 08-28-2019.

Authorship

Outpatient Pain Management for Burn Survivors—Update for Community Providers was developed by Gretchen J. Carrougher, MN, RN (Northwest Regional Burn Model System); Samuel P. Mandell, MD, MPH, FACS (University of Washington Medicine Regional Burn Center, Seattle, WA); and Katherine D. Travnicek, MD (Pain Institute of Nevada, Las Vegas, NV) in collaboration with the Model Systems Knowledge Translation Center.

Source: Our health information content is based on research evidence and/or professional consensus and has been reviewed and approved by an editorial team of experts from the Burn Model Systems.

Disclaimer: The contents of this factsheet were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DP0082). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this factsheet do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.