Colorectal Surgery and the Opioid Epidemic: 
Opioid Stewardship and Safe Prescribing Practices

Needs Assessment: 
The opioid epidemic continues to be a devastating public health crisis and has even escalated this year due to the COVID-19 pandemic. Colorectal surgeons need to understand how their prescribing habits may affect opioid dependence, how to identify and manage patients at higher risk of opioid use disorders, and how to safely reduce perioperative opioid use.

Learning Objectives: With this educational module, the practicing colorectal surgeon will:

1) Demonstrate an understanding on how perioperative opioid prescribing contributes to the opioid epidemic
2) Identify and manage patients at higher risk for developing opioid use disorders
3) Locate federal and state opioid-related legislation
4) Identify methods for decreasing opioid use in the perioperative period
5) Develop safe prescribing practices

Introduction 
The opioid epidemic in the United States began following an increase in opioid prescribing starting in the 1990s. It has claimed over 750,000 lives since 1999, including the cost of healthcare, addiction treatment, lost productivity and criminal justice system expenses.

The Role of the Surgeon as Prescriber 
Perioperative opioid use plays a major role in the opioid epidemic. Opioids are prescribed following approximately 80% of surgical procedures. Approximately 6% of opioid-naive patients prescribed opioids after minor surgical procedures will still be using opioids 3-6 months later. Twenty seven percent of chronic opioid users received their original prescription after surgery and are at substantially increased risk of opioid dependence and opioid use disorder. Prescription opioids may also serve as a gateway to injection drug use, with 79.5% of heroin users reporting having used prescription opioids prior to heroin. In addition, the majority of opioids prescribed following surgery (67-92%) go unused, which can serve as a reservoir for diversion. Sixty percent of users of nonmedical opioids report getting their pills from family or friends.

Managing High-Risk Individuals 
Risk factors for development of opioid use disorder after surgery are opioid use prior to surgery, history of substance use disorder, history of mental health disorder, family history of substance abuse, low socioeconomic status, and presence of chronic pain. Preoperative opioid use is present in up to 25% of surgical patients, and is associated with a higher rate of postoperative complications, longer length of stay, and higher costs of hospitalization compared to patients without preoperative opioid use. High-risk patients may benefit from interdisciplinary consultation with pain management, psychiatry and addiction medicine prior to undergoing surgery. Strategies to reduce perioperative opioid use (discussed below) are especially important in this patient population. High-risk patients may benefit from close postoperative follow-up with pain management and addiction specialists in order to assist with opioid tapering as needed.

Opioid Legislation 
In October 2017, the Opioid Epidemic was declared a National Emergency. One year later, the federal SUPPORT for Patients and Communities Act (HR 6) was signed. This bill authorized $3.3 billion of federal spending over 10 years. It aims to increase access to opioid treatment within Medicare and Medicaid, expand non-opioid treatment options, reduce overprescribing, and identify opioid best practices. The bill has a provision that requires the Department of Health and Human Services to study and report to Congress on the impact of federal and state laws and regulations that limit the length, quantity or dosage of opioid prescriptions.
In response to the opioid epidemic, states have enacted several different kinds of legislation to combat the opioid epidemic: [https://www.cdc.gov/phlp/publications/topic/prescription.html](https://www.cdc.gov/phlp/publications/topic/prescription.html)

1.) **Time and dosage limits to opioid prescribing** – Many states have set limits to the length or number of doses of opioid prescriptions, ranging from 3-14 days. There are often exceptions for treatment of chronic pain, end-of-life care, substance use disorder treatment, and even physician judgement. Thus far, these opioid-prescribing limits have resulted in only modest reductions in opioid prescribing.

2.) **Physical examination requirements** – Many states require that a physical exam be performed prior to prescription of a controlled substance. This is done to limit refills being given over the phone. In the setting of the opioid epidemic, these limits have often been waived.

3.) **Prescription Drug Monitoring Programs (PDMP)** – These state-run programs collect and distribute data regarding federally controlled substances. PDMPs generally use an online database to prevent overprescribing of opioids by prescribers. As of May 2020, all states now have PDMPs in place, although the design of PDMPs differs among states.

### Perioperative Practices to Decrease Opioid Use

#### Patient Education:

Surgeons should address pain control and symptom management during the preoperative visit by setting realistic expectations of pain or discomfort following an operation. Surgeons should discuss the side effects of opioids including the risks of physiologic dependence, addiction, and overdose, and the importance of multimodal anesthesia and non-pharmacologic treatments. The American College of Surgeons offers the following brochure to assist with talking to patients about opioids preoperatively: [Safe and Effective Pain Control After Surgery](https://www.facs.org/quality-safety/pain-management/care-continuum/pain-control-after-surgery)

#### Multimodal Pain Management:

In addition to the potential for addiction and abuse, perioperative opioid use is associated with complications including nausea, vomiting, ileus, confusion and respiratory depression. These opioid-related adverse events have been shown to occur in 23.9% of colorectal surgery cases, and their incidence has been shown to increase costs and length of stay following surgery. The ASCRS clinical practice guidelines for enhanced recovery in colorectal surgery strongly recommends multimodal opioid-sparing anesthesia for all patients starting before the induction of anesthesia and continuing through to the outpatient setting. Multimodal pain management strategies within an Enhanced Recovery After Surgery (ERAS) perioperative protocol in colorectal surgery have been associated with decreased inpatient opioid use, accompanied with decreased opioid related adverse events, earlier return of bowel function and decreased postoperative length of stay. Medication regimens include the use of oral acetaminophen, oral gabapentin, and intravenous ketorolac, given immediately before the operation and in the postoperative period. Regional anesthetic techniques including transversus abdominis plane blocks have been used to reduce opioid use as well. However, the benefits of multimodal ERAS postoperative pain management has not yet been clearly shown to decrease opioid prescriptions at discharge, decrease the incidence of persistent opioid use or decrease opioid-related overdoses. Recently, studies have shown that standardized protocols—including patient education and multimodal pain management—can successfully reduce the need for opioid prescriptions following outpatient anorectal surgery.
Determining Safe Prescribing Practices

There are currently no national guidelines for postoperative opioid prescribing. However, several state-run agencies have successfully implemented evidence-based guidelines for opioid prescribing, resulting in decreased opioid prescriptions associated with non-inferior patient pain and satisfaction scores.\(^{23,24}\)

The Michigan Opioid Prescribing Engagement Network (OPEN) Opioid Treatment and Prescribing Guidelines\(^{25}\)
- Non-opioid therapies should be encouraged as a primary management of acute pain
- Non-pharmacologic therapies should be encouraged (ice, physical therapy)
- Short-acting opioids should be prescribed for no more than a 3-5 day course
- Fentanyl and long-acting opioids such as oxycontin should NOT be prescribed to opioid-naïve patients
- **Michigan OPEN Procedure-Specific Prescribing Recommendations**: According to these guidelines, 0-10 oxycodone tablets (or equivalent) should be prescribed for a laparoscopic colectomy, and 1-15 pills should be given for an open colectomy, ileostomy/colostomy creation, ileostomy/colostomy closure, or open small bowel resection.

Bree Collaborative and Washington State Agency Medical Directors’ Group Prescribing Opioids for Postoperative Pain – Supplemental Guidance\(^{26}\)
For procedures with medium term recovery (including laparoscopic colectomy)
- Prescribe non-opioid analgesics and non-pharmacologic therapies as first-line therapy
- Prescribe \(\leq 7\) days of short-acting opioids for severe pain. Prescribe the lowest effective dose strength
- For those exceptional cases that warrant >7 days of opioid treatment, the patient should taper off opioids within 6 weeks of surgery.

Additional Resources
The Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services provides a directory of opioid treatment programs: https://dpt2.samhsa.gov/treatment/directory.aspx

Reducing excess opioids in the community is of great importance, as most opioids go unused and diversion is one of the most common ways that opioids are obtained for illicit use. A resource to locate a safe public disposal location in your area can be found here: Controlled Substance Public Disposal Locations

Conclusion
The opioid epidemic demands an informed, responsible approach by colorectal surgeons to reduce the risk of opioid prescribing while providing the best perioperative care for our patients.
Selected Literature


