Updated March 2018

Mayo Clinic Surgical Outcomes Program Recommendations for Adult Discharge Opioid Prescriptions

(# of Tabs of 5 mg Oxycodone or 50 mg Tramadol)

		Low Dose[a]	Standard Dose[b]	High Dose[c]
General Surgery	Endoscopy (± PEG)	NSAIDS/Acetaminophen Only	NSAIDS/Acetaminophen Only	NSAIDS/Acetaminophen Only
	Muscle Biopsy or Excisional Biopsy			**3 Tabs Oxycodone** OR* **5 Tabs Tramadol**
	MIS Cholecystectomy or Appendectomy		**8 Tabs Oxycodone** OR* **12 Tabs Tramadol**	**20 Tabs Oxycodone** OR* **30 Tabs Tramadol**
	MIS Inguinal Hernia Repair (TAPP or TEPP)			
	Open Inguinal Hernia Repair			
	MIS Bariatric, Benign Foregut, or Adrenal Surgery			
Surgical Oncology	Wide Local Excision or Lumpectomy ± SLN	NSAIDS/Acetaminophen Only	**5 Tabs Oxycodone** OR* **10 Tabs Tramadol**	**10 Tabs Oxycodone** OR* **15 Tabs Tramadol**
	Simple Mastectomy Only ± SLN		**10 Tabs Oxycodone** OR* **15 Tabs Tramadol**	**15 Tabs Oxycodone** OR* **25 Tabs Tramadol**
	Mastectomy with Subcutaneous Reconstruction ± SLN/ALND		**20 Tabs Oxycodone** AND **40 Tabs Tramadol**	**40 Tabs Oxycodone** AND **60 Tabs Tramadol**
	Mastectomy with Submuscular Reconstruction ± SLN/ALND (Recommend Diazepam 2mg tabs every 6 hours, dispense #60)		**30 Tabs Oxycodone** AND **40 Tabs Tramadol**	**60 Tabs Oxycodone** AND **60 Tabs Tramadol**
	MIS Abdominal Solid Organ Resection (e.g. Kidney, Spleen, or Liver Wedge)		**15 Tabs Oxycodone** OR* **25 Tabs Tramadol**	**25 Tabs Oxycodone** OR* **40 Tabs Tramadol**
	Open Major Abdominal Resection (e.g. Whipple, Esophagectomy, or Liver Resection)		**30 Tabs Oxycodone** OR* **60 Tabs Tramadol**	**50 Tabs Oxycodone** OR* **80 Tabs Tramadol**
CRS	MIS or Open Bowel Resection (Colon or Small Bowel) (Rectal surgery, resection w/ ostomy, larger incisions, non-cancer surgery, and major MIS cases may require higher dose)	NSAIDS/Acetaminophen Only	**15 Tabs Oxycodone** OR* **25 Tabs Tramadol**	**30 Tabs Oxycodone** OR* **45 Tabs Tramadol**
Vascular, Thoracic & Endocrine	Bronchoscopy or Upper Endoscopy (±Dilation)	NSAIDS/Acetaminophen Only	NSAIDS/Acetaminophen Only	NSAIDS/Acetaminophen Only
	Percutaneous Endovascular or Vascular Access Procedures (Cut-downs, Complex Endovascular, and AV Superficialization may require additional opioids)			**5 Tabs Oxycodone** OR* **10 Tabs Tramadol**
	Carotid Endarterectomy			**8 Tabs Oxycodone** OR* **12 Tabs Tramadol**
	Thyroid/Parathyroid Surgery, Mediastinoscopy, or POEM		**5 Tabs Oxycodone** OR* **10 Tabs Tramadol**	**10 Tabs Oxycodone** OR* **15 Tabs Tramadol**
	VATS Procedure (Pulmonary or Mediastinal)		**20 Tabs Oxycodone** OR* **30 Tabs Tramadol**	**40 Tabs Oxycodone** OR* **60 Tabs Tramadol**
	Thoracotomy (Pulmonary, Pleural, or Chest Wall)	**5 Tabs Oxycodone** OR* **8 Tabs Tramadol**	**50 Tabs Oxycodone** OR* **80 Tabs Tramadol**	**60 Tabs Oxycodone** OR* **100 Tabs Tramadol**

Factors Shown to Influence Opioid Usage After Discharge

←	→
Opioid Naïve	Pre-operative Opioid Users
Older Age, Lower BMI, Longer LOS	Younger Age
Lower Pain Score at Discharge	Higher Pain Score at Discharge
Low In-hospital Opioid Use	High In-hospital Opioid Use

Clinical judgment and division level guidelines should supersede these recommendations as indicated.

***Prescribing a combination of Tramadol and Oxycodone is acceptable depending on the patients expected needs**. However, if both medications are prescribed, the number of tabs of each should be reduced. For example, if "20 Tabs Oxycodone OR 30 Tabs Tramadol" is recommended then prescribing 10 Tabs of Oxycodone AND 15 Tabs of Tramadol would be appropriate. However, prescribing a total of 50 tabs would be more than the patient would be expected to need. In addition, patients receiving opioids should still be encouraged to use NSAIDS/Acetaminophen, if not contraindicated, and these should be taken around-the-clock with opioids being used only as needed for breakthrough pain.

[a] **Consideration for Low/No Opioid Dosing**: When selecting patients for low/no opioid dosing it is important to note that prospective survey data on opioid utilization suggests that a significant proportion of patients do not need any opioids after discharge. However, consideration should be made for anticipated intensity of pain associated with the patient's condition, patient access to clinical follow-up, and the extent to which non-opioid analgesics may be utilized for adjunctive pain management (e.g., patients with contraindications to NSAIDS/Acetaminophen may require a standard level of opioids). Also consider using regional analgesia/anesthesia techniques in patients going home without opioids. It is also important to note that while providing refills requires extra cost and time to providers, internal data overwhelming supports that patients found it easy to get a refill after discharge when needed. Prescribing higher opioids to avoid the inconvenience of a refill should be avoided.

[b] **Consideration for Standard Opioid Dosing**: If opioids are deemed appropriate to manage postoperative pain, the prescription should be for the lowest possible strength of a short-acting opioid for the shortest duration of time based on anticipated pain, with a plan to taper as healing progresses. The recommended amounts in this group exceed self-reported use of 75% of patients; however, many patients use only 0-5 pills. Prescribing less opioids has not been shown to increase refill rates. Recommendations are for patients with no preoperative opioid use.

[c] **Consideration for High Opioid Dosing**: Pre-operative opioid users should in general be included in these group. Patients who are taking high doses of opioids, long-acting opioids, or have a pain management contracts preoperatively fall outside of these recommendations and a postoperative pain management plan should be developed before surgery in coordination with their primary prescriber. When prescribing high doses of opioids it is important to discuss the risk of opioids, including respiratory depression and addiction, with the patient.

Counseling:

Patients should be instructed before the procedure about their anticipated healing time, and that pain is a normal and expected part of the recovery process.

Patients should be instructed on the expected duration of needing opioids, and that most patients should be off opioids 5-7 days after discharge.

All patients should be instructed on the use of non-opioid pain medication if they are not contraindicated, regardless of dosing group selected.

Patients should be instructed on the risk of opioids, including the risk of addition.

Very few patients dispose of un-used opioids appropriately. Providers should instruct patients on the safe disposal of opioids.

References:

1. Thiels CA, Anderson SS, Ubl DS, Hanson KT, Bergquist WJ, Gray RJ, Gazelka HM, Cima RR, Habermann EB. Wide Variation and Overprescription of Opioids after Elective Surgery. Annals of Surgery. 2017 Oct;266(4):564-573.
2. Thiels CA, Ubl DS, Yost KJ, Dowdy SC, Mabry TM, Gazelka HM, Cima RR, Habermann EB. Significant Numbers of Patients Require No Opioids After Discharge: Results of a Prospective Multicenter Initiative Aimed at Developing Opioid Prescribing Guidelines for 25 Elective Surgeries. Under Review.
3. Thiels CA, Britain MK, Dudakovic A, Bergquist WJ, Booth-Kowalczyk AL, Nickel SR, Moran MJ, Jakub JW. Optimizing Opioid Prescribing Practices after Mastectomy with Immediate Reconstruction. American Society of Breast Surgeons Annual Meeting. Las Vegas, NV. April 28th, 2017.
4. Hill MV, McMahon ML, Stucke RS, Barth RJ. Wide Variation and Excessive Dosage of Opioid Prescriptions for Common General Surgical Procedures. Annals of Surgery. 2017 Apr;265(4):709-714.
5. Hill MV, Stucke RS, Billmeier SE, Kelly JL, Barth RJ. A Guideline for Discharge Opioid Prescriptions after Inpatient General Surgical Procedures. *Journal of the American College of Surgeons*. Epub.
6. Institute for Clinical Systems Improvement & Mayo Clinic Opioid Acute Pain Postoperative Prescribing Guidelines, Draft 2017.
7. Michigan Open Network. Opioid Prescribing Recommendations for Opioid-naïve Patients. 2017. https://opioidprescribing.info/
8. Mayo Clinic Guidelines for Acute Opioid Prescribing. 2017. https://askmayoexpert.mayoclinic.org/documents/mayo-clinic-guidelines-for-acute-opioid-prescribing/DOC-20346171

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