

# Choices in postsurgical pain management may impact recovery after bariatric surgery



BARIATRIC

## PATIENTS UNDERGOING BARIATRIC SURGERY ARE AT HIGH RISK FOR SURGICAL COMPLICATIONS DUE TO PREEXISTING MEDICAL CONDITIONS, INCLUDING<sup>1-3</sup>:

- Sleep apnea
- Insulin resistance and type 2 diabetes mellitus
- Hypertension
- Dyslipidemia
- Cardiovascular disease
- Stroke
- Gallbladder disease
- Hyperuricemia and gout
- Osteoarthritis

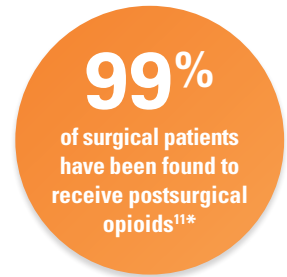
## PAIN MANAGEMENT CHOICES AFTER BARIATRIC PROCEDURES MAY EXACERBATE SURGICAL RISKS AND COMPROMISE RECOVERY GOALS

Inadequate analgesia prevents early mobilization, which can hinder recovery by increasing the risk of<sup>4</sup>:

- DVT
- Pressure ulcers
- Respiratory complications, including pneumonia

Reliance on opioids can exacerbate underlying health issues and increase the risk of:

- VTE (PE and DVT) with every 10-unit increment in body mass index<sup>5</sup>
- Respiratory depression (higher risk for those with obstructive sleep apnea) and sedation (fall risk)<sup>6</sup>
- ORAEs, including pruritus, nausea, vomiting, and delayed bowel function<sup>6</sup>



Underlying physiological differences associated with obesity predisposes patients to additional recovery-related challenges:

- Opioid metabolism and pain signaling issues result in the need for increasing amounts of opioids for pain relief<sup>7,8</sup>
- Addiction transfer after bariatric surgery can lead to substance and alcohol abuse disorders<sup>9,10</sup>

## OPIOID MISUSE OR ABUSE CAN BEGIN FOLLOWING EXPOSURE TO OPIOIDS DURING BARIATRIC SURGERY

**1 in 15** patients prescribed an opioid for postsurgical pain will **go on to long-term use**<sup>12†</sup>



**0 to 105 pills** are prescribed after bariatric surgery<sup>13</sup>

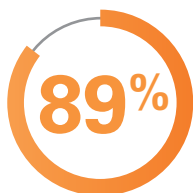
**Percentage of patients who continue to use opioids 1 year after bariatric surgery<sup>14:</sup>**

**Nearly 10%** of opioid-naïve patients  
**65%** of patients who used opioids prior to surgery

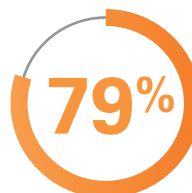


**~25%** of patients report **keeping unused pills at home**, leaving a substantial number of pills for potential misuse and diversion<sup>13</sup>

## IF ASKED, PATIENTS WOULD CHOOSE TO RECOVER WITH AN ALTERNATIVE TO OPIOIDS<sup>15‡</sup>



of patients said they were **concerned about side effects, addiction, or dependence**



of patients said they **preferred a non-opioid** pain management option

\*According to a retrospective study of hospital discharge data (N=37031).

†According to a prospective, longitudinal study (N=109). Preoperative opioid use, self-perceived risk of addiction, and depression were each independent predictors of prolonged (6 months) opioid use after surgery.

‡From a survey of 500 adults in the US who had an orthopedic or soft tissue surgery and 200 US surgeons who perform these procedures.

DVT=deep vein thrombosis; ORAE=opioid-related adverse event; PE=pulmonary embolism; VTE=venous thromboembolism.

# Opioid-reducing strategies are proven to enhance recovery after bariatric surgery



BARIATRIC

## MULTIMODAL APPROACHES WITH OR WITHOUT ERAS PROTOCOLS HAVE DEMONSTRATED BENEFITS IN BARIATRIC SURGERY

Protocol implementation can positively impact recovery and reduce costs<sup>16</sup>

- **50%** shorter LOS<sup>16</sup>
- **40% to 61%** fewer opioids at 48 hours<sup>17,18</sup>
- **86%** fewer patients with itching, demonstrating an improvement in ORAEs<sup>18</sup>
- **Earlier ambulation**, which may reduce the risk of VTE (PE and DVT)<sup>5</sup>
- **50%** fewer cases of respiratory dysfunction in patients not taking morphine<sup>19</sup>
- **96%** of patients without postoperative nausea/vomiting<sup>19</sup>
- **19-hour** earlier return of bowel sounds and flatus<sup>20</sup>

## THE ASA SUPPORTS THE USE OF OPIOID-MINIMIZING PAIN MANAGEMENT STRATEGIES AFTER BARIATRIC SURGERY

*“Because of the high incidence of obstructive sleep apnea (OSA) in obese patients and other studies showing that morbidly obese patients have increased perioperative airway obstruction and desaturations even without OSA, the focus with regard to pain management has to be on opioid-sparing multimodal approaches.”<sup>4</sup>*

—Best Practice & Research Clinical Anaesthesiology, 2011

*“...regional analgesic techniques should be considered to reduce or eliminate the requirement for systemic opioids in patients at increased perioperative risk from OSA.”<sup>21</sup>*

*“For superficial procedures, consider the use of local anesthesia...”<sup>21</sup>*

—2014 Practice Guidelines for OSA

## LOCAL AND REGIONAL ANALGESIA ARE IMPORTANT COMPONENTS OF OPIOID-REDUCING, MULTIMODAL PAIN MANAGEMENT STRATEGIES<sup>22</sup>

### Local analgesic infiltration

directly targets pain at its source and is not associated with major side effects<sup>23</sup>

### Local anesthetic field blocks

can effectively provide regional anesthesia in abdominal surgeries<sup>24</sup>

## NEW MODALITIES, ALONG WITH LONG-LASTING LOCAL ANALGESIC PAIN CONTROL, CAN REDUCE THE NEED FOR OPIOIDS WHEN USED AS PART OF A MULTIMODAL PAIN MANAGEMENT APPROACH<sup>25</sup>

ASA=American Society of Anesthesiologists; ERAS=enhanced recovery after surgery; LOS=length of stay.

**References:** 1. Benaiges D, Goday A, Pedro-Botet J, et al. Bariatric surgery: to whom and when? *Minerva Endocrinol.* 2015;40(2):119-128. [Epub ahead of print]. 2. Coblijn UK, Karres J, de Raaff CAL, et al. Predicting postoperative complications after bariatric surgery: the Bariatric Surgery Index for Complications, BASIC. *Surg Endosc.* 2017;31(11):4438-4445. doi:10.1007/s00464-017-5494-0. [Epub ahead of print]. 3. Khaodhjar L, McCowen KC, Blackburn GL. Obesity and its comorbid conditions. *Clin Cornerstone.* 1999;2(3):17-31. 4. Schug SA, Raymann A. Postoperative pain management of the obese patient. *Best Practice & Research Clinical Anaesthesiology.* 2011;25(1):73-81. 5. Bartlett MA, Mauck KF, Daniels PR. Prevention of venous thromboembolism in patients undergoing bariatric surgery. *Vasc Health Risk Manag.* 2015;11:461-477. 6. Schumann R. Anaesthesia for bariatric surgery. *Best Pract Res Clin Anaesthesiol.* 2011;25(1):83-93. 7. Lloret-Linares C, Lopes A, Declèves X, et al. Challenges in the optimisation of post-operative pain management with opioids in obese patients: a literature review. *Obes Surg.* 2013;23(9):1458-1475. 8. Raebel MA, Newcomer SR, Reifler LM, et al. Chronic use of opioid medications before and after bariatric surgery. *JAMA.* 2013;310(13):1369-1376. doi:10.1001/jama.2013.278344. 9. Blum K, Bailey J, Gonzalez AM, et al. Neuro-Genetics of Reward Deficiency Syndrome (RDS) as the Root Cause of “Addiction Transfer”: A New Phenomenon Common after Bariatric Surgery. *Journal of genetic syndrome & gene therapy.* 2011;2012(1):S2-001. doi:10.4172/2157-7412.S2-001. 10. Yoder R, MacNeela P, Conway R, et al. How Do Individuals Develop Alcohol Use Disorder After Bariatric Surgery? A Grounded Theory Exploration. *Obes Surg.* 2018;28(3):717-724. 11. Kessler ER, Shah M, Gruschus SK, Raju A. Cost and quality implications of opioid-based postsurgical pain control using administrative claims data from a large health system: opioid-related adverse events and their impact on clinical and economic outcomes. *Pharmacotherapy.* 2013;33:383-391. 12. Carroll I, Barelka P, Wang CKM, et al. A pilot cohort study of the determinants of longitudinal opioid use after surgery. *Anesth Analg.* 2012;115:694-702. 13. Hill MV, Stucke RS, Billmeier SE, Kelly JL, Barth RJ Jr. Guideline for discharge opioid prescriptions after inpatient general surgical procedures. *J Am Coll Surg.* 2017. doi:10.1016/j.jamcollsurg.2017.10.012. [Epub ahead of print]. 14. Mohanty S, Lee JS, Ross RA, et al. New persistent opioid use after bariatric surgery. *J Am Coll Surg.* 2017;225(4 suppl 1):S123. 15. Data on file. 2914. Parsippany, NJ: Pacira Pharmaceuticals, Inc.; June 2016. 16. Lemanu DP, Singh PP, Berridge K, et al. Randomized clinical trial of enhanced recovery versus standard care after laparoscopic sleeve gastrectomy. *Br J Surg.* 2013;100(4):482-489. 17. Gonzalez AM, Romero RJ, Ojeda-Vaz MM, Rabaza JR. Intravenous acetaminophen in bariatric surgery: effects on opioid requirements. *J Surg Res.* 2015;195(1):99-104. 18. Sandor A, Lane JM, Williams CH, Marfatia R, Carey EA, Clark NJ. Liposomal bupivacaine local infiltration of the surgical sites effectively reduces postsurgical opioid requirements following laparoscopic bariatric procedures. Poster presentation at Obesity Week 2013: The American Society for Metabolic and Bariatric Surgery and the Obesity Society Joint Annual Scientific Meeting; November 11-16, 2013; Atlanta, GA. 19. Bramgbade OA, Oluwole O, Khaw RR. Perioperative analgesia for fast-track laparoscopic bariatric surgery. *Obes Surg.* 2017;27(7):1828-1834. 20. Song K, Melroy MJ, Whipple OC. Optimizing multimodal analgesia with intravenous acetaminophen and opioids in postoperative bariatric patients. *Pharmacotherapy.* 2014;34(suppl 1):14S-21S. 21. American Society of Anesthesiologists Task Force on Acute Pain Management. Practice guidelines for the Perioperative Management of Patients with Obstructive Sleep Apnea: An Updated Report by the American Society of Anesthesiologists Task Force on Perioperative Management of Patients with Obstructive Sleep Apnea. *Anesthesiology.* 2014;120:1-19. 22. Carmichael JC, Keller DS, Baldini G, et al. Clinical practice guidelines for enhanced recovery after colon and rectal surgery from the American Society of Colon and Rectal Surgeons and Society of American Gastrointestinal and Endoscopic Surgeons. *Dis Colon Rectum.* 2017;60:761-784. 23. Scott NB. Wound infiltration for surgery. *Anaesthesia.* 2010;65(suppl 1):67-75. 24. Young MJ, Gorlin AW, Modest VE, Quraishi SA. Clinical implications of the transversus abdominis plane block in adults. *Anesthesiol Res Pract.* 2012;2012:731645. 25. Keller DS, Pedraza R, Tahiramani RN, et al. Impact of long-acting local anesthesia on clinical and financial outcomes in laparoscopic colorectal surgery. *Am J of Surgery.* 2017; 214(1):53-58.