Appendix:

The implementation of the ERAS protocol for bariatric surgery was developed with input from all stakeholders, (surgery, anesthesiology, dietary, nursing, hospital administration, rehabilitation, and pharmacy) and includes preoperative, intraoperative and postoperative recovery patient management. In the preoperative phase patients receive extensive counseling and metabolic preparation. A proton pump inhibitor was initiated starting one week prior to surgery and continued into the postoperative period. Preoperatively, patients are instructed to consume only clear liquids the day prior to surgery and nothing after midnight. They are instructed to apply chlorohexidine wipes to their abdomen the night before and morning of surgery. Intraoperatively, nasogastric tubes and intraabdominal drains were avoided as were high intrabdominal pressures. Venous thromboembolic prophylaxis, antiemetic and analgesic agents are administered preoperatively and an optimized intraoperative anesthesia and postoperative multimodal pain management protocol is implemented (Table 1).

Table 1: Enhanced recovery after surgery bariatric surgery analgesic and antiemetic protocol.

Agent	Dose	Indication
Preoperatively		
Transdermal scopolamine	1.5mg patch applied in holding area	Antiemetic
Acetaminophen liquid	975 mg orally in holding area	Analgesic
Transverses abdominis plane block (TAP)	Ropivacaine 0.5% solution administered as 15 ml or 20 ml bilaterally using ultrasound guidance	Analgesic
Intraoperatively		
Ketamine	0.5 mg/kg IV bolus at skin incision	Analgesic
Dexamethasone	0.1 mg/kg IV bolus to maximum of 8mg	Antiemetic/analgesic
Propofol	Anesthesia induction	
Volatile anesthesia	Anesthesia maintenance	
Propofol infusion		
Remifentanil infusion		

Ropivacaine	Infiltration of 30 ml of 0.5% at port sites at closure	Analgesic
Acetaminophen	1000 mg IV at skin closure	Analgesic
Ondansetron	4 mg IV at skin closure	Antiemetic
Post anesthesia care unit		
Ondansetron	4 mg IV push if needed (maximum of 2 doses in first 6 hours postoperatively)	Antiemetic
Fentanyl	25 μg prn as needed for pain (NRS>4)	Analgesic
Postoperative Hospital Unit – Until patient tolerates clear liquids		
Acetaminophen	1000mg IV q 8 hours x 2 doses	Analgesic
Hydromorphone	0.3mg IV q4hr as need for pain (NRS>4)	Analgesic
Ondansetron	4mg IVP q 6hr x 2 then as needed	Antiemetic
Prochlorperazine	10mg IVP q6hr prn	Antiemetic
When patient tolerates clear liquids		
Acetaminophen	1000 mg orally every 8 hours	Analgesic
Tramadol	100mg orally four times a day	Analgesic
Oxycodone	5mg orally as need for pain (NRS > 4)	Analgesic

Postoperatively, patients receive intravenous analgesics and antiemetic agents per protocol, until the patient was able to take clear liquids at which point, they were converted to oral analgesics. Patients that failed to have their nausea and or vomiting controlled using the standard regimen received additional antiemetic agents per physician order.

Pain assessments were made using the eleven-point Defense and Veterans Pain Rating Scale (DVPRS 2.0) where 0 equals no pain and 10 equals worst pain imaginable. This method uses a numeric rating scale enhanced by functional word descriptors, color coding and pictorial facial expressions. The method has been demonstrated to have high interrater (Chronbach's

alpha = 0.87) and test-retest reliability.[1] Pain assessments are scheduled every 15 minutes from admission to discharge from the post anesthesia care unit (PACU) and then every four hours until hospital discharge per protocol.

1. Polomano RC, Galloway KT, Kent ML,et al. Psychometric Testing of the Defense and Veterans Pain Rating Scale (DVPRS): A New Pain Scale for Military Population. Pain Med. 2016 Aug;17(8):1505-19. doi: 10.1093/pm/pnw105