

Same Day Discharge Gastric Sleeve with Addition of Virtual Health Monitoring

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Objectives

- Avoid hospital admissions due to capacity issues
- Enhance recovery post-gastric sleeve surgery
- Provide support, care and monitoring upon discharge

Background

- Prior to 2020 gastric sleeve surgeries at University of Colorado Hospital had a 100% admit rate post-operatively. Patients stayed for an average of 1-3 days to be monitored for fluid intake, oxygen saturations and supplemental oxygen requirements.
- During the height of the pandemic, stable COVID-19 patients were being discharged with virtual monitoring (VHM) to watch their oxygen saturations and oxygen requirements to make space for patients who required a higher level of care. These virtual monitors avoided hospital admissions and allowed providers to keep a close eye on patients who were recovering from COVID-19 in the comfort of their own home.
- Due to hospital capacity issues from COVID-19, elective surgeries such as gastric sleeves were put on hold. It was quickly realized that gastric sleeve patients could benefit from VHM, allowing them to have their surgery and safely discharge home same day with continuous virtual monitoring.

Education

- Tip sheets created and provided with each Same Day Discharge Gastric Sleeve patient to keep at the bedside as a reference for the PACU RN
- Super Users identified and available during the days when surgeries are completed



Tip Sheet

UCH PACU Same Day Discharge Gastric Sleeve

- Patients will be identified by the surgical team for Same Day Discharge Gastric Sleeve surgery in clinic and then re-admitted in the OR.
- Make sure the providers place the **UCHS PACU Same Day Discharge Gastric Sleeve** order set.
- PACU RN's will follow the UCHS PACU Same Day Discharge Gastric Sleeve order set as well as the PACU **ES&C** SQ anesthesia order set for pain control, nausea, and blood pressure control. Additional orders may be written to be used in PACU.
- Notify attending surgeon, resident on the case or Copper service for any issues in the PACU.
- Notify physician prior to discharge to have them evaluate intake and discharge readiness.
- Patients will spend a minimum of 4 hours in PACU (**arrive** by hour 2, **up to chair** by hour 3 and **ambulate** by hour 4).
- Patients will be on a **GI Surgical Gastric Bypass Clear Liquid Diet**: No caffeine, no sugar, no juice, no carbonated beverages. Goal intake while in PACU >200cc (no more than 300cc Q15min). No straws.
- All meds must be **IV or PO liquid**. Start ordered IV fluids to run over PACU stay.
- Patient must stay on continuous pulse ox while in PACU phase 1 and phase 2.
- NO CPAP/BIPAP** while in PACU or until cleared by surgery (around 6 weeks).
- Patients must void prior to discharge.
- Patients will be discharged home with oxygen (1-4L NC) which should be set up in clinic prior to surgery.
- Patients will be set up with virtual health center to monitor oxygen levels while at home (set up in PACU).

Remote Patient Monitoring Information

Recovering from the comfort of your own home is allowed to help your healing process and overall wellbeing. This monitoring device will let you keep recovering at home, while your care team tracks medical changes that may need our attention. As long as you are wearing it, this device sends some of your most important vital signs back to your care team. This helps to make sure you are recovering safely.



Basic information.
A nurse will place the device on your wrist and fingertips. The device then tracks and sends the following information to the Uchealth Virtual Health Center staff:
• Oxygen levels
• Breathing rate (respiratory rate)
The Virtual Health Center is staffed by nurses and doctors 24 hours a day, 7 days a week. You or your loved one may call at any time with questions or concerns. For help, call 720.462.2260. You can expect a phone call from the Virtual Health Center staff on your first day in the program to complete your enrollment. Most patients will be enrolled in the program for a total of 5-7 days. It may be longer if needed. You may also get a phone call if your provider has any concerns about your vital signs.



Indicator light.
Your device is working when you see the blue light flashing on the chip area. Here is a list of what the different light colors mean:
BLUE YOUR DEVICE IS PAIRED AND WORKING PROPERLY.
RED YOUR DEVICE IS NOT CONNECTED TO YOUR PHONE.
ORANGE ENSURE YOU ARE NEAR YOUR PHONE AND YOUR PHONE IS POWERED ON.
GREEN YOUR BATTERY IS LOW.
ORANGE CONSIDER REPLACING SENSOR. DO NOT THROW OUT REUSABLE CHIP.
RED YOUR BATTERY IS VERY LOW.
ORANGE REPLACE SENSOR. DO NOT THROW OUT REUSABLE CHIP.

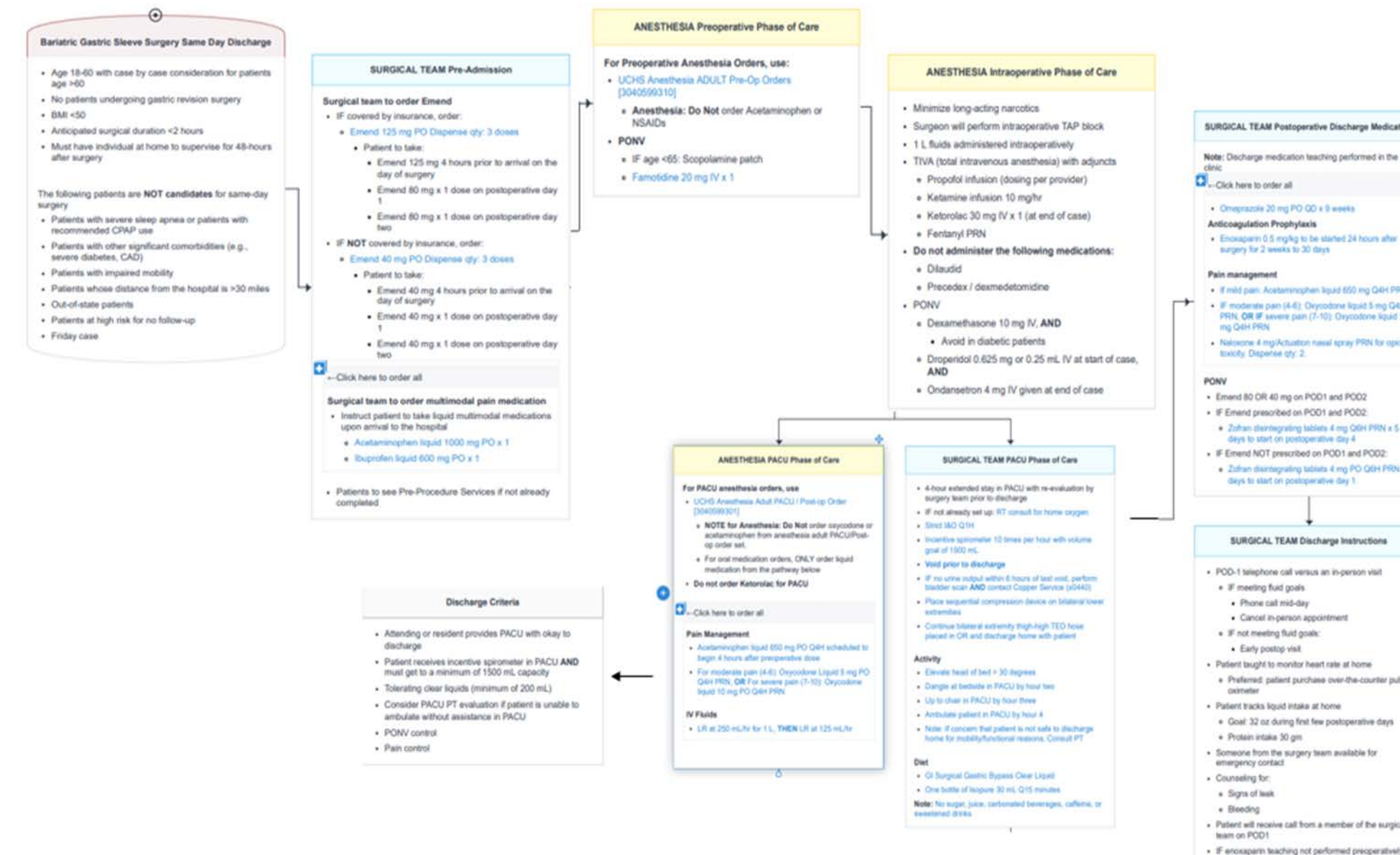
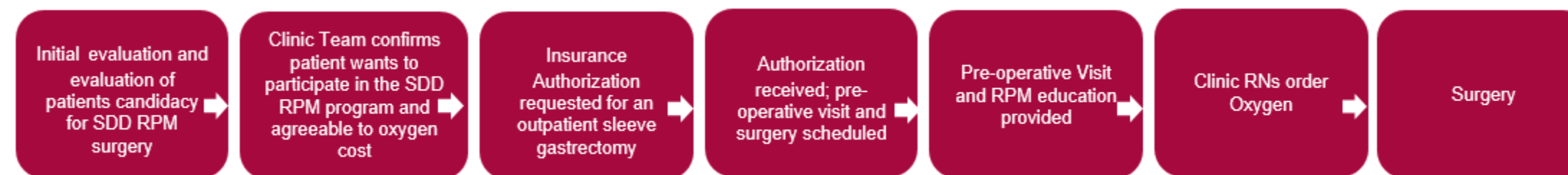
Using the monitoring device phone app.
Before you leave the hospital, a member of your care team will help you download the app and ensure you know how to use it. The app, as well as the user guide, can be helpful for more information.

For help, call the Virtual Health Center at 720.462.2260, 24 hours a day.



Process Implantation

- Developed an order set and agile pathway from pre-admission through patient discharge.
- Educated patients, staff, surgeons and patients on processes, orders and equipment.



Post Anesthesia Care Unit – Order Set

Admission
• Observe in PACU for 4 hours
• Call Copper Service to evaluate patient prior discharge (x0400); (Page Dr. Schoen with emergencies or any concerns (x 0872)
• UCHS Home Oxygen Discharge Orders

Vital Signs
• Vital signs per PACU routine

Activity
• Elevate head of bed greater than; 30 degrees upon arrival to PACU
• Dangle at bedside; in PACU; by hour 2 in PACU
• Up to chair evening of surgery; Post-op; by hour 3 in PACU
• Ambulate patient; post op; by hour 4 in PACU

IV Fluids
• LR @250ml/hr for total of 1L
• LR @ 125ml/hr (starting 4 hours after initiation of LR in PACU)

Medications
• liquid Oxycodone 5-10mg Q4H PRN
Moderate pain (4-6) give Oxy liquid 5mg.
For Severe Pain (7-10) give Oxy liquid 10mg
• PO liquid Tylenol 650mg? Q4 PRN hours after pre op dose
• We can educate anesthesia to NOT check any of their medications in their order set for pain only nausea to help with the confusion of the PO liquid and pill medications

Diet/Nutrition
• GI Surgical Gastric Bypass Clear Liquid- Check box for no caffeine, check box for paper plate, add comment- Add 1 bottle of Isopure
• Diet Message to Nutrition Services; No sugar, juice, carbonated beverages, sweetened drinks or caffeine
• Nursing communication- All meds must be IV or liquid PO
• PO intake no more than 30ml Q15min of isopure or water, encourage small sips. Goal intake is >200cc while in PACU over 4 hours

Nursing Assessments
• Continuous pulse oximetry in PACU
• No CPAP/BIPAP
• Strict Intake & Output; Q 1 hour
• Incentive spirometer, deep breathe and cough 10 times per hour; post-op and chart in EMR; 1500ml Volume goal

Nursing Interventions
• Void Prior to discharge
• If no urine output within 6 hours of last void, bladder scan patient and call Copper service at x0440
• Place Sequential compression device while in bed; remove while up in chair and ambulating
• Continue bilateral extremity Thigh-high TED hose are on and discharged home with patient

Discharge
• Discharge Patient

Patient Selection

Inclusion

- Age 18-60 with
- Primary bariatric procedure (no revisions)
- BMI < or equal to 50
- Anticipated surgical duration < 2 hours
- Must have individual at home to supervise for 48 hours after surgery
- Demonstrates understanding of Remote Monitoring Devices

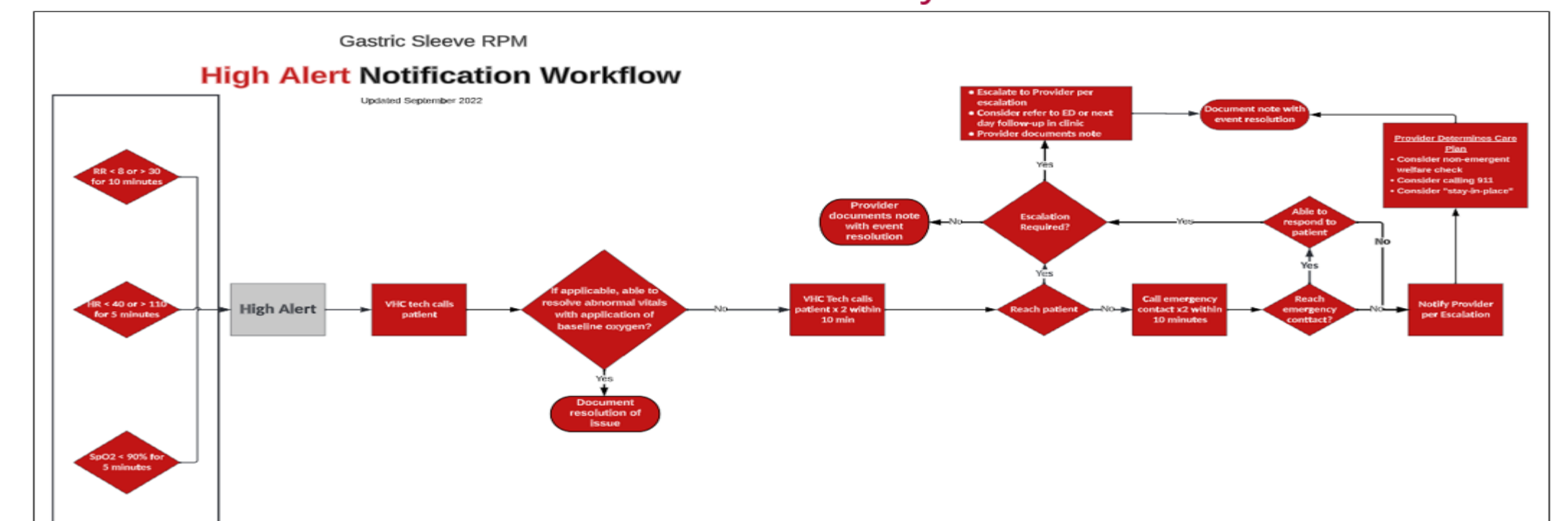
Exclusion

- Severe Sleep Apnea or recommendation of CPAP use
- Significant medical comorbidities (severe diabetes, CAD)
- Impaired mobility
- Out of State patients
- Patients with poor cell service
- Patients at high risk for no follow-up
- Friday cases

Virtual Health Monitoring

- What is Remote Patient Monitoring? (RPM)**
 - Recovering from the comfort of your own home is shown to help the healing process and overall wellbeing
 - The device will be Bluetooth paired to an app that collects the vital signs and a Virtual Health Tech (VHT) will monitor for any alerts 24/7.
 - The patients will also complete a daily check in via the app each day while wearing the device and these answers are recorded by the VHT.
- Postoperative enrollment (Day of surgery)**
 - Patient will be admitted into a virtual inpatient bed after they are discharged from the hospital via smart phone sent home with patient.
 - PACU RN verifies with VHT that all vital signs are visible
 - VHT calls patient at home to complete intake call and review program expectations.
- Postoperative Clinic Follow Up (1 Week)**
 - Patient contacted by Surgical Weight Loss APP via phone 2 days post-op
 - Scheduled 7-10 days post-operatively for assessment by surgeon or APP

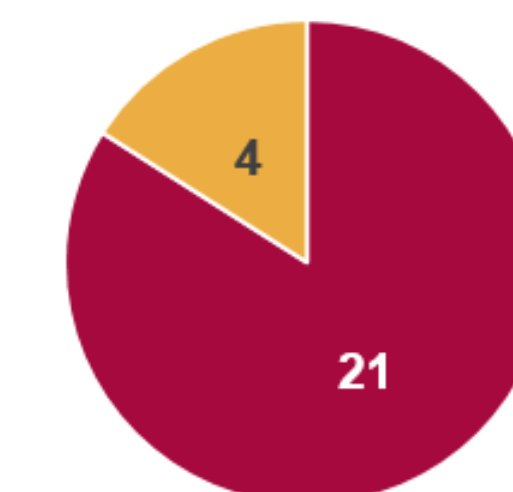
Virtual Health Center Escalation Pathway for Gastric Sleeve RPM



Statement of Successful Practice

- Reduced unnecessary hospital admissions while still providing safe and effective monitoring and care.
- Improved care coordination and collaboration.

Same Day Gastric Sleeve Patients



■ Patients who successfully went home
■ Patients who were admitted

Length of Stay

Average LOS in PACU for SDD gastric sleeve 5 hours 21 min

Average LOS inpatient gastric sleeve 1-3 days

Hospital days FREED up for others 21-63 days!

