

St. Joseph's
Healthcare  Hamilton

McMaster
University 

Same Day Roux-en-Y Discharge at a Canadian Bariatric Center

Pathway Implementation & Early Experiences
CABPS Obesity Weekend 2022

Karim Ramji MD MBA ABOM FRCSC



CanMEDS Roles

x	Medical Expert (as <i>Medical Experts</i> , physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. <i>Medical Expert</i> is the central physician Role in the CanMEDS Framework and defines the physician's clinical scope of practice.)
x	Communicator (as <i>Communicators</i> , physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.)
x	Collaborator (as <i>Collaborators</i> , physicians work effectively with other health care professionals to provide safe, high-quality, patient-centred care.)
x	Leader (as <i>Leaders</i> , physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.)
	Health Advocate (as <i>Health Advocates</i> , physicians contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.)
x	Scholar (as <i>Scholars</i> , physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship.)
x	Professional (as <i>Professionals</i> , physicians are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behavior, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)



Financial Disclosures

	Speaker	Advisory	Research	Consultant	Equity Partner
Phelix AI	x				x



Early Discharge + Same Day in Bariatric Surgery

- Bariatric surgery, today, provides the most effective and sustainable weight loss and co-morbidity reduction, compared to pharmacology and lifestyle modification alone.
- Enhanced Recovery protocols have been applied in bariatric surgery to:
 - streamline post-operative care
 - accelerate recovery
 - minimize inpatient resources
 - increase patient turnover
 - shorten waitlists
 - maximize program capacities

Same Day Discharge is a logical evolution of an early discharge initiative but remains in its infancy in most North American bariatric programs, particularly among Canadian Centers of Excellence.



Motivation for Change at St. Joseph's Hamilton

- **St. Joseph's Healthcare Hamilton – Bariatrics**
 - In existence since early 2000
 - 700+ procedures per year
 - 65% RYGB, 25% VSG, 5% DS/SADI & 5% Revisional
 - 5 Faculty staff + 4 Bariatric/MIS fellows per year + McMaster Surgical residency program
- **SJHCs Bariatrics Quality Initiative spurred in 2020 by:**
 - Opioid Reduction push at SJHC
 - Internal review finding variable uptake of a standard bariatric clinical pathway
 - Loss of in-patient resources from COVID-19 Pandemic
- **Established a Bariatrics QI Taskforce to establish standardized pathways to:**
 - **Minimize Opioid Dependence**
 - **Reduce post-operative nausea/vomiting and respiratory issues**
 - **Maximize early mobilization and PO intake**

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LOS decrease from
2.2 → 1.4 days
No increase in c/o

Our Enhanced Recovery Pathway

Pre-operative

- Clear fluids – up to 2 hours prior to procedure
- Ancef 2g and Metronidazole 500mg IV (<120kg)
- Acetaminophen - Tablet 975mg PO or Liquid 960mg 120 min pre-op
- Celecoxib 400mg PO – 120 min pre-op
 - **Contraindicated for chronic kidney disease, GFR < 60**
- Dexamethasone 8mg IV 120min pre-op
- Heparin 5000 U – 7500U SC before induction

Intra-operative

- Bilateral Transversus Abdominis Plane (TAP) Blocks
 - 0.25% bupivacaine + epinephrine – 20mL injected laparoscopically on each side using 18-21 gauge spinal needle at appropriate dermatomal sites, lateral to ports.

Post-operative

- Start clear fluids POD #0 when patient can tolerate
 - Weight adjusted Tinzaparin DVT prophylaxis
- Acetaminophen - Tablet 975mg PO or Liquid 960mg PO QID x 72hrs, then PRN
- Celecoxib 200mg PO BID x 48hrs
 - **Contraindicated for chronic kidney disease, GFR < 60**
- Ice packs/Heating Pad – apply to incisions for 10-20mins q2H PRN while awake for POD#0-2
- *Breakthrough pain:*
 - Moderate-to-severe:
 - Dilaudid liquid 1-2mg PO Q4h PRN for moderate to severe pain.
 - If pain score from 5 or above, please give 1mg.
 - If insufficient response within 30 mins please administer additional 1mg.
 - Dilaudid 0.5-1mg IV q3h PRN for severe pain or when patient NPO x 24hrs
 - For pain score 8 and above, give 0.5mg.
 - If insufficient response within 10 mins, give additional 0.5mg.
- Ondansetron 4mg IV TID x 24hrs, then TID PRN
- Dimenhydrinate 25-50mg PO/IV q4hrs PRN
- Lansoprazole FasTabs BID for all patients
- Prescriptions as per individual surgeon/team

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Same Day Discharge at St. Joseph's Hamilton

- Implementation of an early discharge pathway revealed a subset of patients that were meeting discharge criteria on POD0
- COVID-19 inpatient resource limitations helped us focus on building an ambulatory infrastructure
- Private ambulatory centers in Ontario offering VSG have successfully been discharging patients home the same day.
- Leepalo et al. – reported 398 RYGB undergoing ambulatory surgery demonstrating safety/feasibility over 10yrs, 2.49% complication rate, 3.59% readmission rate

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- **Equipped with:**

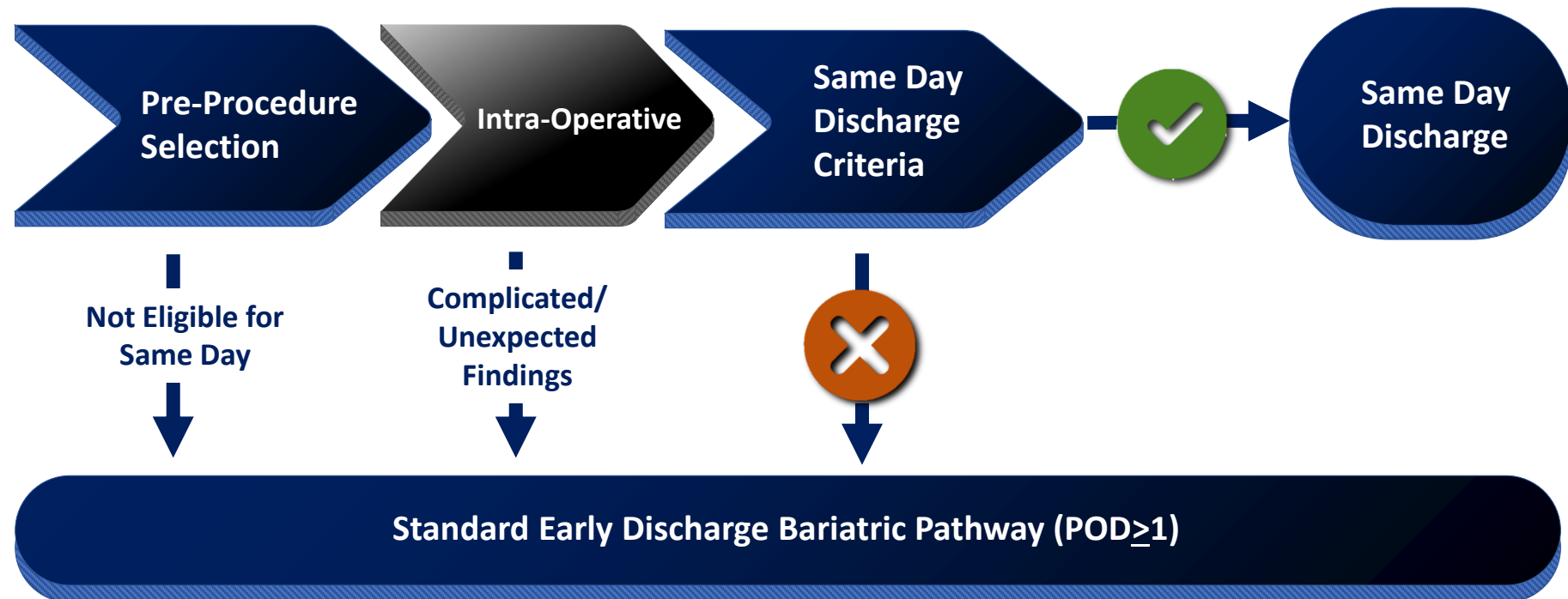
- **Stringent selection criteria**
- **Multi-modal pharmacotherapeutics**
- **Close follow-up**
- **Supportive measures in case of complications**

**Could we operationalize a
Same Day pathway for
RYGB?**



SJHC's Same Day Clinical Pathway

A patient must fulfill all pre-op, intra-op and post-op criteria to qualify for SAME DAY discharge





Pre-Procedure Selection Criteria

- Patient is keen on a potential same day discharge
- Patient has good supports (family or friend) in place to care for the patient POD 1-3
- Patient lives within a 1.5-hour drive from SJHC
- Age <55
- Patient does not have significant cardio-respiratory co-morbidities
- If patient has sleep apnea, they are compliant with CPAP use
- Patient is not an insulin-dependent diabetic
- Patient does not suffer from any major Psychiatric illness or require post-op monitoring of Mental Health associated medications
- Patient does not require extended DVT/PE prophylaxis
- **Patients are identified by pre-op internist and consulting surgeon during pre-op visit and educated about the benefits/risks/options/interest in SDD**



Intra-Operative Eligibility Criteria

- Patient is the 1st or 2nd case of the day
- No revisional or conversion procedures
- No additional procedure during operation, including hiatal hernia repairs, removal of Lap-Band, cholecystectomy
- No intra-operative complications occurred
- No drains were placed intra-operatively



Same Day Discharge Eligibility Criteria

- Patient has had no HR >110 BPM since OR
- Patient has been afebrile ($T < 38$ degrees C) since OR
- Patient has no oxygen requirements
- Patient can tolerate clear fluids with no vomiting and minimal nausea
- Patient's pain can be managed on oral analgesics alone
- Patient has voided independently
- Patient can mobilize independently
- **Patient motivated for home discharge on POD 0**



Same Day Discharge Pathway

Pre-operative

- Consenting surgeon confirms patient's candidacy for SDD with patient based on recommendations from Internal Medicine pre-op
- Surgeon reviews pre-op, intra-op and post-op pathway for patient and answers questions
- Surgeon confirms patient is interested/motivated for SDD
- Patient delivered **Aprepitant 80mg PO 2hrs prior to OR**
- Upon induction, patient administered **15mg/kg single bolus dose of TRANEXAMIC ACID (up to 2g)**

Intra-operative

- Bilateral Transversus Abdominis Plane (TAP) Blocks
 - **performed by surgeon via laparoscopic approach**
 - 0.25% bupivacaine + epinephrine – 20mL injected on each side using 18-21 gauge spinal needle at appropriate dermatomal sites, lateral to ports.
 - Operating team leaves note in EMR that patient either does not or continues to meet criteria for SDD based on Intraoperative Eligibility Criteria

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- Consenting surgeon confirms patient's candidacy for SDD with patient based on recommendations from Internal Medicine pre-op
- Surgeon reviews pre-op, intra-op and post-op pathway for patient and answers questions
- Surgeon confirms patient is interested, motivated for SDD
- Patient delivered **Aprepitant 80mg PO 2hrs prior to OR**
- Upon induction patient administered 2mg/kg single bolus dose

- Anti-emetic, NK1 receptor inhibitor
- Augments anti-emetic activity of 5HT3 receptor agonists and corticosteroids
- Proven effective particularly when combined with other anti-emetic regimens
- T1/2: 9-13hrs, S/E: fatigue

The Role of Aprepitant in Prevention of Postoperative Nausea and Vomiting After Bariatric Surgery

Isaac W Therneau¹, Erin E Martin¹, Juraj Sprung¹, Todd A Kellogg², Darrell R Schroeder³,

Aprepitant's Prophylactic Efficacy in Decreasing Postoperative Nausea and Vomiting in Morbidly Obese Patients Undergoing Bariatric Surgery

Ashish C. Sinha[✉], Preet Mohinder Singh, Noel W. Williams, Edward Andrew Ochroch & Basavana G. Goudra

Intra-operative

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- Upon induction, patient administered **15mg/kg single bolus dose of TRANEXAMIC ACID (up to 2g)**

- **Competitively binds to plasminogen slowing its conversion to plasmin – maintaining the FIBRIN CLOT**

- **No universal standard on dosing /timing**
- **Considered 15mg/kg – 10-20mg/kg (Heynes)**
- **1.5mg PATAS double blind trial**

Tranexamic acid therapy for postoperative bleeding after bariatric surgery

Trial protocol: preoperative administration of tranexamic acid in sleeve gastrectomy (PATAS) to reduce haemorrhage rates. A randomised controlled trial

A Single Preoperative Dose of Tranexamic Acid Reduces Perioperative Blood Loss

A Meta-analysis

Mieke Heyns, MD, Paige Knight, MD, Anna K. Steve, MD, and Justin K. Yeung, MD

and, L. Ulas Biter,



Same Day Discharge Pathway Post-operative

- **Patient educated by nursing** about SDD pathway and signs/symptoms that should prompt return to hospital upon discharge
- Patient education reinforced by Faculty or Bariatrics Fellow
- Patient assessed by Faculty or Bariatrics Fellow and Nurse to determine whether they meet

Discharge eligibility Criteria

- Clinically appropriate Vital Signs
- No Oxygen requirements
- Tolerating oral fluids
- Pain controlled
- Mobilizing appropriately
- Patient and family are motivated for SDD

Discharge Prescriptions

- Tylenol 1000mg Liquid or Tablet PO QID x 3 days
- Hydromorphone Liquid 1mg q6hrs PO PRN x 8 doses
- Celebrex 200mg PO BID x 3 days
- Ondansetron 4mg PO TID x 3 days
- Lansoprazole Fast tabs 30mg BID x 3months or Rabeprazole EC 20mg tab BID x 3months

Same Day : Acknowledging the Risk of Readmission

Safety of same-day discharge after laparoscopic sleeve gastrectomy: propensity score-matched analysis of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program Registry

Amir H. Aryaie, M.D., F.A.C.S.^{a,b}, Vamsi Reddy, B.S.^c, Zachary Dattilo, B.S.^c,
Michał R. Janik, M.D., Ph.D.^{a,d,e}

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^bBariatric and Reflux Center, Georgia SargiCare, Atlanta, Georgia

^cMedical College of Georgia, Augusta, Georgia

^dDepartment of General, Oncologic, Metabolic, and Thoracic Surgery, Military Institute of Medicine, Warsaw, Poland
Received 17 August 2020; accepted 30 August 2020

- 30 day ED visits rate 4.08% (5.65%)
- 30 day readmit rate 3.35% (2.79%)
- Most common causes:
 - Nausea/vomiting
 - Fluid/electrolyte depletion

Same-day discharge on laparoscopic Roux-en-Y gastric bypass patients: an outcomes review

Maykong C. Leepalao^{1,2} • Daniela Arredondo¹ • Fredne Speights¹ • Titus D. Duncan¹

Received: 11 April 2019 / Accepted: 17 September 2019 / Published online: 24 September 2019
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- 398 patients from 2008 - 2018
- Readmission rate: 3.59% n=13
- Most common causes:
 - Anastomotic leak
 - Nausea/vomiting

Leak rate ~1%, Bleed rate ~1%, Readmit rate 3-4%,
Timely management is critical
Could we create a suitable safety net for patients?

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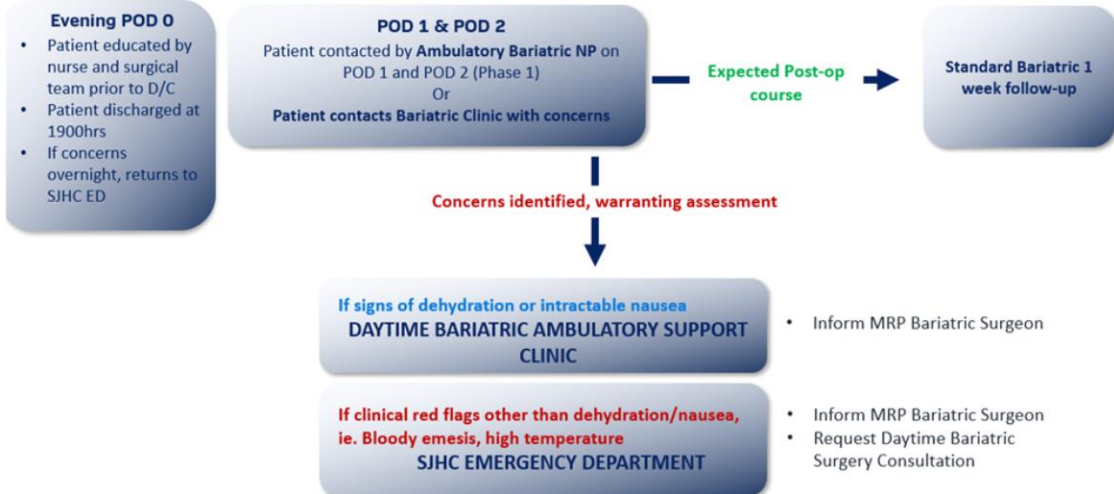
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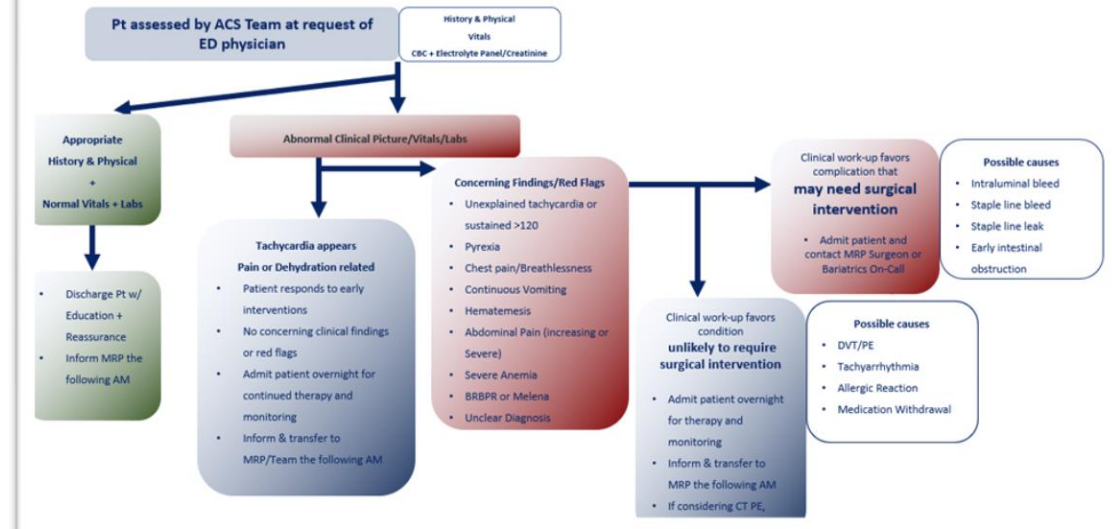
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Same Day Discharge Support Pathway – Day Hours



Same Day Discharge Support Pathway – After Hours



Same Day Discharge Support Pathway – Day Hours

Evening POD 0

- Patient educated by nurse and surgical team prior to D/C
- Patient discharged at 1900hrs
- If concerns overnight, returns to SJHC ED

POD 1 & POD 2

Patient contacted by **Ambulatory Bariatric NP** on
POD 1 and POD 2 (Phase 1)
or
Patient contacts Bariatric Clinic with concerns

**Expected Post-op
course**

**Standard Bariatric
1 week follow-up**

Concerns identified, warranting assessment

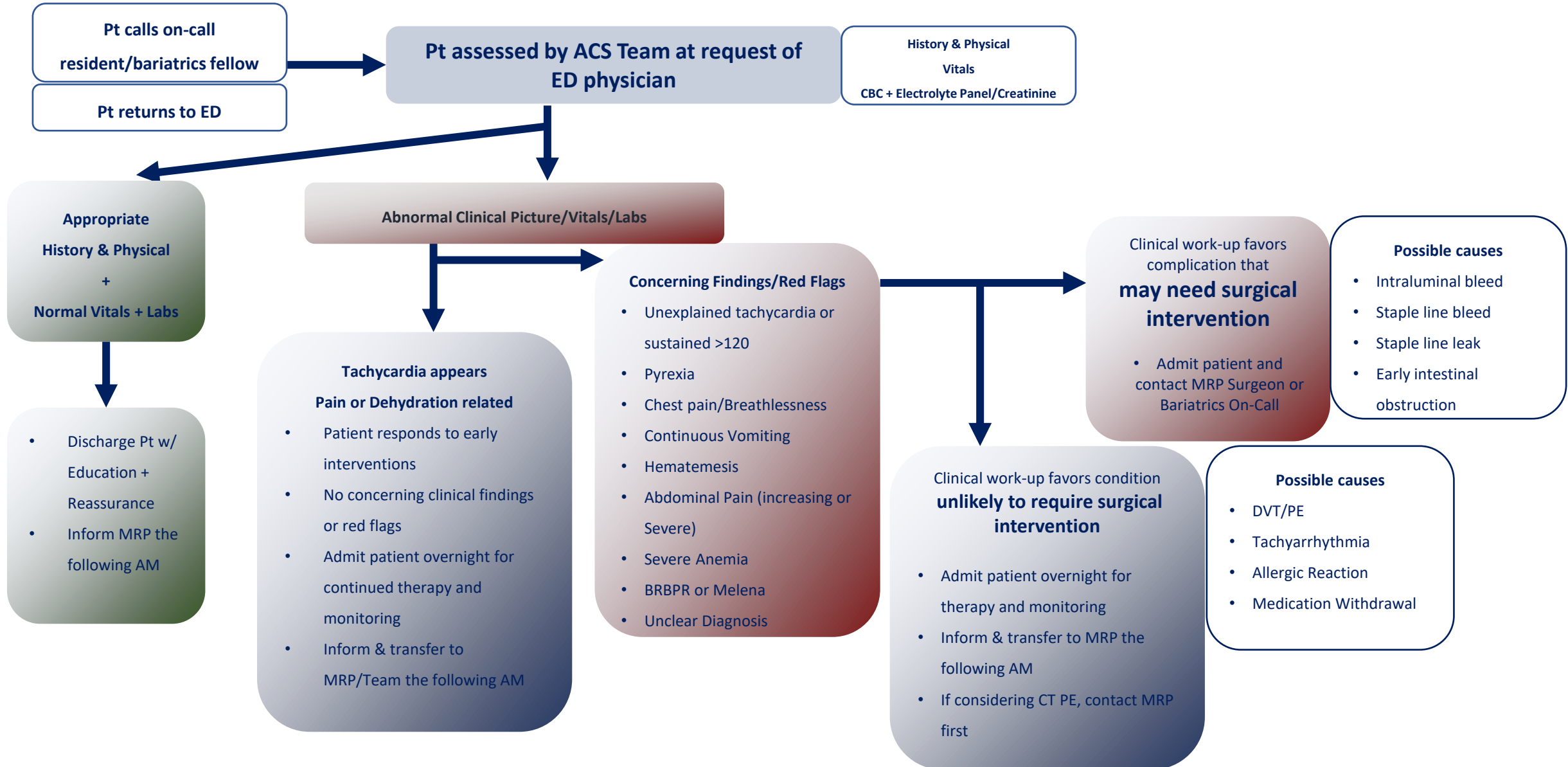
**If signs of dehydration or intractable nausea
DAYTIME BARIATRIC AMBULATORY SUPPORT
CLINIC**

- Inform MRP Bariatric Surgeon

**If clinical red flags other than dehydration/nausea,
ie. Bloody emesis, high temperature
SJHC EMERGENCY DEPARTMENT**

- Inform MRP Bariatric Surgeon
- Request Daytime Bariatric Surgery Consultation

Same Day Discharge Support Pathway – After Hours





“ In God we trust. All others bring data.”

- Dr. Edward R. Fisher

Same Day Discharge Outcomes: Patient Selection

Pre-operative Characteristics	All Bariatric surgery patients (Jan-Apr 2021)	Patients Selected for Same Day Discharge	p-value	Same Day Discharge	≥ POD1 Discharge	p-value
N	127	36	-	20	16	-
Age; mean (range)	42.5 (20–74)	37.0 (22–58)	0.008	36.0 (22–58)	38.3 (24–56)	0.507
Female	107 (84.3%)	33 (91.7%)	0.261	18 (90.0%)	15 (93.8%)	0.686
BMI; mean (range)	44.9 (35–67)	44.5 (36–55)	0.687	44.2 (36–53)	44.9 (37–55)	0.677
Distance from Hamilton, ON (km); mean (range)		31.2 (0–138.6)	-	36.3 (0–138.6)	24.9 (0–84.2)	0.337
Comorbidities						
Hypertension	38 (29.9%)	4 (11.1%)	0.023	3 (15.0%)	1 (6.3%)	0.416
Diabetes Mellitus	26 (20.5%)	1 (2.8%)	0.012	1 (5.0%)	0 (0.0%)	0.371
Obstructive Sleep Apnea	40 (31.5%)	8 (22.2%)	0.281	4 (20.0%)	4 (25.0%)	0.724
GERD	45 (35.4%)	14 (38.9%)	0.701	7 (35.0%)	7 (43.8%)	0.596
Other		9 (25.0%)	-	6 (30.0%)	3 (18.8%)	0.447
History of Psychiatric Illness	68 (53.5%)	15 (41.7%)	0.213	10 (50.0%)	5 (31.3%)	0.265
Anxiety		12 (33.3%)	-	8 (40.0%)	4 (25.0%)	0.350
Depression		4 (11.1%)	-	4 (20.0%)	0	0.061
Borderline Personality Disorder		2 (5.6%)	-	2 (10.0%)	0	0.199
PTSD		1 (2.8%)	-	0	1 (6.3%)	0.262

Same Day Discharge Outcomes: Intra-Op

Intra-operative Patient Characteristics	Same Day Discharge	POD1 Discharge	p-value
N	20	16	-
Operative Time (min); mean (range)	79.9 (55–111)	85.7 (59–133)	0.368
Estimated total blood loss (mL)	23.8 (0–200)	29.7 (0–150)	0.716
Lysis of Adhesions (LOA)	1 (5.0%)	0 (0.0%)	0.371
Hiatal Hernia Repair	0 (0.0%)	1 (6.3%)	0.262
Intraoperative Endoscopy	0 (0.0%)	0 (0.0%)	1.000
Bilateral TAP	20 (100.0%)	16 (100.0%)	1.000
# of Patients that Received 80mg Pre-operative Aprepitant	20 (100.0%)	16 (100.0%)	1.000
# of Patients that Received Weight based Sugammadex	6 (30.0%)	0 (0.0%)	0.018
# of Patients that Received 2g Tranexamic acid at induction	9 (45.0%)	9 (56.3%)	0.506
Time Out of OR to Time of Discharge (min)	529.6 (310–810)	>1 day	

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5 – 13 hours post sx.
Mean: 8h 48 mins

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- Encapsulates ND NMB to facilitate immediate reversal vs. Neostigmine
- Sugammadex faster in reversal for bariatric patients vs. Neostigmine
- Associated with shorter time of PACU discharge
- Known to be associated with reduced post-op pain, PONV, bradycardia, POUR and oxygen requirements

Efficacy and Safety of Sugammadex versus Neostigmine in Reversing Neuromuscular Blockade in Morbidly Obese Adult Patients: A Systematic Review and Meta-Analysis

Yamini Subramani,¹ Jill Querney,¹ Susan He,² Mahesh Nagappa,¹ Homer Yang,¹ and Ashraf Fayad¹

Same Day Discharge Outcomes: Post Surgery Rx.

In-Hospital Pharmacotherapy	Same Day Discharge		≥POD1 Discharge		p-value
	# of Patients that Received Rx	Rx. Dosing	# of Patients that Received Rx.	Rx. Dosing	
Total Dose of POD0 Hydromorphone (mg, represented as IV equivalent)	20 (100.0%)	1.94 (0.9–3.8)	16 (100.0%)	2.39 (0.4–5)	0.184
IV Intraoperative HM (mg)	19 (95.0%)	0.69 (0–1.8)	12 (75.0%)	0.53 (0–1.4)	0.314
IV PACU HM (mg)	12 (60.0%)	0.49 (0–2)	14 (87.5%)	0.58 (0–1.2)	0.576
IV Ward HM (mg)	10 (50.0%)	0.47 (0–2)	13 (81.3%)	1.16 (0–4)	0.022
Oral Ward HM (mg; represented as IV equivalent)	8 (40.0%)	0.29 (0–1.2)	3 (18.8%)	0.08 (0–1)	0.061
Subcutaneous Ward HM (mg; represented as IV equivalent)	0	0	1 (6.3%)	0.05 (0–0.8)	0.270
Total Dose of POD0 Ondansetron (mg)	20 (100.0%)	7.8 (4–12)	16 (100.0%)	11.6 (6–12)	<0.001
Intraoperative (mg)	18 (90.0%)	3.6 (0–4)	16 (100.0%)	4 (4–4)	0.203
PACU (mg)	0 (0.0%)	0	1 (6.3%)	0.13 (0–2)	0.251
Ward (mg)	20 (100.0%)	4.2 (4–8)	15 (93.8%)	7.5 (0–8)	<0.001
Total Dose of POD0 Dexamethasone (mg)	4 (20.0%)	2 (0–16)	9 (56.3%)	2 (0–8)	1.000
Intraoperative (mg)	4 (20.0%)	1.6 (0–8)	5 (31.3%)	2 (0–8)	0.718
PACU (mg)	1 (5.0%)	0.4 (0–8)	0 (0.0%)	0	0.379
Total Dose of POD0 Haloperidol (mg)	12 (60.0%)	0.46 (0–1)	11 (68.8%)	0.66 (0–1.5)	0.231
Intraoperative (mg)	7 (35.0%)	0.26 (0–1)	9 (56.3%)	0.38 (0–1)	0.377
PACU (mg)	3 (15.0%)	0.2 (0–1)	5 (31.3%)	0.28 (0–1)	0.564
Total Dose of Ward POD0 Metronidazole (mg)	4 (20.0%)	12.5 (0–100)	6 (37.5%)	17.2 (0–50)	0.592
Total POD0 IV fluids administered (mL)	20 (100.0%)	1826 (1000–2988)	16 (100.0%)	2135 (889–3366)	0.093
Intraoperative (mL)	18 (90.0%)	880 (400–2000)	15 (93.8%)	910 (60–2300)	0.610
PACU (mL)	19 (95.0%)	372 (4–1532)	13 (81.3%)	223 (13–1193)	0.316
Ward (mL)	18 (90.0%)	603 (276–1166)	16 (100.0%)	1044 (711–1723)	<0.001
Total Blood Loss (mL)	-	23.8 (0–200)	-	29.7 (0–150)	0.716
Net Intraoperative Volume (mL)	-	774 (-50–2000)	-	880 (0–2300)	0.551

- ?Overmedicated or ≥POD1 pts have higher pain/nausea?

- ? Contributes to ileus, urinary retention?

Same Day Discharge: 30 Day Outcomes

30-day Outcomes	Same Day Discharge	≥ POD1 Discharge	p-value
N	20	16	-
30-day Emergency Department Visits	1 (5.0%)	1 (6.25%)	0.873
30-day Readmissions	0 (0%)	1 (6.25%)	0.264
30-day Complications	0 (0%)	0 (0%)	1.000

- **POD 0 GROUP**

- Patient A – discharged POD0, experienced left sided pain on POD3, negative x-rays in ED, **no pathology found and subsequently discharged** from SJHC ED

- **POD ≥1 GROUP**

- Patient B – discharged POD1 after experiencing abdominal fullness and upper GI discomfort, presented to ED POD2, **CT abdomen negative and discharge from SJHC ED**
- Patient C - discharged POD1 after experiencing anxiety related to same day discharge, presented to ED POD3, admitted with **normal CT and discharged by General Surgery the following morning**

- **All after-hours visits**

- **No outside hospital presentations**

Same Day Discharge Outcomes: Reasons for $\geq$ POD1 D/C

Reasons for Extended Hospitalization	$\geq$ POD1 Discharge
N	16
Abnormal Vitals ^a	1 (6.3%)
Residual post-operative pain	5 (31.3%)
Nausea	1 (6.3%)
Urinary Retention	3 (18.8%)
Abnormal Blood Work ^b	1 (6.3%)
Intraoperative event ^c	1 (6.3%)
Patient Anxiety/Apprehension	2 (12.5%)
Inadequate PO Intake	2 (12.5%)

a - patient described post-operative palpitations, PACs and sinus arrhythmia with variable rate not no concerning features, followed by Internal Medicine. Troponins negative. Discharged on POD2

b- patient developed non-specific rash in PACU, blood work drawn demonstrated leukocytosis, septic work-up negative and patient discharged the following day

c - intraoperative splenic injury requiring Surgicel(C) – surgeon requested patient be monitored overnight

Note: some patients are represented multiple as they experienced more than one issue contributing to their $\geq$ POD1 discharge



RYGB SDD: Our Early Findings

- Introduction of a same day program for Bariatric surgery at SJHC **has proved feasible through**
 - **Stringent patient selection**
 - **Multi-modal pharmacotherapeutics**
 - **Close follow-up**
 - **Supportive measures in case of complications**
- 15/16 pts that were not discharged POD0 were **discharged the following day**
- Our current SDD patient volumes are too small **to assess safety and burden on ACS/ED**
- Pre-selected patients were noted to **be younger with fewer co-morbidities**
- We have trialed pre-induction use of **Tranexamic acid** to minimize post-operative hemorrhage, more data is required to evaluate its impact
- **Sugammadex** was used for a handful of patients in the program, does complete reversal contribute to faster post-operative recovery? more data is required to evaluate its true impact
- **Ward Hydromorphone, Ondansetron and IV fluids were delivered at higher doses and with greater frequency**
- No patients discharged same day presented to EDs outside of SJHC
- **Pain, anxiety, urinary retention, decreased PO intake** were the most common reasons why patients were not discharged POD0



RYGB SDD: Our Early Findings

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Same Day: Onwards & Upwards

- Restart nursing “Lunch and Learns” to **reinforce education on ward management of same day bariatric patients** (narcotics/anti-emetics/fluids/discharge planning)
- Have patients use direct messaging in EPIC’s patient portal to submit a **daily check-in** to Ambulatory Bariatric NP
- Consider **implementation of a standardized nursing assessment tool** to assist in day-time assessments and discharge of same day patients
- Liaise with Anaesthesia leadership on defining an **anesthesia protocol for ambulatory bariatric surgery** that establishes parameters and recommendations for use of Sugammadex, Haldol, Dexamethasone, inhalationals and Opioids focused on same day discharge
- Continue to review same day pathway outcomes and submit findings for publication when the program has discharged 100+ patients



Thank you

St. Joseph's
Healthcare  Hamilton

CMAS

 **ONTARIO**
Bariatric Network

McMaster
University 

A grayscale photograph of three surgeons in an operating room, wearing masks and scrubs, looking at a patient. The image is faded and serves as a background for the text.

Appendix

St. Joseph's
Healthcare  Hamilton

CMAS

 **ONTARIO**
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Our Early Discharge Pathway

Pre-operative

- Clear fluids – up to 2 hours prior to procedure
- Ancef 2g and Metronidazole 500mg IV (for patients less than 120kg), Ancef 3g (greater than 120kg)
- Acetaminophen - Tablet 975mg PO or Liquid 960mg 120 min pre-op
- Celecoxib 400mg PO – 120 min pre-op
 - **Contraindicated for chronic kidney disease, GFR < 60**
- Dexamethasone 8mg IV 120 min pre-op
- Heparin 5000 IU 7500 SC before induction

Intra-operative

- Potent analgesics
- Shown to reduce opioid consumption and s/e
- COX-2 selective >> nsNSAID
- Minimal inhibition of plt. aggregation

Canadian consensus statement: enhanced recovery after surgery in bariatric surgery

Jerry T. Dang¹ · Vivian G. Szeto² · Ahmad Elnahas³ · James Ellsmere⁴ · Allan Okrainec⁵ · Amy Neville⁶ · Samaad Malik⁷ · Ekua Yorke⁸ · Dennis Hong⁹ · Laurent Biertho¹⁰ · Timothy Jackson⁵ · Shahzeer Karmali¹¹

Intraoperative Ketorolac and Bleeding after Laparoscopic Roux-En-Y Gastric By-Pass Surgery

M. Klein, M. Stockei, J. Rosenberg & I. Gögenur

Risk of perioperative bleeding related to highly selective cyclooxygenase-2 inhibitors: A systematic review and meta-analysis

Choochai Teerawattananon, MD^a, Pongchirat Tantayakom, MD^b, Bundarika Suwanawiboon, MD^c, Wanruchada Katchamart, MD, MSc (Clin Epi)^{d,*}

Employing Enhanced Recovery Goals in Bariatric Surgery (ENERGY): a national quality improvement project using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program

Stacy A. Brethauer, M.D.^{a,g}, Arielle Grieco, M.P.H.^b, Teresa Fraker, M.S., R.N.^h, Kimberly Euse-Lobel, B.A.^b, April Smith, Pharm.D.^b, C.D.S.C.^c

Our Early Discharge Pathway

TRANSVERSUS ABDOMINIS PLANE BLOCK WITH LIPOSOMAL BUPIVACAINE DOES NOT SIGNIFICANTLY REDUCE POST-OPERATIVE NARCOTIC USE AMONG BARIATRIC SURGERY PATIENTS.

Kristen Wong¹; Diego Camacho¹; ¹Montefiore Medical Center, Bronx NY



Laparoscopic-Guided Transversus Abdominis Plane (TAP) Block as Part of Multimodal Analgesia in Laparoscopic Roux-en-Y Gastric Bypass Within an Enhanced Recovery After Surgery (ERAS) Program: a Prospective Randomized Clinical Trial

Jaime Ruiz-Tovar^{1,2,3} • Alejandro Garcia² • Carlos Ferrigni² • Juan Gonzalez² • Cesar Levano-Linares² • Montiel Jimenez-Fuertes² • Carolina Llaverio³ • Manuel Duran²

Transversus Abdominis Plane Block Appears to Be Effective and Safe as a Part of Multimodal Analgesia in Bariatric Surgery: a Meta-analysis and Systematic Review of Randomized Controlled Trials

Mária Földi^{1,2,3} • Alexandra Soós^{1,2,3} • Péter Hegyi^{1,2,4} • Szabolcs Kiss^{1,2,3} • Zsolt Szakács^{1,2} • Margit Solymár^{1,2} • Erika Pétervári^{1,2} • Márta Balaskó^{1,2} • Krzysztof Kusza⁵ • Zsolt Molnár^{1,2,5}

- Shown to reduce opioid consumption, minimize n/v and allow ambulation in shorter times
- Only somatic pain relief
- U/S perhaps more precise but harder in obese pts and Lap proven effective
- LP Bupivacaine? Not better than B alone

- Bilateral Transversus Abdominis Plane (TAP) Blocks
 - performed by surgeon via laparoscopic approach



Post-operative

- Start clear fluids POD #0 when patient can tolerate
 - No straws, no carbonated beverages
 - Can consider protein shakes if patient tolerates clears
- Encourage POD #0 early mobilization
- Weight adjusted Tinzaparin DVT prophylaxis
- Acetaminophen - Tablet 975mg PO or Liquid 960mg PO QID x 72hrs, then PRN
- Celecoxib 200mg PO BID x 48hrs
 - **Contraindicated for chronic kidney disease $\text{CrCl} < 60$**
- Ice packs/Heating Pad – apply to incisions for 10-20 mins q2H PRN while awake for POD #0-2
- **Breakthrough pain:**
 - Moderate-to-severe:
 - Dilaudid liquid 1-2mg PO Q4h PRN for moderate to severe pain.
 - If pain score from 5 or above, please give 1mg.
 - If insufficient response within 30 mins please administer additional 1mg.
 - Dilaudid 0.5-1mg IV q3h PRN for severe pain or when patient NPO x 24hrs
 - For pain score 8 and above, give 0.5mg.
 - If insufficient response within 10 mins, give additional 0.5mg.
- Ondansetron 4mg IV TID x 24hrs, then TID PRN
- Dimenhydrinate 25-50mg PO/IV q4hrs PRN
- Lansoprazole FasTabs BID for all patients
- Prescriptions as per individual surgeon/team

Our strategy

- “Rational opioid” vs. Opioid free strategy
- Opioids remain potent analgesics
- Offered more prescriptive guidance to nursing on analgesia management
- We avoided gabapentinoids – issues with over-sedation, no reversal agent, limited evidence

Same Day Discharge Outcomes: Phase 1 follow-up

Post-operative Outcomes	Same Day Discharge
N	13
POD 1 Pain Score	2.2 (0–4)
POD 1 Nausea and Vomiting/Fluid Tolerance	
None	63.6%
Mild	36.4%
POD 1 Patient Concerns	None
POD 2 Pain Score	1.8 (1–2)
POD 2 Nausea and Vomiting/Fluid Tolerance	
None	83.3%
Mild	16.7%
POD 2 Patient Concerns	None
Overnight calls to MRP?	0 (0%)

