

# Overnight Discharge Program

From Day 2 to Day 0:  
Reducing Length of Stay  
after Bariatric Surgery

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## Financial Disclosures

(over past 24 months)

	Speaker	Advisory	Research	Consultant
AbbVie				
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Janssen				
Lupin Pharma				
Mylan				
Olympus				
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Pentax Medical				
Pfizer				
Shire				
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## CanMEDS Roles Covered: **ALEXANDRA CHOW** - “Canadian Obesity Weekend 2022”

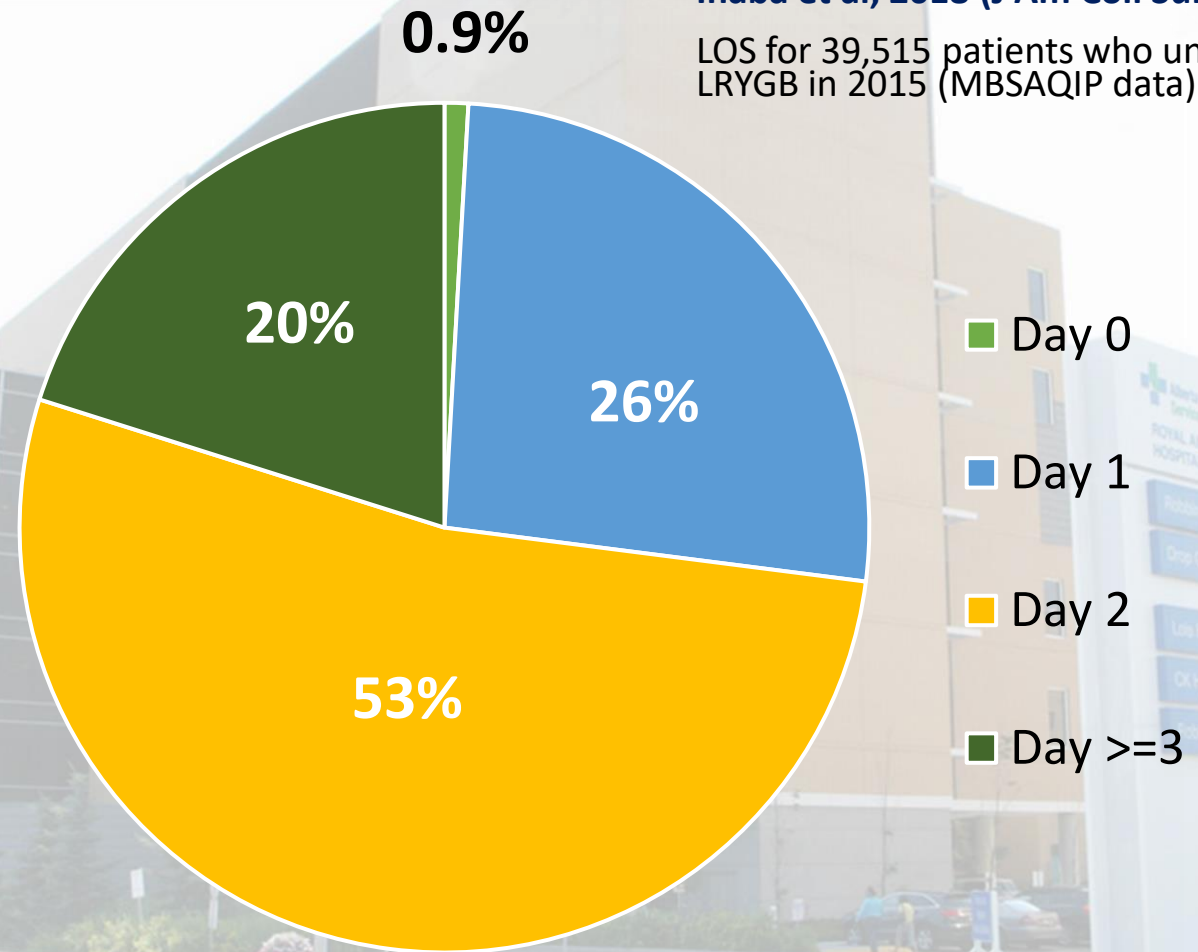
X	<b>Medical Expert</b> (as <i>Medical Experts</i> , physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. <i>Medical Expert</i> is the central physician Role in the CanMEDS Framework and defines the physician’s clinical scope of practice.)
	<b>Communicator</b> (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	<b>Collaborator</b> (as <i>Collaborators</i> , physicians work effectively with other health care professionals to provide safe, high-quality, patient-centred care.)
X	<b>Leader</b> (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.)
X	<b>Health Advocate</b> (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	<b>Scholar</b> (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.)
	<b>Professional</b> (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 behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)

# Background

- Average LOS for bariatric surgery in Alberta was 2.5 days in 2020
- >80% patients undergo LRYGB at our center
- Typical LOS after LRYGB is 2 days

Inaba et al, 2018 (J Am Coll Surg)

LOS for 39,515 patients who underwent LRYGB in 2015 (MBSAQIP data)





# Background

Comparative Study > Ann Surg. 2005 Oct;242(4):494-8; discussion 498-501.

doi: 10.1097/01.sla.0000183354.66073.4c.

## Optimizing outcomes in bariatric surgery: outpatient laparoscopic gastric bypass

Todd M McCarty<sup>1</sup>, David T Arnold, Jeffrey P Lamont, Tammy L Fisher, Joseph A Kuhn

- 2,000 consecutive patients from 2001-2004
- 84% discharged within 23h (of those 1.7% were readmitted within 30d)

# Background

Comparative Study > Surg Obes Relat Dis. 2017 Feb;13(2):273-280.

doi: 10.1016/j.soard.2016.01.034. Epub 2016 Feb 2.

## Fast track bariatric surgery: safety of discharge on the first postoperative day after bariatric surgery

Zhamak Khorgami<sup>1</sup>, Jacob A Petrosky<sup>1</sup>, Amin Andalib<sup>1</sup>, Ali Aminian<sup>1</sup>, Philip R Schauer<sup>1</sup>, Stacy A Brethauer<sup>2</sup>

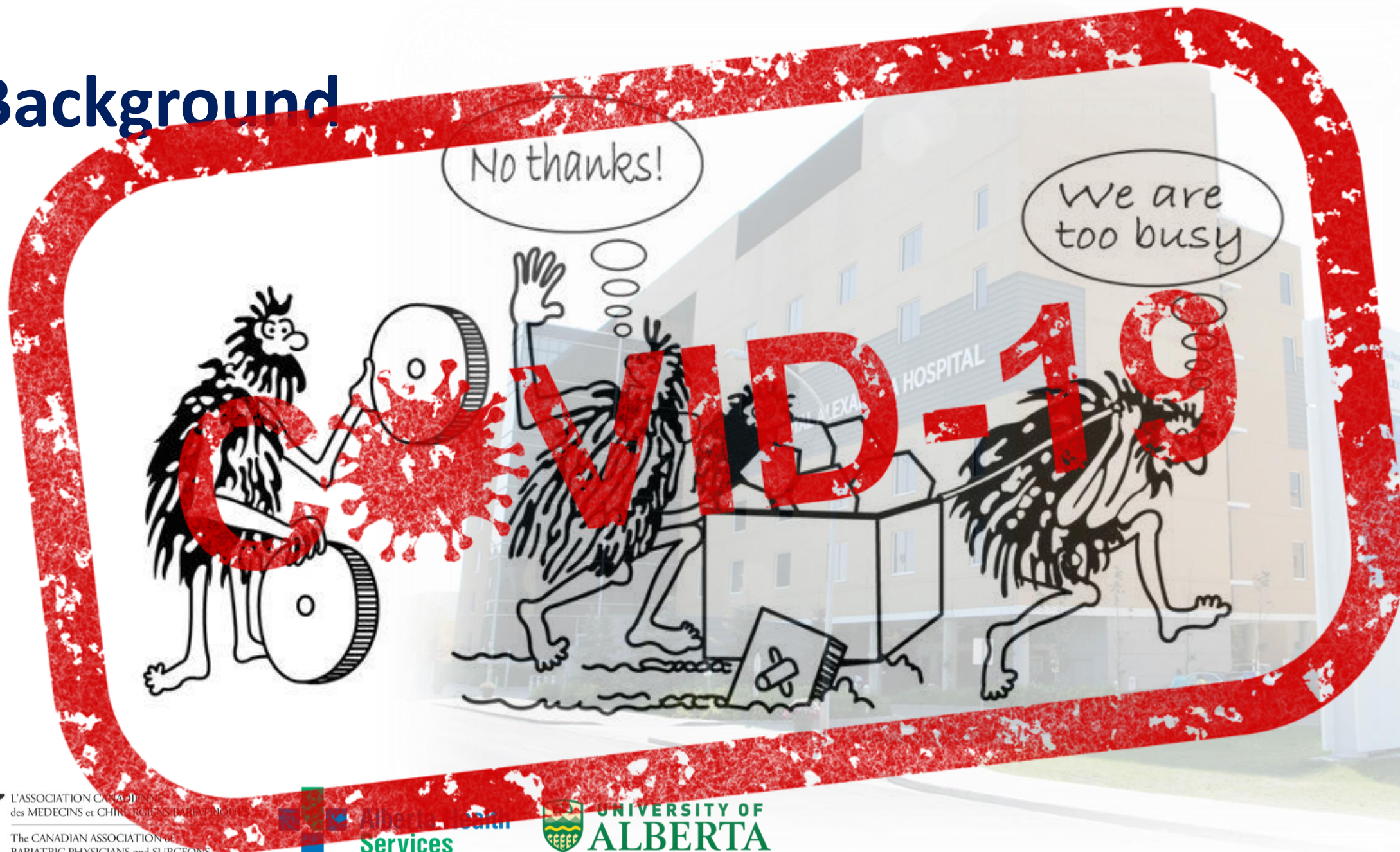
- NSQIP data 2012-2013
- 8,180 patients (36% LRYGB) discharged on POD 1
- Early discharge (POD1) not associated with higher readmission rate for LSG or LRGYB

# Background





# Background



L'ASSOCIATION CANADIENNE  
des MEDECINS et CHIRURGIENS BARIATRIQUES  
The CANADIAN ASSOCIATION of  
BARIATRIC PHYSICIANS and SURGEONS



Alberta Health  
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# Background

- Cessation and reduction of elective surgeries
- Shortage of hospital beds and resources
- Cancellations leading to patient frustration and attrition from bariatric program

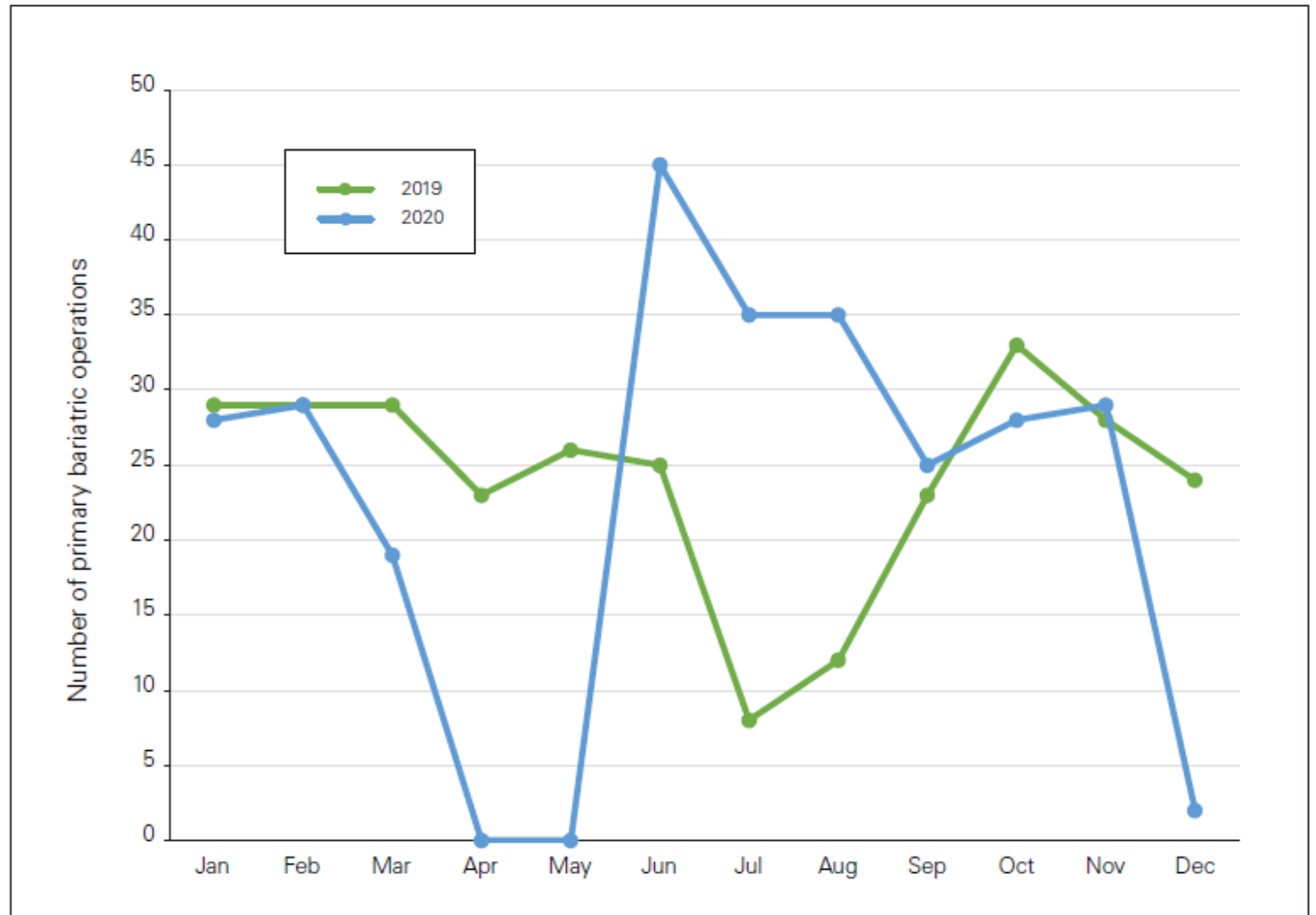


Fig. 1. Comparison of bariatric surgeries during the pandemic and the year prior, showing approximately a 79% reduction in the number of bariatric surgeries during the pandemic slow-down months (March, April, May and December 2020).

# Extended Day Surgery (XDS) – 23h Stay

- Overnight stay after bariatric surgery and discharge on morning of POD1 if satisfies criteria (stable vitals, tolerating fluids, pain and nausea controlled, lab work normal)
- No admission to inpatient surgical ward

# Extended Day Surgery (XDS) – 23h Stay

## MAXIMIZE

- Oral hydration
- Ambulation
- Comfort and reassurance  
(sense of normality)

## MINIMIZE

- Pain
- Nausea/vomiting/dehydration
- Complexity for nursing team
- Surgical complications  
(primarily bleeds)



# XDS – Preoperative

- **Day before surgery**

- Oral hydration 800-1000 mL in evening
- Tylenol 1 g po at bedtime
- Scopolamine patch 1.5 mg TD

- **Day of surgery (2h preop)**

- Aprepitant 80 mg po
- Gabapentin 100 mg po
- Tylenol 650 mg PR
- Ketorolac 10 mg IV



# XDS – Intraoperative

- Minimize bleeding
- Minimize pain
- Leak test



# XDS – Intraoperative

- **Minimize bleeding**
  - Eliminate drain placement
  - TXA 1 g IV after induction
  - Buttressed staple lines
  - Increase sBP to 140 mmHg following stapling to detect bleeds





# XDS – Intraoperative

- **Minimize bleeding**

- Eliminate drain placement
- TXA 1 g IV after induction
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- Increase sBP to 140 mmHg following stapling to detect bleeds

Randomized Controlled Trial > Obes Surg. 2016 Jul;26(7):1422-8.

doi: 10.1007/s11695-015-1986-y.

## Staple Line Bleeding in Sleeve Gastrectomy—a Simple and Cost-Effective Solution

Saurav Chakravarty<sup>1</sup>, Diwakar R Sarma<sup>1</sup>, Avril Chang<sup>1</sup>, Ameet G Patel<sup>2</sup>

> N Engl J Med. 2022 Apr 2. doi: 10.1056/NEJMoa2201171. Online ahead of print.

## Tranexamic Acid in Patients Undergoing Noncardiac Surgery

P J Devereaux<sup>1</sup>, Maura Marcucci<sup>1</sup>, Thomas W Painter<sup>1</sup>, David Conen<sup>1</sup>, Vladimir Lomivorotov<sup>1</sup>, Daniel I Sessler<sup>1</sup>, Matthew T V Chan<sup>1</sup>, Flavia K Borges<sup>1</sup>, María J Martínez-Zapata<sup>1</sup>, Chew Yin Wang<sup>1</sup>, Denis Xavier<sup>1</sup>, Sandra N Ofori<sup>1</sup>, Michael K Wang<sup>1</sup>, Sergey Efremov<sup>1</sup>

# XDS – Intraoperative

- **Minimize bleeding**

- Eliminate drain placement
- TXA 1 g IV after induction
- Buttressed staple lines
- Increase sBP to 140 mmHg following stapling to detect bleeds

Review

> [Obes Surg. 2015 Jul;25\(7\):1133-41. doi: 10.1007/s11695-015-1703-x.](#)

## **Clinical Benefit of Gastric Staple Line Reinforcement (SLR) in Gastrointestinal Surgery: a Meta-analysis**

Scott A Shikora <sup>1</sup>, Christine B Mahoney

# XDS – Intraoperative

- **Minimize bleeding**

- Eliminate drain placement
- TXA 1 g IV after induction
- Buttressed staple lines
- Increase sBP to 140 mmHg following stapling to detect bleeds

Randomized Controlled Trial > *Obes Surg.* 2015 Sep;25(9):1577-83.

doi: 10.1007/s11695-015-1580-3.

## Minimizing Hemorrhagic Complications in Laparoscopic Sleeve Gastrectomy--a Randomized Controlled Trial

Gideon Sroka <sup>1</sup>, Daria Milevski, Dan Shteinberg, Husam Mady, Ibrahim Matter



# XDS – Intraoperative

- **Minimize pain**
  - Minimize port size
  - Laparoscopic-assisted TAP blocks



# XDS – Intraoperative

- **Minimize pain**

- Minimize port size
- Laparoscopic-assisted TAP blocks

Randomized Controlled Trial > *Obes Surg.* 2018 Nov;28(11):3374-3379.

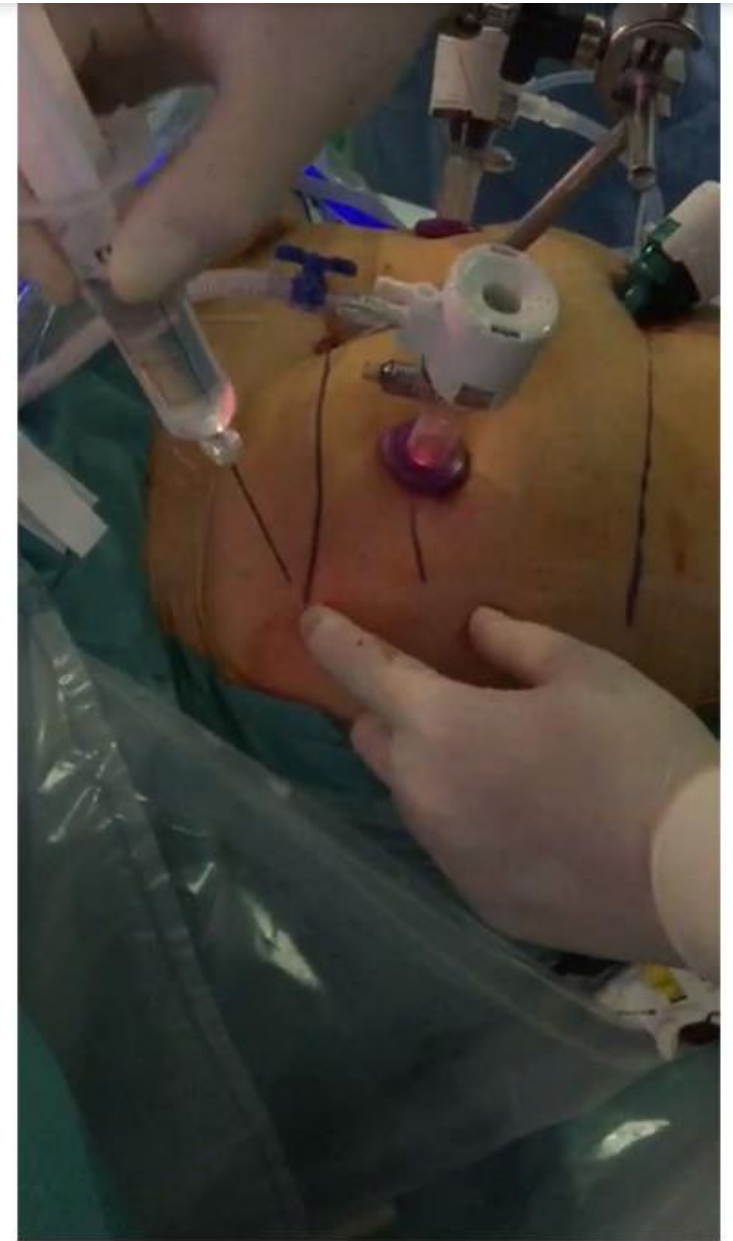
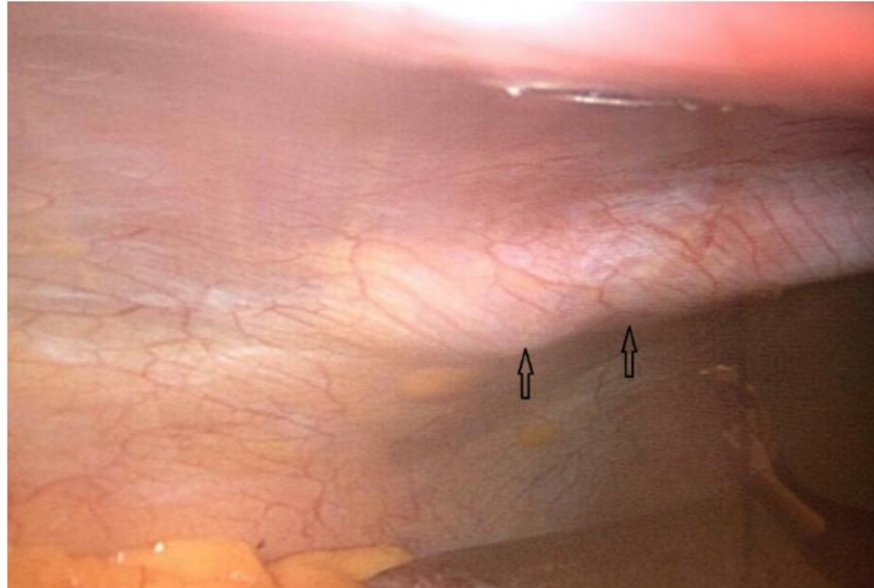
doi: 10.1007/s11695-018-3376-8.

## 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 <sup>1 2 3</sup>, Alejandro Garcia <sup>4</sup>, Carlos Ferrigni <sup>4</sup>, Juan Gonzalez <sup>4</sup>, Cesar Levano-Linares <sup>4</sup>, Montiel Jimenez-Fuertes <sup>4</sup>, Carolina Llaverio <sup>5</sup>, Manuel Duran <sup>4</sup>

# XDS – Intraoperative

- **Minimize pain**
  - Minimize port size
  - Laparoscopic-assisted TAP blocks



**Fig. 1** The injection is performed at three levels, coinciding with the same dermatomes where the port sites were located and lateral to them. The infiltration was performed bilaterally



# XDS – Intraoperative

- **Leak test**

- Intraop gastroscopy and leak test (replaced postop UGI study)

> Obes Surg. 2019 Apr;29(4):1130-1133. doi: 10.1007/s11695-018-03639-w.

## Utility of Immediate Postoperative Upper Gastrointestinal Contrast Study in Bariatric Surgery

Tamara Diaz Vico <sup>1</sup>, Enrique F Elli <sup>2</sup>

# XDS – Postoperative

- Minimize pain
- Minimize dehydration
- Follow-up



"You're looking well."

# XDS – Postoperative

- **Minimize pain**

- Multimodal analgesia



## Pre-printed postop order set/pathway

- Tylenol 1 g po/PR q6h PRN
- Tramacet 1-2 tabs po q6h PRN
- Codeine elixir 30-60 mg po q6h PRN
- Dilaudid 0.5-2 mg SC q4h PRN

## Standardized discharge Rx

- Tylenol 325 mg po q6h ATC x 48h then q6h PRN
- Tramacet 2 tabs po q6h ATC x 48h then q6h PRN x 60 tabs
- Gabapentin 100 mg po TID x 10 tabs



# XDS – Postoperative

- **Minimize dehydration**

- Early initiation of diet
- Multimodal antiemetic

- No postop UGI study
- Clear fluid and oral medication 4h postop



# XDS – Postoperative

- **Minimize dehydration**

- Early initiation of diet
- Multimodal antiemetic



## Pre-printed postop order set/pathway

- Scopolamine patch (applied preop)
- Dexamethasone 4 mg IV q8h x 24h
- Zofran 4-8 mg IV q8h PRN
- Maxeran 5-10 mg IV q8h PRN
- Gravol 25-50 mg IV q8h PRN

## Standardized discharge Rx

- Remove scopolamine patch in 48h
- Zofran 4 mg SL q8h PRN x 10 tabs

# XDS – Postoperative

- **Follow-up**

- 2 visits prior to discharge (7AM and 11AM)
- Bariatric physician for medication reconciliation and close follow-up of complex patients
- Bariatric nurse +/- dietician in 1 week
- Phone call by surgeon on POD2





# Results

- Only slightly reduced number of primary bariatric surgeries performed in 2020 compared to 2019 (275 vs 289) despite 4 months of OR shutdown
- Early adoption period of protocol (~6 months, Oct 2020 – May 2021)
  - >80% successful 23h discharges
  - 164 bariatric operations (primary or revision band/sleeve to bypass)
  - Complications
    - 2 patients required transfusion
    - 1 patient required reoperation for bleed and subsequent leak
    - 2 patients required reoperation for JJ obstruction (1 early, 1 late)

# Results

- **Improved patient experience**

- “I have a little bit of pain and no nausea”
- “I would rather sleep in my own bed”
- “I thought that it was going to be way worse than that”



# Learning Points

- Start with XDS model to establish an experienced unit and nursing team and build on this to implement day surgery
- Streamlined protocols for perioperative management
- Significant physician involvement (staff, fellow, residents, bariatric physicians)
- Careful patient selection



# Learning Points

- Closer follow-up in early stages
- Accept ED rates of 10-15% during early adoption
- If ANY doubt, stay safe and admit patient overnight

# Future Directions

- Expand day surgery experience at our center
- ?Omission of POD1 lab work



## Redefining the Role of Routine Postoperative Bloodwork following Uncomplicated Bariatric Surgery

Rajajee Selvam, MD *Ottawa ON*, Amer Jarrar, MD *Ottawa ON*, Joseph Mamazza, MD, Amy Neville, MD, MSc, FRCSC *Ottawa ON*, Caolan Walsh, MD, Nicole Kolozsvari, MD MSc FRCSC *Ottawa ON*

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# Thank You!

