# 5 Year Outcomes : Value Driven Outcome Initiative for Laparoscopic Inguinal Hernia Repair

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## INTRODUCTION

- Value driven outcome (VDO) initiative is a key tool to transform economics of healthcare, as it is capable of accurately measuring costs, evaluating outcomes and determining the value to patients.
- VDO utilizes a clinically outcome-based approach to evaluate a hospital's performance based on pre-determined quality indicators identified by clinicians.
- Hernia repairs is one of the most common operative and elective procedure performed in Alexandra Hospital yet most patients stayed overnight postoperatively, increasing the unnecessary cost incurred to both hospital and patients.

## AIM

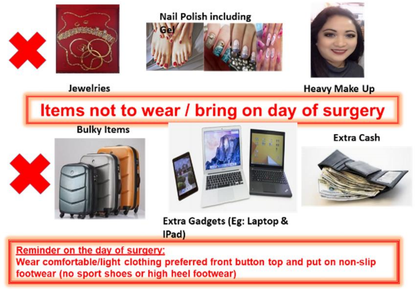
The aim of this study is to encourage elective inguinal hernia repair to be performed in day surgery settings

## METHODS

- A VDO initiative was implemented in 2019 to encourage elective inguinal hernia repair at a day surgery setting in Alexandra Hospital.
- All patients who underwent hernia surgery between May 2019 and December 2024 had their clinical data collected.
- Criteria for listing patients for hernia repair as day surgery was as shown in table 1.
- Patients' expectations were addressed preoperatively about day surgery procedure and postoperative recovery.
- Day surgery bundles were used to standardize pre and post-surgery protocol. Pain control was optimized using a specialized local anesthesia regime.
- Clinical Quality Index (CQI) – a bundle of pre-determined quality indicators was used to evaluate this initiative.

## METHODS (CONTD.)

| Criteria for day surgery - DS (ie: discharge on the same day) | Criteria for short stayer – DS <23hrs | Criteria for inpatient |
|---|---|---|
| ASA 1 or 2 | ASA 1 or 2 | ASA 3 or 4 |
| BMI < 30 | BMI < 30 | BMI >/= 30 |
| No anticoagulation/ antiplatelet | On anticoagulation / antiplatelets | On anticoagulation that requires bridging therapy with clexane or heparin |
| No inguino-scrotal hernia | Inguinoscrotal hernia | |
| Non recurrent inguinal hernia | Recurrent inguinal hernia | |




**POSTOPERATIVE CHECK LIST FOR DAY SURGERY CASES**

****To be initiated by circulating nurse**

1. Complete operating notes with named doctor and contact no. for clinical review prior discharge (in operation notes)
2. Order "post day surgery analgesia" pack to pharmacy for discharge preparation
3. Ensure discharge summary is completed with the correct discharge date indicated for both day surgery and 23hr same day admission
4. Issue 18 days Hospitalization Leave
5. Prescribe inpatient medication orders

## METHODS (CONTD.)

| | |
|---|---|
| Quality Indicators: | 1. No readmission in <= 30 days (any cause)<br>2. No 30-day unscheduled return to OT<br>3. Length of Stay<br>a. No LOS > 24 hours<br>b. No LOS > 1Day<br>4. No Day Surgery turned Inpatient<br>5. No Elective Surgery Wait Time > 42 Days<br>6. No cases converted from Keyhole to Open<br>7. No (Unilateral and Bilateral) Hernia Recurrence in <= 90 days<br>8. No Post-Op Complication in <= 30 Days of Discharge<br>9. No overall patient experience score via e-PES (<8)<br>10.No Blood Transfusion<br>11.No ICU transfers<br>12.No Inpatient Mortality |
| Patient Cohort: | Unilateral - LF819A, SF819A<br>Bilateral – LF820A, SF820A<br>Single TOSP Only |

## RESULTS

- The number of hernia surgeries performed steadily increased from 23 in 2019 to 159 in 2024.
- The percentage of patients discharged within 24 hours increased from 78% to 99% between 2019 to 2024, after the VDO initiative was implemented.
- Conversion rate for day surgery to short stay decreased from 9% to 5% between 2019 to 2024 respectively.
- Over the 5 years, there were no 30-day return to operating theatre, no hernia recurrence in 90 days, no blood transfusion required and no inpatient mortality.
- CQI improved from 74% to 94% over the 5 years.

## CONCLUSION

Value driven outcome initiative continues to remain a promising tool to evaluate and streamline processes to encourage improvement in healthcare for delivering greater value to patients.