

# Enhanced recovery after surgery (ERAS) vs. nonEnhanced recovery after surgery in patients undergoing elective cardiac surgery

K. Graham, S. Avtaar Singh, N. Al-Attar, F. Sutherland.

Golden Jubilee National Hospital

# Cardiac ERAS at GJNH



Golden Jubilee  
National Hospital

- Pilot began in July 2015 with 2 Participating Surgeons
- Primary elective Coronary Artery Bypass Graft (CABG) or tissue Aortic Valve Replacement (tAVR)
- Pre-op education delivered by ERAS Practitioner
- Remifentanyl and step down to oral analgesia
- Extubate within 4 hours and encourage oral intake
- Up to sit from 6 hours post-op
- Discharge to ward POD1
- Aim home from POD4 onwards
- Phone call follow-up 24-48 hours post-discharge



# Objective

- Cohort comparison of ERAS vs. nonERAS patients undergoing primary elective heart surgery
- Inclusion to ERAS cohort
  - Under participating surgeon
  - Primary elective CABG or tAVR
- Inclusion to nonERAS cohort
  - Under nonparticipating surgeon
  - Primary elective CABG or tAVR

# Methods



Golden Jubilee  
National Hospital

- 218 cardiac patients were identified that met the ERAS inclusion criteria but did not undergo ERAS and were compared to 55 ERAS patients from the period of July 2015 to March 2016.
- Unpaired students t test was used to analyse the data

# Results



Golden Jubilee  
National Hospital

Group	ERAS (n= 55)	nonERAS (n= 218)	P Value
Preoperative			
Mean EuroScore II (%)	2.53 ± 2.38	2.92 ± 2.29	0.2626
Age (mean ± SD)	60.69 ± 9.22	64.66 ± 7.14	<b>0.0006</b>
BMI (mean ± SD)	28.8 ± 4.14	29.9 ± 5.4	0.1793
Perioperative (mean ± SD)			
Bypass Time (mins)	79 ± 27.73	88.17 ± 25.2	<b>0.0231</b>
Xclamp time (mins)	58.36 ± 20.85	59.03 ± 19.66	0.826
Postoperative (mean ± SD)			
Mean Critical Care Stay (days)	2.58 ± 1.47	3.42 ± 3.26	0.0642
Mean LOS Hospital Stay (days)	7 ± 2.2	11.36 ± 11.01	<b>0.0038</b>

# Results



Golden Jubilee  
National Hospital

- ERAS patients were found to be younger however both cohorts had similar EuroScore II and BMI.
- Bypass time was found to be shorter in the ERAS group, where cross clamp time was similar in both cohorts.
- Whilst critical care LOS was similar in both cohorts, overall LOS was significantly shorter in the ERAS group

## □ Limitations

- ▣ Small numbers therefore not generalisable
- ▣ Variation in operating surgeon

## □ Observations

- ▣ Since the initial pilot phase, the ERAS principles have begun to spread to benefit all cardiac patients regardless of procedure or operating surgeon e.g. early extubation and mobilisation.

# Conclusions



Golden Jubilee  
National Hospital

Findings suggest ERAS can benefit cardiac surgical patients resulting in earlier recovery and reduced length of hospital stay.





Golden Jubilee  
National Hospital

# Thank You

[kgraham13@nhs.net](mailto:kgraham13@nhs.net)