Elective Caesarean Section Risk Rating; A Quality Improvement Project

Cara Lewis[1], Abigail Richardson[2], Nuala Lucas[2]

[1]London School of Anaesthesia, [2] London North West University Healthcare NHS Trust

Background

Elective caesarean sections (ELCS) **vary widely** in surgical complexity

Unselected ELCS lists can have inappropriate case mix

This can create **clinical risk** due to over-running theatre time

This impacts **emergency care** on labour ward

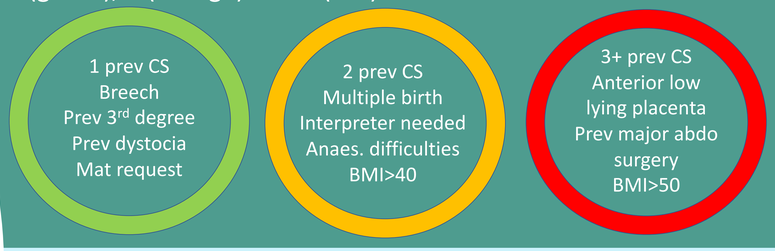
Causes patient **cancellations**

Scoring systems exist for ELCS that comprise **complexity scoring** for individual patients, with a **max score** per half day ELCS list[1]

We undertook a **prospective analysis** using **a modified risk stratification system** to investigate the **case-mix** and **efficiency** of ELCS lists

Methods

- Local audit approval gained
- Collected ELCS data daily for 8 weeks including:
  - Number of ELCS booked
  - Timings and durations of cases
  - Reasons for cancellations
- The MDT agreed a scoring system for complexity of cases
  - Patients were retrospectively assigned a complexity rating 1 (green), 2 (orange) and 3 (red)



Key Findings

Lists with cumulative complexity ratings > 4 **overrun, so no dedicated surgical and theatre team**

ELCS lists often have **inappropriate case mix** impacting on quality of patient care

Overbooked, poorly selected lists **negatively impact** running of labour ward and emergency care

The median duration of an ELCS was **87 minutes**, range 0-123 minutes

In **43%** of days with 3 ELCS booked, a patient is **cancelled** due to overrun

We have demonstrated the **utility and translatability** of an objective risk stratification system for ELCS

Results

Complexity rating of ELCS	Number performed	Duration of ELCS (median (range), mins)
1	45 (63%)	82.5 (50-135)
2	21 (30%)	83 (52-120)
3	5 (7%)	90 (72-165)
Cumulative complexity score of list	**Number of days**	**Median list end time**
1	7/34 (20.5%)	10:15
2	7/34 (20.5%)	12:50
3	6/34 (18%)	12:55
4	10/34 (29%)	13:00
5	3/34 (9%)	14:35
6	1/34 (3%)	15:45

- 34 lists analysed
- Mean number of ELCS **booked** per list was **2.3** (range 1-3)
- Mean number of ELCS **performed** was **2.05**
- **Cancellations** occurred on 27% of lists, increasing to **43%** on days with **3 ELCS** booked
- **Median list** finish time became later with increasing cumulative complexity score
- Lists with cumulative **complexity scores>4** overran past 1pm, meaning **no dedicated surgical and theatre team**, impacting on **safety** for **elective** and **emergency patients**

Moving forward

We will reaudit once established

We propose a daily max cumulative complexity score of **4**

Obstetricians give a complexity score **of 1-3 per case,** based on our objective risk stratification system

ELCS are booked on an electronic system - Pathpoint

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Reference: 1. Robertson K, Clacey J, D'Arcy R, *et al*. ELECTIVIST: a novel system to improve elective caesarean section booking. *BMJ Open Quality* 2018;7:e000350