QUALITY IMPROVEMENT PROJECT - INTRODUCING A PATEINT SURGICAL RISK SCORING SYSTEM FOR ELECTIVE CAESAREAN SECTION BOOKING.

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Introduction

In Wales (2019) 28% of births were via caesarean section with just under half being electives. Caesarean section cases vary widely in surgical complexity. Prior to this project we did not have information on the case mix complexity in our health board. Our elective caesarean section cancellation rate was approximately 10% and this had a negative impact on theatre usage as well as clinical emergency work. We adapted the 'ELECTIVIST' system (1) to improve our elective caesarean section booking process.

Aim

To introduce a patient surgical risk scoring system adapted to our maternal population that will allow an appropriate complex case mix of elective caesarean sections lists.

Method

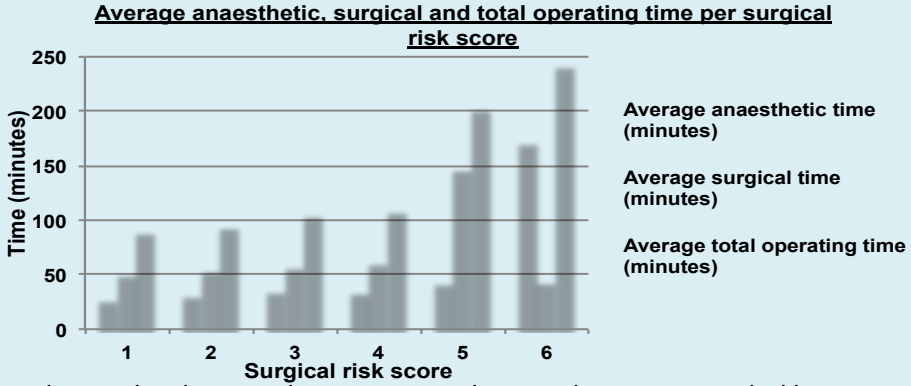
- Retrospective selection of elective caesarean sections from April to October 2020, prior to introduction of the risk scoring system. (Figure A)
- Allocation of risk score from 1 to 6 as per individual patient surgical risk factor.

For example; A patient with a BMI of 47 and previous caesarean section would score 4 for BMI but 2 for the latter. The most important surgical risk factor is the BMI of 47 and therefore the final score allocated is 4.

- Data collected on anaesthetic, surgical and total theatre time to assess correlation with patient surgical risk score.
- Risk scoring system (Figure A) further adapted using data collected to reflect our maternal population.

Results

- The average surgical, operating and anaesthetic time increased as surgical risk factor score increased.



- The total operative time was longer among obese patients compared with women with a normal BMI.
- A history of previous caesarean sections was associated with a prolonged surgical time of over 60 min.

Elective Caesarean Section Risk Scoring Chart

Breech	Patient score:1
Maternal request	
Gestational diabetes/Type 1 / Type 2	
Previous 3rd/4th degree tear	
Previous traumatic delivery	
Prematurity 34+0 to 37 weeks	
Maternal red cell antibodies requiring x-matched blood	
BMI > 35- 40	Patient score:2
Prematurity 28+0 to 33+6 weeks	
Small or clinically significant fibroids	
One previous caesarean section	
Unstable/transverse lie	
BMI > 40 - 45	Patient score:3
Multiple pregnancy	
Tubal ligation/salpingectomy/cystectomy	
2x previous caesarean sections	
Prematurity under 28+0 weeks	
Previous midline laparotomy	Patient score:4
Placenta praevia	
High risk of abdominal adhesions	
BMI > 45- 50	
3x previous caesarean sections	
Patient declining blood products/cell salvage	
Spinal injury patient	
BMI > 50	Patient score:5
4 or more previous caesarean section	
Placenta accreta	Patient score:6

Figure A: E*lective caesarean risk scoring chart.*

Conclusion

We plan to re-audit the usage of theatre capacity, the caesarean section cancellation rate and analyse the case complexity of lists after 6 months to assess the impact of the risk scoring system.

We anticipate that the introduction of the the risk scoring system will:

- allow identification and communication of surgical risk factors pre-operatively
- reduce the number of lists with inappropriate complex case mix and cancellation rates
- improve ttheatre use efficiency and patient satisfaction and, safety
- maximise training opportunities

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. doi: 10.1136/bmjoq-2018-000350