

# Is type-and-screen testing justified as a pre-operative investigation for benign hysterectomies?

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## Background

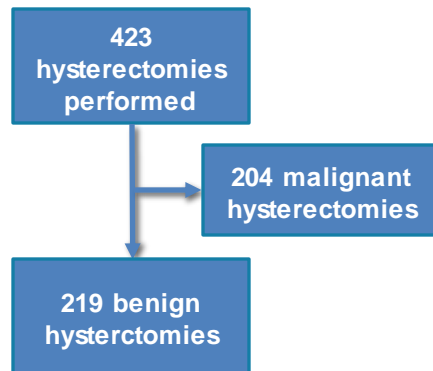
- Current Christchurch Women's Hospital (CWH) guidelines state that type-and-screen testing is required for all women undergoing benign hysterectomies.
- It has been suggested that procedures with a transfusion rate of over 5% or 0.3 units per case may be appropriate for pre-operative type-and-screen testing<sup>1</sup>.
- The cost of a type and screen test is estimated at 22 NZD.

## Aim

- To determine the local transfusion rate for women undergoing benign hysterectomies at CWH.
- To identify predictive factors for transfusion among our cohort which could be used in the development of a new local guideline.

## Methods

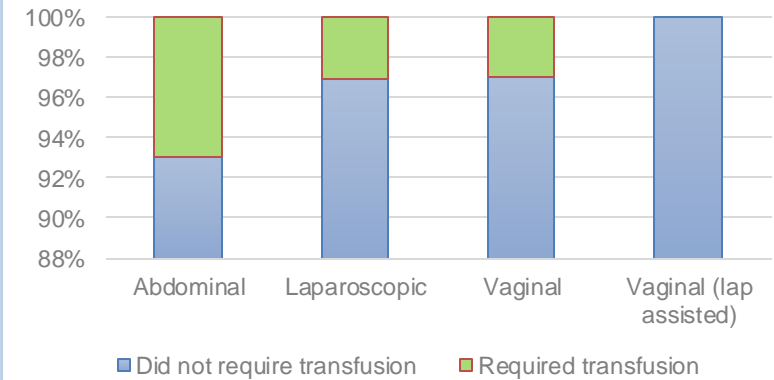
- Retrospective audit of all hysterectomies from 01/08/2018 to 31/07/2019.
- We reviewed electronic operation notes, discharge summaries, laboratory and imaging results for 423 patients.
- We excluded patients who had surgeries performed either for the diagnosis or treatment of malignancy.



## Results

- 95% of patients had a type-and-screen test performed as part of their pre-operative workup.
- 9/219 patients (4.1%) required a transfusion.
- Only 2 (0.9%) of patients received a transfusion on the day of their surgery.
- Patients requiring transfusion received a maximum of 2 units.
- Larger uterine size (282mls vs 250mls) on ultrasound scan and lower preoperative haemoglobin (128g/L vs 137g/L) was found among the transfused cohort compared to the non-transfused cohort.

Figure 1: Transfusion rate by surgical approach



## Discussion

- Given the low rate of blood transfusions required there is insufficient evidence to justify a routine type-and-screen investigation prior to benign hysterectomy.
- This has the potential to produce substantial cost savings for the Canterbury District Health Board.
- The small number of patients receiving transfusion means that this audit is underpowered to find any statistically significant predictive factors for requiring a transfusion.
- A new guideline for patients requiring type-and-screen testing was developed based on predictive factors described by Pepin et al. derived from logistic regression analysis<sup>2</sup>.

## Recommendations

A proposed guideline for patients requiring type-and-screen testing prior to benign hysterectomies:

- **Age > 65**
- **Patients with known clotting disorders or anticoagulated**
- **Pre-operative Hb <110**
- **ASA score of 4 or 5**

### References:

1. Dexter, F., Ledolter, J., Davis, E., Witkowski, T. A., Herman, J. H. and Epstein, R. H. (2012) 'Systematic criteria for type and screen based on procedure's probability of erythrocyte transfusion', *Anesthesiology*. The American Society of Anesthesiologists, 116(4), pp. 768-778. doi: 10.1097/ALN.0b013e31824a88f5.
2. Pepin, K. J., Cook, E. F. and Cohen, S. L. (2020) 'Risk of Complication at the Time of Laparoscopic Hysterectomy; A Prediction Model Built from The National Surgical Quality Improvement Program Database', *American Journal of Obstetrics and Gynecology*. doi: 10.1016/j.ajog.2020.03.023.