A Hairy Tale – Successful Patient Education Strategies To Reduce Pre-hospital Hair Removal By Patients With Planned C-Sections

Wil Ng1, Doreen Alexander1, Bonnie Kerr1, Man Fan Ho1, Michelle Amato1, Paula Mendes2, Kevin C. Katz2

1North York General Hospital, Toronto, Ontario, Canada 23M Canada Company, London, Ontario, Canada

Setting
- North York General Hospital (NYGH) is the 2nd largest single site birthing center in Ontario delivering ~500 babies annually; ~30% (~1800) of all deliveries are by caesarean section (C/S).
- Operational and clinical excellence, with a focus on patient safety and high quality patient care, is a key strategic priority at NYGH.

Background
- Surgical site infections (SSIs) are among the most common adverse events occurring in hospitals. They are the third most common cause of nosocomial infections in Canada (1).
- SSIs occur in 1%-20% of patients following C/S at hospitals in Europe and North America (2,4): Methodological differences likely account for a portion of the wide range.
- While most are minor, a significant percentage (~20%) of infected patients require wound opening and rare severe complications do occur.
- Post c-section SSIs can be associated with substantial morbidity, increased costs, extended length of stay, and can negatively impact on the quality of life of new moms and babies (5-7). Many of these infections are preventable (6-8).
- Appropriate hair removal before surgery (i.e. clipping, depilatory agents or ideally, no hair removal) is one important aspect of preventing SSIs. Hair removal by shaving with a razor is associated with increased risk of SSI resulting from tiny cuts in the skin and the integrity of the skin, and can facilitate a portal of entry for bacteria (6, 9, 10).
- A 2008 audit at our hospital found 41% of patients self-removed hair prior to arrival; 83% of them shaved. A multi-faceted patient education strategy to reduce inappropriate hair removal within 1-month of term was implemented.

Methods
- Figure 1 shows the timing of the various patient education interventions and audits conducted.
- For all 3 audits, nursing staff interviewed all patients with planned or scheduled elective C-Ss who delivered by C/S using standard questionnaires.
- Nursing staff did not have prior knowledge about whether or not the patients had seen or heard any hair removal messages, nor if patients removed their hair before delivery.

Results
- 209 unique patients were interviewed across all 3 audits.
- Age: 24-46 years (mean=34.0 yrs)

Hair Self-Removal
- Hair self-removal rate decreased after implementation of posters & enhanced prenatal education: 41% (2008/09) to 27% (2011) (p=0.009, Fig. 2)
- The rate of inappropriate hair removal (i.e. shaving) among those who removed hair decreased significantly from 83% in 2008 to 53% in 2011 (p=0.020, Fig. 3)
- We observed a general shift from inappropriate methods (i.e. shaving) to lower risk methods (clipping/creams), suggesting our messages were effective (Fig. 4).
- Many of the patients who removed their hair did so within 1 day before their planned C/S (51%, Fig. 5).

Messaging Reach
- After the implementation of the enhanced prenatal book, posters and physician patient education in 2010, 73% of patients in 2011 recalled having heard/seen no hair removal messages, a significant increase from 25% in 2009 (p=0.0001).
- Patients who had seen/heard no hair removal messages were significantly less likely to remove hair, compared to patients who did not recall seeing/hearing no hair removal messages (21% vs. 46%, p=0.033), particularly via shaving (7% vs. 31%, p=0.001, Fig. 5).

Sources of Messaging
- In 2011, 66% saw the posters, 31% heard messaging from their OB/GYN, 21% saw messaging in NYGH Birth Journal & 0% heard messaging from their family physician.

How / When Patients would like to receive Information
- 62% would like to receive no hair removal education from their OB/GYN, 21% would like to read messaging from the NYGH Birth Journal, and 13% from their family physician.
- 38% of interviewed patients indicated they would prefer to receive this information anytime during their pregnancy, while 34% responded 7th/8th/9th month of pregnancy.

Conclusions
- There was an overall decreasing trend seen in the percentage of patients who self-removed hair before their C/S.
- A simple update to the prenatal resource did not have a significant effect on the rate of patients’ hair self-removal.
- After the implementation of our multi-faceted patient education strategy (i.e. enhancements to prenatal resource, enhanced healthcare provider education, and visual posters placed in prominent areas), there was a significant reduction in the percentage of patients who shaved prior to their C/S.
- Our no hair removal messaging is reaching patients; posters reached best, followed by OB/GYN education, and NYGH Birth Journal.
- Once messaging was reached, positive patient behaviours were observed.
- Individual effectiveness of each of these patient education methods in influencing patient behaviour requires further study.

References