Reducing surgical risks for women through ambulatory care

Peninsula Health developed two ambulatory services to provide women experiencing early pregnancy loss or abnormal uterine bleeding with safe, effective alternatives to having surgery under general anaesthesia.

## Background

Each year, Peninsula Health performs approximately 520 procedures on women who are admitted for surgery to investigate abnormal uterine bleeding (hysteroscopy) or to manage early pregnancy loss. These procedures involve a general anaesthetic and usually require a hospital stay of between 12 and 24 hours. However, the use of general anaesthetic carries the risk of potential complications, such as postoperative nausea and vomiting or a severe allergic reaction (anaphylaxis), and can lead to an extended recovery time.

In 2017, Peninsula Health patients requiring a hysteroscopy had no alternative to general anaesthesia. Of the 260 female patients per year experiencing early pregnancy loss, 60 per cent would elect for surgical intervention, 30 per cent for conservative management and 10 per cent for medical management. While the latter two options avoided the general anaesthesia risk, many women were concerned about miscarrying at home and coping with the associated bleeding and pain.

To minimise the risks and concerns expressed by these women and provide safe, effective and supportive treatment alternatives, Peninsula Health explored options that enabled hysteroscopies and surgical treatment for early pregnancy loss to be performed in an ambulatory setting using local anaesthesia and sedation. These models had successfully been introduced internationally, including in the UK, US, Canada and New Zealand.

Peninsula Health set out to develop a Victorian model of care in an ambulatory clinic for women experiencing dysfunctional uterine bleeding and early pregnancy loss.

Its primary aims were to provide these patients with safe, effective treatment alternatives, avoid exposing them to the risks associated with general anaesthesia, and reduce their length of stay (LOS) in hospital.

Developing ambulatory care services for women in Peninsula Health

**Lead** Peninsula Health

**Duration** December 2017 – September 2018

**Key outcomes**

* Reduced total LOS and average recovery time by 68 per cent and 80 per cent, respectively, for patients who opted for the ambulatory hysteroscopy service
* Eliminated the risks associated with general anaesthesia for patients undergoing an ambulatory hysteroscopy or early pregnancy loss treatment by using local anaesthetic and sedation
* All ambulatory service patients were seen within 21 days of referral, leading to more efficient surgical wait list management and the release of resources for other patients
* Achieved estimated treatment cost savings of more than $1,700 per patient for both ambulatory services

‘A much more comfortable environment than I thought it would be. Much better system than preparing for and exiting theatre.’

**– Ambulatory hysteroscopy service patient**

## Key activity

* Reviewed international and local ambulatory models, including arranging site visits to Mercy Hospital and The Royal Women’s Hospital, which offer similar services.
* Applied to the Therapeutic Goods Administration via industry to introduce a bi-valve manual vacuum aspiration of contents (mVac) device that had previously never been used in Australia.
* Trained two senior clinical staff on the new early pregnancy loss mVac treatments at the Royal College of Obstetricians and Gynaecologists (UK), then designed local training workshops and education sessions for key medical and nursing staff in conjunction with industry.
* Developed multidisciplinary clinical guidelines and operational models for two new ambulatory care clinic services to be delivered in an existing, shared outpatient space: the early pregnancy loss service, which used the mVac device, and the ambulatory hysteroscopy service. Both services used local anaesthetic instead of general anaesthetic.
* Conducted a mock run-through to test both models prior to implementation and made further service improvements and modifications post-implementation based on clinical and patient feedback.

## Outcomes

Figure 1. Comparison of surgical and ambulatory hysteroscopy service treatment times (in hr:min)

* Total LOS was two hours and 16 minutes for patients who had a hysteroscopy under the ambulatory model, a 68 per cent reduction compared to seven hours and nine minutes for those who had a surgical hysteroscopy under general anaesthesia (see Figure 1).
* Average recovery time was also reduced by 80 per cent under the ambulatory model of care, decreasing from two hours and 41 minutes to 32 minutes (see Figure 1).
* While the ambulatory hysteroscopy took 12 minutes longer than surgical hysteroscopy to allow for administration of local anaesthetic and equipment set up, the data suggested this led to significant benefits, reducing patients’ pain and anxiety during the procedure, improving their experience, and contributing to shorter recovery and LOS times (see Figure 1). Due to the low number of patients over the project period, there was insufficient data to allow for a similar treatment time evaluation of the early pregnancy loss service.
* Given neither ambulatory service involved the use of general anaesthetic, the associated risks for patients were eliminated. While local anaesthetic can lead to adverse effects, these are very uncommon, and no incidents were reported during the project.
* More than 80 per cent of patients for both services indicated their treatment was acceptable, with the remainder rating the procedure as neither acceptable nor unacceptable. No patient found either procedure unacceptable, although pain levels for patients who underwent the early pregnancy loss treatment were higher than expected (5–10 out of 10). 86 per cent of ambulatory hysteroscopy patients said they would recommend the treatment option to another person.
* All patients referred to the ambulatory model of care were seen within 21 days, regardless of their treatment surgery category. By comparison, the average wait for a procedure under general anaesthesia was 80 days.
* Patient referrals to the ambulatory clinic corresponded with an overall reduction in the number of patients on the surgical wait list, allowing resources such as operating theatres and surgical and recovery beds to be used by other patients.
* The early pregnancy loss service was estimated to offer treatment cost savings of more than $1,700 per patient. The ambulatory hysteroscopy service was also estimated to save more than $1,800 per patient.

‘Only minimal pain. Nowhere near what I was expecting. And was well informed before and during and after the procedure.’

**– Ambulatory hysteroscopy service patient**

 ‘The treatment option is not for everyone but the benefits outweigh the risks and recovery [is] quicker.’

**– Early pregnancy loss service patient**

## Key learnings

* **Early and ongoing monitoring is critical to ensuring the service is meeting patient needs –** While patients of the early pregnancy loss service reported that the procedure was acceptable, on follow up, it was discovered that they were experiencing higher levels of pain than expected. This was likely due to the use of a non-opiate-based approach to analgesia, which differed from the original regime implemented internationally. Peninsula Health paused the service temporarily and conducted a review, after which it revised the service’s clinical guidelines to incorporate the use of sedative agents and opioid drugs. Staff education and training was developed to support the clinical amendments.
* **Industry proved invaluable in the development of the ambulatory services** – Peninsula Health benefitted greatly from the training and support provided by technology and medical equipment suppliers.
* **Process mapping of both ambulatory services was one of the most useful exercises undertaken** – This process allowed all stakeholders to engage in project planning and implementation and offer joint solutions to identified issues. It also highlighted IT system management and health-reporting requirements.
* **A purpose-built space for ambulatory procedures is ideal –** The growth of the ambulatory clinic was limited as the procedure space was shared with other services. A purpose-built space would increase efficiency, financial viability and enhance the patient experience. This option is being considered by Peninsula Health for the services’ future.
* **Nursing hours may need to be adjusted –** Planned nursing hours had to be increased from 16 hours per week to 40 hours per week for both services to allow for the extra time taken to set up and pack down the procedure room, admit and recover patients to allow for better patient flow, and for triaging and following up results.
* **The services depend on referrals –** The success of the ambulatory services is dependent on continued patient referrals by external gynaecologists. Recognising this, Peninsula Health is exploring the acceptance of direct referrals from general practitioners to open up the service to more patients.