

Vasectomy; can the standards be achieved within a primary care setting?

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Introduction

Vasectomy intends to provide permanent contraception by interrupting the vas deferentia, the tubes allowing sperm to enter the ejaculate. There are two methods; standard, and no-scalpel (NSV) [1]. The standard technique involves the use of a scalpel to make one or two incisions, to directly visualise the vas deferentia, which are cut and sealed using stitches or diathermy [2]. NSV aims to make sterilisation more acceptable [3]. It doesn't require the use of a scalpel, instead making use of electrocautery. One puncture is created in the scrotum, allowing keyhole access to the vas deferens, which are disrupted using a hyfrecator [4].

Complications are uncommon. Fewer cases of infection (0.68%), bleeding (2.4%) and haematoma (2.4%) occurred with NSV, as well as a reduction in pain during (33%) and post-procedure (4%), along with quicker resumption of sexual activity [1]. Review a decade prior to this concluded that NSV is preferred, with a lower rate of adverse events [5]. Chronic pain is rare, seen in 1-2% of patients [4].

Timing of semen sampling is debated. The FRSH and the Association of Surgeons in Primary Care (ASPC) endorse 4 months [2, 6]. Adherence varies considerably; 33-100% of men return a single sample [4]. Failure is defined as the lack of azoospermia or the occurrence of pregnancy. Often quoted is the number of late failures, i.e. the number of pregnancies following clear semen analysis; 1 in 2000 [2], rather than the number of 'early failures', those failing to result in azoospermia; 1.6%. The European Association of Urology defines as early recanalisation and late recanalisation [7] and the AUA as occlusive and contraceptive failure respectively [4]. There is no significant difference in failure rate between methods [1].

The last 10 years has seen the transfer of vasectomy into the community, with the procedure regularly being carried out by GP surgeons [8]. Interestingly, much of the data on which the guidelines are based was collected within secondary care [2,4,7].

Aims

To evaluate the available vasectomy guidelines and use this to assess the service provided by the GP surgeon at Marple Cottage Surgery, with regard to success rates and the occurrence of adverse events.

Methods

A literature search using PubMed highlighted important papers for review.

Electronic patient records and semen analysis data were accessed for procedures performed between April 2013 – April 2018, and was used to calculate the failure and complication rates.

The GP practice data was compared to figures provided in guidelines from relevant advisory bodies.

Results

The mean age at the time of vasectomy was 40. 910 patients underwent a vasectomy procedure by the current GP surgeon between April 2013 and April 2018.

The total number of procedures associated with a complication was 48 (5.3%). Bleeds were classified based on whether they required a stitch; signifying severity. Pain was categorised by time since vasectomy; less than (acute) or greater than one month (chronic) pain respectively.

Figure 1 A graphical representation of the percentage of procedures associated with a complication.

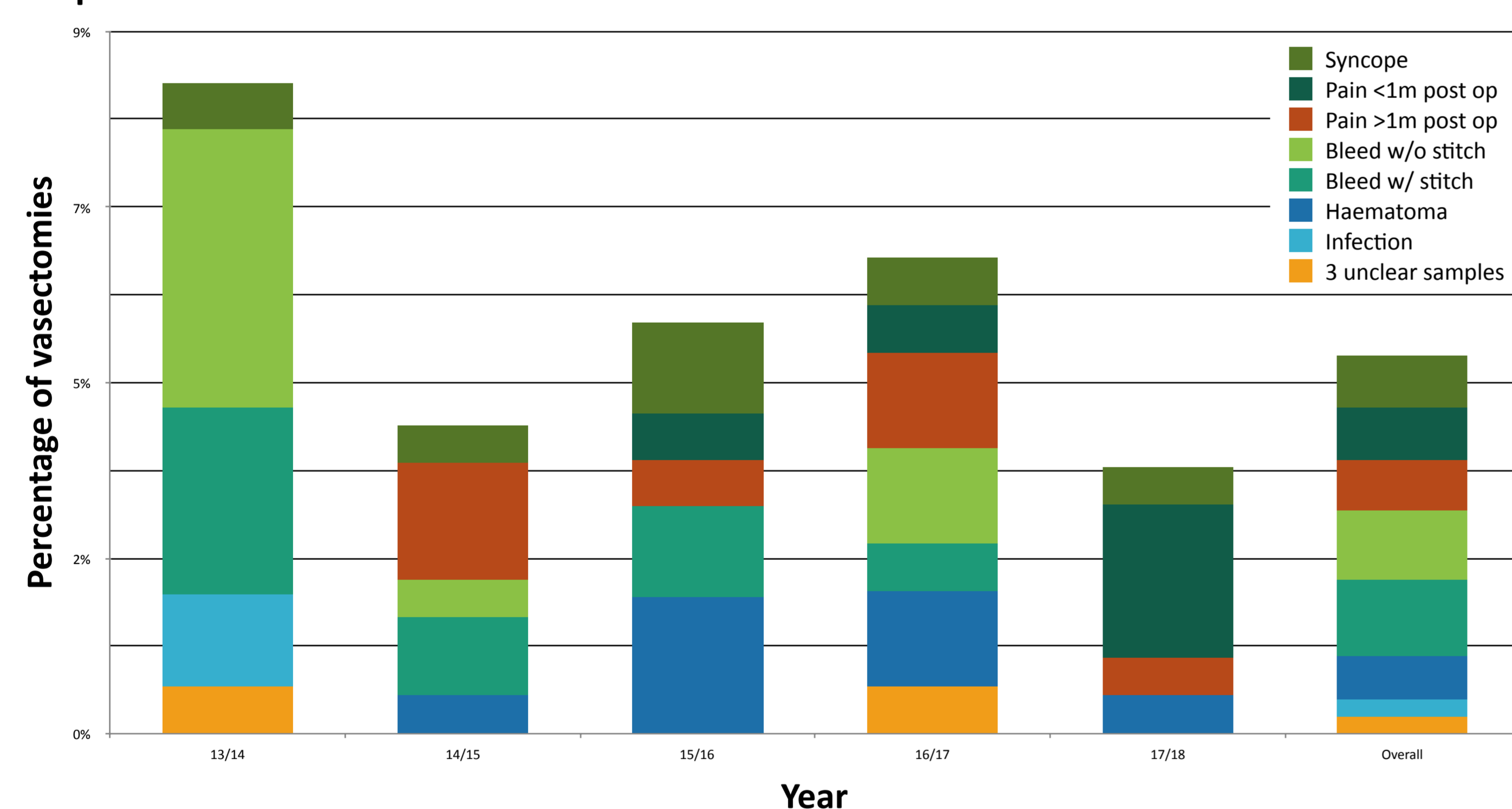
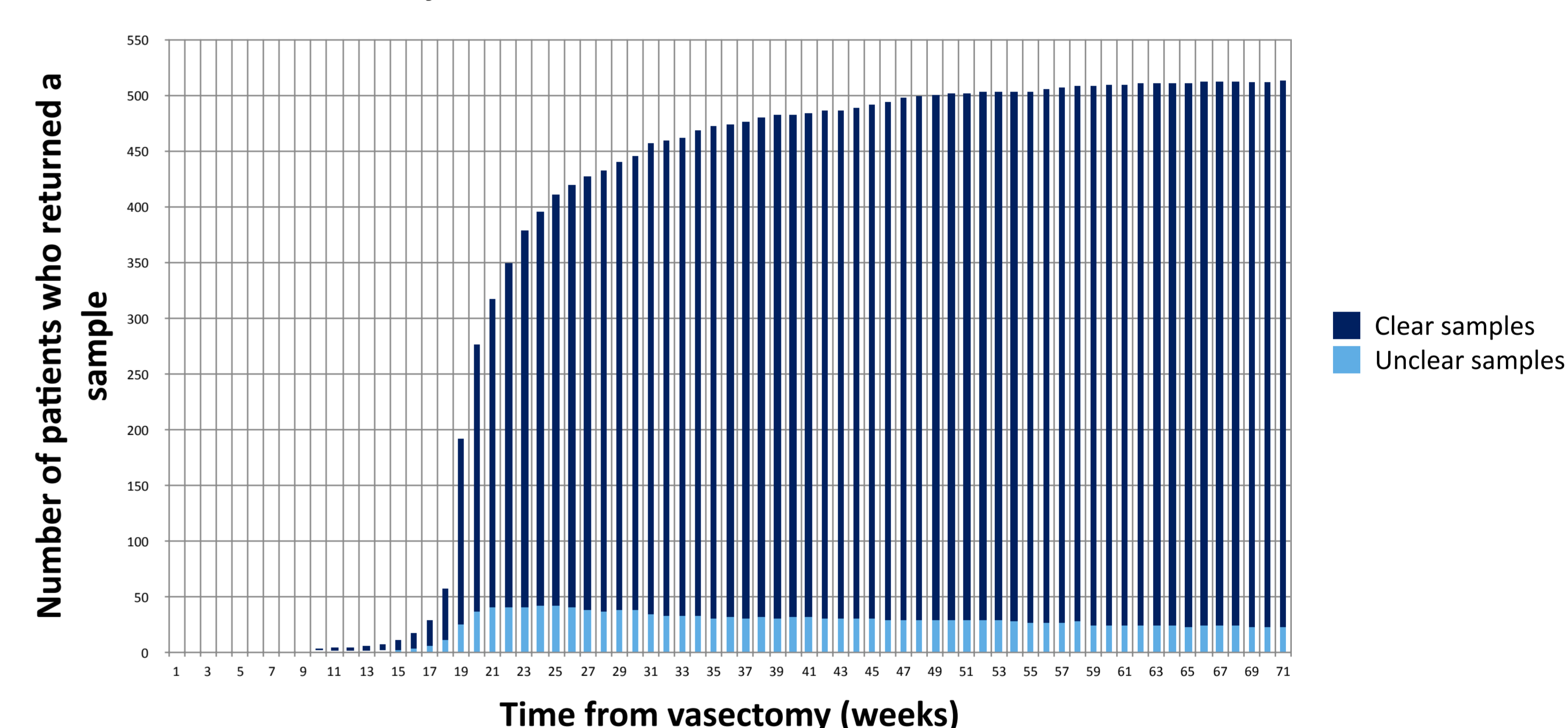


Figure 2 A graph depicting the number patients providing clear and unclear samples against the time from vasectomy.



Allowing 2 weeks for the provision of a sample following text reminder at 16 weeks and subsequent postal reminder at 20 weeks, the total percentage of patients who had provided a sample was 36% and 58% respectively. Overall, 67.3% of patients provided a sample.

By 17 weeks, 80% of the samples returned were reported as clear of sperm. Based on the data available, 0.4% of patients provided three unclear samples and were therefore deemed an 'occlusive failure'. No pregnancies have been reported over the 5-year period, therefore a 0% contraceptive failure rate.

Conclusions

Low complication rates have been observed in this cohort, when compared to highly regarded urological guidelines. Occlusive failure rates are low and well within standards and there have been no reported contraceptive failures during the time-period studied. This gives us confidence in the ability to maintain the high standards expected as vasectomy service provision continues to migrate into primary care. This relies on the continued training of current and future GP surgeons in vasectomy. Patient compliance with the provision of semen samples for analysis is lower than hoped, but in line with expected and remains an element for improvement.

There is a need to standardise guidelines and terms across the relevant bodies, specifically to distinguish the types of failure and the criteria used to define complications. These should be clearly outlined in all available guidelines for ease of future audit, particularly by primary care providers who must regularly evaluate their own practice for quality improvement purposes.

Recommendations

Recommendations for the service:

- Continue to provide the high standard of vasectomy service, with the aim of further reducing complication rates with increasing experience of the surgeon.
- Re-audit the success and complication rates each year, with an analysis of contraceptive failure in 5 years.
- Update the practice pre-and post-vasectomy counselling policy, emphasising the importance of returning for a sample request form if this is misplaced following vasectomy.

Recommendations for the wider provision of vasectomy services:

- Formalise the gold standard in vasectomy, with detailed guidelines of proven complication rates and success rates.
- Create a common set of definitions for classification of vasectomy complications.
- Continue to support the migration of vasectomy services to primary care, and encourage high quality GP surgeons to train, obtain certification and revalidate in the skill of NSV.

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