# Comparison of postal and non-postal post-vasectomy semen sample submission strategies on compliance and failures: an 11-year analysis of the audit database of the Association of Surgeons in Primary Care of the UK

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## ABSTRACT

**Background** Vasectomy occlusive success is defined by the recommendation of 'clearance' to stop other contraception, and is elicited by post-vasectomy semen analysis (PVSA). We evaluated how the choice of either a postal or non-postal PVSA submission strategy was associated with compliance to PVSA and effectiveness of vasectomy.

**Methods** We studied vasectomies performed in the UK from 2008 to 2019, reported in annual audits by Association of Surgeons in Primary Care members. We calculated the difference between the two strategies for compliance with PVSA, and early and late vasectomy failure. We determined compliance by adding the numbers of men with early failure and those given clearance. We performed stratified analyses by the number of test guidance for clearance (one-test/two-test) and the study period (2008–2013/2014–2019).

**Results** Among 58 900 vasectomised men, 32 708 (56%) and 26 192 (44%) were advised submission by postal and non-postal strategies, respectively. Compliance with postal (79.5%) was significantly greater than with non-postal strategy (59.1%), the difference being 20.4% (95% CI 19.7% to 21.2%). In compliant patients, overall early failure detection was lower with postal (0.73%) than with non-postal (0.94%) strategy (–0.22%, 95% CI –0.41% to –0.04%), but this difference was neither clinically nor statistically significant with one-test guidance in 2014–2019. There was no difference in late failure rates.

**Conclusions** Postal strategy significantly increased compliance to PVSA with similar failure detection rates. This resulted in more individuals receiving clearance or early failure because of the greater percentage of postal samples submitted. Postal strategy warrants inclusion in any future guidelines as a reliable and convenient option.

## Key messages

- Postal semen sample submission strategy after vasectomy results in better compliance and similar early failure and late failure rates compared with fresh sample non-postal strategy.
- When compliance is accounted for, postal strategy allows recommending cessation of other contraceptive methods (clearance) in one in five more men than a non-postal strategy.
- Postal semen sample submission strategy for post-vasectomy semen analysis warrants inclusion in future guidelines as a reliable and convenient option.

## INTRODUCTION

Vasectomy is a compelling choice for couples requiring non-reversible contraception as it is safer, quicker, associated with less morbidity and more effective than female sterilisation.[1] Contraceptive efficacy, however, is not immediate

and post-vasectomy semen analysis (PVSA), usually undertaken around 12 weeks, is required to recommend 'clearance' to stop using other contraceptive methods.[1–3]

In the UK, men who have had a vasectomy may use two strategies to submit their semen sample for PVSA. They may submit a fresh semen sample, produced either at the laboratory facility, or at home and delivered to the laboratory according to local protocol. Most UK and international guidelines recommend this approach, allowing assessment of sperm motility.[1–6] However, the compliance of men when asked to provide a fresh sample for PVSA is generally poor, with only around two-thirds of men submitting one semen specimen.[1 3] Many factors can compromise compliance with local laboratory testing, including lack of suitable appointments, embarrassment producing specimens on site, time restrictions, expense of transport, and loss of earnings.[7–10] Alternatively, to avoid these inconveniences, men may use a postal strategy, whereby they produce a semen sample at home and send it through the post to a laboratory for analysis.

In 2016, the Association of Biomedical Andrologists (ABA), British Andrology Society (BAS) and British Association of Urological Surgeons (BAUS) advised against the use of postal PVSA, claiming sperm degradation.[6] However, the American Urological Association (AUA)[2] and the most recent Royal College of Obstetricians and Gynaecologists (RCOG)[1] guidelines deem that postal semen sample submission is acceptable to decrease the inconveniences associated with submitting a fresh semen sample and potentially increases compliance. All the aforementioned organisations recommend that clearance be given if no sperm are seen in the postal semen sample. At first PVSA about 80% of vasectomised men will show no sperm, with only a minority required to produce additional postal or fresh samples.[2 4] To our knowledge, no study has yet demonstrated an increase in compliance with a postal strategy.

The purpose of this study was to evaluate if the strategies for post-vasectomy semen sample submission (postal or non-postal) are associated with a difference in compliance to provide all required semen samples, and in early and late failure detection rates among men who have had a vasectomy.

## METHODS

We conducted a retrospective cohort analysis using the vasectomy audit database of the Association of Surgeons in Primary Care (ASPC) from the UK over an 11-year period (2008–2019). The ASPC comprises doctors who perform surgical procedures in the community. It provides support, training and professional development to its members including an annual continuing professional development conference and an accredited audit programme.

Since 2008, the ASPC has collected data from members who performed vasectomies within the UK on an annual basis. The audit cycle covered 6 months in 2008, 12 months between 2009 and 2011, 15 months in 2012–2013, and 12 months thereafter. The surgeons were required to submit audit data by completing an electronic form 4 months after the last vasectomy performed until 2011, and 12 months since 2012, allowing sufficient time to assess the results. The most recent audit form (2020, collecting 2018–2019 data) and glossary are presented in online supplemental appendix 1.

## DATA COLLECTION

The information on the following variables was extracted from the ASPC audit database for vasectomies performed during each yearly audit cycle: strategy used for submitting post-vasectomy semen sample (postal/non-postal), number of test guidance followed for giving clearance (one-test or two-test), clearance given to stop other contraception, clearance with rare non-motile sperm (RNMS or 'special clearance'), early failures and late failures. We excluded audit forms where data were missing for any of these variables. However, we did not exclude an audit form in which information on clearance given with RNMS was missing if it reported the total number of vasectomised men given clearance.

Online supplemental appendix 2 presents the guidelines endorsed by ASPC relating to the number of PVSA tests, their timings, and the criteria for vasectomy success and failure throughout the study period. Surgeons subscribed to a postal or non-postal semen sample submission strategy and to the use of one-test or two-test clearance guidance throughout each audit cycle. The chosen options were usually determined according to the surgeon's preference and local availability. However, the commissioners or local laboratory may have dictated these choices. The ASPC has been advocating a one-test clearance guidance to its members since 2008. Throughout the duration of the study, the ASPC recommended giving clearance with a PVSA showing no sperm or the presence of RNMS on a fresh specimen. The sperm concentration recommended threshold was <10 000 non-motile sperm/mL between 2008 and 2013[11 12] and <1 00 000 non-motile sperm/mL from 2014 onwards.[1 6 11 12] Throughout the study, the ASPC recommended to surgeons to report early failure (occlusive failure) as the inability to give clearance after 7 months post-operatively due to the presence of motile sperm in a fresh specimen (or rarely in a postal specimen) or large numbers of non-motile sperm. Online supplemental appendix 3 summarises the current clinical pathway suggested by the ASPC for semen sample submission and interpretation. The ASPC required reporting of late failure (contraceptive failure) when a pregnancy, apparently fathered by a

vasectomised man who was given clearance, occurred within the current or any previous audit cycle.

## STATISTICAL ANALYSIS

We first calculated the number of vasectomies performed by surgeons who provided eligible audit forms and compared the proportion of vasectomised men whose surgeons reported using a postal and a non-postal semen sample submission strategy. We then calculated the absolute differences between these two groups according to the following outcomes: compliance, early failure and late failure. Compliance to all PVSA needed to establish the success or failure of vasectomy was calculated by adding the number of vasectomies with clearance given and those with early failure. We included all the late failures reported in an audit cycle year, whenever they occurred. The denominator for calculating compliance rates was the total number of vasectomies; for early and late failures, it was the number of vasectomies with compliance. Furthermore, we assessed the potential modifying and confounding effects of number of test guidance (one-test/two-test) and the year of audit (2008–2013/2014–2019) on these outcomes by stratified analysis. We dichotomised the years of audit based on the major changes issued in 2014 in the UK recommendations regarding PVSA.[1] Finally, using the data available, we compared clearance with RNMS between postal and non-postal strategies.

We tabulated descriptive data using Excel 2010. All differences are reported with their 95% CI calculated with the Wilson's procedure method without continuity correction.[13]

## RESULTS

A total of 90 different surgeons (between 22 and 44 per year) provided audit data on 71 112 vasectomies during the 11-year study period. The number of vasectomies for which data were collected annually ranged from 2406 in 2008 to 8713 in 2018–2019. Among the 58 900 (83%) vasectomies eligible for analysis, the postal semen sample submission strategy was more commonly used (56%) than the fresh sample non-postal strategy (44%) (figure 1). Postal strategy was more common when surgeons subscribed to one-test guidance (31 227/52 707, 59%) than to two-test guidance (1481/6193, 24%). Postal strategy was also more common in recent years (2014–2019; 22 165/37 545, 59%) compared with earlier years of the study (2008–2013; 10 543/21 355, 49%).

Table 1 presents the PVSA outcomes in the studied vasectomies according to semen sample submission strategy stratified by number of test guidance and study period. Overall, the proportion of vasectomised men who fully complied with PVSA required was 20.4% higher (absolute difference) with the postal than with the non-postal strategy. Early and late failures reported were lower with the postal strategy; however, the difference was statistically significant only for early failures.

The stratified analyses presented in table 1 show both modifying and confounding effects of number of test guidance and a modifying effect of study period on the difference in compliance between postal and non-postal strategies. However, large statistically significant differences in favour of postal strategy regarding compliance remained in all strata of number of test guidance and study period. This includes when limiting the analysis to reflect current practice, that is, vasectomies performed by surgeons using one-test guidance during the most recent years (17 655/22 011, 80.2% vs 8483/13 846, 61.3%; difference 18.9%, 95% CI 18% to 19.9%).

Both number of test guidance and study period modified the differences between postal and non-postal strategies regarding early failures (table 1). While surgeons less commonly reported early failures with postal strategy in all strata of number of test guidance and study period, the differences were smaller when they followed one-test guidance and during the more recent years of the study (2014–2019). Limiting the analysis to one-test guidance during the most recent years, the difference in favour of non-postal strategy was neither clinically nor statistically significant (152/17 655, 0.86% vs 79/8483, 0.93%; difference −0.07%, 95% CI −0.33% to 0.16%).

The differences between the semen sample submission strategies on late failures, in favour of non-postal strategy, were smaller when surgeons followed one-test guidance but during 2014–2019 surgeons using postal strategy reported a higher proportion of late failures (table 1). None of these differences regarding late failures was statistically significant.

Data on clearance given with RNMS were available in 87.2% (22 504/25 818) and 93.5% (14 337/15 329) of vasectomies performed by surgeons using postal and non-postal strategies, respectively. The proportion of patients cleared based on the presence of RNMS was significantly lower with postal (2.1%, 482/22 504) than with non-postal (5.4%, 767/14 337) strategy (−3.2%, 95% CI −3.6% to −2.8%).

## DISCUSSION

Our study shows much higher compliance when a postal strategy for submitting post-vasectomy semen samples is used. Overall, with the postal strategy, one in five more men received confirmation of occlusive success of their vasectomy and were given clearance to stop using additional contraception. It also shows a small but significantly lower rate of early failures with postal strategy. However, this difference was neither clinically nor statistically significant with one-test clearance guidance in 2014–2019, reflecting the current guidelines and the practice of the vast majority of ASPC members.[1 6] Late failure rates, as demonstrated

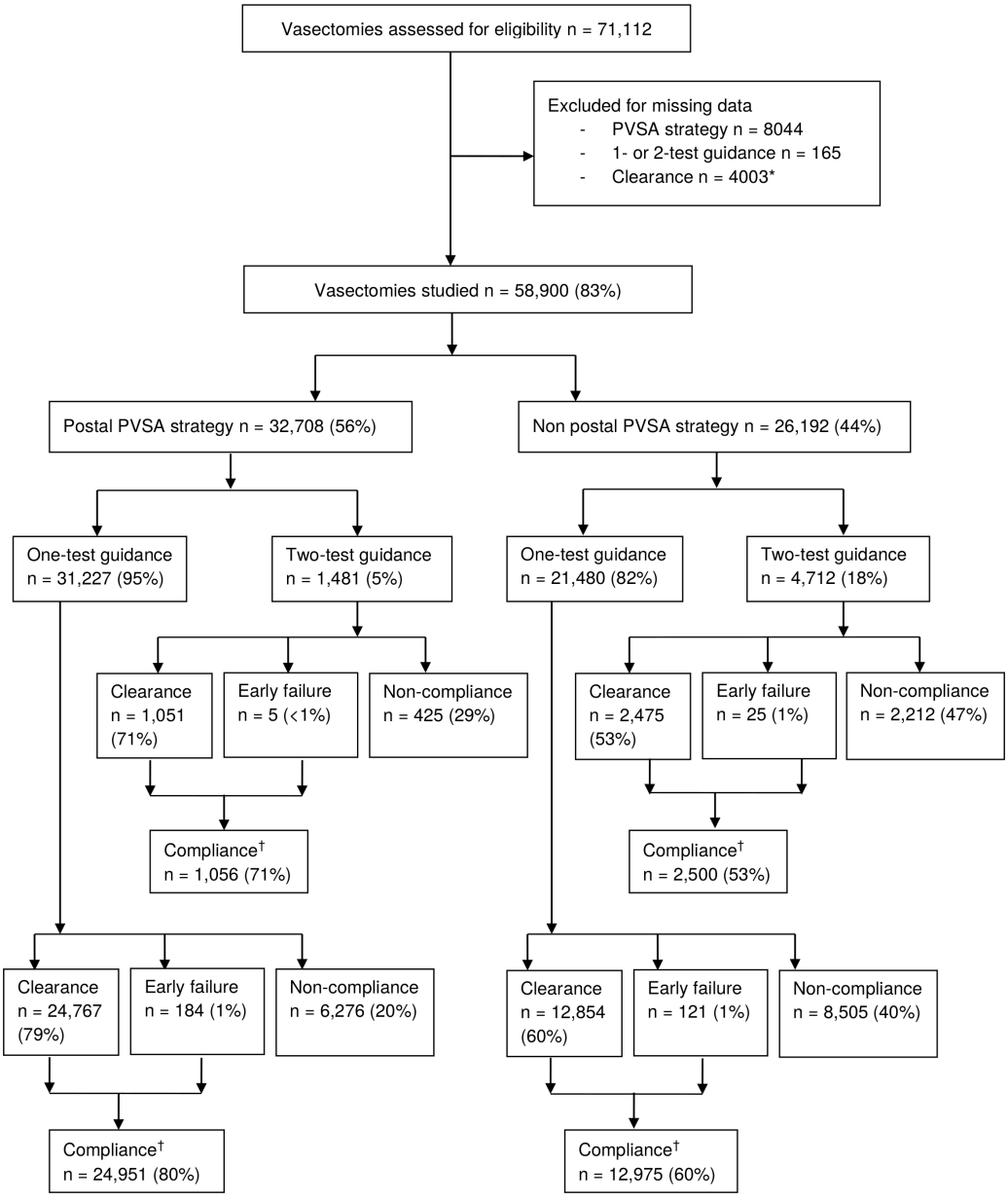


**Figure 1** Study flow chart. *Vasectomies were not excluded from audit forms in which the number given clearance with rare non-motile sperm (special clearance) was missing if the total number of patients given clearance was reported. †Compliance calculated by adding the total number of vasectomised men with clearance given and those with early failure. PVSA, post-vasectomy semen analysis.

by pregnancy after confirmation of clearance, were also similar for the two strategies.

To the best of our knowledge, this is the first study showing higher compliance with postal compared with non-postal semen sample submission strategy. Nonetheless, Trussler *et al* recently reported an increased compliance (from 66% to 76%) with the use of a home-based post-vasectomy semen test eliminating many of the barriers associated with the submission of a fresh sample.[14]

Our results have major implications. Due to better compliance, surgeons can detect more early vasectomy failures with a postal strategy. Assuming a similar 1% early failure rate for both strategies, with 20% more men complying with a postal strategy, one more early failure will be detected per 500 vasectomies (number-needed-to-be-tested). The ABA/BAS/BAUS 2016 guidelines for PVSA have questioned the validity of postal strategy regarding sperm degradation during transit, which could result in wrongly awarded clearance.[6] Although a direct comparison of semen samples examined via both semen sample submission strategies could be undertaken to justify this statement, the similarity of both strategies on early and late failure rates in our study suggests that this concern should be refuted. Even if we conservatively repeat the calculation with the data reflecting the current one-test guidance practice in recent years (0.86% and 0.93% early failures with 80.2% and 61.3% compliance in postal and non-postal strategy, respectively), the higher

**Table 1** Post-vasectomy semen analysis outcomes in 58 900 men vasectomised between 2008 and 2019 according to semen sample submission strategy (postal/non-postal) stratified by number of test guidance and study period

| | | PVSA outcomes | | | | | |
|---|---|---|---|---|---|---|---|
| | | Compliance | | Early failures* | | Late failures* | |
| Parameter | | n/N (%) | Difference % (95% CI) | n/N (%) | Difference % (95% CI) | n/N (%) | Difference % (95% CI) |
| Overall | | | | | | | |
| Postal | | 26 007/32 708 (79.5) | 20.4 (19.7 to 21.2) | 189/26 007 (0.73) | −0.22 (−0.41 to −0.04) | 19/26 007 (0.07) | −0.02 (−0.09 to 0.03) |
| Non-postal | | 15 475/26 192 (59.1) | – | 146/15 475 (0.94) | – | 15/15 475 (0.10) | – |
| Number of test guidance | | | | | | | |
| Two-test | Postal | 1056/1481 (71.3) | 18.2 (15.5 to 20.9) | 5/1056 (0.47) | −0.53 (−1.1 to 0.18) | 1/1056 (0.09) | −0.07 (−0.33 to 0.39) |
| | Non-postal | 2500/4712 (53.1) | – | 25/2500 (1.00) | – | 4/2500 (0.16) | – |
| One-test | Postal | 24 951/31 227 (79.9) | 19.5 (18.7 to 20.3) | 184/24 951 (0.74) | −0.20 (−0.40 to −0.01) | 18/24 951 (0.07) | −0.01 (−0.08 to 0.04) |
| | Non-postal | 12 975/21 480 (60.4) | – | 121/12 975 (0.93) | – | 11/12 975 (0.08) | – |
| Study period | | | | | | | |
| 2008–2013† | Postal | 8247/10 543 (78.2) | 22.0 (20.7 to 23.2) | 36/8247 (0.44) | −0.47 (−0.76 to −0.20) | 7/8247 (0.08) | −0.11 (−0.27 to 0.01) |
| | Non-postal | 6082/10 812 (56.3) | – | 55/6082 (0.90) | – | 12/6082 (0.20) | – |
| 2014–2019† | Postal | 17 660/22 165 (79.7) | 18.6 (17.7 to 19.5) | 153/17 660 (0.87) | −0.10 (−0.36 to 0.13) | 12/17 660 (0.07) | 0.04 (−0.03 to 0.09) |
| | Non-postal | 9393/15 380 (61.1) | – | 91/9393 (0.97) | – | 3/9393 (0.03) | |

*Failure rates are calculated with the number of compliant vasectomised men as the denominator.
†Year of vasectomy.
CI, confidence interval; PVSA, post-vasectomy semen analysis.

compliance of postal strategy still allows detection of one more failure in 833 vasectomies. Moreover, the non-statistically significant lower rate of failure with postal strategy may indicate that the surgeons using this strategy report fewer failures because they indeed have fewer failures.

The postal strategy requires examination of a fresh semen sample for RNMS clearance and when early failure is suspected. The proportion of men given clearance to stop contraception when RNMS are present was, unsurprisingly, significantly higher in the non-postal group, as this result can be obtained without additional testing on a fresh sample. This earlier clearance, however, occurred in only about 3% more men following the non-postal strategy. There is no evidence that the rate of late failure is higher when clearance in the presence of RNMS is given.[1 2 4] Clearance could possibly be given without motility assessment with a postal strategy if the sperm concentration is low. A recent study on 5965 first PVSA done on fresh samples demonstrated that if the sperm concentration is below 10 000 sperm/mL and 100 000 sperm/mL, the probability of observing motile sperm is 0.7% and 0.9%, respectively.[15]

The main strengths of this study are its sample size and the fact that it spans over a decade, enabling stratification in relation to a major change of guidelines. Data collection continues through the ASPC, with annual review, and enables surgeons to compare their data temporally and against other surgeons. The data reported appear to be valid. The compliance rate of about 60% for non-postal strategy, and the early (about 1%) and late failure (about 0.1%) rates reported for both postal and non-postal strategies are in line with evidence-based guidelines in the UK and North America.[1 2]

This study has some limitations. We assessed the confounding and modifying effects of two major factors: number of test guidance and study period. However, many different surgeons submitted data over more than a decade. We cannot presume consistency between them for experience, technique, reminder systems, time schedule for testing, and clearance/failures criteria used. There may also be variation in the population demographic of the two strategies including socioeconomic status and access to local laboratory services. These factors could influence the differences observed between semen sample submission strategies for compliance and failures. We do not believe this would change our conclusions considering the scale of the difference in compliance.

The reduced length of time from last vasectomy performed to data collection in the early years of the study possibly led to underestimation of clearance and early failure. This situation was, however, similar in both study groups and limited to only 4 of the 11 years studied (2008–2011).

Notification and recording of late failures (contraceptive failures) are likely to be imprecise and underestimated.[16–18] For instance, pregnancies may occur many years subsequent to vasectomy and the surgeon never informed. In addition, our data cannot confirm that the reported late failures from both strategies were indeed true late failures as proven by fresh PVSA or DNA testing.[19] As the numbers of late failures are small, any misdiagnosis could greatly affect the figures. Nevertheless, the reported rate in our study, approximately 0.1%, may be more valid than the 0.05% usually quoted.[1 2]

## CONCLUSIONS

The postal strategy of post-vasectomy semen sample submission is not only a less resource-intensive approach, but is clearly more acceptable to patients. The higher compliance of postal strategy confers overarching benefits to patients, their partners, and surgeons seeking confirmation of vasectomy success, without compromising efficacy to detect failures. These benefits are even more crucial in the current climate of COVID-19, when it is clearly preferable for men to post a semen sample than to attend a clinic.

Our study should reassure both surgeons and patients who presently use postal semen sample submission strategy. It may also inspire more surgeons, commissioners and laboratories to follow this approach. Future clinical practice guidelines should recommend submitting semen samples by post as a reliable option.

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**Contributors** MA conceived the idea. GJ collected the data. MA extracted the data. MA, KB, ZH and ML analysed the data. MA and GJ drafted the original manuscript, which was refined by ZH, KB and ML. All authors discussed the results, and contributed to and approved the final manuscript.

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**Appendix 1:** Association of Surgeons in Primary Care (ASPC) Audit form and Vasectomy glossary

## ASPC Vasectomy Audit return for 2018-19 (for what would have been Conference 2020)

for vasectomies undertaken between 1st April 2018 – 31st March 2019
(Please see 'Vasectomy Glossary 2020' page for Definitions of what's required if you're unsure)

**THIS FORM IS FOR YOU TO COLLATE YOUR RESULTS, THEN INPUT THEM INTO THE SURVEYMONKEY LINK**
**https://www.surveymonkey.co.uk/r/ASPC-VAS-2020**

**CLINIC NAME** ……

**OPERATING DOCTOR (S)**……

**NUMBER OF VASECTOMIES PERFORMED**: NHS …… PRIVATE …… **TOTAL ……..**

| | **NUMBER** | **PERCENTAGE** |
|---|---|---|
| **1. TESTING FOR STERILITY** in this Audit Cycle? | | |
| NUMBER and PERCENTAGE of patients confirmed Sterile (inc. Special Clearance) | ……. | ……. |
| **2. Special Clearance** given in this Audit Cycle? | ……. | ……. |
| Do you use 1 or 2 negative tests to confirm sterility (please circle) | **1** | **2** |
| Did you exclusively use a postal service for this Audit cycle? (Please circle) | **YES** | **NO** |
| **3. FAILURE OF STERILITY** in this Audit Cycle | | |
| a) **Early failures** (Please see Vasectomy Glossary page for Definition) | ……. | ……. |
| b) **Late failures** (Please see Vasectomy Glossary page for Definition) | ……. | ……. |
| c) Early/Late failures from Vas's done **before** 1st April 2018 (ie **NOT** this audit cycle), that have **NOT** been audited before | ……. | **N/A** |
| **4. INFECTIONS** (Please see Vasectomy Glossary for Definition) | ……. | ……. |
| Of those, how many antibiotics did Vasectomy Surgeon give? | ……. | **N/A** |
| **5. HAEMATOMAS** (Please see Vasectomy Glossary for Definition) | ……. | ……. |
| How many > Cricket ball? | | |
| I **DO NOT** want to count complications twice if the **SAME** patient had **BOTH** Infection AND Haematoma (see online for explanation) | | |
| So… how many patients who were given Antibiotics (Q4) also had a Haematoma (Q5)? | ……. | |
| **6. POST-VASECOMY PAIN SYNDROME** (Please see Vasectomy Glossary for Definition) | | |
| a) From patients from this audit cycle | ……. | **N/A** |
| b) From patients NOT in this audit cycle | ……. | **N/A** |
| c) What treatments have they tried? (Answer online) | | |
| d) Are they still suffering? (Re-contact them!) | | |
| **7. ANY HOSPITAL ADMISSIONS POST VASECTOMY?** | **YES** | **NO** |
| If yes, how many, and what happened? (Answer online) | | |

| | | |
|---|---|---|
| **8. COSTS** | | |
| Tariff Cost per case? | **NHS £ ……** | **PRIVATE £ ……** |
| Do you pay for the NHS sperm tests out of your Gross cost? | **YES** | **NO** |
| If yes – how much per sperm test? | **£……..** | |
| **Do you do routinely use LIVE tests for routine testing (ie not just for Special Clearance)** | **YES** | **NO** |
| **If you have to undertake a LIVE test (for say Special Clearance) what is the cost?** | **£……..** | |
| If you are paid a fee for each Vasectomy (with no overheads) undertaken by a company, what average do you get per case? | **£……..** | |

| | | | |
|---|---|---|---|
| **9. PEER REVIEWS** | | | |
| Have you been peer reviewed in the last 3 years? **If so who by?** (Answer online) | **YES** | | **NO** |
| Did your GP Appraiser undertake a Vasectomy appraisal during your last GP appraisal? | **YES** | **NO** | **N/A** |
| Are you a Vas trainer? | **YES** | | **NO** |
| If Yes: Are you on the FSRH list of approved Vasectomy trainers? | **YES** | **Unsure** | **NO** |
| If not would you be interested in becoming a Trainer? | **YES** | | **NO** |

**10. QUESTIONNAIRES**

| | | | |
|---|---|---|---|
| Did you use the APSC ***immediate post op*** questionnaires for this audit? | **YES** | **PARTLY** | **NO** |
| Did you use the APSC ***4 month post op*** questionnaires for this audit? | **YES** | **PARTLY** | **NO** |
| Are you planning to use the ASPC Vasectomy Audits for the 2020/21 cycle? | **YES** | **NOT SURE** | **NO** |

**If you want to start compiling your results online, give me some details and I'll get you set up**

**QUESTIONNAIRE RESULTS for vasectomies undertaken between 1st April 2018 – 31st March 2019**

| **For those using ASPC Immediate Post op Form** | **Number** | **Percentage** |
|---|---|---|
| What number and therefore what percentage of questionnaire returns did you achieve in this Audit Cycle? | ……. | …… |
| What number + percentage said NO to: Q1 (booking appointment) | ……. | …… |
| What number + percentage said VERY GOOD to Q2 (info sheet) | ..... | ……. |
| What number + percentage said VERY USEFUL or FAIRLY USEFUL to Q3 (pre vas consult) | ..... | ……. |
| What number + percentage said COMPLETELY AT EASE or VERY COMFORTABLE Q4 (op location) | ..... | ……. |
| What number + percentage said EXCELLENT or VERY GOOD to Q5 (premises) | ..... | ……. |
| What number + percentage said EXCELLENT or VERY GOOD to Q6 (Dr's manner) | ..... | ……. |
| What numbers + percentages said to Q7 (rate the pain of vasectomy) i) no pain | ..... | ……. |
| ii) some discomfort | ..... | ……. |
| iii) both above added together | ..... | ……. |
| What number + percentage said EXCELLENT or VERY GOOD to Q8 (overall impression) | ..... | ……. |
| What number + percentage said VERY LIKELY to Friends & Family | ..... | ……. |

**Please free to add any feedback or suggested alterations to the questionnaires online**

**QUESTIONNAIRE RESULTS for vasectomies undertaken between 1st April 2018 – 31st March 2019**

**For those using ASPC 4 Month Post op Form**

| | | |
|---|---|---|
| What number and therefore what percentage of questionnaire returns did you achieve in this Audit Cycle? | ..... | ……. |
| What numbers + percentages for Q2: Rate the pain you felt after your Vasectomy | | |
| No Pain | ..... | ……. |
| Slight Discomfort | ..... | ……. |
| Slightly Painful | ..... | ……. |
| Painful | ..... | ……. |
| Very Painful | ..... | ..... |
| What number + percentage said YES to Q3. Pain for over a week? | ..... | ……. |
| And what was the average time (in days) for pain to resolve | ..... | |
| What number + percentage said YES to Q4. Ache/Discomfort for over 2 weeks? | ……. | |
| And what was the average time (in days) for the Ache/Discomfort to resolve | ..... | |
| What number + percentage said VERY GOOD or FAIRLY GOOD to Q7 *(Adequate post-op sheet info?)* | ..... | ……. |
| What number + percentage said YES to Q9 (*more time off work than you anticipated?)* | ..... | ……. |
| And was the average they had expected to stay off? | ..... | ……. |
| And what was the average of how many days it took them to return to work? | ..... | ……. |
| What was the difference? | ..... | ……. |
| What number + percentage said EXCELLENT or VERY GOOD to Q11 (*overall satisfaction)* | ..... | ……. |

**Please see the additional questions online to decide if we should remove some questions from the 4Month questionnaire**

Have you had your NHS funding for vasectomies removed or threatened in the last 12m? Removed Threatened Neither

Do you have any odd/interesting stories do you have to tell relating to your Vas surgery sessions? Or how about those moments that have scared you operating (the brown trouser moments). Please only tell us ONLINE those stories/moments that you haven't contributed to before to the ASPC

**Please tell us ONLINE what you have learned in the last year that has significantly changed/improved/altered your practice?**

**Signature…… Name** (print)**…… Date ……**

**Please DO NOT return THIS PAPER VERSION to me, but keep for own Appraisal**

**Please use the SurveyMonkey Link above (& sent to you via email) and input your own answers – I WILL NOT DO IT FOR YOU!!**

You will get a month's warning to the **AUDIT CLOSING date**, once Covid has calmed down….. watch out for that email!
At that stage, with no ASPC Conference this year, I will then sort out the results, and I will email out to everyone a print out (as usual) for those who have participated for your PDP.
More than 1 years data? – that's fine, see letter for your choices as to how to add…
Reminder we also run **ASPC authorised Carpel Tunnel** and **Skin Surgery questionnaires** - email me for details

Keep safe and hope to see you all healthy and over Covid in 2021

**Any questions Email me: Dr Gareth James: GtbVas@Yahoo.co.uk** GJJ 4/20

# Vasectomy Definition Glossary 2020

**(Relating to Audit collection)**

**These definitions were drafted by a mixture of members of the ASPC, plus Professor Labrecque, Canada, and ratified during ASPC conferences then updated using the 2014 FSRH guidelines**

| Term | Meaning |
|---|---|
| **This Audit Cycle (TAC)** | Data collected from Vasectomies that were undertaken between 1st April 2018 until 31st March 2019 inclusive |
| **Not this Audit Cycle (NTAC)** | Data/information collected since the last conference data pertaining to Vasectomies that were undertaken **before** 1st April 2018 (i.e. late failures/PVPS) |
| **Sterility** | This is when Post-vasectomy semen analysis (PVSA) arranged after the appropriate time show either **NO SPERM** in the ejaculate or when the patient has achieved Special Clearance, and consequently the patient can be informed it is safe to abandon any other contraception. |
| **Early Failure** | 2014 FSRH guidelines state Early Failure has occurred if any **MOTILE** sperm are observed in a Fresh sample 7 months post vasectomy.<br>The patient is informed that the vasectomy has been deemed as unsuccessful, meaning either contraception for life or requiring a second operation.<br>It does **NOT** mean those who are still undergoing further sperm tests, nor does it mean those who ultimately achieve Special Clearance.<br>*Perceived ASPC rate from Audit as being about 1 in 200 procedures* |
| **Late Failure** | This is a failure **AFTER** you have informed the patient that they had a negative PVSA and were sterile, and safe to abandon any contraception; irrespective of time frame.<br>Usually uncovered with a pregnancy, though could be found on the reappearance of motile spermatozoa following confirmation of sterility at PVSA<br>This is due to a late reconnection of the vas deferens.<br>*Perceived ASPC rate from Audit as being about 1 in 2000* |
| **Special Clearance (SC)** | According to the 2014 FSRH guidelines Special Clearance is achieved/given if less than 100,000/ml non-motile (i.e.: DEAD) sperm are seen in a **FRESH** [usually less than 1 hour old] sample arranged after the appropriate time post vasectomy.<br>There is no evidence to say that those given SC have any higher rates of Late Failures than someone who achieves full sterility without given SC. |
| **Haematoma** | This is a **PAINFUL** swelling of a certain size (roughly a golf ball and larger) that develops in the scrotal sac resulting from the Vasectomy.<br>The ASPC direct the patient to define a haematoma as any swelling the same size (or greater) as their own testicle<br>This is due to collection of blood around the sheath |
| **Post op Infection** | Any case where **ANY** clinician has deemed it appropriate to give antibiotics for a presumptive Post Vasectomy Infection (whether the clinician was right or wrong!) |
| **Minimally Invasive Vasectomy (MIV)** | MIV terminology is used to encompass the very prescriptive Non Scalpel Vasectomy (and all other modified versions of this technique) where the skin opening is ≤10 mm, the dissection area surrounding the vas deferens is minimised and skin sutures are not required.<br>MIV may include the use of a variety of surgical instruments, including a scalpel, to expose the vas. MIV techniques have been shown to reduce the level of bleeding and intra-operative pain, quicker recovery period with less post operative complications |
| **Chronic Post Vasectomy Pain (PVP)** | This is defined as chronic and sometimes debilitating scrotal pain (severe enough to cause the patient to seek medical attention and/or to interfere with quality of life) occurring any time after the surgery and persisting for more than six months despite non-surgical treatments.<br>*Perceived rate for ASPC members of about 1 in 400, though figures as high as 15% have been quoted on line and in journals.* |
| **Single test regimen** | The FSRH 2014 suggest 12 weeks post vasectomy is optimal timing for the first PVSA, though the current ASPC recommended interval is at, or after, 16 weeks.<br>A routine second PVSA is not required if azoospermia found in the first sample.<br>Postal PVSA is acceptable, but such samples will not be suitable for the assessment of sperm motility |

Appendix 2. Processes and criteria for post-vasectomy semen analysis recommended by the Association of Surgeons in Primary Care (ASPC) of the United Kingdom.*

| Number of tests | Recommendation | Semen sample submission strategies | |
|---|---|---|---|
| | | Non-Postal† | Postal‡ |
| 2-Test<br>Based on 2004 RCOG[1]/ 2002 BAS[2] guidelines | Clearance | No sperm or less than 10,000 non-motile sperm/mL observed on two consecutive PVSA.§ | No sperm observed on two consecutive PVSA.§ |
| | Repeat test | Any motile sperm or more than 10,000 non-motile sperm/mL observed before 7 months post vasectomy. | Any motile or non-motile sperm observed before 7 months post vasectomy. |
| | Failure | Failure: Any motile sperm observed after 7 months post vasectomy.<br>Possible failure: More than 10,000 non-motile sperm/mL observed after 7 months post vasectomy.‖ | Failure: Any motile sperm observed after 7 months post vasectomy.<br>Possible failure: Any concentration of non-motile sperm >7 months post vasectomy. At this point, the patient should submit non-postal sample(s). ‖ |
| 1-Test<br>Based on 2014 FSRH[3]/ 2016 ABA,BAS and BAUS[4] guidelines | Clearance | No sperm or less than 100,000 non-motile sperm/mL observed in PVSA.§ | No sperm observed in PVSA.§ |
| | Repeat test | Any motile sperm or more than 100,000 non-motile sperm/mL observed before 7 months post vasectomy. | Any motile or non-motile sperm observed before 7 months post vasectomy. |
| | Failure | Failure: Any motile sperm observed after 7 months post vasectomy.<br>Possible failure: More than 100,000 non-motile sperm/mL observed after 7 months post vasectomy.‖ | Failure: Any motile sperm observed after 7 months post-vasectomy.<br>Possible failure: Any concentration of non-motile sperm >7 months post vasectomy. At this point, the patient should submit non-postal sample(s). ‖ |

PVSA = post-vasectomy semen analysis

*These recommendations and criteria are primarily based on the 2004 Royal College of Obstetricians and Gynaecologists (RCOG)[1] and 2014 Faculty of Sexual & Reproductive Healthcare (FSRH)[2] Guidelines. The ASPC also took into account some recommendations of the 2002 British Andrology Society (BAS)[3] and the 2016 Association of Biomedical Andrologists (ABA), BAS, and British Association of Urological Surgeons (BAUS)[4] guidelines.

† A fresh sample delivered direct to the laboratory (following set instructions usually requiring booking of an appointment) and examined within 1 or 2 hours of ejaculation according to local laboratory protocol.
‡This is a sample taken at home, following set instructions, and sent to a laboratory in specially packaging via the Royal Mail.

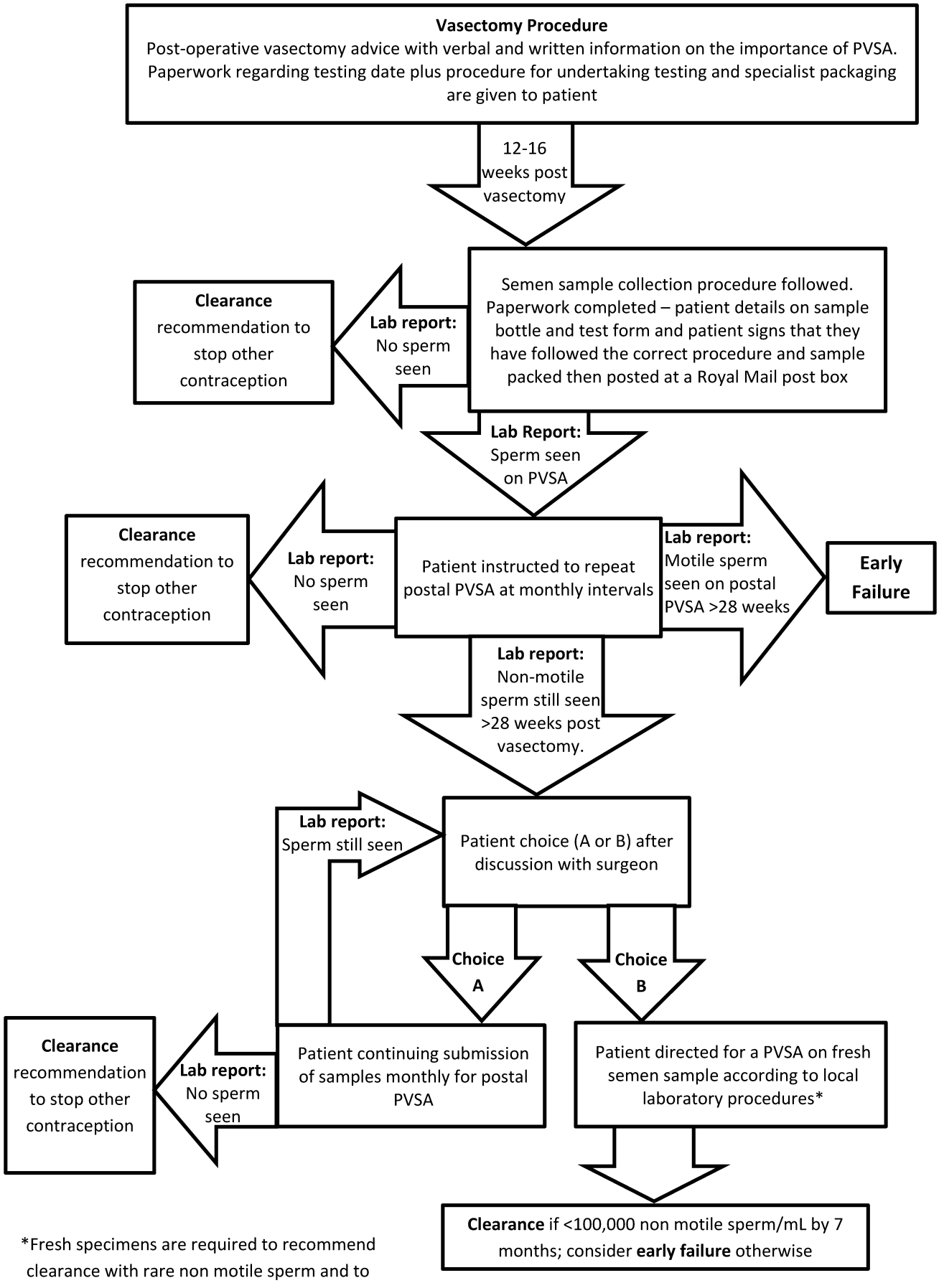
§ The 2004 RCOG guideline recommends that PVSA may commence any time beyond 8 weeks whilst the 2014 guidelines suggests 12 weeks. Most surgeons advise submission of PVSA samples between 12-16 weeks.

‖If more than the recommended number of non-motile sperm/mL are present at 7 months, a decision should be reached with the patient to determine the future course of action. This may be to re-operate or continue other contraception with or without further PVSA. This shared decision may be informed by frequency of ejaculation and any trend in numbers of sperm seen.

## References

1. Royal College of Obstetricians & Gynaecologists. Male and female sterilisation. National evidence-based clinical guideline number 4. London: RCOG Press, 2004.
2. Royal College of Obstetricians & Gynaecologists. Male and Female Sterilisation (Clinical Effectiveness Unit),. In: Guidance FoSRHC, ed., 2014:76.
3. Hancock P, McLaughlin E. British Andrology Society guidelines for the assessment of post vasectomy semen samples (2002). *J Clin Pathol* 2002;55(11):812-6. doi: 10.1136/jcp.55.11.812 [published Online First: 2002/10/29]
4. Hancock P, Woodward BJ, Muneer A, et al. 2016 Laboratory guidelines for postvasectomy semen analysis: Association of Biomedical Andrologists, the British Andrology Society and the British Association of Urological Surgeons. *J Clin Pathol* 2016;69(7):655-60. doi: 10.1136/jclinpath-2016-203731 [published Online First: 2016/04/17]

**Appendix 3. Current clinical pathway suggested by the Association of Primary Care Surgeons of the United Kingdom for postal post-vasectomy semen analysis (PVSA) submission and interpretation**




*Fresh specimens are required to recommend clearance with rare non motile sperm and to diagnose early failure with postal PVSA strategy