BREACH OF DUTY AND CAUSATION REPORT

Expert medical report for the court on breach of duty and causation

Prepared by

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Consultant Urological Surgeon
The Sherwood Forest Hospital NHS Foundation Trust
Mansfield, NG17 5JL
01623622515 ext. 4436
Dated: 18th October 2024

Claimant: [redacted]
Date of Bi
Now aged

Instructing Solicitor: [redacted]

Defendant: [redacted]

Type of Expert: Urologist

Claim Type: Clinical Negligence

Solicitor Reference: [redacted]
Our Reference: [redacted]
Prepared at the request of
[redacted]

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1.CURRICULUM VITAE

Mr. Krishnan Anantharamakrishnan
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Pg. Cert Human Factors and Patient Safety
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Consultant Urological Surgeon
The Sherwood Forest Hospital NHS Foundation Trust
Mansfield, NG17 5JL
UROLOGY expert witness
Qualified University of Madras 1990
16 years' experience as a consultant urology
Independent medicolegal services

2. SUMMARY OF INSTRUCTIONS AND ISSUES TO CONSIDER

Specific Questions

1. Was the surgery of 29/10/2023 carried out to a reasonable standard of care? Is there any evidence of poor surgical technique?

2. Do the records indicate that there was a surgical failure to block the correct tubes? If so, does this amount to a breach of duty of care?

3. Is a local anaesthetic the usual course for a bilateral vasectomy? Why was this not available for the Claimant?

4. Why was a general anaesthetic initially suggested for the Claimant? Was it reasonable to proceed under sedation?

5. Was there a failure to adequately control the Claimant's pain?

6. Was the surgery of 02/12/2023 performed to a reasonable standard of care?

7. What is the cause of the Claimant's difficult recovery and ongoing problems?

Although I am instructed by the [redacted], this report is prepared by an independent expert for the court and not for the [redacted].

My full declaration is set out at the end of the report.

3. DOCUMENTATION, MATERIALS AND INFORMATION PROVIDED

1. Letter of Approach -
2. Letter [Clinical Negligence]
3. er
4.

4. HISTORY AS GIVEN BY THE CLAIMANT/LETTER OF INSTRUCTION

at the time of the alleged incident was 28 years of age. The Claimant underwent elective bilateral vasectomy on 29/10/2023 at the . The procedure was carried out under sedation with local anaesthetic. According to the claimant, the pain was not adequately controlled, and the procedure was noted to be difficult. The Claimant advises that he was informed part way through the procedure he would have to be converted to a general anaesthetic due to the level of pain he was in. However, the procedure was completed under local anaesthetic and sedation only.

Approximately 2 weeks after the surgery the Claimant received a phone call from the surgeon to say unfortunately the procedure had been carried out incorrectly and they had not blocked the correct tubes due to poor surgical technique.

The Claimant was told he required a re-do procedure and this was completed on 02/12/2023 under general anaesthetic. The Claimant was informed that this time they had to cut from the top rather than the side of the testicles.

The Claimant has suffered significant pain and swelling since the procedures and has had multiple hospital admission with severe testicle pain. The Claimant remains under urological investigation.

5. SUMMARY OF RELEVENT MEDICAL RECORDS

The following summary is based on my review Letter of Approach –

, and subsequent hospital discharge summaries (3.4).

The records show that attended the GP surgery on for two issues one of them is foreskin problem and a request for vasectomy as a male form of sterilisation, for which he was referred to the .

NHS

Referral Letter

Patient Details:

Name	[redacted]
Address	[redacted]
Email	[redacted]

Referrer Details:

[redacted]

I would be grateful if you could review this 27 year old gentleman who has been having ongoing issues with his foreskin. [redacted] describes splitting of his foreskin near the tip often during sexual intercourse which can be painful. He denies any bleeding and states that it self-heals after a couple of days. He denies any signs of infection, bleeding or discharge. He does mention that he did have some surgery as a child under urology due to problems passing urine but is unsure of what this was exactly.

[redacted] has requested to be considered for a vasectomy. He explained he has a stable partner, has a child of his own and his partner also already has a child. He has told me they have agreed that they would not like any further children and that his partner was not able to tolerate other contraceptive methods.

I would appreciate if he could be seen.

Yours sincerely

[redacted]

Further Details and Previous Consultations:

Medical Problems:

[redacted]

Medication:
Acutes None
Repeats None

Allergies:

[redacted]

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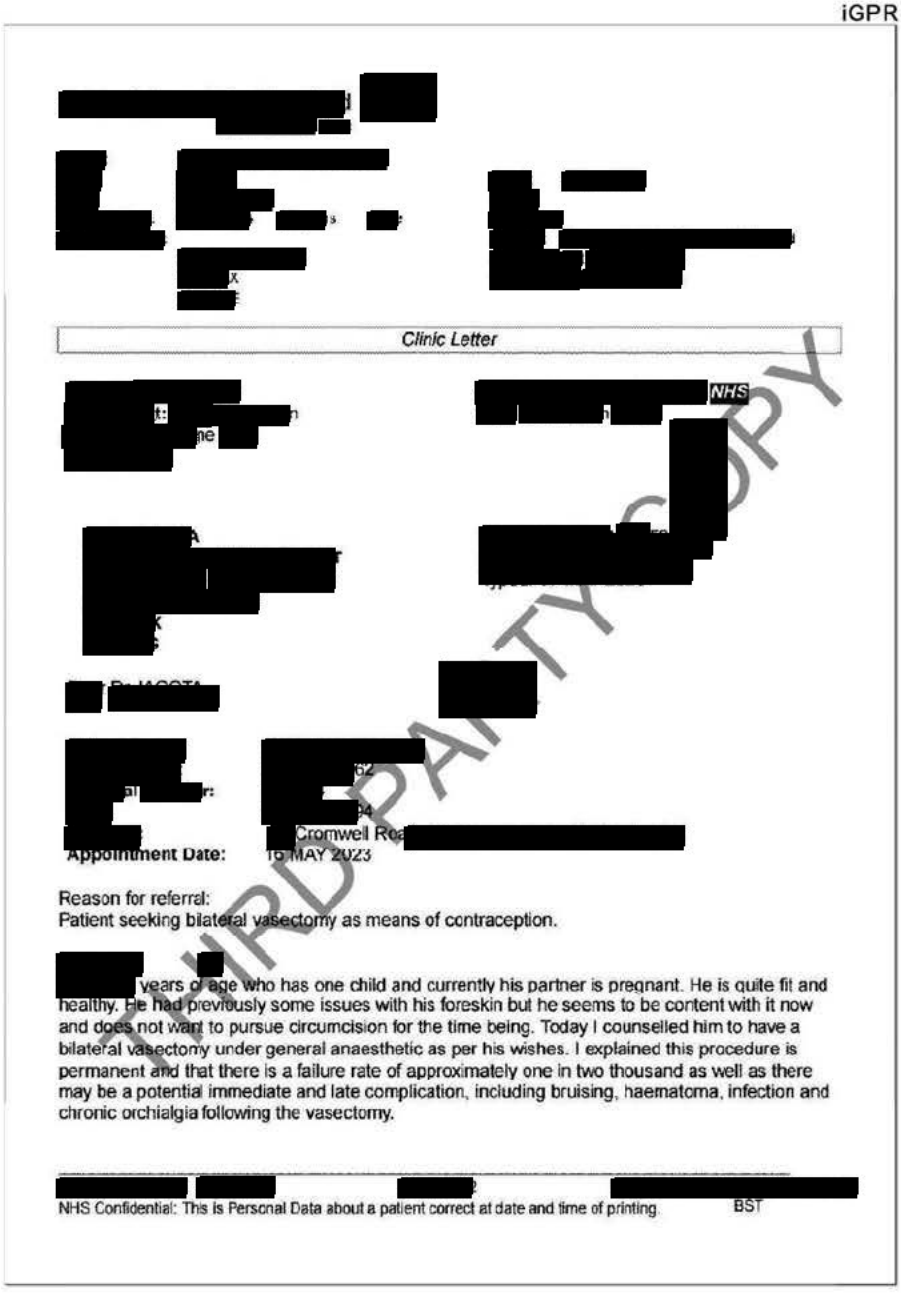
Subsequently reviewed on 17th May 2023 as a telephone consult only [an opportunity to examine and assess patient anxiety, patient needs, creating a face-to-face rapport and structural feeling on

examination of the vas deferens was lost] and was placed on the waiting list for bilateral vasectomy under general anaesthesia as per patient wishes. Page 52 and 53/318 medical records.



[redacted]

Clinic Letter

[redacted] NHS

[redacted]

Appointment Date: 16 MAY 2023

Reason for referral:
Patient seeking bilateral vasectomy as means of contraception.

[redacted] years of age who has one child and currently his partner is pregnant. He is quite fit and healthy. He had previously some issues with his foreskin but he seems to be content with it now and does not want to pursue circumcision for the time being. Today I counselled him to have a bilateral vasectomy under general anaesthetic as per his wishes. I explained this procedure is permanent and that there is a failure rate of approximately one in two thousand as well as there may be a potential immediate and late complication, including bruising, haematoma, infection and chronic orchialgia following the vasectomy.

[redacted]

NHS Confidential: This is Personal Data about a patient correct at date and time of printing [redacted] BST

iGPR Report

Offsite services CHFT

[redacted]

He is well aware that reversal of a vasectomy carries a small success rate of pregnancy and reversal is not covered by the NHS. I have added him to our waiting list and I will keep you updated.

Yours sincerely

[redacted]

[redacted] a about a patient correct at date and time of printing. BST

The records (3.4) show that KN attended [redacted] according to the records, though he was listed as a general anaesthetic procedure, claimant had

insisted that he doesn't wish to have general anaesthetic and so had the vasectomy procedure under local anaesthetic and sedation. Page 194/ 310 Medical Records.

n/a

[redacted]

Document Type:
Service Date/Time:
Result Status:
Perform Information:

Sign Information:

Bilateral Vasectomy

[redacted]

Bilateral vasectomy for contraception [redacted]
Operative Findings:
Indication: Seeking bilateral vasectomy as means of contraception.
Operative Narrative:
Difficult procedure as patient did not want to have general anaesthesia and opted to have local anaesthesia with sedation
30mls of 2.5% mercaine infiltrated on right and left hemiscrotum
Patient was quite uncomfortable during surgery despite using 30mls of local anaesthesia

Bilateral scrotal incisions 1 cm.
Vasa deferentia dissected and brought out to the wound using Allis forceps.
Vas clamped and 1 cm of vas resected. Ends diathermized and ligated with 3/0 Polysorb
Closure 3/0 Vicryl Rapide

Outcome and Complications
Any Problems/Complications: No complications or issues.

Postoperative Information
Postoperative Care Instructions:
Home today
Post vasectomy leaflet.

Plan
New Requests: Place New Requests
Laboratory:
Andrology specimen (Order Processing): Bleep/tel no.: SB, Coll priority: Routine, Collection DT/TM: 29/Oct/23 13:14 GMT
Histology investigation (Order Processing): Bleep/tel no.: SB, Coll priority: Routine, Collection DT/TM: 29/Oct/23 13:14 GMT

[redacted]

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The histology of the vasectomy specimen does not show vas deferens, indicating that this was a failed procedure [09/11/2023] page 307/318 medical records.

[redacted]

Bilateral vasectomy as means of contraception

[redacted]

Histology Process

Reporting Seq. 1

Specimen Type : Vas deferens
CLINICAL DETAILS:
Bilateral vasectomy as a means of contraception
MACRO:
A. Right vas-a portion of tube measuring 12 mm, trisected and all processed
B. Left vas 2 pieces of-tissue smaller measuring 5 mm and larger measuring 8 mm, larger piece is bisected, all processed
MICRO:
A, B. The specimen was processed in his entirety. Both specimens show only muscle tissue and fibroadipose connective tissue. Luminal epithelium is not identified(in both A and B).
Please note- No obvious lumen seen on processing. The specimen has been re embedded, in view of absent lumen; but re cut sections also show muscle tissue and fibroadipose tissue only. Clinical correlation is advised.
DIAGNOSIS:
A, B. Right and left vas-see text epithelial lumen not identified,
Pathologists:
[redacted]

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Reported **Specialty** **Requesting Location of Patient Clinician**

Following the review of the histology confirming that this was a failed vasectomy procedure, [redacted] received a phone call and was informed that he needed a re-do vasectomy under general anaesthesia. I see no record of this in the provided case files. So, I am unable to ascertain whether alternative options such as leave well alone without a vasectomy was discussed or not. I cannot say

whether conversations regarding what would happen if left alone such as female contraceptive methods were brought to his attention. I could not sight the informed consent for both procedures [October and December 2023].

On 2nd December 2023, KN underwent bilateral vasectomy under general anaesthesia with the following annotation noted page 193/318- "Indication: Previous failed bilateral vasectomy under sedation. Operative Narrative: Median raphe incision 4cm. Vasa deferentia dissected and brought out to the wound using Allis forceps. Vas clamped and 1cm of vas resected on both right and left side. Ends diathermized and ligated with 3/0 Polysorb. Closure 3/0 Vicryl Rapide."

n/a

[redacted]

tolerated exam
left testicle palpable . hard with skin tethering
right testicle normal

plan:
testicular ultrasound (post operative changes? other pathology.

Document Type:
Service Date/Time:
Result Status:
Perform Information:

Sign Information:

Redo- Bilateral Vasectomy

[redacted]

Procedure Details:

[redacted]

Operative Findings:
Indication: Previous failed bilateral vasectomy under sedation.
Operative Narrative:
Median raphe incision 4cm
Vasa deferentia dissected and brought out to the wound using Allis forceps.
Vas clamped and 1 cm of vas resected on both right and left side.. Ends diathermized and ligated with 3/0 Polysorb
Closure 3/0 Vicryl Rapide

Outcome and Complications
Any Problems/Complications: No complications or issues.

Postoperative Information
Postoperative Care Instructions:
Home today with postvasectomy leaflet

Plan
New Requests: Place New Requests
Laboratory:
Histology investigation (Order Processing): Bleep/tel no.: SB, Coll priority: Routine, Collection DT/TM: 02/Dec/23 09:03 GMT.

[redacted] a patient correct at date and time of printing. GMT

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The histology on this occasion confirmed bilateral vasectomy was performed satisfactorily, page 306/318 Medical Records.

[redacted] Page 2 of 8

[redacted]

testicl / post operative changes
[redacted] - 08-Jan-2024, 10:51
US TESTES WITH DOPPLER
Normal appearances of both testes and epididymides. No focal lesions seen. Normal vascularity.
Verified By: Ms Janet Royston Advanced Practitioner
Sonographer RA2f996
Creation Date: 08-Jan-2024, 11:11
[redacted]

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[redacted]

Bilateral vasectomy for contraception

[redacted]

Histology Process

Reporting Seq. 1

Specimen Type : Vas deferens
CLINICAL DETAILS:
Bilateral vasectomy for contraception.
MACRO:
A. Right vas. Tubular tissue measuring 15 mm with second piece 5 mm.
B. Left vas. Tubular tissue measuring 14 mm.
MICRO:
A and B. Right and left vasa.
The sections confirm complete transection of both vasa deferentia.
DIAGNOSIS:
A and B. Right and left vasa - complete transection
Pathologists:
Dr S Osborn

Report 4/20

Reported Specialty Requesting Location of Patient Clinician

[redacted]

pre op

Sample MM104072G (Elective screen) Collected 22 Nov 2023 16:47 Received 22 Nov 2023 17:20
MRSA Screen

Specimen Type Elective screen Nose & Groin
MRSA Screen

MRSA Screen
MRSA NOT isolated

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[redacted]

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KN subsequently attended GP surgery and the hospital on multiple occasions, related to his scrotum, and on 03.01.2024, Page 3, GP Computerised Records complaining of tethered left testicle to the scrotal skin but no pains. He had re-do vasectomy on 2/12/2023. Advised to be in touch with the

[redacted] Safety netted with signs of infection to contact GP or seek urgent care. Patient is happy to contact urologist/secretary.

[redacted] was admitted to [redacted] for persistent testicular pains and offered an ultrasound scan pages 42-44 discharge summary. The scan 08/01/24 showed normal intra-scrotal contents.

On 08/01/24, admitted with discomfort in the left testicle following the full vasectomy, reassured, and discharged providing a diagnosis of post vasectomy epididymal pains. Pages 300-301.

Attended the emergency department on 18.01.2024, pages 35 – 36 with left testicular pain and swelling. There was a mass and pain seem to pass with ibuprofen.

The medical records on 18.01.2024[redacted] – 178, revealed thus "Seen in SDEC last week – told to be scarring from surgery. Right testicle swollen and painful for last 2 days. No haematuria/fever/urinary problems. Phoned SDEC this morning. Advised to come to ED. … Right side of scrotum swollen ++ Red+ Tender diffusely – feels firm. IMP? Infected haematoma? orchitis."

On 19.01.2024 page 186, admitted for further review and returned for further ultrasound scan reports NAD advised antibiotics course and NSAIDs for analgesia and offered scrotal support. That was noted that the claimant was frustrated over no identifiable cause.

The radiology report on page 300 performed 19/01/24 – [redacted], showed US Testes with Doppler – "Both testes and epididymis appear normal. Slightly thickened scrotal wall noted at 7mm."

The GP Computerised Records, page 2, 23/1/24 revealed further contact and was provided antibiotics, and the claimant complained of ongoing pains and swelling, no red flag symptoms, GP surgery after spending some time on the phone, subsequently managed to discuss with urology on-call and was diverted to SDEC.

On 24/1/24, the claimant was admitted to the[redacted], and was provided an explanation that chronic testicular pains are a common complication of the procedure and asked to continue with ciprofloxacin and see in hot clinic in 2 weeks, paginated record 188/318.

The case records in page 190, 07/02/2024, [redacted] "…had vasectomy on Oct 23 – difficult procedure (under LA with sedation). Redo vasectomy Dec 23. Multiple attendances to SDEC with post op pain, infection + swelling…"

On 07/02/2024, pages 196 – 19[redacted] reviewed the claimant and asked him to provide semen analysis and noted that the claimant was quite unhappy regarding the surgery and had been struggling with pain

and infection since. The claimant at this point expressed his wishes to pursue a formal complaint and was sign posted to the PALS (Patient Advice & Complaints Service).

The above statement is based on the hospital discharge summaries and there is no relevant medical history noted, in his primary care record (3.4).

6. OPINION ON BREACH OF DUTY AND CAUSATION

It is my opinion that [redacted], treatment of the claimant KN fell below the expected standards of care.

The care received was substandard and/or negligent in that.

1. The claimant was not reviewed face to face prior to the vasectomy procedure.
2. Originally listed for general anaesthetic and subsequently had the procedure under local and sedation, and this raises the clinicians practice into question.
3. When Mr [redacted] had difficulty on one side to obtain the vas deferens, he should have abandoned the procedure to review the situation when the claimant was lucid to discuss way forward.
4. Breach of duty was also seen in that the claimant was not offered alternative methods of contraception such as female sterilisation, use of condoms, and also 2nd opinion and treatment elsewhere by a competent surgeon, following the failure in October 2023.
5. Mr [redacted] failed to perform the vasectomy operation on both sides, citing difficulty and that which fell below the standard expected of a clinician who practise urological scrotal surgery.

YH has not acted in accordance with a practice accepted as proper and responsible by a responsible body of medical men skilled in that art of vasectomy.

<u>Specific Questions:</u>

1. Was the surgery of 29/10/2023 carried out to a reasonable standard of care? Is there any evidence of poor surgical technique? – The surgery on 29/10/2023, was not carried out to a reasonable standard of care. The poor surgical technique was evident by the fact that the vasectomy was not carried out on both sides, if that were to happen on one side there might be some justification of vas being wrapped in fat sheath, and thickened vas could pose problems. However, the subsequent histology of the correctly resected vas deferens [2nd operation] does not show inflammation. So, there is no excuse in not obtaining bilateral vasectomy in the first sitting under adequate local anaesthetic 0.25% Marcaine 30ml and sedation as well.

2. Do the records indicate that there was a surgical failure to block the correct tubes? If so, does this amount to a breach of duty of care? – The claimant has had adequate local anaesthetic 0.25% Marcaine 30ml, but where was that instilled is the question, and that seems like the vas deferens might not have been blocked but the correct tube was not teased out for the operation. The breach of duty of care arises in the inability to isolate the vas tube, and in failing to do so the claimant has had experienced pains during the procedure due to excessive manipulation of the scrotum. There is a breach of duty of care in surgical failure to block the correct tubes.

3. Is a local anaesthetic the usual course for a bilateral vasectomy? Why was this not available for the Claimant? - yes, it is, most vasectomies, up and down the country is performed under local anaesthetic only. The local anaesthetic was offered initially, but the claimant wanted general anaesthetic so was listed for the same. And on the day of operation, did not wanted general anaesthetic and henceforth was offered local anaesthetic and sedation.

4. Why was a general anaesthetic initially suggested for the Claimant? Was it reasonable to proceed under sedation? – That was the claimant's preference [as was stated "his wishes"]. That was totally reasonable to proceed under sedation.

5. Was there a failure to adequately control the Claimant's pain? – From what the records show the claimant has had adequate analgesia and sedation too. The claimant's pain could be in relation to excessive manipulation and eagerness to isolate the vas. If there was to be no pain at all or not to have felt anything during the procedure, then the claimant is to have a general anaesthetic, which he declined originally.

6. Was the surgery of 02/12/2023 performed to a reasonable standard of care? – The surgery was not undertaken to a reasonable standard of care. There is breach of duty of care to the patient in not performing the vasectomy in the first sitting.

7. What is the cause of the Claimant's difficult recovery and ongoing problems? – The claimant had 2 scrotal operations in a short span of 3 months. The first one was an extensive manipulation and the second one was a procedure where the surgeon had gone higher up in the scrotum. Any scrotal surgery carries a risk of infection, scarring, and chronic scrotal pains. According to the British Association of Urologist [BAUS] guidelines, up to 1 in 100 patients would experience chronic scrotal pains. The difficult recovery is in part due to the inflammatory process and the body's healing process with scarring and nerve involvement.

8. **Treatment Costs:** In my opinion, the claimant does not need private treatment. He needs regular 6 monthly review by the urology consultant in the NHS to address the pains for first 2 years and if necessary, an ultrasound scan at 1 year to assess any alteration of intratesticular contents. Wrong structures were divided and excised during the first operation, and so vigilance

necessary. If he were to go private, consultation fee would be £ 250 + £ 150 x 3 = £ 700 and a private ultrasound scan should cost £ 350.

9. There is a small possibility that the claimant could continue to experience chronic scrotal pains [2%]. There could be a deterioration of his chronic pains [0.02%] necessitating further reviews and referral to pain clinics and very likely this were to happen would be after 2 years or more. This would not be classed as a serious deterioration of his health. The deterioration of his chronic pains is in direct relationship to the original operation.

10. I could not comment on the client's absence from work and how this injury had affected his overall wellbeing. I cannot confirm whether the claimant has had made full recovery. I cannot ascertain the extent to which the client's ability to enjoy social, recreational and domestic activities [is]/ [has been] impaired as a result of the operation, without a face-to-face analysis in a condition and prognosis report and that which I am happy to arrange. The previous statement would also apply to the question of the extent to which, as a result of the injuries, the client's working capacity [is]/ [has been] restricted and/or the client is at any disadvantage on the labour market.

11. My prognosis is that the client's chronic scrotal pains would most likely resolve, however in a small percentage [2%], might persist and that which would need addressing with scans, medications, and pain team referral. The client's life expectancy is not in any way affected.

7. SUMMARY OF CONCLUSIONS

It is my opinion that Mr YH was in breach of duty in failing to provide adequate counselling to KN, prescribe enough analgesia and provide appropriate operation of vasectomy in [redacted]. It is highly likely on balance of probabilities due to the inability to provide the correct operation for a male sterilisation, has led to the claimant having had to undergo further procedure for the sterilisation purposes. This is an unnecessary second surgery, and it is highly likely that this in part led to prolonged treatment, repeated hospital and primary care attendances and more extensive scarring. There is a likelihood that the claimant might suffer from chronic scrotal pains due in part to the second procedure. The second procedure might provide the explanation of the causation of his ongoing sufferings and pains.

8. REFERENCES

8.1 Vasectomy: AUA Guideline; Ira D. Sharlip, Arnold M. Belker, Stanton Honig, Michel Labrecque, Joel L. Marmar, Lawrence S. Ross, Jay I. Sandlow, and David C. Sokal; https://doi.org/10.1016/j.juro.2012.09.080

8.2 G.R. Dohle, T. Diemer, Z. Kopa, C. Krausz, A. Giwercman, A. Jungwirth, European Association of Urology guidelines on vasectomy, Actas Urológicas Españolas (English Edition), Volume 36,

Issue 5, 2012, Pages 276-281, ISSN 2173-5786, https://doi.org/10.1016/j.acuroe.2012.08.012. (https://www.sciencedirect.com/science/article/pii/S2173578612001151)

9. EXPERT'S DECLARATION

1. I understand that my overriding duty is to the court, both in preparing reports and in giving oral evidence. I have complied and will continue to comply with that duty.

2. I have set out in my report what I understand from those instructing me to be the questions in respect of which my opinion as an expert is required.

3. I have done my best, in preparing this report, to be accurate and complete. I have mentioned all matters which I regard as relevant to the opinions I have expressed. All the matters on which I have expressed an opinion lie within my field of expertise.

4. I have drawn to the attention of the court all matters, of which I am aware, which might adversely affect my opinion.

5. Wherever I have no personal knowledge, I have indicated the source of information.

6. I have not included anything in this report which has been suggested to me by anyone, including the lawyers instructing me, without forming my own independent view of the matter.

7. Where, in my view, there is a range of reasonable opinion, I have indicated the extent of that range in the report.

8. At the time of signing the report I consider it to be complete and accurate. I will notify those instructing me if, for any reason, I subsequently consider that the report requires any correction or qualification.

9. I understand that this report will be the evidence that I will give under oath, subject to any correction or qualification I may make before swearing to its veracity.

10. I have attached to this report a statement setting out the substance of all facts and instructions given to me which are material to the opinions expressed in this report or upon which those opinions are based.

11. That I know of no conflict of interest of any kind, other than any which I have disclosed in my report.

12. That I do not consider that any interest which I have disclosed affects my suitability as an expert witness on any issues on which I have given evidence.

[redacted] That I will advise the party by whom I am instructed if, between the date of my report and the trial, there is any change in circumstances which affect my answers to either of the above two points.

10. STATEMENT OF TRUTH

I can confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.

Signature: *Krishnan Anantharamakrishnan*

Date: [redacted]

ATTACHMENT:

The document provides information about vasectomy procedures from The British Association of Urological Surgeons (BAUS).

VASECTOMY

Information about your procedure from
The British Association of Urological Surgeons (BAUS)

This leaflet contains evidence-based information about your proposed urological procedure. We have consulted specialist surgeons during its preparation, so that it represents best practice in UK urology. You should use it in addition to any advice already given to you.

To view this leaflet online, scan the QR code (right) or type the short URL below it into your web browser.

http://rb.gy/zf69k

KEY POINTS

- Vasectomy is the most effective method of male sterilisation
- It should always be regarded as "irreversible"
- You will not be sterile immediately, but will need to continue alternative contraception until you have been given the "all-clear" from your post-operative semen tests after at least 12 weeks and 20 ejaculations
- Late failure, due to the ends joining themselves back together, occurs in 1 in 2000 men
- There is no evidence that vasectomy causes any long-term health risks (e.g. testicular cancer, prostate cancer)
- Troublesome chronic testicular pain severe enough to affect day-to-day activities in up to 1-2%

What does this procedure involve?

Vasectomy is the most effective method of male sterilisation. It involves removal of a small section of vas from both sides with insertion of tissue between the divided ends to stop them re-joining.

What are the alternatives?

- **Other forms of contraception –** both male and female

You should regard vasectomy as an "irreversible" procedure. If you have any doubt about whether it is the right option for you, you should not go

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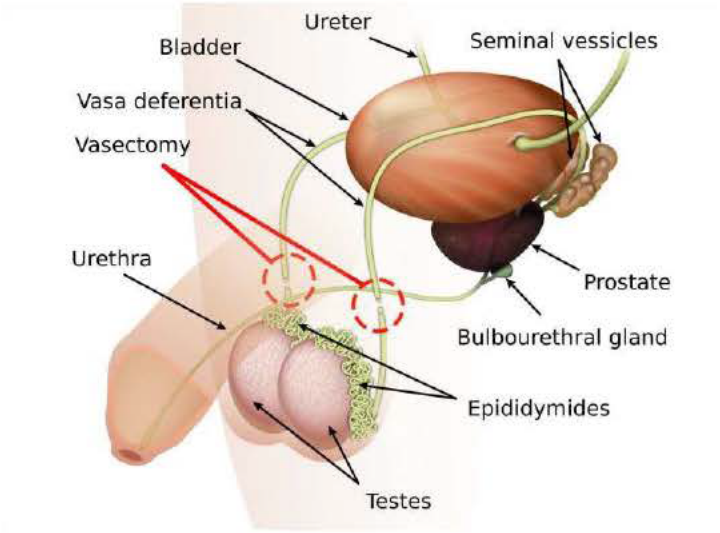
ahead. Under normal circumstances, vasectomy is not appropriate during pregnancy or within the first six months after the birth of a child.

Vasectomy is **NOT** recommended in men who have not had any children.

What happens on the day of the procedure?

Your urologist (or a member of their team) will briefly review your history and medications, and will discuss the surgery again with you to confirm your consent.



If you are scheduled to have your vasectomy under general anaesthetic, an anaesthetist will see you to discuss the options of a general anaesthetic or spinal anaesthetic. The anaesthetist will also discuss pain relief after the procedure with you.

We usually provide you with a pair of TED stockings to wear. These help to prevent blood clots from developing and passing into your lungs. Your medical team will decide whether you need to continue these after you go home.

Details of the procedure

- If your tubes are difficult to feel, or if you have issues with injections and/or a low pain threshold, we normally recommend a general anaesthetic
- local anaesthetic causes some discomfort when injected and is like a "bee sting"
- you will need two injections of local anaesthetic, one on each side
- once this has worked, your skin will be numb and you will not feel anything sharp or painful; you will still feel sensations of touch, hot and cold
- when the surgeon picks up each tube in turn, you may get a little discomfort; this can make you feel light-headed, sweaty and slightly sick but subsides very quickly

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- we use absorbable stitches to close the scrotal skin which disappear within two to three weeks

Are there any after-effects?

The possible after-effects and your risk of getting them are shown below. Some are self-limiting or reversible, but others are not. We have listed some important but very rare after-effects (occurring in less than 1 in 250 patients) individually. The impact of these after-effects can vary a lot from patient to patient; you should ask your surgeon's advice about the risks and their impact on you as an individual:

After-effect	Risk
Mild bruising and scrotal swelling with seepage of clear yellow fluid from the wound after a few days	 Almost all patients
Blood in your semen the first few times you ejaculate	 Between 1 in 2 & 1 in 10 patients
Troublesome chronic testicular pain which can be severe enough to affect day-to-day activities	 Between 1 & 2 in 100 patients
Significant bruising and scrotal swelling requiring surgical drainage	 Between 1 in 10 & 1 in 50 patients
Epididymo-orchitis (infection or inflammation of your testicle)	 Between 1 in 10 & 1 in 50 patients
Troublesome chronic testicular pain which can be severe enough to affect day-to-day activities	 Between 1 in 50 & 1 in 100 patients
Early failure (post-operative semen analysis shows persistent motile sperms) so that you are not sterile	 1 in 250 patients

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Late failure (re-joining of the ends of the tubes after initial negative sperm counts) resulting in fertility & pregnancy at a later stage	 1 in 2000 patients

What is my risk of a hospital-acquired infection?

Your risk of getting an infection in hospital is between 4 & 6%; this includes getting *MRSA* or a *Clostridium difficile* bowel infection. This figure is higher if you are in a "high-risk" group of patients such as patients who have had:

- long-term drainage tubes (e.g. catheters);
- bladder removal;
- long hospital stays; or
- multiple hospital admissions.

What can I expect when I get home?

- the local anaesthetic will wear off after four to six hours
- it is advisable to take simple painkillers such as paracetamol, before the local anaesthetic wears off, to help keep discomfort at bay
- we usually provide you with a scrotal support ("jock strap") to make the post-operative period more comfortable. If you find this difficult to wear, you can use tight, supportive underwear or cycling shorts
- it is advisable to take some simple painkillers such as paracetamol or ibuprofen to help any discomfort in the first few days
- you may find ice packs helpful to reduce pain and swelling in the first few days after surgery (but do not apply them directly to your skin)
- if your bruising, swelling or pain is getting progressively worse, day-by-day, you should contact your surgical team for advice
- your stitches do not need to be removed and usually disappear after two to three weeks, although this may sometimes take slightly longer
- try to avoid any heavy lifting or strenuous exertion for the first few weeks
- you will be given advice about your recovery at home
- you will be given a copy of your discharge summary and a copy will also be sent to your GP
- any antibiotics or other tablets you may need will be arranged & dispensed from the hospital pharmacy
- we will give you information about your follow-up appointments and post-vasectomy sperm counts

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Am I sterile straight after my vasectomy?

No, you are not.

It is essential that you understand you are **not** sterile immediately after the operation. This is because some sperms have already passed beyond the site where the tubes are tied off. These sperms need to be cleared by normal ejaculation. On average, you will need 20 to 30 ejaculations to clear them

IMPORTANT INFORMATION ABOUT SPERM COUNTS

At least 12 weeks after your vasectomy, you will be asked to produce a specimen of semen for examination under a microscope. Please read the instructions for producing and delivering the specimen very carefully.

If no sperms are present, you will be given the "all-clear" that you are sterile. If your sample still contains a few sperms, you will be asked to produce a further sample a few weeks later to ensure that you are clear.

More details about your post-operative fertility tests are available in the information leaflet about post-vasectomy sperm counts on the BAUS website.

General information about surgical procedures

Before your procedure

Please tell a member of the medical team if you have:

- an implanted foreign body (stent, joint replacement, pacemaker, heart valve, blood vessel graft);
- a regular prescription for a blood thinning agent (e.g. warfarin, aspirin, clopidogrel, rivaroxaban, dabigatran);
- a present or previous MRSA infection; or
- a high risk of variant-CJD (e.g. if you have had a corneal transplant, a neurosurgical dural transplant or human growth hormone treatment).

Questions you may wish to ask

If you wish to learn more about what will happen, you can find a list of suggested questions called "Having An Operation" on the website of the

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Royal College of Surgeons of England. You may also wish to ask your surgeon for his/her personal results and experience with this procedure.

Before you go home
We will tell you how the procedure went and you should:

- make sure you understand what has been done;
- ask the surgeon if everything went as planned;
- let the staff know if you have any discomfort;
- ask what you can (and cannot) do at home;
- make sure you know what happens next; and
- ask when you can return to normal activities.

We will give you advice about what to look out for when you get home. Your surgeon or nurse will also give you details of who to contact, and how to contact them, in the event of problems.

Smoking and surgery
If you are having a local anaesthetic, stopping smoking will have no effect on this procedure. Smoking can worsen some urological conditions and makes complications more likely after surgery. For advice on stopping, you can:

- contact your GP;
- access your local NHS Smoking Help Online; or
- ring the Smoke-Free National Helpline on **0300 123 1044.**

Driving after surgery
It is your responsibility to make sure you are fit to drive after any surgical procedure. You only need to contact the DVLA if your ability to drive is likely to be affected for more than three months. If it is, you should check with your insurance company before driving again.

What should I do with this information?

Thank you for taking the trouble to read this information. Please let your urologist (or specialist nurse) know if you would like to have a copy for your own records. If you wish, the medical or nursing staff can also arrange to file a copy in your hospital notes.

What sources have we used to prepare this leaflet?

This leaflet uses information from consensus panels and other evidence-based sources including:

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- the Department of Health (England);
- the Cochrane Collaboration; and
- the National Institute for Health and Care Excellence (NICE).

It also follows style guidelines from:

- the Royal National Institute for Blind People (RNIB);
- the Patient Information Forum; and
- the Plain English Campaign.

DISCLAIMER

Whilst we have made every effort to give accurate information, there may still be errors or omissions in this leaflet. BAUS cannot accept responsibility for any loss from action taken (or not taken) as a result of this information.

PLEASE NOTE: the staff at BAUS are not medically trained, and are unable to answer questions about the information provided in this leaflet. If you have any questions, you should contact your Urologist, Specialist Nurse or GP in the first instance.

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