

The Elliot Smith Vasectomy Clinic 1970-2013

A Brief History

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Chapters

1. [The origin and philosophy of The Clinic.](#)
2. [Arthur Elliot Smith.](#)
3. [The Clinic organisation and management.](#)
4. [Staffing The Clinic.](#)
5. [The 43 year experience.](#)
6. [Funding for the operations.](#)
7. [The patients: age, marital status, family size and socio-economic grouping.](#)
8. [Techniques used for vasectomy.](#)
9. [Contraception immediately after surgery.](#)
10. [Surgical success.](#)
11. [Additional Clinic enterprises.](#)
12. [Closure of The Clinic and disposal of assets.](#)
13. [Elliot Smith Clinic publications.](#)

Acknowledgement

Where archived material was lacking, much of the early organisation and workings of the clinic are based on the memories of Eileen Turner and John Guillebaud, for which I am very grateful.

Ian MacKenzie
January 2020

THE ORIGIN AND PHILOSOPHY OF THE CLINIC

Following his retirement as a general surgeon from the National Health Service, Arthur Elliot Smith conceived of a clinic performing only vasectomies for the local population of Oxford and environs. He discussed his idea with Mrs Rotha Peers, who at the time was chairman of the Oxfordshire, Buckinghamshire & Berkshire Family Planning Association and who worked with the Brook Advisory Centres. Between them, they decided to form an association with the Simon Population Trust and their concept for the first two years of functioning was known as the Simon Clinic. However, they considered that the area of vasectomy required research which they were not able to pursue with their allegiance to the Simon Population Trust and they thus independently established The Clinic.

For this, they engaged the services of two of the nursing sisters with whom Elliot Smith had worked in the operating theatres in the Churchill Hospital in Headington, Oxford. The Clinic was initially accommodated in the maternity outpatient department in one of the Nissen huts that had formed the basis of the American Air Force Hospital. This hospital had been built in 1940 and immediately leased to the USAF during World War II. After the war, it was taken over by the local council and reopened in January 1946 as a conventional hospital.

The basic equipment used for the vasectomies, of which there were eight sets with a backup steriliser, was used with local anaesthetic; the sterilised instruments were collected from the hospital TSSU and taken to The Clinic by the surgeon or his nursing colleagues for each operating session which was initially arranged for Saturday mornings. The first operation together with three other patients Arthur Elliot Smith performed was on 7 March 1970. Within the month he had engaged two General Practitioners (GPs) to cope with the increasing number of referrals from local GPs as word quickly spread and subsequently he enlisted the support of some of his junior surgical colleagues. By the end of the year there were eight surgeons performing the operations. The surgeons, nursing staff and examination of the patients' semen specimens, which were tested in the hospital pathology laboratory, were funded by the small fee charged to each patient having the operation.

All operations were performed using essentially the same technique: on each side, once a section of the vas deferens had been secured, local anaesthetic

was injected into each side of the scrotum including the skin and alongside the segment of vas deferens. An incision was cut on each side and two segments of vas deferens were isolated and then excised; if there was any uncertainty about the specimen it was sent for histological verification. The divided ends were ligated with catgut following which the skin incisions were closed with sutures, usually absorbable catgut, to avoid the need for removal.

Elliot Smith's intention was to provide the operation for all men in the community who requested it, with the charge kept to a minimum and only sufficient to cover operating costs. In 1970, this was £12 per operation. On occasions, if representation was made by a patient's GP, the charge was waived.

Approximately 16 weeks after the operation, all men were asked to provide a semen sample collected by masturbation, with a second sample one or two weeks later. Two consecutive tests showing azoospermia were advised before abandoning alternative methods of contraception, with additional specimens requested until azoospermia had been demonstrated. By the end of 1970, 802 patients had undergone the operation.

Since this was one of the first 'private' clinics in the country offering the operation at cost price, patients were attracted to the clinic not only from the local vicinity, but from much further afield. Among other places, patients were referred from as far afield as Liverpool, Lincoln, Derbyshire, the south coast and some from abroad. Among those men upon whom the clinic operated were the full crew of a Vulcan jet bomber and the complete watch from a fire station.

With the increasing numbers of operations being performed, The Clinic purchased further sets of surgical instruments and other pieces of essential equipment including clinical furniture and surgical sterilisers rendering it more self-sufficient. As the health service became more sophisticated with the introduction of universal guidelines, various changes were introduced which reduced the degree of independence of The Clinic. For example, in-house instrument sterilisation had to be discontinued and transferred to NHS services, with some resultant reduced efficiency and increased costs.

As well as training local junior hospital staff and GPs to work in The Clinic, the philosophy of the clinic was to train doctors to perform the operation elsewhere. As a consequence, a number of GPs, some who had travelled from as far afield as Milton Keynes, Lincolnshire and the Lake District were also trained.

ARTHUR ELLIOT SMITH

MA Cambridge 1923; MRCS 1924; LRCP 1924; MB BCh 1961; FRCS 1930.



Arthur Elliot-Smith was born in Cairo on 3 June 1901. He was the son of Sir Grafton Elliot-Smith the distinguished anatomist and anthropologist and Kathleen (née Macready). After leaving school, he went up to Clare College, Cambridge as an undergraduate to read medicine. He gained his clinical experience at University College Hospital, London and his medical degree from Cambridge and he also obtained the Conjoint Diploma. After qualification he embarked upon a career in surgery and was an Atkinson Morley surgical scholar at University College Hospital, subsequently obtaining his Fellowship of the Royal College of Surgeons, London in 1930. As well as his surgical career, he was an accomplished athlete, playing cricket and rugby for his hospital, being appointed President of the Rugby Football Club.

He was next appointed a surgical assistant to Professor Grey Turner at the Royal Postgraduate Hospital which had recently opened, where as well as expanding his experience in general surgery he was able to develop his

interest in urology and paediatric surgery. In 1937 he married Nancy Williamson and between them they had four sons.

He next became a senior surgical officer at St Giles Hospital in Camberwell following which in 1939 he was appointed consultant surgeon at the Radcliffe Infirmary in Oxford. Around this time, the Nuffield endowed postgraduate departments were being established in Oxford along with the opening of the new clinical school there.

At the outbreak of the Second World War, he joined the Royal Army Medical Corps and served in North Africa and Italy ultimately becoming a consultant surgeon to the Mediterranean Expeditionary Force, having risen to the rank of brigadier.

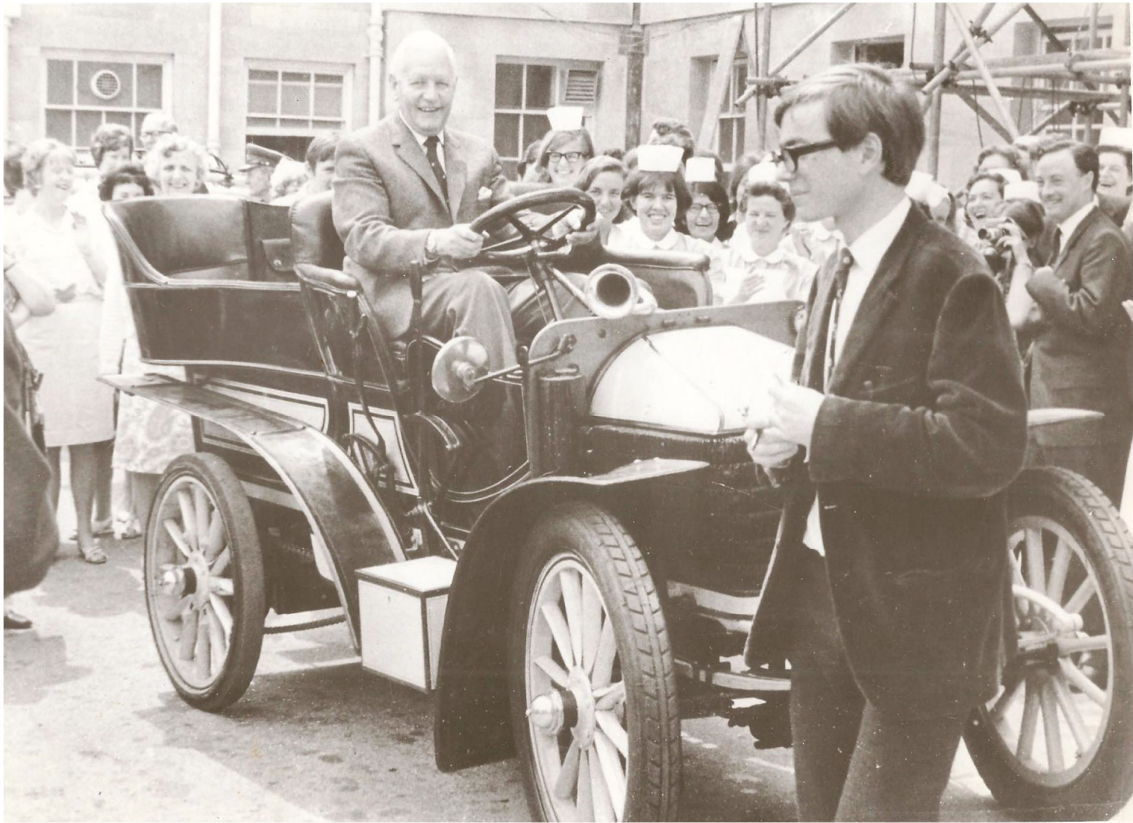
On returning to Oxford, Arthur Elliot-Smith was additionally appointed consultant surgeon to Savernake Hospital, Marlborough; his influence on surgery throughout the Oxford region became progressively greater inevitably. During this period he was awarded the Fellowship of the Association of Surgeons of Great Britain and an Associate Fellow of the British Association of Urological Surgeons.

In 1966 he retired from his NHS positions and returned to North Africa to work at the Moussat Hospital in Tripoli where he studied the differences in the disease patterns of desert-living and rich-urban Arabs. He studied alimentary transit-times which led to an intense interest in dietary fibre. On his return to Oxford after two years in Tripoli his interest in foods and their relation to disease continued; he was appointed Trustee and Honorary Treasurer of the International Institute of Human Nutrition.

His garden was one of his major interests outside his profession and he was particularly interested in hybridizing roses. His interest in soil preservation resulted in his election as President of the Oxford branch of the Soil Association and then of the McCarrison Society.

In 1970 having been retired from his health service positions for five years, he established the Oxford Vasectomy Clinic under the umbrella of the Simon Trust. He told colleagues that, because of the many problems associated with overpopulation, he considered this to be his life's most important legacy. It was only two years later on 5 August 1972, shortly after his 71st birthday, that he sadly died in his garden when in apparent excellent health.

Arthur Elliott Smith at his retirement party (1966)



CLINIC ORGANISATION AND MANAGEMENT

As soon as it became apparent there was a local need for a vasectomy service and the principle of how to organise a clinic had been developed, a management structure was established for The Clinic. A management committee was formed which dealt with everyday issues regarding the running and organisation of The Clinic and appointing staff as necessary. The committee also considered additional appointments to this management committee.

In the early 1980s when a previous patient considered litigation against The Clinic after his wife became pregnant following his vasectomy, the decision was reached that The Clinic should become a limited company to protect members of the management committee. In the event, the legal action against the clinic was dropped. With these changes, a more formal structure was established, with members of the management committee becoming directors of the company, and a chairman was elected together with the appointment of a secretary and auditors.

The first chairman of The Clinic was Mr David Budd, general surgeon based in Banbury. He was followed by Dr Tim Lusty who, as well as running a local farm, became Medical Director of Oxfam. On his retirement as chairman, Mr Joseph Smith was appointed; he had worked as a consultant urologist in Oxford and had at the time recently retired as the chairman of the Medical Defence Union. He was followed by Dr Peter Iredale, a physicist, who had been the director at the Harwell Energy Authority before being appointed Chairman of the Oxfordshire Health Authority from which he had recently retired. He remained chairman overseeing the closure of the clinic and dispersal of the funds.

STAFFING THE CLINIC

Over the 43 years The Clinic was in operation, there were an ever-changing nursing and reception staff. In some instances, staff remained with the clinic throughout almost the duration that it was functioned. The records for these staff are not sufficiently robust to allow a detailed analysis of their commitment and contribution to The Clinic.

The surgeons who operated in The Clinic over that time were also ever changing. Throughout the period, they were drawn from a small number of general practitioners, and junior hospital medical staff in training in a variety of specialisms. Over time, some of these junior staff were promoted to consultant status and continued to work in or near Oxford and in The Clinic. Only one surgeon continued to work in The Clinic through almost the entire 43 year period it functioned, John Guillebaud who initially worked as a trainee in obstetrics and gynaecology. He performed his first operation in June 1970 and his final operation in April 2011, continuing his function as a director of the clinic and a member of the management team.

Over the years, a total of 84 surgeons operated in the clinic, identified in table 3.1. A code has been adopted to identify individual surgeons and maintain anonymity.

Table 3.1 Clinic surgeons including specialism, date and duration of appointment and number of operations performed.

Surgeon	Specialism	Clinic attachment		No. operations
		Period of surgery	Duration	
lb	GP	9/1983-12/2013	30yr 3mn	4158
fb	GP	4/1979-6/2011	32yr 2mn	3430
izm	O&G	3/1974-1/2004	29yr 10mn	3123
stei	GP	4/1978-12/2003	24yr 8mn	2917
jg	O&G	6/1970-4/2011	40yr 10mn	2740
ds	GP	4/1978-3/2004	25yr 11mn	2710
rl	GP	4/1970-5/1983	13yr 1mn	1684
dc	surgery	1/1988-12/2013	25yr 11mn	1558
db	surgery	5/1970-12/1982	12yr 7mn	1375

Surgeon	Specialism	Period of surgery	Duration	No. operations
lus	n/r	7/1971-3/1988	16yr 8mn	1117
dg	O&G	6/1972-4/1980	7yr 10mn	1021
br	n/r	7/1970-12/1987	17yr 5mn	993
jm	GP	4/1970-9/1976	6yr 5mn	881
aes	surgery	3/1970-11/1972	2yr 7mn	834
lesl	surgery	10/2004-7/2013	8yr 9mn	646
kg	O&G	12/1976-9/1980	3yr 9mn	437
ml	GP	12/1972-12/1978	6yr 5mn	413
bc	O&G	5/1982-10/1985	3yr 5mn	408
ahm	O&G	2/1972-9/1978	6yr 7mn	403
djh	O&G	8/1971-9/1975	4yr 1mn	398
sh	O&G	10/1972-6/1976	3yr 8mn	395
pjh	O&G	12/1977-9/1983	5yr 9mn	347
rm	O&G	1/2007-7/2012	5yr 6mn	341
io	n/r	11/2006-12/2013	7yr 1mn	329
bull	GP	2/2007-8/2011	4yr 6mn	308
es	surgery	3/2000-7/2002	2yr 4mn	249
kas	O&G	8/1973-7/1976	3yr	240
jk	O&G	3/2001-1/2004	2yr 9mn	237
kai	surgery	9/1985-6/1987	1yr 9mn	237
rn	O&G	7/1972-9/1975	3yr 2mn	234
kd	O&G	12/1976-12/1978	2yr	229
agw	n/r	10/2011-12/2013	2yr 2mn	202
de	O&G	4/1991-3/1993	2yr 2mn	201
tp	surgery	7/1979-5/1983	3yr 10mn	195
nh	surgery	5/1997-1/2004	5yr 8mn	187
no operation notes identified for these cases				173
ri	surgery	8/2003-6/2006	2yr 10mn	159
kt	surgery	5/1998-10/2000	2yr 5mn	154
np	n/r	10/2002-12/2004	2yr 2mn	116
np1	n/r	2/2011-10/2013	2yr 8mn	23
to	surgery	2/1993-1/1996	2yr 11mn	135
gou	O&G	1/1979-6/1982	3yr 5mn	126
ham	n/r	11/1972-2/1974	1yr 3mn	117
ajt	O&G	6/1970-10/1971	1yr 4mn	115
dt	O&G	10/2003-1/2006	2yr 3mn	113
Allen	n/r	7/1983-9/1984	1yr 3mn	110
rbas	n/r	10/2004-5/2006	1yr 7mn	91
ask	surgery	1/1978-7/1978	0yr 6mn	72
tho	GP	10/1971-7/1973	1yr 9mn	26
tho1	n/r	4/1975-1/1976	0yr 9mn	23
hig	n/r	10/1978-7/1979	0yr 9mn	56
rob	n/r	6/1978-11/1978	0yr 5mn	34
sch	GP	6/1980-10/1980	0yr 4mn	30

Surgeon		No. operations
cor		27
mcd		22
mar		16
ric		14
dic		13
jon		11
bin		10
as		9
fos		9
mea		9
fin		8
am	Doctors attending The Clinic to be trained in the surgical techniques of vasectomy	7
edw		7
herb		7
aa		6
ey		6
sult		6
kyl		5
whar		5
alice		4
gs		4
kr		4
pai		3
gla		2
hou		2
sha		2
zip		2
li		1
ls		1
pag		1
winn		1
Total operations		37079

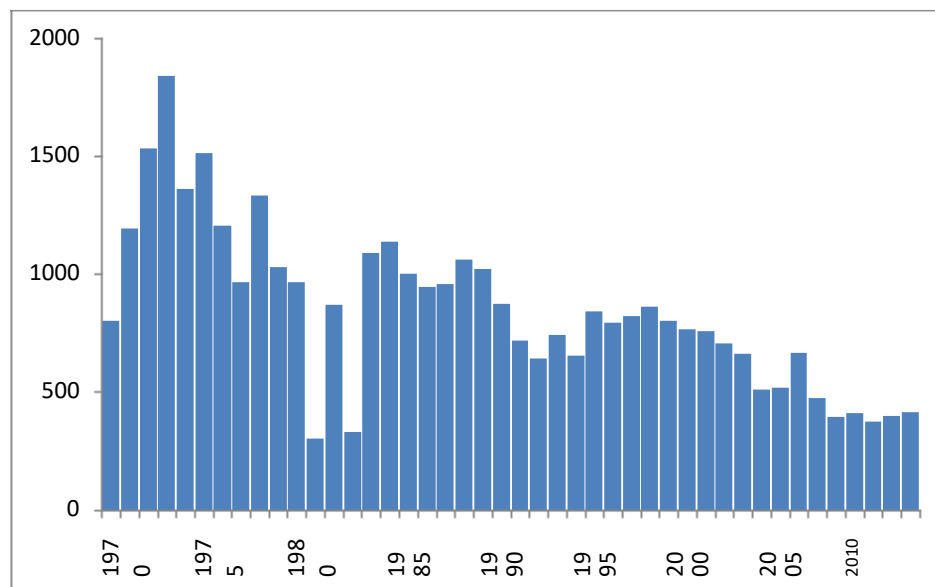
GP= general practice, O&G= obstetrics and gynaecology; surgery=general surgery n/r= not recorded

Eleven surgeons each performed more than 1000 operations during their time at The Clinic; 34 performed between 100 and 1000 operations while a further seven surgeons performed between 20 and 100 operations each. Thirty-one doctors attended The Clinic to be trained in the technique of vasectomy and were not engaged in the service provided by the clinic.

THE 43 YEARS EXPERIENCE

During the 43 years when the Eliot Smith Clinic was in operation, 37,125 men underwent vasectomy. As illustrated in Figure 4.1, the annual totals varied quite considerably. During the 10 months of operation in 1970, 802 operations were performed and by 1973 the largest annual total of 1838 operations were performed that year. Thereafter, the annual total remained above 1000 to the end of the 1970s, while in the 1980s the totals ranged between 870-1135 operations. The totals for 1981 (301) and 1983 (331) are incomplete for reasons that are not apparent.

Figure 4.1 Annual total operations



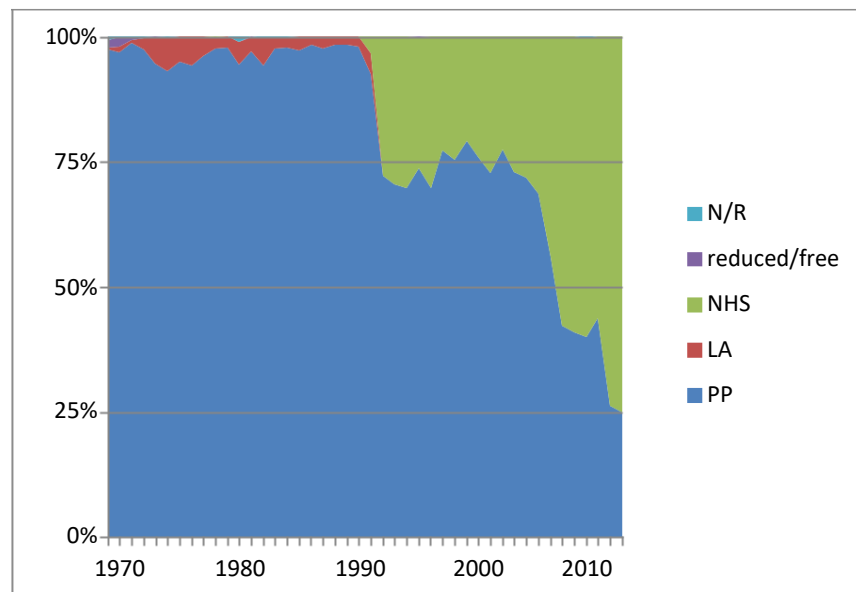
After 2000, the annual totals gradually declined and from 2008 the figure never reached 500, and made it difficult to continue to run the clinic efficiently. It was for this reason primarily the decision was reached in 2012 to cease operating at the end of 2013.

FUNDING FOR VASECTOMY

During the first 20 years, almost all patients were self-funding. A small proportion could apply to have the local authority pay for the operation if they were experiencing financial hardship or there was a medical indication for the operation to be performed. In a very small number of cases The Clinic charged a reduced fee or very rarely no fee at all, usually because the patient was a doctor known to the surgeon.

From the early 1990s, the principle of GP Fundholding was introduced and some patients had the operation funded by their General Practice. By 1993, there was a change in philosophy within the NHS, and an agreed number of vasectomies would be performed and funded by the local NHS, organised through the Family Planning Clinic. Gradually, the proportion of operations being performed on self-funding patients declined as illustrated in Figure 5.1.

Figure 5.1 Funding for vasectomy 1970-2013



N/R: not recorded, LA: local health authority, PP: self-funded.

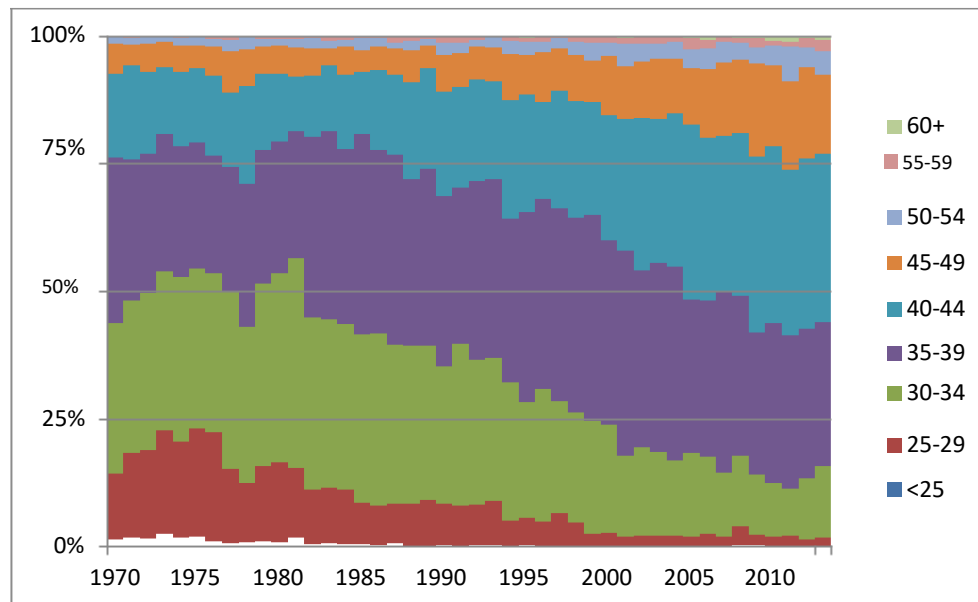
THE PATIENTS: AGE, MARITAL STATUS, FAMILY SIZE AND SOCIO-ECONOMIC GROUPING

Trends in demographic details of the patients undergoing vasectomy in The Clinic over the years are illustrated in the following tables.

Age of patients and their partners

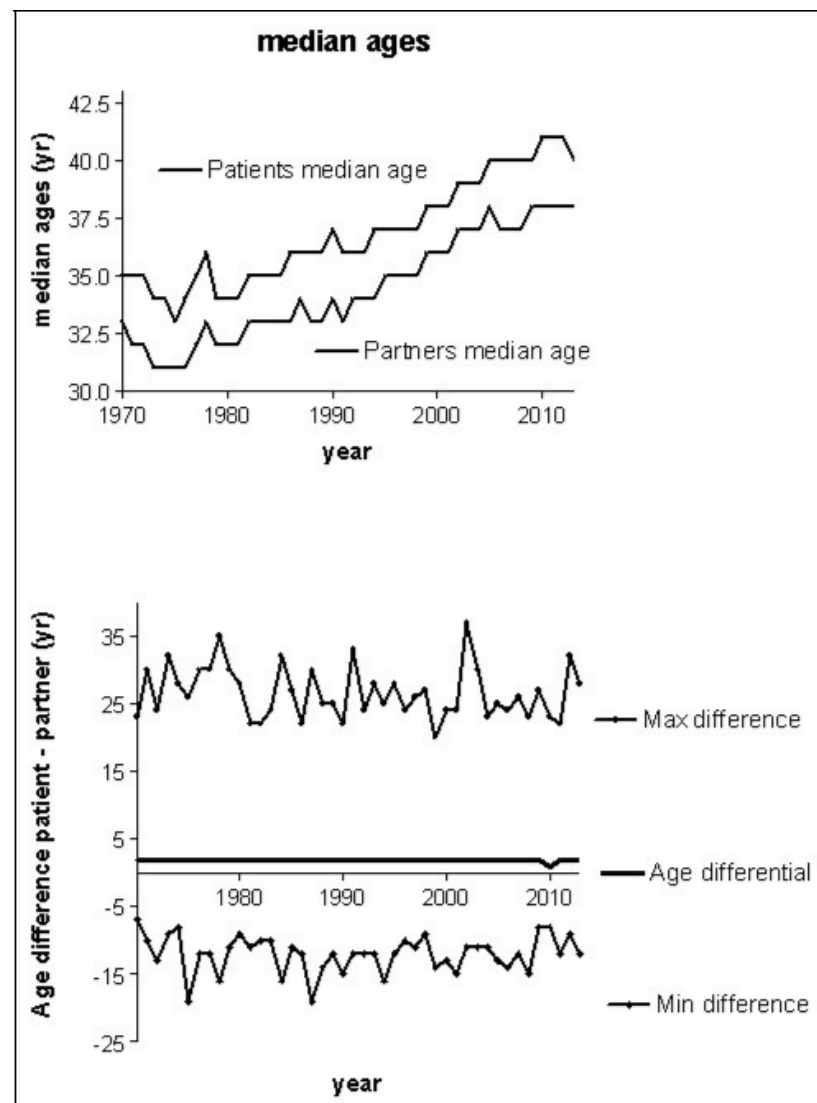
The patient's age was intended to be recorded for all patients who underwent the operation, and this has been analysed in Figure 7.1. This shows there was a trend towards older men undergoing the operation during the period The Clinic functioned. Although the numbers of men aged under 25 years were always limited and the philosophy of the clinic was to discourage such men from requesting vasectomy, very few men in that age group had the operation after 1985. Among the total 241 men who were aged 24 years and younger who had a vasectomy, there were seven aged 20 or 21 years at the time of the operation. The proportion having vasectomy in the age groups 25-29 years and 30-34 years also both declined between 1970 and 2013, with a fairly static 25-30% of patients in the age group 35-39 years, with gradual increases in the proportions of those older.

Figure 7.1 Recorded ages of 37,000 patients 1970-2013.



The age of the patient's partner was recorded in 36,455 instances of whom 126 were aged 21 years or less at the time of their partners' operation, and 1074 were aged 24 years or under. 4313 (12%) were the same age; for 26,644 (73%) the patient was older than his partner and 5450 (15%) were younger. The difference between the ages of the patient and his partner, whether a first or subsequent partner is illustrated in Figure 7.2. This shows the median ages of patients gradually increased over the 43 years from around 35 to 40 years, with a similar trend for his partner, with a relatively constant median age 2 years younger than the patient.

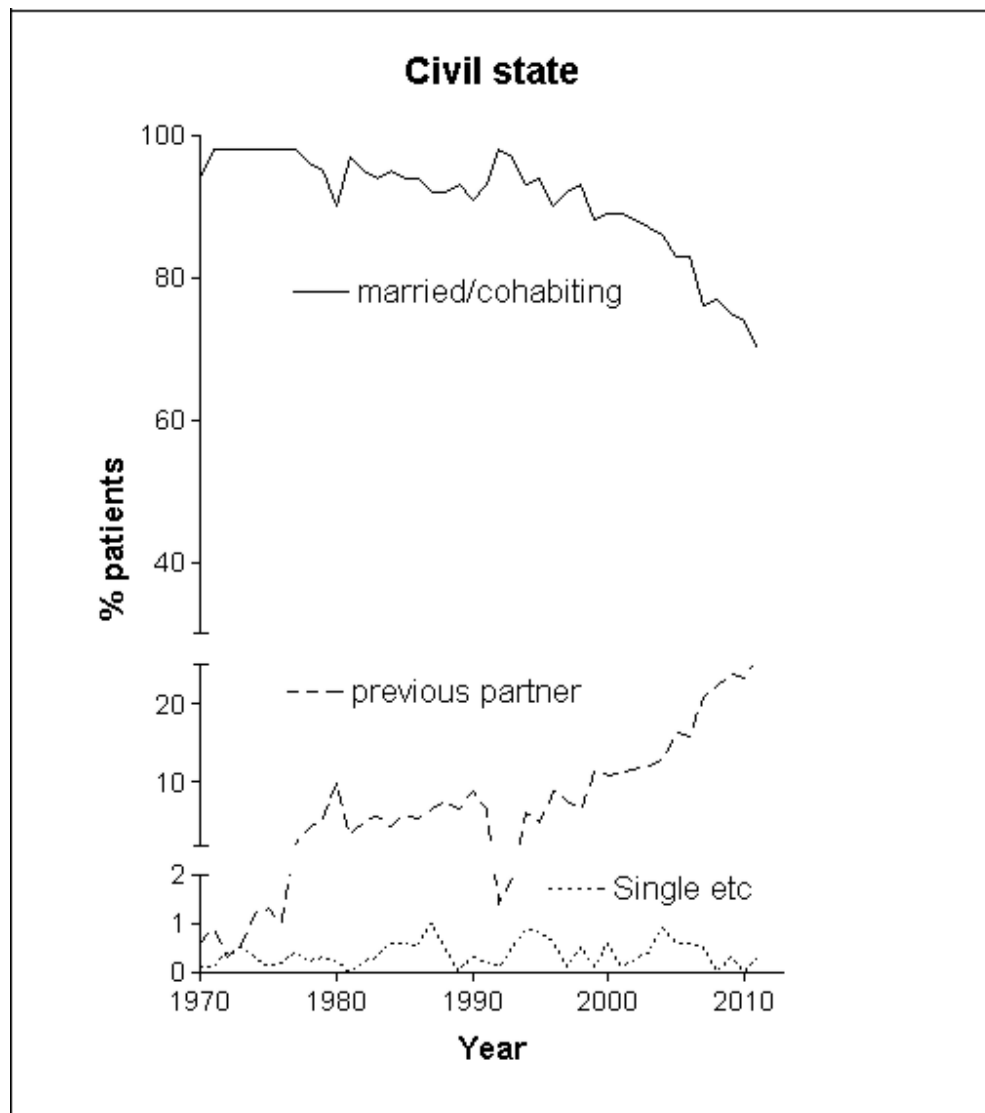
Figure 7.2 Median ages of patients and their partners for the 36,455 where both ages were recorded.



Marital status

During the first years of functioning of The Clinic, the vast majority of patients stated they were married, with a small number unmarried and very few reporting a previous marriage for themselves or their partner. By 1980, there was an increasing trend for men to report a previous marriage/partnership or the partner had been in a previous relationship which reached around 5% of the total by that year, with a continuing small proportion of men being single, separated, divorced or widowed. The trend over the years is illustrated in Figure 7.3.

Figure 7.3 Recorded marital status for 36,508 men 1970-2013

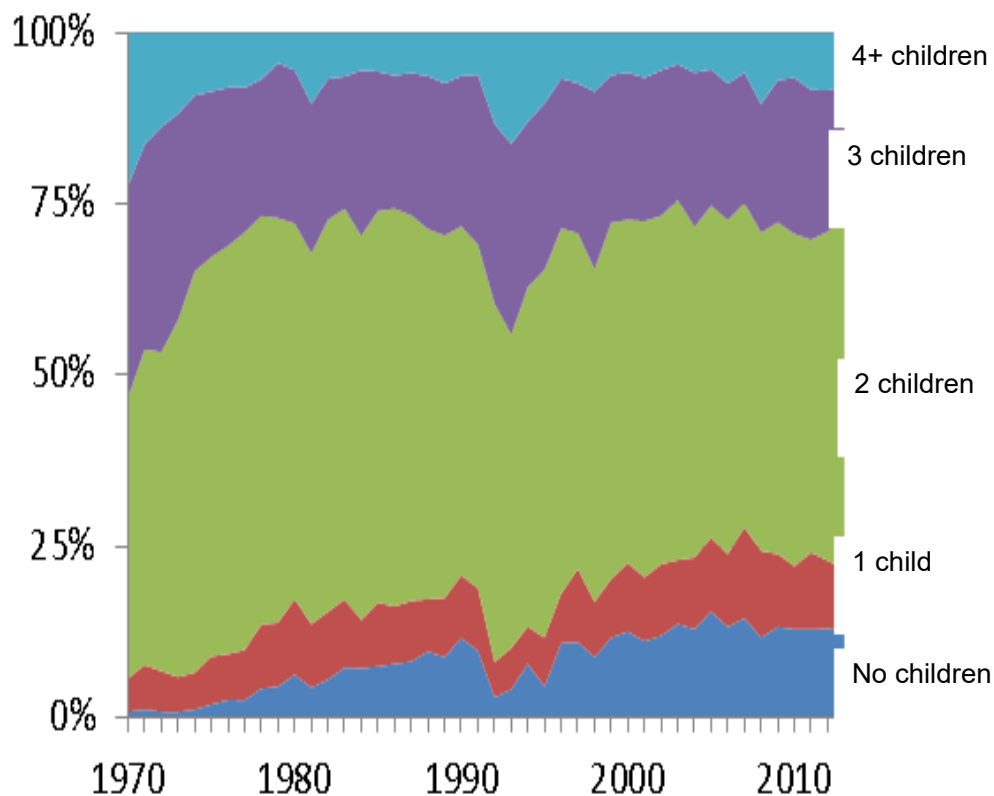


Number of existing living children

Among the questions that were routinely asked of patients undergoing vasectomy was enquiry of the number of children living with them or whom they had fathered. Since most patients were married during the early years, the number of children given was fairly clear-cut. However, with the increasing number of separations, divorces and 'remarriages', it was not always possible to be confident of the precise significance of the figure given.

Of the 37,125 men who underwent the operation, information on this was not recorded for 175 (0.47%) men; these data are shown in Figure 7.4. However, it is evident there was a gradual increase over the 43 years in the proportions of men undergoing vasectomy who had either not fathered any children from 0.8% in 1970 to 13.0% from 2001 onwards or had fathered only one child from 4.9% in 1970 to 20% from 2001 onwards.

Figure 7.4 Recorded numbers of existing living children of 36,950 men undergoing vasectomy 1970-2013.



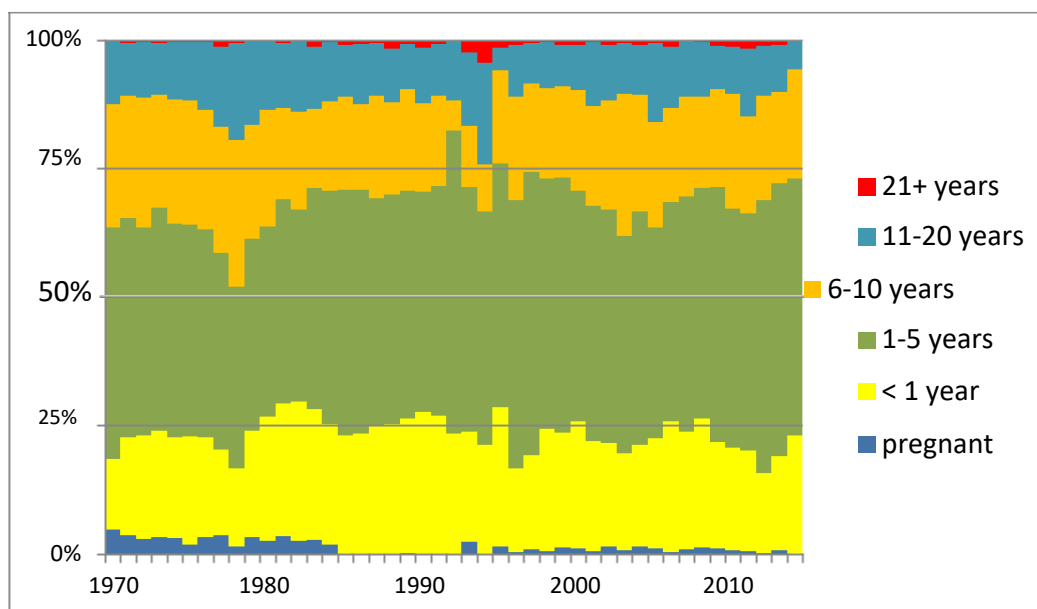
Information obtained on the age of the youngest child for each man, including those whose partner was pregnant at the time of the operation, is listed in Table 7.1.

Table 7.1 Age of youngest offspring at time of surgery for 37,125 patients.

No children	2%
Partner pregnant	1%
<1 year	19%
1-5 years	39%
6-10 years	19%
11-20 years	10%
21+ years	1%
No ages recorded	9%
Total	37,125

An analysis of the 33001 responses given by patients over the years did not show any dramatic changes in the ages of the youngest born to the patient, apart from possibly a slight reduction in frequency with which the partner was pregnant at the time of the vasectomy as shown in Figure 7.5.

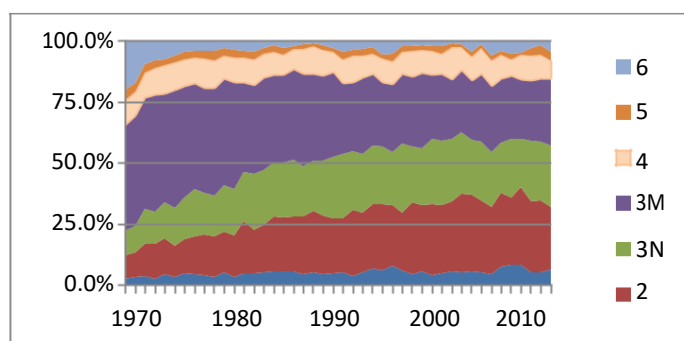
Figure 7.5 Ages of the youngest child fathered by 33,001 patients at the time of vasectomy 1970-2013.



Socio-economic grouping

An attempt has been made to classify patients according to the occupation they gave or had been recorded. In a number of instances an occupation was either not given, or it has not been possible to determine precisely in what occupation the patient was engaged. To produce more meaningful information, the data derived from 36,618 patients has been incorporated into Figure 7.6, excluding the 703 patients where the information could not be determined. These figures show that in 1970 approximately 50% of the patients were in Group 3M and Group 4 (skilled and part-skilled manual workers) and 20% were in Group 6 (armed forces, students or unemployed) but these proportions gradually reduced with resulting increases to around 25% for each of Group 2 intermediate and Group 3 non-manual workers. There were no significant changes in the proportions of the other groups throughout the 43 year period.

Figure 7.6 Socio-economic grouping for 36,618 patients 1970-2013.



(1: professional and members of the church, 2: intermediate including teachers and nurses et cetera, 3N: skills non-manual, 3M: skilled manual, 4: partly skilled, 5: unskilled, 6: armed forces, students and unemployed.)

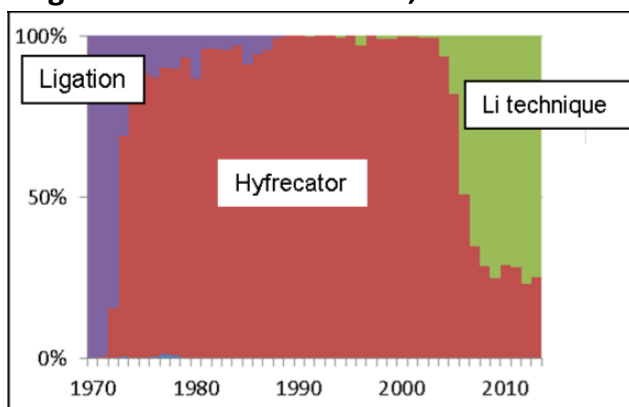
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TECHNIQUES USED FOR VASECTOMY

At the inception of the clinic, the operation was performed using local anaesthetic and commonly two incisions rather than one incision: having isolated the vas deferens on each side, a segment was removed between clips and the resulting divided ends were ligated with catgut. Sometimes one or both ends were doubled back and sometimes the ends were separated by inter-posed cremasteric tissue.

In September 1971, the unipolar electrode 'Hyfrecator' was introduced and gradually became the preferred technique for most surgeons. This technique involved removing the segment of vas on each side and applying the cautery probe for a brief period to the lumen of the retained divided ends of the vas. By 1996, the 'no-scalpel technique' devised by Dr Li, referred to as the 'Li technique', was introduced into the clinic and by 1998 was being adopted by a number of surgeons. By 2013, 75% of operations were performed using this technique (with minor adaptations) to access the vas, though its divided ends were still sealed using the Hyfrecator; the ligation method was by then used only rarely, when surgically indicated. In total, the techniques used could be identified from the operation note in 36,776 patients as shown in Figure 8.1.

Figure 8.1 Surgical method used for 36,776 vasectomies 1970-2013



Note: Li technique refers to minimally invasive vasectomy using the Li instruments with Hyfrecator occlusion.

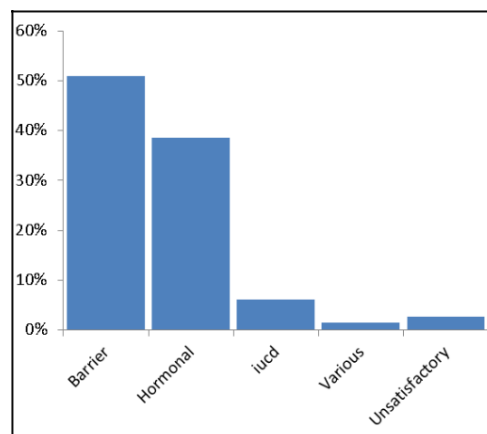
This shows that 4998 were managed by ligation, 2588 using the Li Technique or a variant, and 29,139 by the Hyfrecator after a scalpel incision. Eighty-six patients underwent the operation under general anaesthetic in the Horton Hospital surgical unit in Banbury, the Churchill Hospital urology department or the private Manor Hospital in Oxford. In 453 cases, details of the surgical procedure could not be determined from the operation note.

DEFINITION OF VASECTOMY CLEARANCE AND PLANNED CONTRACEPTION PRIOR TO THIS

All men undergoing vasectomy were asked to state which method of birth control they would rely upon until given clearance after their vasectomy. All men were advised that two consecutive azoospermic semen samples were required before being given the advice to abandon other methods of contraception. After the first few years of operation, it became evident that some men appeared never to achieve total azoospermia, even with repeated testing, and a protocol for 'special clearance' was introduced. Provided at least seven months had elapsed post-surgery and with no evidence of motility, two consecutive sperm counts of <10,000 spermatozoa per millilitre of semen, or one before or after an azoospermic specimen permitted the recommendation to abandon other forms of contraception. Any evidence of motility, however low the count, made re-operation mandatory. No conceptions attributable to failure of the vasectomy have been identified following use of this protocol; and Davies *et al* (1990) detected sperm 3-plus years post-vasectomy in just 1 of 50 patients who had received this clearance.

The information from two semen specimen was however not always provided, since some patients failed to provide one or both specimens. Of the 37,125 patients undergoing vasectomy, this information was not available for 8715 (23%). Of the remaining 28,410 for whom the information was recorded, this is illustrated in Figure 9.1.

Figure 9.1 Planned birth control method to be used until vasectomy clearance given for 28,410 men for whom the information was recorded.

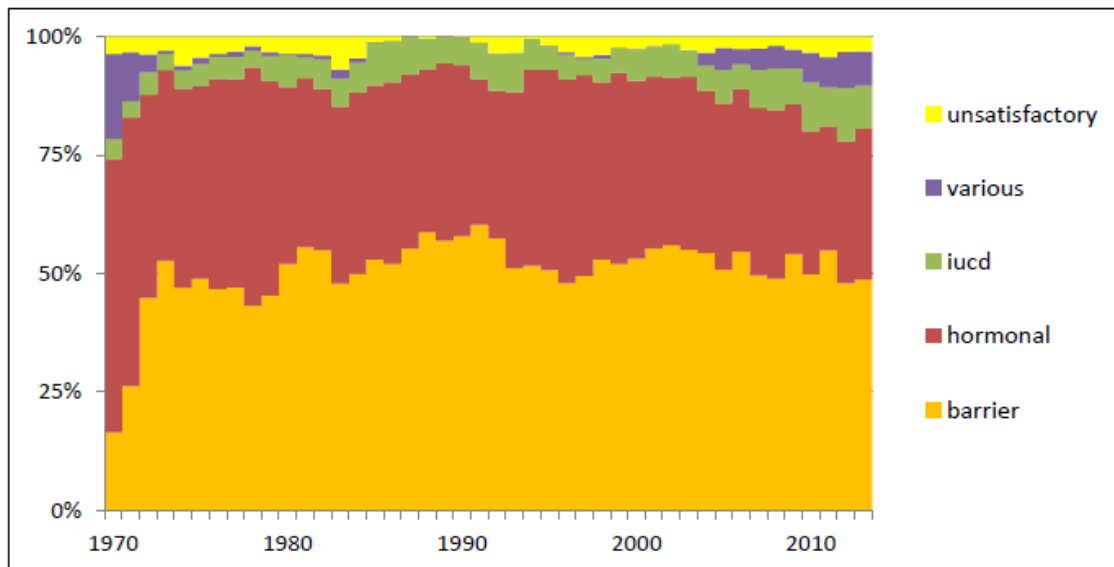


(Unsatisfactory: no information, see text)

Until the patient had been issued with the advice he could abandon other methods of contraception, 51% planned to use a barrier method which involved the male sheath in more than 95% patients, 39% were to rely upon hormonal methods with more than 95% of them relying on their partners using the combined oral contraceptive pill, 6% would be relying upon their partner's IUCD, 2% stated they would be using a variety of different methods and 3% reported they would use what were commonly considered unsatisfactory methods including no contraception, abstinence, *coitus interruptus*, the rhythm method, a spermicidal cream alone or the partners postnatal period and breastfeeding with its associated reduced fertility.

Analysis of these data over the 43 year period displayed in Figure 9.2 indicated after the first 2-3 years of operation, barrier methods of contraception were the preferred interim birth control method used by 50% patients with a relatively constant 20-30% using hormonal contraception and 5-10% relying upon the IUCD for most years.

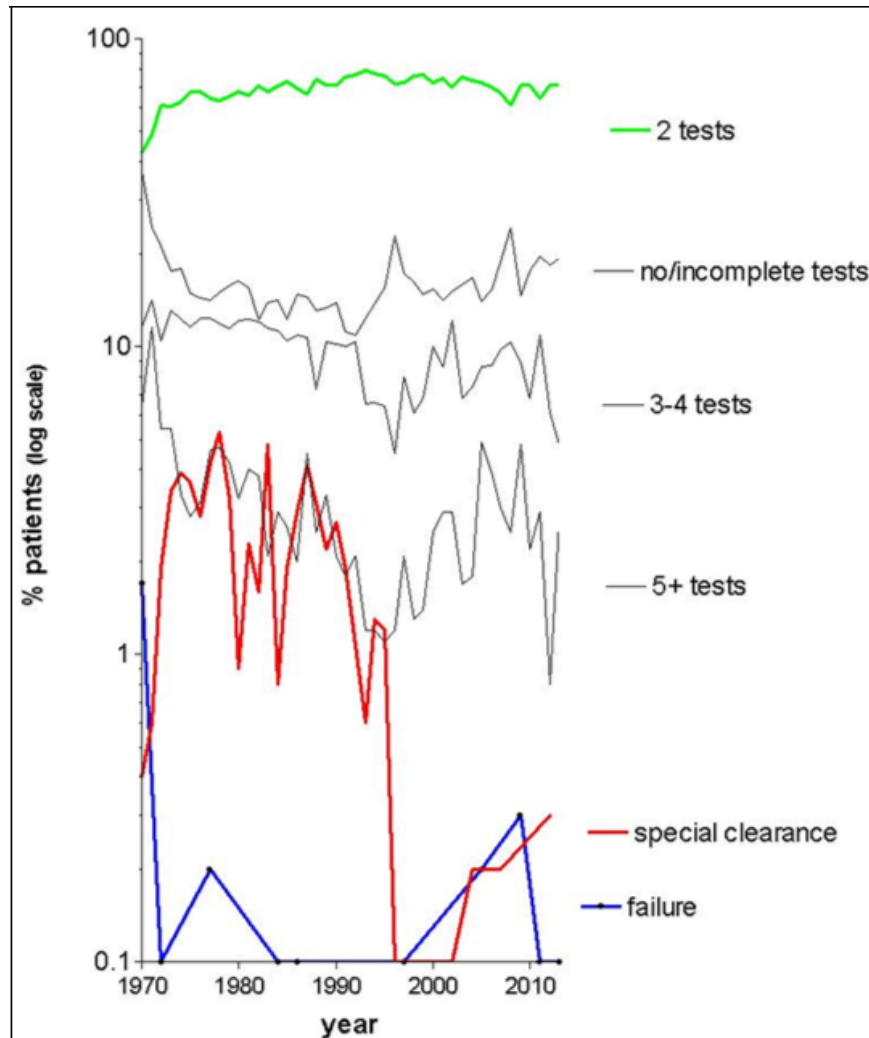
Figure 9.2 Planned contraception use prior to vasectomy clearance for 28,410 patients 1970-2013.



SURGICAL SUCCESS

The philosophy of the clinic had been to obtain two consecutive negative semen analyses, recommended for collection from 16 weeks after the operation. Figure 10.1 illustrates the rates of success according to the first two semen samples submitted and subsequent samples when necessary using two consecutive 'negative' results.

Figure 10.1 Logarithmic illustration of the success rates obtained 1970-2013, according to the number of specimens that required analyses to achieve satisfactory clearance. (See text for definitions.)



During the first two years, patients in whom there were persistent low level numbers of sperm found in the semen sample, a repeat operation was recommendation and was performed in 15 cases. With experience, it became evident some men continue to have very small numbers of sperm persisting (<10,000 per ml semen), which led to the concept of 'Special Clearance' being introduced, as described in Chapter 9. In consequence, the initial high rate of failures *reported* during the first years of operation dramatically declined thereafter with the increased number of 'Special Clearance' cases.

Throughout the period of operation, there were always a significant number of men for whom either no semen specimens were submitted or the request for repeated samples was not completed. In most of the 43 years, between 10-25% men failed to provide the required number of semen samples before appropriate clearance could be given. Despite this, the clinic was aware of very few conceptions attributed to men not completing their tests, believing that such failures would normally have been notified to the clinic.

Of the ten identified early failures after 1972 – ie with sperm counts well above those eligible for Special Clearance (Figure 10.1) – five were performed by surgeons who had performed more than 1000 vasectomies, four by surgeons who had performed more than 100 operations and one by a surgeon who had performed 91 operations in total. Two operations had been performed using the ligation technique, four using the Hyfrecator and two using the Li technique.

The patient was counselled after a failure by a member of the clinic staff and usually offered a repeat operation under general anaesthetic, most frequently at the Horton Hospital, Banbury, where one of the Clinic surgeons worked.

The clinic was the first in the world to report late failures of vasectomy after two azoospermic semen samples (Philp *et al* 1994), 6 occurring in a defined population of 14047 men. This led to general acceptance that the failure rate of vasectomy is less than 1 in 2000 after clearance.

The Clinic or its surgeons were threatened on a few occasions with litigation, but no cases proceeded to court, and none was settled. The Clinic however was ever mindful of the possibility of litigation, most frequently perhaps from a threat of a failed operation, but also in more recent years the possibility of a complaint relating to chronic pain. As a consequence, the literature given to prospective patients, detailing the procedures involved with the operation and the risks of possible short and long-term complications, was permanently under review and updated when necessary. These risks were informed by numerous follow-up studies by clinic staff (pages 26-7), as well as making reference to other worldwide literature when available. It was felt that the quality of this patient information literature played a significant part in the low rate of complaints received by the Clinic.

11

ADDITIONAL CLINIC SERVICES

Laparoscopic female sterilisation under local anaesthetic

In 1982 following a request from the local medical services, two of the surgeons working in the clinic who were consultant gynaecologists suggested the Clinic should explore the possibility of laparoscopic female sterilisations performed using local anaesthetic. Mr Marcus Filshie, consultant gynaecologist in Nottingham who with a colleague had developed the Filshie sterilisation clip addressed the clinic one evening, describing his experience performing the operation under local anaesthetic. It was decided this option should be pursued and two additional senior gynaecologists and a senior anaesthetist were invited to join the clinic to perform these operations.

In November 1983, the service started, and functioned on a Saturday morning with one of the four gynaecologists performing four operations with an anaesthetist and four nursing sisters providing patient care. All patients were initially seen for a counselling and examination appointment following which the operation, if agreed, would be performed within three months of counselling unless a longer interval was requested by the patient. Following the operation, all patients would remain in the clinic for at least one hour after the end of the operation, following which they were driven to their home by a partner or friend. Arrangements were made with the gynaecology department in the Churchill Hospital to accommodate any patient who required hospital admission. During the 1990s, the local gynaecology department was invited by the Clinic to consider referring suitable patients to the Clinic for the operation under local anaesthetic; these attempts however were not successful, despite advising that the fee paid to our surgeon to perform four operations was less than the 'fee-for-service' paid by the NHS to the surgeon for one operation performed in the NHS.

An analysis of the first consecutive 1000 cases operated on between 1983 and 1999 did not identify an increase in age of patients, as with vasectomy, but did show the median age of the patient at 36.5 years was around 2½ years younger than their partners at 39.0 years. Table 11.1 illustrates some of the characteristics of the women who underwent the operation. Once again, there were no trends apparent during the period analysed.

Table 11.1 Characteristics of the first 1000 patients undergoing laparoscopic sterilisation using local anaesthetic during 1983-1999.

Previous contraception		Civil state		Socio-economic group		Number of children	
Method	%	Civil state	%	Group	%	Number	%
Barrier	39.7	Married	71.8	1	7.6	0	11.0
Hormonal	39.0	Married more than once	12.1	2	32.8	1	8.4
IUCD	9.5	Single	1.8	3	45.3	2	48.5
Variety of methods	0.5	Separated	4.0	4	6.9	3	22.4
Unsatisfactory methods	9.4	Divorced	7.3	5	2.9	4	6.9
Vasectomy	0.1	Widowed	0.9	6	3.0	5+	1.4
Not recorded	1.8		1.4		1.6		1.4

In July 2002, the service was discontinued since the referral numbers had reduced to the extent it became uneconomical to continue. By that stage, 1101 women had had the operation in the Clinic, with one failure - a case where previous severe pelvic peritonitis had distorted the anatomy; and one woman had her operation repeated under GA when the surgeon was concerned about possible misapplication of one clip, which was later confirmed. At the time of a follow-up survey in 2007 which included 735 (78%) of the women who had been sterilised in the clinic, six had had the operation reversed and all six had conceived successfully by the time of the survey.

Clinic for erectile dysfunction

In November 1991, the Clinic introduced an impotence service which was provided by two General Practitioners who were vasectomy surgeons in The Clinic. At that time, there was a very limited local service for men in need of help. Referrals were taken from General Practitioners, Primary Care Groups and hospital departments in the vicinity. A first appointment was usually given within one month of receipt of a completed application. The techniques offered for treatment varied with experience and the needs of individual patients. The options used by the Clinic included Muse, Viridal and Caverjet injections, the use of an erectile pump which the patient had to purchase, advice on the use and (after 1998) prescription of Viagra and teaching of personal techniques. Additional counselling was arranged when indicated.

By March 2005, 725 men had been seen and given advice and assistance. The ages of these 725 patients included two aged 18-19 years, 75 aged 20-39 years, 129 aged 40-49 years, 210 aged 50-59 years, 233 aged 60-69 years

and 76 aged 70 years and over. During the 14 years the service was provided, a variety of treatment methods were employed as illustrated in Table 11.2. The majority of patients (90%) only attended the clinic on one occasion, apart from those who returned for supervision of the injection therapy technique.

Table 11.2 Treatments provided for 725 men attending the erectile dysfunction clinic.

Treatment	Patient numbers
Consultation only	246
Penile injection	167
Vacuum technique	96
Penile pellet	34
Oral erectile medication	136
Antidepressant treatment	22
Referral for counselling	6
Other methods*	3
N/R*	15

*Homoeopathy, testosterone patches or surgical referral; N/R not recorded

Some men (16) tried a variety of treatments in an attempt to achieve satisfaction. Since the majority of patients only required one appointment, it is tempting to hope this reflected the excellence of the service provided by allowing adequate time to discuss the patient's problem at length and the options for treatment. We also recognise this might have reflected dissatisfaction with our service or financial reluctance. Importantly, the two clinicians servicing the clinic wrote detailed letters to the patient's GP describing the treatment given, outlining options for further management as necessary.

With the introduction of Viagra in 1998 and then a nurse-lead 'Well Man Clinic' opening in the local urology department in 2005, the number of referrals declined. That, together with the introduction by Primary Care Trusts of annual medication reviews precipitated the decision to discontinue the service in 2005.

CLOSURE OF THE CLINIC AND DISPOSAL OF ASSETS

After the final 10 patients operated on in December 2013 had been issued with their clearance and advised that they could abandon further contraception, the process of closing the Clinic began. One of the major tasks was to distribute the contingency sum that had been maintained in the event unexpected expenditure was required for the continued running of the clinic. Since Arthur Elliot Smith's philosophy had been to provide a service at minimum cost to the patient, it was felt by those responsible for The Clinic, this relatively small accumulation should be distributed altruistically.

After much consideration it was decided that sums of money should be allocated as follows:

- The Day Surgery Unit at the Churchill Hospital A donation was made to assist in the purchase of ultrasound equipment for the High Intensity Focussed Ultrasound (HIFU) unit in the Churchill Hospital. It was agreed that this therapeutic equipment would bear a plaque indicating that it was purchased with funds donated by the Elliot Smith Vasectomy Clinic.
- World Vasectomy Day A donation (in 2 instalments) was made to this initiative, described at: www.worldvasectomyday.org It was agreed that one of the present Elliot Smith Clinic staff would be a member of the selection panel to identify and award recipients of an annual Elliot-Smith Award to individuals - both lay and medical - who deserve recognition for their contribution to the advancement of vasectomy, in their own country or beyond, worldwide.
- Oxford University medical school prize endowment A donation was made to the medical school to endow one or more annual prizes/awards for medical students or trainees in urology or gynaecology to reward performance or enhance learning and understanding.

ELLIOT SMITH CLINIC PUBLICATIONS

The following scientific research papers relating to work in The Clinic were published by staff working in The Clinic:

Matthews, J D, Skegg, D C G, Vessey, M P, Konice, M, Holborow, E J and Guillebaud, J. Weak auto-antibody reactions to antigens other than sperm after vasectomy. *Br Med J*, 1976, 2: 1359-1360

Skegg, D, Matthews, J, Guillebaud, J, Vessey, M P, Biswas, S, Ferguson, K, Kitchin, Y, Mansfield, M and Somerville, I. Hormonal assessment before and after vasectomy. *Br Med J*, 1976; 1: 621-622.

Mumford SD, Davis JE. Flushing of distal vas during vasectomy: current status and review of literature. *Urology*. 1979; 14: 433-41.

Philp T, Guillebaud J, Budd D. Late failure of vasectomy after two documented analyses showing azoospermic semen. *Br Med J*. 1984; 289(6437): 77-9.

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Smith JC, Cranston D, O'Brien T, Guillebaud J, Hindmarsh J, Turner AG. Fatherhood without apparent spermatozoa after vasectomy. *Lancet*. 1994; 344(8914): 30.

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Haldar N, Cranston D, Turner E, MacKenzie IZ, Guillebaud J. How reliable is a vasectomy? Long-term follow-up of vasectomised men. *Lancet.* 2000; 356: 43.

Amobi NI, Guillebaud J, Kaisary AV, Turner E, Smith IC. Discrimination by SZL49 between contractions evoked by noradrenaline in longitudinal and circular muscle of human vas deferens. *Br J Pharmacol.* 2002; 136(1): 127-35.

Garwood S, Reeder M, MacKenzie IZ, Guillebaud J. Tubal surface lidocaine mediates pre-emptive analgesia in awake laparoscopic sterilization: A prospective, randomized clinical trial. *Am J Obstet Gynecol.* 2002; 186: 383-8.

Amobi N, Guillebaud J, Kaisary A, Lloyd-Davies RW, Turner E, Smith IC. Contractile actions of imidazoline alpha-adrenoceptor agonists and effects of noncompetitive alpha1-adrenoceptor antagonists in human vas deferens. *Eur J Pharmacol.* 2003; 462(1-3): 169-77. Erratum in: *Eur J Pharmacol.* 2003; 464(2-3): 241.

Illing, R. Leslie T, Cranston D & Guillebaud J. The Elliot-Smith Clinic experience of vasectomy performed with electrocautery alone. *BMJ Rapid Response* 12 February 2005 concerning article: Kerry Wright *et al* Recent developments in vasectomy *BMJ* 2005; 330: 296.

Leslie T, Illing R, Cranston D, Guillebaud J. The incidence of chronic scrotal pain after vasectomy: a prospective audit [to 6 months]. *BJU Int.* 2007; 100(6): 1330-3. Audit continued to mean of 5 years and published 2020:

Leslie T, Illing R, McCormick R, Cranston D, Guillebaud J.

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Amobi N, Guillebaud J & Smith ICH. Comparative effects of T-type and L-type Ca^{2+} -antagonists against noradrenaline-induced contractions of human vas deferens. *BJU Int* 2009;106:578–585.

MacKenzie IZ, Thompson W, Roseman F, Turner E, Guillebaud J. Failure and regret after laparoscopic Filshie clip sterilization under local anesthetic. *Obstet Gynecol.* 2009; 113(2): 270-5.

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