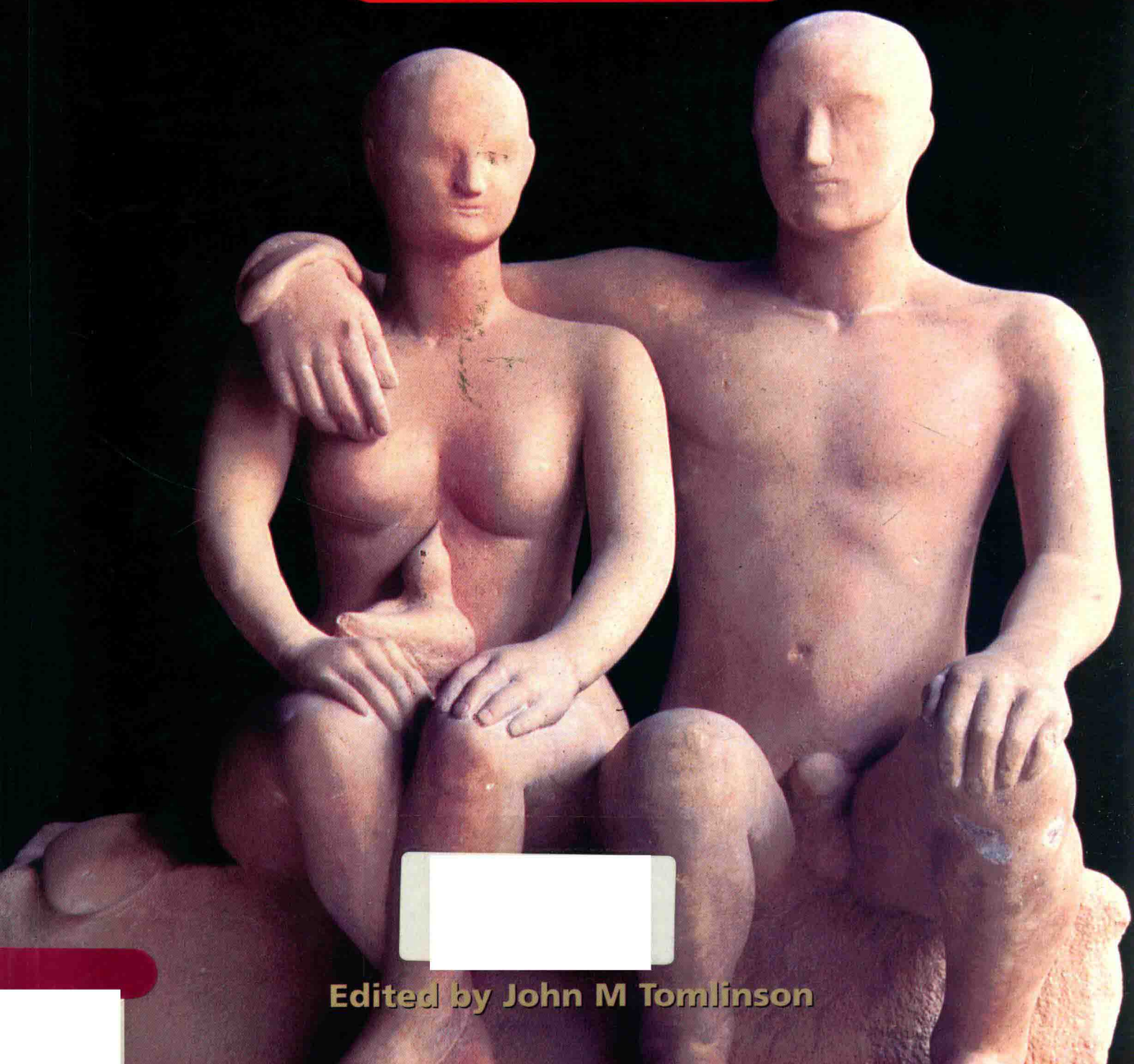
ABC OF SEXUAL HEALTH

SECOND EDITION



Edited by John M Tomlinson

Blackwell Publishing

BMJ Books

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Second Edition

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JOHN M TOMLINSON

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BMJ Books

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Second Edition

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Foreword

Individuals, the press, and society often find it difficult to handle and deal with sexual matters and sexual identity. The medical profession, as members of the public, will at times grapple with their own sexual orientation and problems, and have varying views and value systems around sexual matters and morality, and of course why not? They have a responsibility, however, to be well informed about sexual health so that they can educate and help patients at the same time as adopting a neutral and non-censorious position. It is bad manners and bad medicine to force one's own personal moral attitudes and beliefs about sexual matters on patients.

Sexual health is badly covered in the undergraduate curriculum, so doctors are not as knowledgeable and comfortable about this area of medicine to be of most help to their patients. In light of this, the *ABC of Sexual Health* is to be warmly welcomed. This second edition of the *ABC of Sexual Health* is a much more detailed examination of sexual problems and variations. This only makes sense if done in an open and explicit fashion, and covers a wide variety of sexual habits and practices. Ultimately, this approach will help us to understand a range of problems and behaviours so as to be able to deal with everyday issues presented by our patients. This book will put the profession in touch with the real world, real people with real problems, and fill a large gap in our knowledge.

Michael W Adler
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Preface

Preface to the second edition

This ABC is intended to be an update and a summary of a wide range of sexual matters and will, I hope, be a help to those who want to be more informed about the subject. It is not intended to be totally inclusive and some subjects could not be covered fully, so there are many references for further reading. There are two new chapters—on transsexualism and transvestism, and the latest information up to the time of publication on current views of hormone replacement therapy in females and males.

I am grateful for those who have made helpful comments and suggestions after publication of the series when it came out in the *BMJ* and later as a book, and I hope that all corrections have been made.

From the preface to the first edition

When I was a course organiser for general practitioner registrars, they made frequent requests for help with psychosexual problems that they came across in the course of their work, as none of them had had any training in human sexuality.[1] Unfortunately, with some notable exceptions, this still seems to be the case.

Although there are many sources of information on sex, presented with great openness and frankness, they are not necessarily accurate and there has been a lack of authoritative information on sexuality and all its variations for those practitioners who might come across sexual problems incidental to their professional work, and for medical and nursing students. This collection of articles has attempted to fill such a gap.

I hope that the *ABC of Sexual Health* will make a contribution to informing and helping doctors, other health professionals and students (of all professions) to talk about sexual matters with more ease.

1 Weston JAB, Tomlinson JM. The Guildford (University of Surrey) release course for trainee practitioners. *J R Coll Gen Pract* 1984;**34**:82-6.

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John M Tomlinson

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1 Management of sexual problems

Margaret Ramage

Sexual problems present in various ways, often indirectly or covertly. Patients do not like to come straight to the point. They fear looking stupid by using wrong words or giving offence by being too explicit, or they have no way of conceptualising what is wrong. Doctors can find themselves fumbling around in a slightly mad conversation in which nobody understands what is being said. A common language needs to be established first, particularly in sexual medicine, followed by a good history and careful examination, if appropriate, before an assessment of relevant management can be made. Recurrent gynaecological or urological complaints, insomnia, depression, joint pains, and other symptoms have all been used as covert presentations of sexual problems.

Once the presence of a sexual problem has been established, the severity and importance to the patient need to be determined so that the most appropriate course of management can be offered. This can vary from straightforward education—simply giving accurate information—to referral for psychiatric assessment (happily very rare). History taking therefore is the paramount skill that underpins decisions about management, but formation of a positive alliance with the patient also is vital. Any course of action has to have complete cooperation: without that, the best treatment in the world may be useless.

Man, woman and fish by Emily Young

Useful guides

Videos and DVDs

- *Sex, a lifelong pleasure* (a series of three videos). Great Dunmow: Press Play (tel: 01371 873138)
- *Lovers' guide* (a series introduced by Dr Andrew Stanway). London: Carlton Home Entertainment (tel: 020 8207 6207)

Both of these videos are 10 years old, but the information in the first of each scene is helpful

Books

- Zilbergeld B. *The new male sexuality*. London: Bantam, 1999
- Quilliam S. *A woman's complete illustrated guide to sex*. London: Fair Winds Press, 2003
- Litvinoff S. *Relate: sex in loving relationships*. London: Vermilion, 2001

Overall management

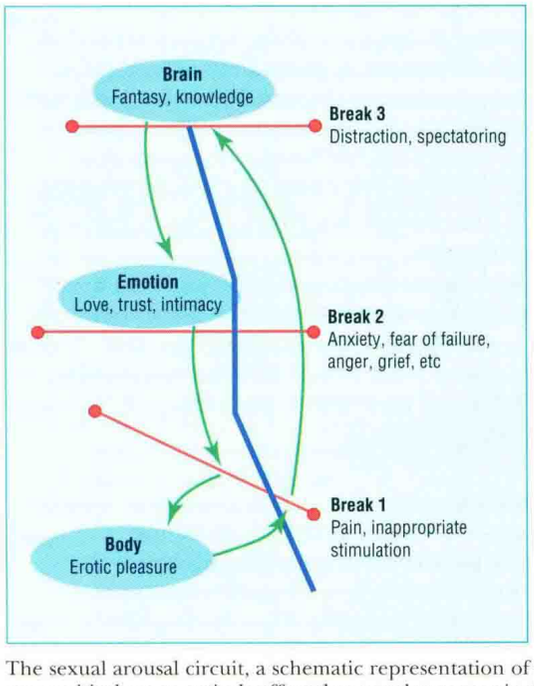
Worth bearing in mind is that however obviously physical the cause of a sexual problem, psychological sequelae may well be present—if not for the patient then for his or her partner if there is one. Conversely, when the cause seems to be entirely psychological, hidden organic factors may exist, and it would be irresponsible to miss them. Overall management therefore has to take account of both aspects (exclusion of organic factors is covered in Chapter 5).

Psychological approaches

The sexual arousal circuit

A challenge for clinicians is to enable patients to understand that sexual problems happen in response to something and usually are not located solely in the genitals. Relationships, early learning about sex, trauma, and life stresses all can contribute. The sexual arousal circuit can be used to show how these factors all may be linked to the sexual problem and to explain that sexual arousal at its simplest may be a straightforward spinal reflex triggered by stimulation of the genital area.[1] This is interpreted in the brain and moderated by the emotions, so that events in the two arenas will exert a powerful influence over that reflex. Sexual response can be described as an electrical circuit that can start anywhere—in the mind, the body, or the emotions—but that also has three breakpoints: one in each area.

The *first breakpoint* occurs when inappropriate stimulation or pain occurs. For many people, pain can automatically cancel any possibility of response. Common problems are inappropriate stimulation of the clitoris and in particular insufficient stimulation of the penis in older men—a point not appreciated widely.



The sexual arousal circuit, a schematic representation of the factors that can positively or negatively affect the sexual response in the body, the mind, and the emotions

The *second breakpoint* occurs when the mind is too busy for the person to relax and become aroused. An example of this, common in men with erectile or ejaculatory dysfunction, is "spectatoring," when the mind is focused on observing the performance of the penis to the exclusion of almost everything else. Other examples include distraction caused by worries about work, memories of negative experiences, expectations of failure, uncertainty of how to behave, and many others.

The third breakpoint (and probably the most powerful) occurs in the emotional arena, and a patient can be paralysed by fear of failure, anxiety, and pressure to perform. Other negative emotions important in this context include anger, unresolved conflict (in any area of life), undisclosed resentment, and grief.

The second break point in the sexual arousal circuit occurs when the mind is too busy for the person to relax and become aroused

Giving accurate information

Accurate information can be all that is needed to resolve some sexual problems: for example, when patients lack knowledge of the basics of sexual anatomy and physiology, the changes of ageing or have unrealistic ideas of what is "normal." It can be particularly invaluable to women who have never examined themselves or men worried about the size of their genitals.

General counselling

Counselling can uncover and help resolve hidden conflicts or long denied emotions of anger and grief. Any relationship issues may be explored in this context, and communication between partners, which often is difficult in the presence of sexual problems, can be facilitated. Realistic goals can be established, and lifestyle changes (diet, exercise, and general fitness) can be agreed and supported. An environment of emotional support and understanding can help patients work out their own solutions.

Counselling can uncover and help resolve hidden conflicts or long denied anger and grief

Psychosexual therapy

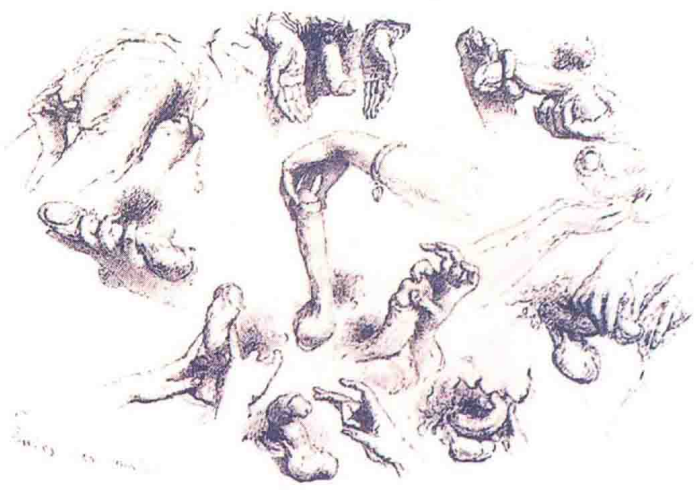
The assumption that underlies psychosexual therapy is that the relationship between therapist and patient provides a mirror of the relationship between the patient and his or her partner. It enables understanding of any disturbed interaction with the partner and hidden conflicts in the patient. Initially, the doctor asks questions only when necessary to minimise leading the patient. Medical investigations and questioning sometimes can be a way of avoiding painful and important emotional matters that the patient or doctor may be afraid to face.

It is most important to be aware of the feelings evoked in the doctor as well as the patient as the patient's story unfolds and the physical examination takes place. These feelings need to be discussed with the patient and can be used to inform them of the inner conflicts that are causing the problems. Treatment is tailored to a patient's individual needs to enable an understanding of the unique unconscious blocks that are hindering sexual fulfilment.

This technique has been developed to be useful in a relatively short interview and so does not necessarily need any commitment to regular therapy sessions. Many general practitioners and some practice nurses have been trained in this approach, which lends itself well to the setting of a general practice or family planning clinic.

Behavioural approach

Patients with compulsive sexual behaviour, including paraphilia, are likely to be treated most effectively with a programme of behaviour modification under supervision (see Chapter 11). Men with premature or rapid ejaculation can learn to delay ejaculation through a programme of graded masturbatory exercises (the squeeze technique), with or without drug treatment. These exercises aim to enable a patient



By modifying the stimulation in masturbatory exercises, a man with premature ejaculation can learn to slow his response. (Studies of masturbation from *Love* (1911) by Mihaly von Zichy)

to recognise the feelings in his penis at different levels of arousal and to slow the response by modifying the stimulation. Vaginismus also can be dealt with through behavioural approaches (see Chapter 7).

Sexual and relationship therapy

This integrated therapy incorporates psychodynamic, behavioural, cognitive, and systemic principles. The relationship may be viewed as "the patient" rather the partners being viewed as individuals. After thorough assessment of physical, psychological, and relationship factors, particularly if a couple attends sessions together, a therapeutic contract is made, with clearly stated goals, if possible, and sometimes a limited number of sessions. The patient or couple may agree to "homework" to facilitate and maintain changes. Family influences and cultural and gender issues also may be important, and communication between partners often is fundamental in this approach. With a sexual problem, the relationship inevitably will be affected, but this commonly can offer the vehicle to ameliorate the situation.

Once communication between partners is open and constructive, therapeutic tasks can be assigned to enable them to resolve their difficulties in the privacy of their own home and at times to suit their lifestyle. The therapist's job is to work out with the couple what would be most helpful. The feedback from these tasks, together with the appropriate management of any important emotional material that arises from them, provides the route by which many sexual problems can be resolved.

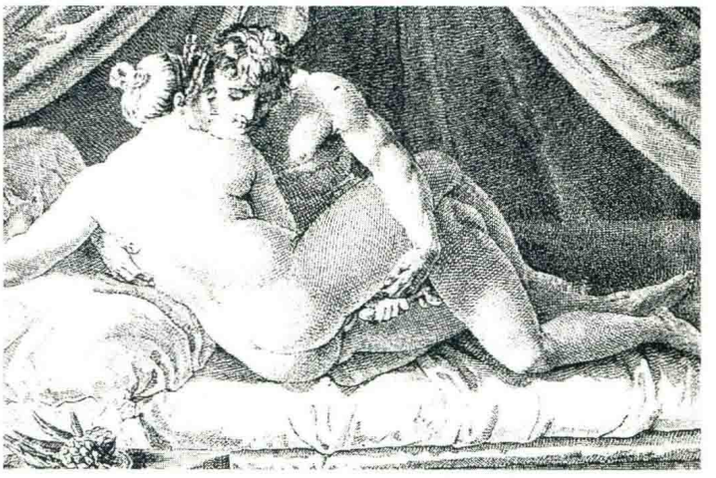
Sensate focus

Sensate focus is a programme of tasks that a couple can undertake in their own time at home. First described by Masters and Johnson in 1970,[2] it has been evolving and developing ever since.[3] A ban on sexual intercourse and any genital contact underlies the programme until performance anxiety and fear of failure have subsided and trust between the couple is established. This ban ensures that physical intimacy will not lead to sexual intimacy. The tasks involve the couple setting aside time to explore each other's bodies in turn by touching, stroking, caressing, and massaging. Sensual, then erotic, and then sexual touch are introduced gradually over time.

Ground rules need to be acceded to, the couple's progress monitored, and the next set of tasks agreed, to deal with any issues that may arise as a result of the tasks, support positive changes, and prevent relapse in the early stages. Suggested ground rules are:

- Agree a ban on sexual intercourse and genital touching
- Set up twice weekly times to spend on this homework, increasing from 20 minutes to 60 minutes over four weeks
- During these times, speak only if the partner's touch is painful or unacceptable; otherwise what is being done is assumed to be acceptable. Conversation will prevent concentration on the task and render it pointless
- Attention should focus on personal experience, not on pleasing the partner
- Above all, this is a learning exercise.

Partners can be assigned tasks to enable them to resolve their difficulties in the privacy of their own home



In sensate focus, the couple explore each other's bodies by touching, stroking and caressing. (*Antoine et Cleopatre* (circa 1602) by Agostino Carracci)

Sensate focus

Stage 1

1—Each person takes plenty of time to explore each other's naked (if possible) body, avoiding the breasts and genitals, avoiding trying to give pleasure, and concentrating on feelings and sensations experienced in both "active" and "passive" roles

2—After two weeks or four sessions of this, some familiarity and trust should allow inclusion of breasts and experimentation with a variety of touches, such as with body oils, talcum powder, feathers, fabrics, and so on

3—As above but adding specific requests for preferred types of touch and the use of a back to front position to enable the person being touched to guide the partner's hand

Stage 2

1—Maintain the ban on intercourse but include genital touching as part of the established exercises, so no areas are now forbidden

2—While continuing all the above, concentrate more on the genitals to discover the sensations that result from different pressures in different areas

3—This is an optional stage for mutual masturbation to orgasm

Stage 3

1—While continuing all of the above and maintaining the ban on full intercourse,[1] the next step is containment without movement, allowing the penis to be accepted and contained by the vagina (modified for homosexual couples). Couples should progress at their preferred pace

2—Containment with gentle thrusting and rotating movement

3—Thrusting to orgasm

Physical remedies

Drug and surgical treatments are covered in later chapters.

Lubricants—Astroglyde generally is well tolerated by men and women and is available in high street stores, as are KY Jelly and Senselle. Carrier oils used in aromatherapy, such as peach kernel and sweet almond oils, can be excellent substitutes for patients who find water based lubricants to be an irritant or messy; **they must not be used with latex contraceptives, as the oil rots the rubber very fast and makes it ineffective**.

Tension rings—These are useful when an adequate erection can be obtained but not sustained. A tight rubber band at the base of the penis maintains an erection for up to 30 minutes.

Vacuum pumps—These promote an erection, which a tension ring then can sustain. Pumps are available in battery and manual forms.

Vibrators—These are available from sex shops and catalogues. The Viva Heat Massager is obtainable from department stores and large chemist shops and has the advantage of being useful in other contexts. It is mains operated, which may be a further advantage.

Carrier oils, as used in aromatherapy and massage, can be used as an alternative to water based lubricants for facilitating sexual intercourse

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1 Stanley E. Principles of managing sexual problems. *BMJ* 1981;282:1200-2
2 Masters WH, Johnson VE. *Human sexual inadequacy*. London: Churchill, 1970
3 Lieblum SR, Rosen RG (Eds). *Principles and practice of sex therapy*. Guildford: Guildford Press, 2000

Tension rings can maintain an erection for up to 30 minutes when placed at the base of the penis

Further information

Most patients with sexual problems expect to be referred or at least investigated medically. It is very useful for the referrer to have some personal knowledge or contact with the next health care professional.

Lists of therapists can be obtained from:

- Institute of Psychosexual Medicine, 11 Chandos Street, London W1M 9DE (www.ipm.org.uk). This organisation also trains doctors in the practical skills of psychosexual medicine
- British Association for Sexual and Relationship Therapy, PO Box 13686, London SW20 9HZ (tel: 020 8543 2707; www.basrt.org.uk)
- Relate—Marriage Guidance, Herbert Gray College, Little Church Street, Rugby CV21 3AP (tel: 0845 456 1310; www.relate.org.uk). This organisation gives further specialised training in sexual therapy; a list of local centres can be obtained from its office
- British Association for Counselling and Psychotherapy, 1 Regent Place, Rugby, CV21 2PJ (tel: 01788 350899; www.counselling.co.uk)

Useful websites

- For women with vaginismus: Women's Therapy Center (www.womentc.com)
- For men with impotence (erectile dysfunction), retarded ejaculation and other sexual problems: The Sexual Dysfunction Association (formerly The Impotence Association) (tel: 0870 774 3571; www.impotence.org.uk), which gives a lot of information for patients
- Partner Therapy Group (tel: 07977 493667; www.partnertherapy.com)

Videos and DVDs

- *Sex, a lifelong pleasure* (a series of three videos). Great Dunmow: Press Play (tel: 01371 873138)
- *Lovers' guide* (a series introduced by Dr Andrew Stanway). London: Carlton Home Entertainment (tel: 020 8207 6207)

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- Litvinoff S. *Relate: sex in loving relationships*. London: Vermilion, 2001

2 Male anatomy, physiology, and behaviour

John M Tomlinson

Many adult men (and a large number of women) are ignorant of the structure and function of the male sexual organs, even though the penis is used for micturition and boys become accustomed to handling their genitalia from an early age. It is important to be clear on their structure and function, particularly if helping with sexual problems to clarify misapprehensions and myths (see Chapter 9 for anatomy and physiology of sexual function).

Anatomy and physiology

The penis

The penis consists of two parallel corpora cavernosa (cavernous bodies) in line with the corpus spongiosum (spongy body), which encircles the urethra on the underside of the penis and expands at its tip to form the glans. Proximally, the corpora cavernosa are attached to the pelvis just anterior to the ischial tuberosities. A thick fascia, Buck's fascia, binds the three together and is covered in turn by the superficial or Colles fascia. The trabecular structure of the corpora consists of smooth muscle and fibroelastic tissue; the muscle relaxes on sexual arousal, causing the penis to become erect with incoming blood. Over all of this is the very loose and mobile penile skin that allows the penis to expand during erection.

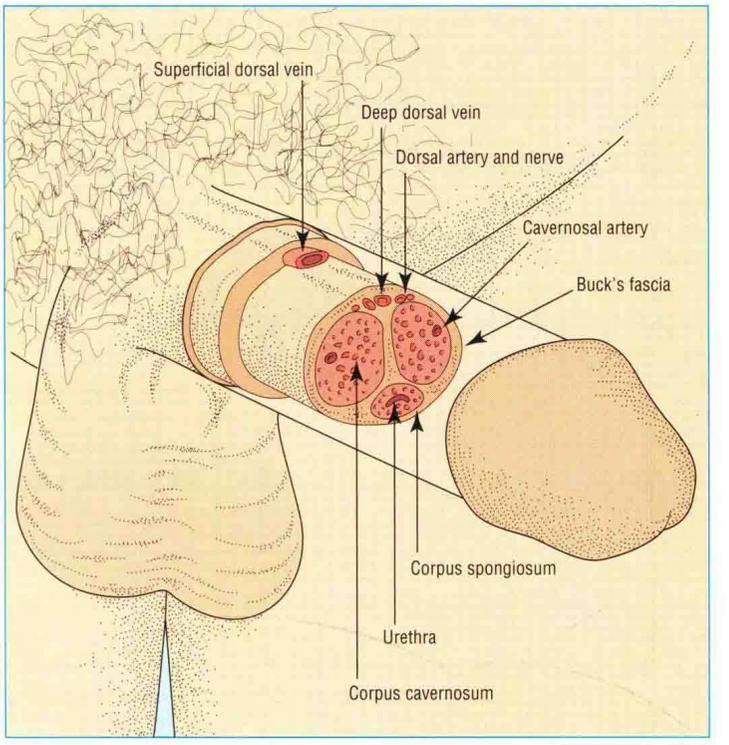
The glans—The glans surrounds the urethral meatus and consists entirely of corpus spongiosum. It has a large concentration of sensory nerve endings from the pudendal nerves, particularly around the coronal rim and underneath at the frenulum, the thin fold of skin that attaches the glans to the foreskin.

The foreskin—In most uncircumcised men, the glans pushes out from the encircling foreskin to a varying extent during sexual arousal. In a small proportion of young men, the frenulum is tight, which may cause bowing of the end of the penis on erection or even difficulty in retracting the foreskin. Generally, it stretches in use, but it sometimes rips during intercourse, with much bleeding and anguish for the man and his partner. If the frenulum causes problems, it can easily be snipped in a general practitioner's treatment room.

Circumcision—In a recent large survey in the United Kingdom, 21.9% of all men, including Jewish and Muslim men, had been circumcised, but this varied with age.[1] Only 12.5% of men aged 16-24 years were circumcised compared with 32.3% of those aged 45-59 years, which probably reflects changing public health policies from the 1940s.

As the penis varies markedly in appearance from one man to another—in colour, length, girth, shape, and presence of a foreskin—its size and shape can cause considerable worry to its owner. The length of the flaccid penis is 5-9.5 cm. The erect penis varies much less in size than generally is believed, and the normal range is 12.5-17.5 cm,[2] with an average of 16 cm. The distal girth (measured just proximal to the glans) averages 12 cm.

Teenagers often worry about the size of their penis. This is perpetuated by men not appreciating that temperature has a large effect and by not realising that a smaller penis enlarges by a greater percentage volume than a larger flaccid penis, that magazine photographs are angled carefully, that especially well endowed "actors" or models are chosen for videos, and that, most importantly of all, when a man looks down he sees a foreshortened view of himself.



Anatomy of the penis. Adapted from *Impotence* by Foster MC and Cole M with permission of Schwarz Pharma

Uncircumcising*

A doctor who had been circumcised as a child had had minor discomfort in his glans for years, so that he always wore tight supportive underwear to minimise friction. He noticed that the glans had remarkably little sensitivity but assumed that little could be done about it until he read a book on uncircumcising (J Bigelow's *The joy of uncircumcising!* Antioch, IL: Hourglass Books, 1992).

He decided to refashion his foreskin and stretched the penile skin with weights and surgical tape. After 10 days, he was more comfortable than he had ever been, and, after 10 weeks, intercourse was easier and frictionless. He continued and was delighted, and he concluded that doctors and medical students need to be taught that the foreskin has a function and is as important to the penis as the eyelid to the eye—a protector, moistener, and sensitiser—and he advocated conservatism, especially in treating phimosis.

* Story taken from Personal view: The joy of uncircumcising. *BMJ* 1994;309:676-7

An 80 year old man, on being given a test dose of alprostadil for erectile dysfunction, was delighted to be told that his feeling of shame at his small penis for the past 65 years was completely unjustified and that his size was well within the normal range

Erections larger than 20 cm in white men are unusual, and claims have to be taken with a pinch of salt. The only way to make the penis look longer is by cutting the suspensory ligament, which lets it dangle but destabilises it, and most surgeons fight shy of doing this. The girth can be increased by injecting abdominal fat around the shaft, but this seems to degenerate into lumpy nodules after a few months.

Spontaneous erections occur often in young men, especially in their teenage years. At times, these can be extremely embarrassing, especially as, at first, they may not be aware of it happening and because it may have nothing to do with sexual arousal. Fortunately, this acute sensitivity occurs less often with time.

A 20 year old undergraduate, after enjoying his first sexual encounter, was mortified and humiliated the next day to hear that his partner had told all his friends (men and women) how small and poorly endowed he was genitally. He became completely impotent until he was seen in an erectile dysfunction clinic. After treatment with alprostadil, he was shown with a tape measure that he was actually at the upper level of the normal range of length and girth. He recovered full function

The scrotum

The scrotum varies in external appearance under different circumstances. In young people, during cold weather, exercise, and the excitement and plateau phases of sexual stimulation, the subcutaneous dartos muscle contracts and the scrotal skin is corrugated and closely applied to the testes. In warmth, under loose clothing, and in older men, the scrotum hangs elongated and flaccid, which allows a decrease in temperature of up to 1.0°C; this is believed to enhance sperm production.

The testes

The testes measure about 5 × 2.5 × 2.5 cm, although they can vary in size from day to day in the same person, and the left usually hangs lower than the right. Production of spermatozoa and testosterone are under the control of the hypothalamus, which produces gonadotrophin releasing hormone (GnRH). This in turn controls the pituitary's release of luteinising hormone (LH), which is responsible for production of testosterone, and follicle stimulating hormone (FSH), which stimulates production of spermatozoa and oestrogen.

Spermatozoa travel from the seminiferous tubules to the seminal vesicles, where up to 70% of the total ejaculate is formed; the rest of the ejaculate is produced by the prostate, is first to be ejaculated, and contains the highest concentration of sperm. Although the seminal vesicles are said not to store sperms, despite their name, no one has identified clearly where the sperms found in the first 10-20 ejaculates after vasectomy are stored.

Semen usually is thick and sticky immediately after ejaculation, but it rapidly liquefies. This leads some patients to think erroneously that the quality of their sperm has diminished or become "thin."

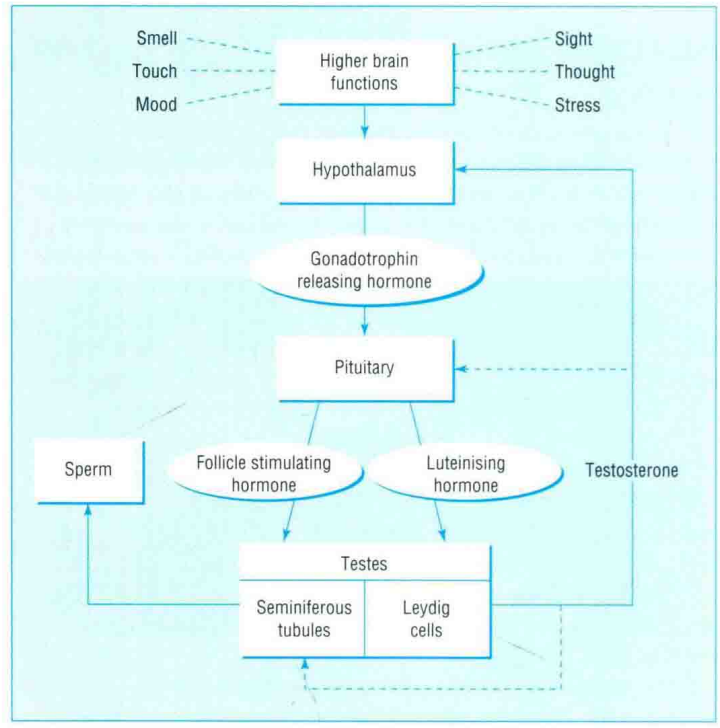
Cowper's glands—These two subprostatic, paraurethral, pea sized glands produce a clear, slightly sticky fluid at the penile meatus on sexual arousal. This varies in quantity from a bead to 5 ml, although some men may not be aware of it at all. Colloquially known as pre-come (or pre-cum), it seems to be a natural lubricant and may contain a few live spermatozoa.

The breasts

Men have only a very small amount of breast tissue, but, at puberty, one or other breast may enlarge and become painful, causing acute embarrassment to the adolescent. This gynaecomastia usually settles within a year or so, but, rarely, it may be severe enough to warrant a breast reduction. Carcinoma of the adult male breast can occur, but it is uncommon, occurring in about one in 1200 men.

Non-genital erogenous zones

These include the mouth, skin, anus, and rectum. The anus is highly sensitive, and insertion of a finger or other object (including a penis) is not uncommon in heterosexual



Endocrine regulation of sperm production

Assessing endocrine function

- A low concentration of testosterone in the serum often leads to reduced sexual interest and erectile dysfunction, but many men can perform normally
- Serum testosterone concentration alone is not a reliable guide
- The free androgen index (currently the nearest equivalent to a measure of the biologically available testosterone) is a better guide and is found by dividing the concentration of testosterone in serum by the concentration of serum hormone binding globulin (SHBG), expressed as a percentage
- Most authorities would treat with replacement testosterone if the free androgen index is much less than 50% of the age related normal range, although a level as low as 35% is accepted by many as still normal.
- To try and exclude carcinoma of the prostrate before giving replacement testosterone is essential. Digital rectal examination and serum prostatic specific antigen (PSA) concentration should be done in all prospective recipients (see Chapter 19)
- A high luteinising hormone (LH) concentration suggests that the interstitial, or Leydig, cells, which manufacture testosterone, are not responding
- A low luteinising hormone concentration may indicate that the pituitary is not producing enough

intercourse, as well as homosexual intercourse. In a survey of British couples in 2001, 12.3% of men and 11.3% of women had had anal intercourse in the previous year—almost double the number in 1990 (see Chapter 13).[3]

Puberty

The obvious physical changes of puberty in boys occur a year or so later than in girls, with an adolescent growth spurt, on average, at age 14 years. The earliest physical change is in the growth of the testes as a result of production of testosterone through the stimulation of luteinising hormone. Boys begin to undergo genital development at an average age of 11 years 6 months, with the genitals reaching adult size and shape by an average of 14 years 9 months. Some boys develop rapidly over a year, whereas others can take five years.[4]

As testosterone production increases, the penis, prostate, and seminal vesicles grow. As soon as enough testosterone is present for them to function, ejaculation is possible; this occurs, on average, at the age of twelve and a half. Production of sperm starts in childhood and becomes fully established when, or soon after, ejaculation is possible. The youngest recorded father of a child in the United Kingdom in modern times was an 11 year old boy who claimed in 1997 to have made a 14 year old girl pregnant. A healthy baby was born in January 1998.[5]

Hair starts to develop on the pubis with the start of genital growth at age 11 years; growth of axillary hair follows some 12-24 months later. Growth of chest hair may start during puberty or later, and may continue to grow for 10 years or more. Deepening of the voice is caused by testosterone stimulation of the larynx, which lengthens anteriorly. The average age at which voice change occurs now is 13.5 years compared with age 18 years in 1750.[6]

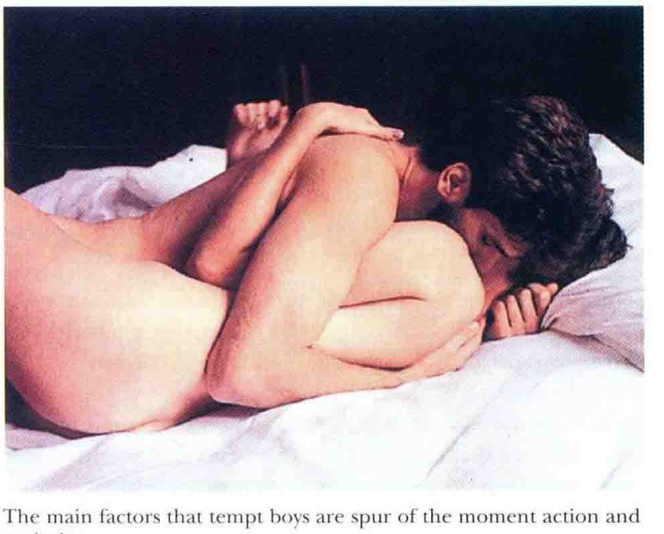
Nocturnal and early morning erections are a normal part of paradoxical or rapid eye movement sleep (and are not connected with having a full bladder). A 13 year old boy will have, on average, four erections a night and, for about a third of his time sleeping, will have penile tumescence. This rate falls slowly to two or more erections, occupying a fifth of sleeping time, in men in their 60s. Nocturnal emissions ("wet dreams") seem to be a physiological safety valve and occur in more than 80% of men at some time, with two thirds of 17 year old boys having at least one a month unless ejaculation with masturbation or intercourse is regular.[8] A rapid decline in nocturnal emissions follows, so that few men over the age of 30 years continue to have them.

Two boys aged 14.3 years developing at different rates (180 and 165 cm tall)

Masturbation now is seen as a perfectly healthy form of sexual expression, and fortunately it no longer is regarded as dirty and sinful, as it used to be when religious authority saw it as a threat to health and morality (as many men from southeast Asia are still taught). Estimates are that 95% of men have masturbated, and the frequency seems to vary from daily to once a month, with the highest incidence in the teenage years and early 20s, depending on other sexual activities[7]

Sexual intercourse

The proportion of boys in Britain who have sexual intercourse before the age of 16 years has increased to a sizeable minority (29.9% in 2000[9]). The median age rises with the level of education and with those from the Indian subcontinent, but a much larger proportion of black boys than white boys start intercourse before the age of 16 years. The main factors that tempt boys to start include spur of the moment action (44.2%) and curiosity (40.5%).[1]



The main factors that tempt boys are spur of the moment action and curiosity

Sexual arousal and response

Masters and Johnson discovered the four stages of sexual response in men.[7] Most information comes from their work in the 1960s and 1970s.

Stage 1: excitement phase

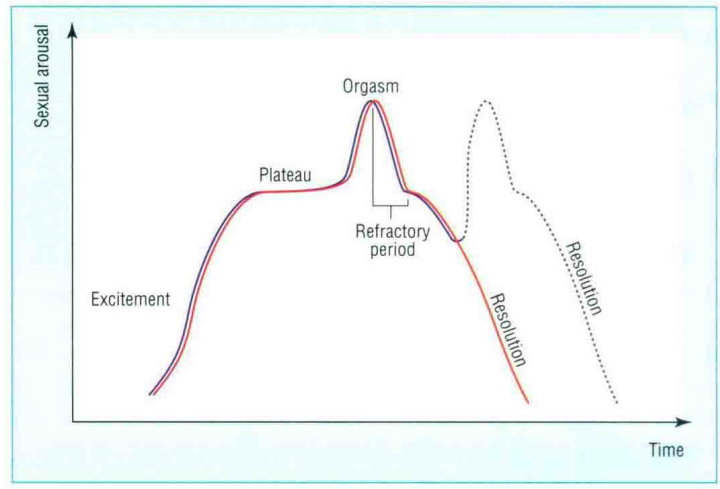
This results from physical or psychological stimulation, or both, which can rapidly lead to erection of the penis and drawing up

of the testes (for detailed pharmacology of the response, see Chapter 9). The corpora fill with blood from the helicine arteries via the internal iliac and pudendal arteries.

Stage 2: plateau stage
The diameter of the glans increases and deepens in colour with vasocongestion, which also causes the testes to grow up to 50% larger than normal. The testes continue to rise and a feeling of perineal warmth occurs. The buttocks and thighs tighten, the heart rate increases, respiration is quicker, and blood pressure rises slightly. Orgasm is imminent.

Stage 3: orgasm and ejaculation
These are different processes that can be impaired selectively, but they generally are taken to be synonymous (colloquially called "coming" or "climax"). The vas deferens, prostate, and seminal vesicles begin a series of contractions that force semen into the bulb of the urethra—the so called brink of control, when ejaculation cannot be stopped—and then contractions of the prostate and pelvic floor muscles lead to ejaculation. The rectal sphincter and the neck of the bladder tighten, while the contractions force the semen out.

Stage 4: resolution
After ejaculation, a refractory or recovery time occurs, when further orgasm is not possible. Recovery time varies from a few minutes to many hours, or even a couple of days in elderly men. (Some religious groups, such as Taoists, claim that men, as well as women, can achieve multiple orgasms). Detumescence now occurs, and the changes of stage 1 reverse, with the addition of heavy fast respiration, tachycardia, and sometimes profuse sweating. Sexual arousal without orgasm can lead to resolution being slower, with pelvic fullness and penile and testicular aching of varying intensity because of vasocongestion.



The sexual response cycle in men. Dotted line shows possibility of second orgasm and ejaculation after the refractory period. Adapted from Master WH, Johnson VE. *Human sexual response.* Boston, MA: Little, Brown, 1966

Orgasms vary at different times in the same person and from person to person, depending on circumstances—mood, partner, occasion, frequency

A partial or even full erection may sometimes be maintained during the recovery period, especially in younger men

After ejaculation the man experiences a recovery period when further orgasm is not possible (*Venus and Mars,* circa 1485, Sandro Botticelli)

The effects of age

Sexual ability and drive continue well into old age, although a decline in frequency of activity is seen. This can be partially explained by poorer health, but also results in part from cultural expectations.

Men aged over 55 years usually take longer and need more direct manual or oral stimulation for the penis to become erect than younger men, tend to have less firm erections, produce a smaller amount of semen, and have less intense ejaculations. They usually have less physical need to ejaculate, a longer refractory period, and reduced muscle tension.[7]

A decrease in frequency of sexual activity can be partially explained by poorer health, but also results in part from cultural expectations

An older man with erectile dysfunction is often humiliated and demoralised when his doctor says, "What can you expect at your age?" and fear of this dissuades many from asking for help. They can be reassured by the results of a global study of men aged 70-80 years, in which 53% had had sexual intercourse in the past 12 months and 20% had intercourse at least five times a month.[10] The importance attached to regular intercourse in younger days correlates significantly with sexual activity in old age. The adage "If you don't use it, you lose it" has more than a grain of truth, and obviously there is no reason to doubt that men (and women) can (and do) enjoy sexual activity to a ripe old age.

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"WELL DEAR, YOU CAN STILL MANAGE IT — EVEN AT YOUR AGE....."

Further reading

- Masters WH, Johnson VE, Kolodny RC. *Human sexuality.* 5th ed. New York: Harper Collins, 1995. Useful for an authoritative (American) view of sex.
- Godson S. *The sex book.* London: Cassell, 2002. Very readable, informative, authoritative and up to date (British) view of sex. Ideal to recommend to patients.

The figure of endocrine regulation of sperm production is adapted from Masters WH, Johnson VE, Kolodny RC. *Human sexuality.* New York: Harper Collins, 1995. The figure of the sexual response cycle in men is adapted from Masters WH, Johnson VE. *Human sexual response.* Boston, MA: Little Brown, 1966. The painting by Botticelli is reproduced with permission of Bridgeman Art Library. The photograph of the two boys is reproduced with their and their parents' permission. The cartoon "You can still manage it..." is reproduced with permission of Tony Goffe.