

The A to Z of the Reproductive and Sexual Organs



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aspen

A U S T R A L I A



The A to Z of Reproductive & Sexual Organs

Introduction

Because of space limitations it was not possible to include the organs of reproduction, in the book *the A to Z of Major Organs*; hence this book was needed to fill that gap. Hopefully it has done the job. Where possible, comparisons are made between the female & male. There are also structural considerations of sexuality. I continue to receive suggestions and feedback in reference to these books and I cannot stress how valuable these are to me. I feel with each book a new level is reached and this is due to constant vigilance. You, who write to me, shape the order of future titles and change the format of the books, so please keep this up!! It is hoped this book will form another valuable chapter in the A to Z story. Structure begets function begets structure begets function

Human mechanics is a beautiful thing.

The A to Zs may be viewed on 2 sites –

www.amandasatoz.com and

http://www.aspenpharma.com.au/atlas/student.htm

Feedback may be left at

anatomy.update@gmail.com / medicalamanda@gmail.com

and it is always appreciated.

Acknowledgement

Thank you Aspen Pharmacare Australia for your support and assistance in this valuable project, particularly Mr. Greg Lan, Rob Koster, Richard Clement and Peter Penn.

Dedication

To my A to Z - "Hello Ali & Zoe!" Quentin & Jody and Colin, who has been very supportive of this project, listened to my ideas with patience and at times great fortitude.

How to use this book

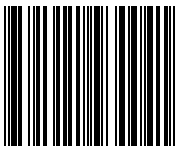
The format of this A to Z book has been maintained. The common terms section enlarged & illustrated. So as usual think of it and then find it is the motto of the A to Zs and continues to be the structure behind the books.

Thank you

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Abbreviations, Acronyms & Symbols

Note these abbreviations include those in common use in the study and examination of reproductive organs as well as the ones used in this book.

A		BM	= basement membrane / basal lamina / terminal lamina / plasma lamina
a	= artery	b/n	= between
aa	= anastomosis (ses)	br	= branch
AA	= amino acid	BS	= Blood Supply
Ab	= antibody	BvB	= Balbiani's vitelline body
ACTH	= adrenocorticotrophic hormone / adrenal cortical hormone	C	
ADH	= antidiuretic hormone	CC	= cerebral cortex
adj.	= adjective	c.f.	= compared to
ADP	= adenosine diphosphate	CL	= corpus luteum
Ag	= antigen	CM	= cellular membrane / plasma membrane
aka	= also known as	CNS	= central nervous system
alt.	= alternative	Co	= coccygeal
AMP	= adenosine monophosphate	COC	= combined oral contraceptives
ANS	= autonomic nervous system	CP	= cervical plexus
ant.	= anterior	collat.	= collateral
AS	= Alternative Spelling, generally referring to the diff. b/n British & American spelling	Cr	= cranial
ATP	= adenosine triphosphate	CT	= connective tissue
B		D	
B	= blood	DNA	= deoxyribonucleic acid
b	= bone	DOPA	= dihydroxyphenylalanine
bb	= basal bodies	DT	= digestive tract
bc	= because	diff.	= difference(s)
BDSM	= bondage discipline / sadomasochism	dist.	= distal
BE	= breast examination	DM	= dura mater
		DT	= digestive tract

The A to Z of Eyes

E

E	= energy
e.g.	= example
EAM	= external acoustic meatus
EAS	= external anal sphincter
ec	= extracellular (outside the cell)
ER	= endoplasmic reticulum
ext.	= extensor (as in muscle to extend across a joint)
Ex	= examination

F

FAS	= foetal alcohol syndrome
FB	= foreign body
FHR	= foetal heart rate
FSH	= follicle stimulating hormone

G

GA	= Golgi apparatus
GALT	= gut associated lymphoid tissue
GB	= gall bladder
GDM	= gestational diabetes mellitus
GH	= growth hormone
gld	= gland
GIT	= gastro-intestinal tract
Gk.	= Greek
GM	= grey matter
GN	= Golgi network

H

H	= hormone
H&E	= haematoxylin & eosin
HIV	= human immunodeficiency virus
HP	= high pressure

HPV	= human papilloma virus
HR	= heart rate
HRT	= hormone replacement therapy
HT	= hormone therapy

I

IAM	= internal acoustic meatus
IAS	= internal anal sphincter
IBS	= irritable bowel syndrome
ic	= intracellular (inside the cell)
If	= inflammation
In	= infection
IUCD	= intrauterine contraceptive device
IVF	= in vitro fertilization

J

Jc	= junctional complex
jt(s)	= joints = articulations

K

L

l	= lymphatic
L	= lumbar / left
LH	= luteinizing hormone
LI	= large intestine
lig	= ligament
LM	= labia majora
LMi	= labia minora
LMP	= last menstrual period
LP	= lamina propria
LT	= lymphoid tissue
Lt.	= Latin
LIF	= left iliac fossa
LUQ	= left upper quadrant

M

m	= muscle
med.	= medial
mem	= membrane
mito	= mitochondrion (a)
mm	= mucous membrane
mRNA	= messenger RNA
MTP	= medical termination of pregnancy
mv	= microvillus (i)

N

N (s)	= nerve(s)
NAD	= normal (size, shape)
NAD	= no abnormality detected
NB	= newborn
NM	= nuclear membrane / nucleolemma
NR	= nerve root origin
NS	= nerve supply / nervous system
NT	= nervous tissue
nv	= neurovascular bundle

O

O	= origin
OC	= Oral Contraceptives

P

PB	= perineal body
PID	= pelvic inflammatory disease
pl.	= plural
ParaNS	= parasympathetic nervous system
PDA	= patent ductus arteriosus
PID	= pelvic inflammatory disease

PN	= peripheral nerve
post.	= posterior
proc.	= process
prox.	= proximal
PS	= pubic symphysis
PV	= penis vagina

R

R	= right / resistance
RIF	= right iliac fossa
RNA	= ribonucleic acid
RR	= respiratory rate
rRNA	= ribosomal RNA
RUQ	= right upper quadrant

S

SA	= sexual activity
SAB	= spontaneous abortion
SB	= spina bifida
SBE	= self breast examination
SC	= spinal cord
SE	= side effects
SI	= small intestine
sing.	= singular
SM	= sadomasochistic
SN	= spinal nerve
SP	= sacral plexus
SS	= signs and symptoms
STD	= sexually transmitted diseases
subcut.	= subcutaneous (just under the skin)
supf	= superficial
SymNS	= sympathetic nervous system

T

- T** = thoracic / tissue
T₃ = tri-iodothyronine
T₄ = thyroxine
TNF = tumour necrosis factor
tRNA = transfer RNA /
transport RNA
TSH = thyroid stimulating
hormone / thyrotropic H
/ thyrotrophic H
tw = terminal web

U

- UG** = urogenital
US = ultrasound
UTI = urinary tract infection
UVJ = uterovesicular junction

V

- V** = vein
v = very
VD = vas deferens

W

- WM** = white matter
w/n = within
w/o = without
wrt = with respect to

X

YZ

- ZA** = zonula adherens
ZO = zonula occludens /
tight junction
ZP = zona pellucida

Symbols

- &** = and
= intersection with

Pronunciation Key & Colour Guide

Most terms are listed in black

Pathological terms are in green

Prefixes and Suffixes are in blue

Specific sexual meanings of terms are listed separately in maroon

The pronunciation guide to words in this section are in bold red lettering

Stressed syllables are in **CAPITAL LETTERS**

Vowel sounds are pronounced as indicated below

A	May map mark	ay a ah
E	Me met term	ee e ur
I	eye / sight tin	ī i
O	go mother mop more boy lose nook loose	oh uh o or oi oo oe ou
U	blue cute cut	ou ew uh
Y	family myth eye	ee i ī

Common Terms used to describe the eyes; their structure & functions

A

a- without, lack of, no

ab- away from, negative

Abdomen *Lt. abdomen = the belly*, the part of the trunk b/n thorax & the perineum,

Abduction: *Lt. ab = from, & ductum = led*, hence, movement from; verb - abduct. (≠ adduction)

Abduction AKA Captivation / Kidnapping to carry a person away by force used in SA; a minor form is the custom of carrying the bride across the threshold indicating a "carrying off" of the bride

Aberrant *Lt. ab = from, & errare = to wander*, hence, deviating from normal.

Abrasion (ab-RAY-shon) - removal of the surface layer(s) of the skin due to trauma, if full thickness it exposes the dermis underneath & the leaves the surface susceptible to In.

Absorption (ab-SORB-shun) the passage of material, such as an embryo, from a lumen of an organ into another body space, T or cell

ac- toward, near to, addition to

Abstinence AKA Aphallatia AKA Celibacy refraining from SA - may be defined in various ways the commonest being the abstinence from coitus.

Accessory *Lt. accessum = added*, hence, supplementary.

Achalasia (AY-kal-ay-si-ya) failure of relaxation of smooth muscle

Acini (AS-i-nee) clusters of cells which face a lumen and are often part of an exocrine gland that secrete digestive enzymes. *sing. acinus (AS-in-us)*
adj. acinar

Acmegenesis AKA Orgasm

Acne (AK-nee) *Gk: acme = point or achne = to chaff* an inflammatory condition of the pilosebaceous unit – hair unit in the skin - exacerbated by progesterone in the female & reduced by oestrogen

Acomoclitic preference for hairless genitals

acou- to hear, pertaining to hearing

acoustic- (ah-KOOS-tik) *adj.Gk. akoustikos = hearing* related to hearing; pertaining to hearing & sounds

Acoustophilia arousal by sounds. This may be musical &/or vocalizations of the person or the partner.

acro- extremity

Acrophilia arousal from heights

Acrotomophilia arousal for amputees

Actin (AK-tin) *Gk: actinos – ray* the contractile protein that makes up the major portion of thin filaments in muscle fibers.

Actirasty exposure by the sun causing arousal

acu- sudden, sharp , severe

Acuculophallia AKA Circumcision

Acute (AK-yewt) – *Gk: acu- acus = needle* sharp, sudden onset + short course pathological process – used to describe any condition which starts suddenly & is of short duration; may be associated with a sharp needle-like pain of relatively short duration ≠ chronic, although 2 separate processes they may co-exist.

ad- near, toward

Additus *Lt. = entrance, opening*

Adduction: *Lt. ad = to, & ductum = led*, hence, movement towards; *verb - adduct.* (≠ abduction)

aden- gland

Adenoid: *Gk. aden = a gland, eidos = shape or form.*

Adenohypophysis AKA the Anterior Lobe of the Pituitary Gland. It is composed of glandular epithelium. The adenohypophysis secretes numerous Hs, several of which affect the activity of other endocrine glands, including the reproductive organs/glands.

Adenomyosis presence of glandular tissue on the myometrium generally from the endometrium **see also Endometriosis**

Adhesion: *Lt. ad = to, & haesus = stuck*

Adipose (AD-i-pohs) *Lt. adeps = fat, hence fatty* a CT whose cells (adipocytes) are highly specialized for lipid storage.

Adjuvant *Lt aui vare = to aid*, hence a pharmacological or other agent which aids the primary Tx c.f. adjuvant therapy or immunological adjuvants which stimulate the immune response

Adnexa (AD-nex-uh) appendices or adjunct parts e.g.: in the uterus, the supportive ligaments & ovaries & in the skin, the hair & nails: additional structures pertaining to the main structure; *extras adj. adnexal; pl adnexae*

Adrenal: *Lt. ad = towards, at, ren = kidney*, situated near the kidney (AKA suprarenal) *adj. adrenergic* *Gk. ergon = work*, stimuli which cause the adrenal (suprarenal) gland to produce adrenaline; also indicates neurons or pathways which use adrenaline as a transmitter.

Adrenocorticotrophic hormone AKA Corticotrophic H AKA Adrenotropic H a hormone which causes the adrenal cortex to grow and secrete more Hs

Adultery SA outside marriage, including coitus.

Adventitia (ad-ven-TISH-yah) the outermost covering of an organ or tissue (see also *Serosa*, *Tunica Externa*).

aero- air, pertaining to gas

af- near, toward, addition to

Agenobiosis marriage relationship w/o SA

agglut- (a-GLOOT) to glue

aggreg- to crowd together, to flock

Agonist: *Gk. agonistes = rival*, hence, a muscle in apparent contest with another, (a prime mover).

Agorophilia arousal from open spaces

Agrexophilia arousal from the knowledge that someone else is aware of the SA

Ala (AY-lar) *Lt. wing, hence a wing-like process; pl. alae (AY-lee)* referring to the wing or flattened part of a bone particularly if there are other shapes in the bone which are not wide & flat as in the Inominate / hip.

alb- white

Alba: *Lt. albus = white*

Albicans: *Lt. = becoming white*

Albuginea: *Lt. albus = white, Gk. gen = form*, like boiled white of an egg.

Alberran's gland - the portion of the median lobe of the prostate immediately underlying the uvula of the urinary bladder

-algia *Gk: algos = pain (AL-jee-uh) -*

Algolagnia *Gk: algos = pain & lagnia = lust* arousal from pain when engaging in SA

Alimentary: *adj. Lt. alimentum = food*, e.g., alimentary canal.

alipo- pertaining to fat

Allantois: *Gk. allantos = sausage, eidos = like*, form.

allo- other, different, abnormal

Alloerasty arousal by nudity

AlloPELLIA form of Voyeurism, where the couple being watched are engaged in coitus

Allorgasmia arousal from visualizing another person than the partner in SA

Alopecia (AL-oh -peesh-uh) *Gk alopekia =fox mange* hence baldness, loss of hair

Alphamegamia arousal b/n partners from significantly different age groups

Altocalciphilia arousal by high heels, generally pointed stiletto heels; high heel fetish

Alveolus: *Lt.* = a basin, hence any small air filled hollow or cavity. *pl.* - *alveoli*, *adj.*- *alveolar*, after holes in a tissue

Amatrispis masturbation by rubbing labia together *see also Masturbation*

ambi- both, about, around

Ambi-sexual AKA Androgynophilia AKA Bisexual

Amenorrhoea (AY-men-or-REE-ah) absence of menstrual bleeding in a premenopausal female > 3 months

Amastia absence of all or part of the breast tissue &/or its components, this may be iatrogenic or congenital

amin(o)- an organic substance containing nitrogen

Amnion *Gk:* *amnios* = bowl (**AM-nee-yoh**) – membranes surrounding the foetus

Amniocentesis sampling of the amniotic fluid generally with a view to diagnosing genetic disease in the developing foetus, must be performed > 3mths pregnancy, so that there is sufficient fluid to sample; has a risk of damaging the pregnancy

Amniotomy AKA surgically induced labour

Amomaxia coitus in a parked car

Ampulla: *Lt.* = a two-handed flask, a local dilatation of a tube. c.f. the oviducts

Amychesis scratching during SA

an- without, lack of, not

an(a)- up, back, again, excessive

Anaemia AS Anemia *w/o blood* hence lack of RBCs

Anal sex SA involving the anus - note there are a number of terms to describe various forms of this SA, some of which are included in this text. Those included are the commonest used in medical terminology, but do not include the many slang terms used which are often confined to local use.

Androgen AKA Androgenic H AKA Testoid the broad term for any natural or synthetic compound, that stimulates or controls the development & maintenance of male sexual characteristics e.g. testosterone, dihydrotestosterone (DHT) which is responsible for the development of the scrotum & testis & later prostate growth & male pattern baldness.

Andropause male equivalent of menopause with testosterone

Androsodomy anal sex with a male partner

Anemia AS Anaemia a deficiency in the number &/or quality of RBCs

Anilingus AKA Rimming oral sex in & around the anus

angio- (ANJ-ee-oh) to do with BVs

The A to Z of the Reproductive and Sexual Organs

Anions negatively charged atoms or radicals e.g. Cl⁻, OH⁻

Annulus fibrosis the peripheral fibrous ring around the intervertebral disc

anomalo- uneven, irregular

Anomeatia anal sex with a female partner

Anovulation lack of ovulation

Anorgasmia inability to reach an orgasm – generally wrt women

Apareunia absence or inability to have sexual intercourse

ante- (AN-tee) before

Antenatal *Lt. ante = before, & nato = birth* hence before the birth

antero- anterior, forward

Anteflexion: *Lt. ante = before, & flexere = to bend*, ant. angulation b/n the body & cervix of the uterus

Anteversio: *Lt. ante = before, & versum = turned*, hence, the ant. angulation b/n cervix uterus & the vagina

anti- against, combating

Antibody / Antigen, proteins involved in the immune system – antibodies

Abs are produced by the body in reaction to antigens **Ags** proteins or materials found on the surface of FBs introduced to the body forming the **Ab/Ag** complex.

AutoAbs are those Abs which develop against the **Ags** of the host - i.e. autoimmune e.g. after a vasectomy the body may develop **AutoAbs** against sperm

Antrum: *Gk. antron - cave*, hence a space in a bone or organ.

Apocrine secretions which take off the cytoplasm of the apex of the cell as well e.g. in breast lactating gland cells

ap- toward , near to

ap- away from derived from, separation

Aperture (AP-ert-yew-er) an opening or space b/n bones or w/n a bone.

Apex (AY-pex) the extremity of a conical or pyramidal structure. The apex of the heart is the rounded, inferior tip that points to the L side.

Aphrodisiac (AF-roh-diz-ee-ak) substances which enhance sexual arousal

Apistia AKA Adultery

Apoptosis (AP-pop-te-sis) *Gk aptos = to drop out* describes pockets of dead or dying cells - found in all organs wedged b/n healthy cells so it is thought to be a physiological phenomenon of normal aging or cellular weeding out e.g. in the liver, ovary

Appendicular refers to the appendices of the axial i.e. in the skeleton, the arms & legs which hang from the axial skeleton; this also includes the pectoral & pelvic girdles *noun appendix* as in the vermiform appendix

Arbor *Gk treelike branches – arborizing, branching*

arch- chief, first, beginning

Areata/areatus (a-REE-ar-tar) *Lt circumscribed areas, c.f. alopecia areata – specific areas of hairlessness - baldness*

Areola (ar-EE-oh-lar) *Lt. small, open space* hence small, open spaces as in the areolar part of the breast which open onto the surface and allow lactation adj. areolar used to describe a type of CT with sparse protein fibres in the matrix.

Arsometry AKA Anal Sex

Asceticism religious self denial often includes celibacy

Asherman's syndrome AKA intra-uterine adhesions

Asphyxiophilia arousal from lack of oxygen, has resulted in deaths when done in a solo situation as there is no-one to reverse the oxygen deprivation once the subject is in a coma *see Auto erotic asphyxia*

asthen- weak, weakness

Artificial insemination depositing of sperm into the vagina using a vehicle other than the penis, generally with a view to causing conception

Astyphia AKA Impotence

Asynodia celibacy due to impotence

Atelectasis (AT-e-lek-TAY-sis) *Gk ateles- incomplete , ektasis – opening* hence incomplete opening of the lungs, generally in premature infants

Atopy (AY-top-ee) *Gk atopis = out of place* group of diseases characterized by the tendency to have a severe hypersensitive reaction to common materials as in the RT, GIT & skin adj. atopy = allergic as in atopic dermatitis = skin If

Atresia (A-treez-ee-uh): *Gk. a = negative, & tresis = a hole, an absence or closure of a body orifice or tubular organ, generally by fibrous scarring*

atreto (a-TREE-toh)- closed, imperforate

Atrium (AY-tree-um) *Lt. = entrance hall, adj.- atrial* referring to any chambers which lie before a major chamber as in the heart *pl. - atria.*

Atrophy (a-TROH-fee) *Gk. a = negative, & trophe = food* wasting away deterioration of a T or organ from lack of use or food

Atypical (AY-tip-i-kal) not usual – often used to describe possible cancerous cells or tissue

Augmentation enhancement c.f. breast implants augment the shape of the breast by 1-2 cup sizes usually any more than this and the shape and integrity of the breast & its support structures may be compromised *see also Implants*

Autogonistophilia AKA Exhibitionism

auto- (OR-toh) self, spontaneous

Auto erotic asphyxia sexual stimulation caused by deprivation of oxygen in a solo situation. This activity has a real risk of harm or death to the subject, if the person lapses into a coma.

Autocrine secretions of the cell influence other like cells & its own function

Autolysis (OR-tol-e-sis) *Gk auto = self, lysis = dissolving* - hence the process of self destruction of a cell or tissue

aux- (ORKS) help, growth, increase

Axilla *Lt. axilla = armpit* pertaining to the triangular region at the top of the UL & the upper thoracic wall – *the underarm*

Axis (AX-is) *Lt. axis = the central line of a body or part thereof, especially the imaginary line around which rotation takes place* refers to the head and trunk (vertebrae, ribs and sternum) of the body. *adj. axial (AX-see-al) pl. axes*

Azoospermia AKA no sperm count small but not measurable sperm may be present; however this result indicates a low fertility

B

Balanitis *Gk balano = penis* If of the glans penis, resulting in an inflammatory ooze & constriction of the foreskin *see also Phimosis*

balano- penis

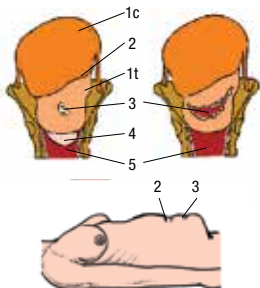
Balanoposthitis AKA Balanitis

Balbani body a transient collection of organelles, inclusions & molecules that assembles adjacent to the nucleus of the oöcytes.

Baldness *see Alopecia*

Ball's valves AKA anal valves.

Bandl's ring the diagonal retraction band (2) of the uterine muscle wall which results from continued uterine contraction present in obstructed labours of the 2nd or later pregnancies. Progressive contraction leads to a thinning & separation of the lower (1t) segment & thickened contracted upper third (1c) which if unchecked leads to uterine rupture (3), & non delivery of the baby(4). The resulting engorgement in the vagina



(4) & elsewhere leads to dehydration. Examination of the supine woman can discern the banding in the abdomen, softening below & hard T above.

bar- pressure

Barbae *Gk = beard*

Bartholin's glands AKA Greater Vestibular Glands

bary- low, heavy, deep difficult

Basement membrane (BM) a thin layer of extracellular material & CT stroma that underlies every epithelium.

basi- foundation, base

baso- base c.f. acid / base & in the bottom – the basal layer

Bell's muscle the muscular strands from the ureteric orifices to the uvula, bounding the trigone of the urinary bladder

Benign (**BEE-nĭn**), *Fr benignus = kind* hence not harmful or dangerous, ≠ malignant, indicating a mild disease or a mild non-malignant cancer

bi- twice , two, double

Bifid: *adj. Lt. bis = double, & findo = to split.*

Bifurcate: *Lt. bis = double, & furco = fork, hence to divide into two.*

Bilateral: *Lt. bi = two, lateral = side, hence, pertaining to two (both) sides.*

bin- twice , two, double

bio- (**bĭ-oh**) life

Biopsy (**Bĭ-op-see**) a piece of T removed for microscopic examination – usually from a live person e.g. cervical biopsy - a punch of tissue is taken or in cases of invasive cells - a cone biopsy - shown below, which is then cut up & examined histologically



Bisexuality attraction to both sexes

blast- undifferentiated immature

Blastocyst a group of cells derived from the fertilized ovum, which have not yet differentiated, but has formed a central fluid filled area

Blastocyte a single cell in the blastocyst / blastoma

Blastoma a solid core of cell from the fertilized ovum

Blowjob AKA oral penile sex referring to the mouth penile sexual contact performed in various ways & positions but having in common the fact of sexual arousal via oral contact

Bondage binding in the pursuit of SA, often part of SM rituals

brachy- (**brak-EE**) short

brady- slow

Bradycupia slow movement in SA partic. penetration

Branchia (BRANK-ee-uh): *Gk. = gills, adj.- branchial.*

Breast crease the line formed when the breast folds over the chest - viewed by raising the breast & viewing the "crease" visible across the chest - should curve upwards with the curve of the breast tissue but may be horizontal in small high-waisted women or overweight women associated with an increased area of fat in the axillary region

Break-through -bleeding bleeding in the middle of the menstrual cycle which indicate irregular H levels - if the person is on OCs it indicates a need for adjustment of these Hs - generally a reduction in the progesterone levels &/or oestrogen levels

brevi- short

Brevis: *Lt. = short - c.f. brief.*

Brunn's cell nests epithelial cell masses in the male urethra.

Buck's fascia AKA deep fascia of the penis

Buggery AKA Anal sex

Bulimia (BULL-ee-mee-ya) *Lt bous = ox + limos = hunger* hence huge episodic bingeing of food eating followed by self induced vomiting or excessive exercising, associated with eating disorders prevalent among young women & assoc with amenorrhea if severe

Bulla: *Lt. = bubble. pl bullae*

Burns' ligament falciform margin of the fascia lata at the saphenous opening

Bursa (BER-suh) *Gk. = a purse,* hence a flattened sac containing a film of fluid, formed from friction b/n tissue layers, generally skin, to alleviate tissue trauma. *pl bursae*

C

cac- (KAK) bad, diseased, deformed , ill

caen-(SEEN) new, recent

Camper's fascia superficial layer of the subcutaneous tissue (superficial fascia) of the abdomen.

Canal: *Lt. canalis = a water-pipe or canal. adj canular (canicule - small canal)*

Canal of Nuck AKA patent processus vaginalis peritonei in the female

Canaliculus (kan-al-LIK-yew-lus) a small channel *pl. canaliculi.*
diminutive of canal.

Cancellous: *adj. Lt. cancelli = grating or lattice.*

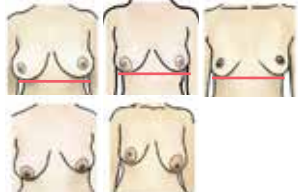
Cancer (KAN-ser): *Lt crab -* describing originally the crab-like invasion of cancer cells spreading out into normal tissue – malignant neoplasms

4 Breast Shape defn: the shape of the breast mass.

Archetype breast shape - AKA the standard breast shape. This is the ideal shape and most breast implants are modelled on this shape.



Uneven breast shape - this is very common if it is < 1 bra cup size (A); any larger & it is probably not just a normal variation in breast development (B) but due to other factors including an illness during breast development, asymmetrical activities in the upper torso - e.g. sport or occasionally this will occur with menopause



Conical breast shape - the breast is not round but cone shaped, it is generally a normal variant, particularly of small breasts.



Thin breast shape - AKA tuberous breasts, the base of the breast is small causing it to protrude & appear smaller & thinner



Omega breast shape - AKA a ball-shaped breast, a shape of mainly larger breast sizes, where the base is smaller than the widest circumference of the breast so the breasts can appear to be "kissing" & splayed. This is not a natural or common shape, & the breasts can appear disproportionately large for the body.



Reduced projection breast shape - the base circumference is too large for the breast mass.



This also is not a natural or common shape but may be the result of breast reduction surgery, a smaller breast on a bigger base, as seen in the profile showing the original breast outline before reduction.

5 Breast Apex direction defn: the pointing of the breast - indicated by the pointing of the nipple.

Forward pointing - this is the standard position. This is the ideal shape and most breast implants are modelled on this shape.



Outward pointing - this is also very common, and is often associated with the splayed \pm wide breast separation.



Downward pointing - associated with pendulous breasts & deflated breast curve



Upward pointing - this is only seen in deflated breasts

6 Nipple + Areolar size & shape

Prominent erect nipples - nipples may be erect, flat or inverted. Any changes not explained by events such as lactating or hormonal changes, may be considered important, & need to be investigated in case they signify occult disease processes including cancer. This is particularly significant if the changes are asymmetrical (e.g. one nipple becomes inverted) or there are associated skin changes. After lactation, the size and presentation of the nipples may change



Large areolae - the size colour & shape of the areolar can vary considerably, from non-pigmented to deeply darkened, and b/n 1cm -8cm in diameter. They are generally circular but with erect nipples or after lactation may become oval.



7 Chest morphology - influence on the breast: the shape of the underlying chest wall - influences the breast

Pectus carinatum AKA barrel chest, when the breast bone (Sternum) is prominent means the breasts will appear widely spaced & splayed with an outward apex. This occurs naturally or with an overdeveloped diaphragm in athletes & singers.



Pectus excavatum AKA hollow chested, when the breast bone (Sternum) is recessed, where the breasts will appear touching & possibly with a down pointing apex



Scoliosis AKA spinal curvature present in 2% of women - this also occurs with poor posture e.g. round shoulders. The upper breast curve is flattened & the apex downward pointing, with the breasts appearing settled when they are self supporting



Distended epigastric region - AKA fat, high "stomach" - this is a common body shape in short stocky women &/or the overweight. The distended central abdominal region projects b/n the breasts, as a fatty pillow, making the breasts appear splay & or widely spaced.



Excess skin in axilla region - with the arms at rest there appears to be a flap of skin on the side parallel to the floor. This is very common in those who have lost a great deal of weight, or the elderly woman. The breast is deflated and pendulous with associated skin creases in the axilla area, making it difficult to define the actual breast area.



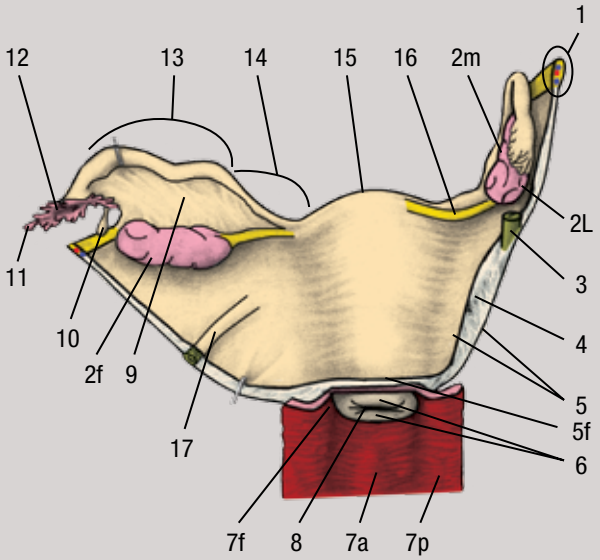
Broad ligament

Macroscopic view

Posterior looking onto the uterus from behind

The uterus is extra peritoneal unlike the ovaries. The peritoneum covers it, folding over its anterior & posterior surfaces, forming pouches b/n the uterus and the bladder anteriorly & the rectum posteriorly. Pus, infection & endometrioses may be found in these dependant tissue pockets.

- 1 infundibulopelvic lig AKA suspensory lig of the ovary
- 2 ovary - which lies in the abdomen
 - f = free margin - in the abdomen
 - L = lateral margin
 - m = medial margin
- 3 R ureter - w/n the 2 layers of the broad lig
- 4 extraperitoneal space
- 5 broad lig ant. & post. folds AKA mesometrium
 - f = post. fold turns up to cover the ant. wall of the rectum
- 6 cervix - ant. & post labia present only in the parous woman
- 7 vagina
 - a = anterior wall
 - f = lateral fornix
 - p = posterior wall note the rugae AKA horizontal folds on the surface
- 8 external os of the cervix (AKA orifice)
- 9 mesosalpinx
- 10 pivot of rotation & uterine movement
- 11 fimbria of ovarian tube
- 12 abdominal orifice of the infundibulum
- 13 ampulla of the ovarian tube
- 14 isthmus of the ovarian tube
- 15 fundus of the uterus
- 16 ovarian lig
- 17 ureter



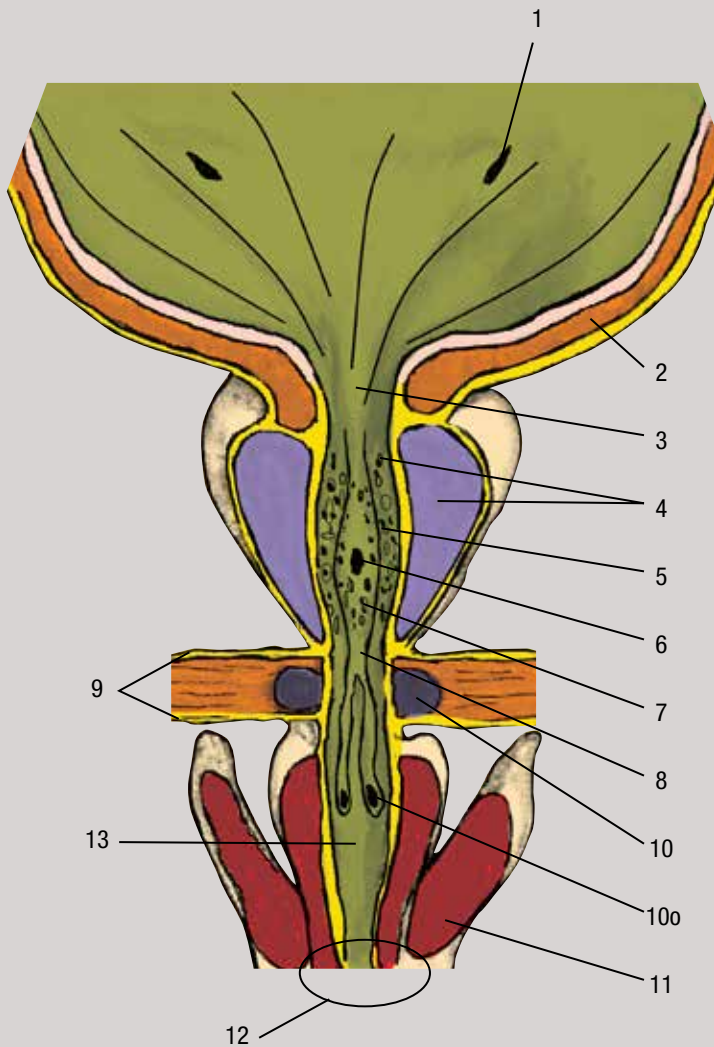
Bulbourethral glands AKA Cowper's glands

Macroscopic view

Coronal section with anterior tissue removed

The bulbourethral glands are the size of a pea located in the deep perineal pouch. These exocrine glands are at the base of the penis, lateral & posterior to the urethra. Their ducts are 2.5cm & pass through the perineal membrane and into the proximal portion of the spongy urethra. During SA, the glands produce the pre-ejaculate; a clear, viscous, salty fluid, which neutralizes the urethra & helps with lubrication. The female equivalent are the Skene's glands which can secrete 1-2 mls of clear fluid in the aroused female.

- 1 ureteral meatus - one point of the bladder trigone
- 2 muscular wall of the bladder AKA Detrusor m
- 3 internal urethral orifice
- 4 prostate gland + openings into the urethra
- 5 colliculus
- 6 opening of the utricle (male equiv of the uterus)
- 7 ejaculatory openings
- 8 urethral eminence in the membranous urethra
- 9 urogenital diaphragm containing Transverse peronei m
- 10 bulbourethral glands
o = openings in the urethra source of the pre-ejaculate
- 11 crus of corpus cavernosum
- 12 leading onto the shaft of the penis
- 13 cavernous urethra



Bulbourethral glands AKA Cowper's glands

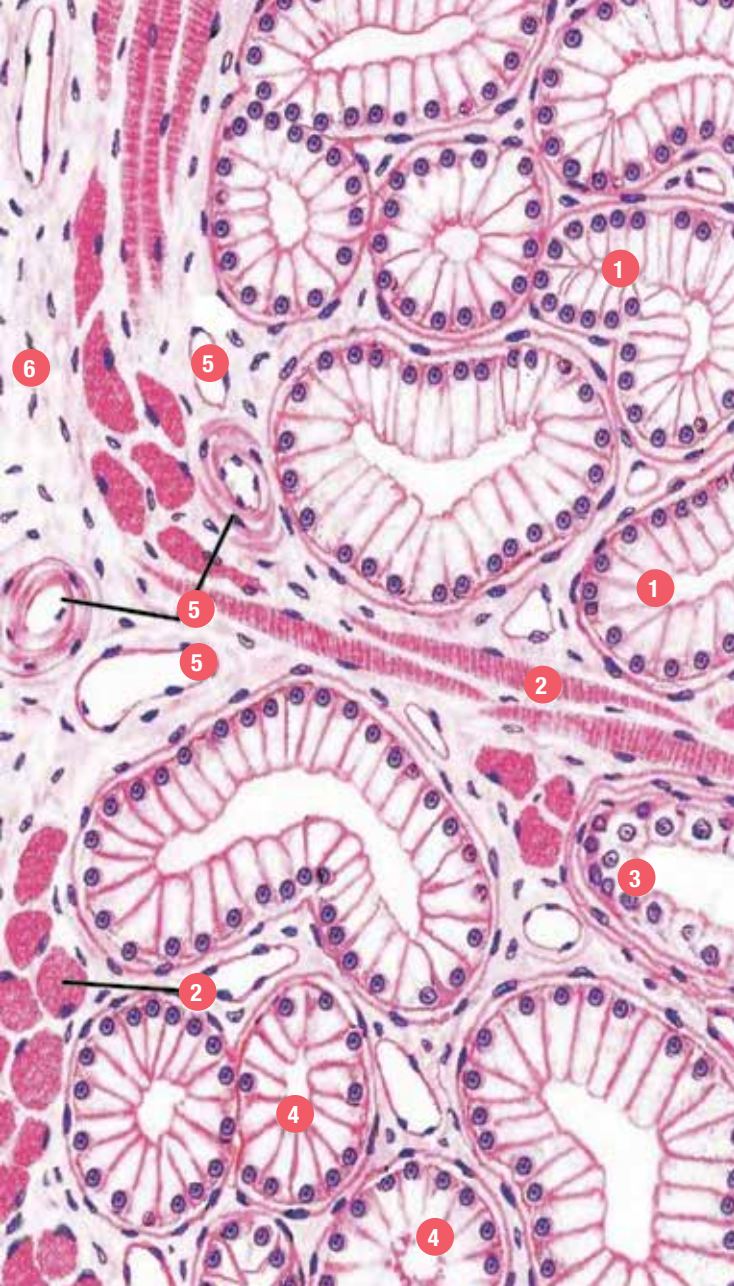
Histology

H&E showing gland structure & muscular capsule

The bulbourethral glands are a pair of small pea-shaped glands in the deep perineal pouch in the male. They are the equivalent of Bartholin's glands in the female. They diminish with age and are primarily simple exocrine tubuloacinar glands with a single opening into the urethra. They are surrounded by the sphincter urethrae. In arousal they secrete a material - the pre-ejaculate, which helps to lubricate the spermatic urethrae and facilitate the passage of the sperm in the ejaculate.

- 1 tubular part of the gland lined with columnar epithelium
- 2 skeletal m
- 3 collecting duct
- 4 acini
- 5 a & v in CT septum
- 6 CT septum

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Cervix AKA Uterine Cervix

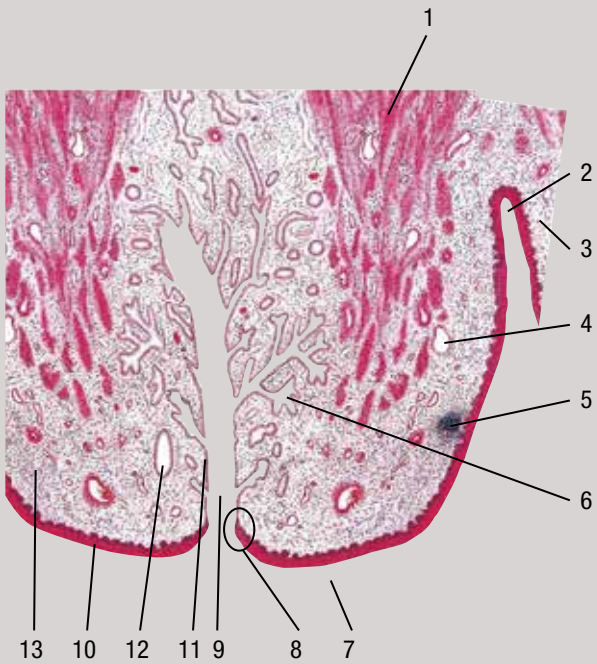
Histology –

LP overview H&E - oblique sagittal cut

The cervix is the firm fibrous neck of the uterus neck of the uterus, approx. 2-3cm in length - elongating in pregnancy. It protrudes into the vagina and is covered by the ectocervix - a non-keratinized stratified epithelium which is continuous with that of the lining of the vagina. The opening - external os - is continuous with the uterine cavity, lined by the columnar epithelial cells & mucoid glands - endocervix. The sperm must pass through the cervix to reach the uterine cavity & ovum. Muscle of the vaginal wall and the myometrium are continuous with the muscularis of the cervix. The cervical glands contribute to the vaginal lubrication, and assist the passage of the sperm.

- 1 muscularis = smooth muscle in the cervix
- 2 vaginal fornix
- 3 vaginal wall
- 4 venule
- 5 lymph nodule
- 6 mucous gland
- 7 vaginal cavity
- 8 transitional zone
- 9 external os - cervical canal
- 10 ectoderm = stratified non-keratinized epithelium
- 11 endoderm = simple columnar epithelium
- 12 cervical cyst
- 13 lamina propria

Note - cervical smears are taken at the sites of 2, 8, & 10 at least.



Clitoris

Macroscopic view

A Anterior view - in situ

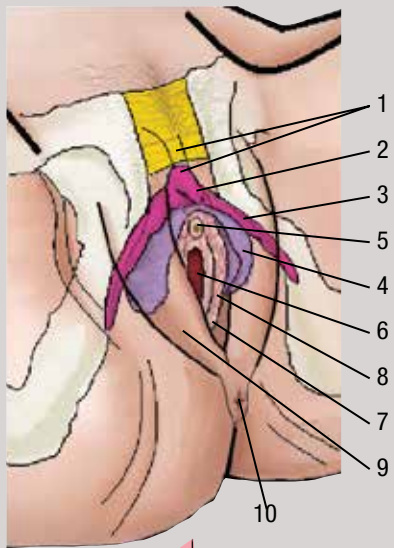
B Anterior view with the surface vulval tissue removed

The clitoris is the female equivalent of the penis complete with all its equivalent parts & the same BS & NS similar number of nerve endings & sensitivity.

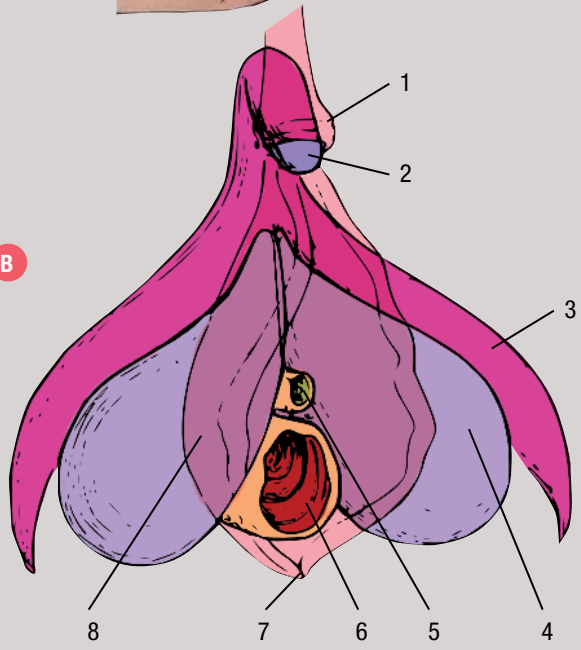
- 1 hood & shaft of the clitoris (equiv of the foreskin of the & shaft of the penis) + connecting frenulum
- 2 glans of the clitoris (equiv of the glans penis)
- 3 crus of the clitoris (covered by the corpus cavernosum m)
- 4 bulb of the clitoris (or vestibule)
- 5 external urethral meatus
- 6 vaginal opening
- 7 fossa navicularis = frenulum of the labia minora
- 8 labia minora
- 9 labia majora
- 10 anal opening

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A



B



Cystocele AKA Bladder prolapse

Macroscopic view

A Sagittal view

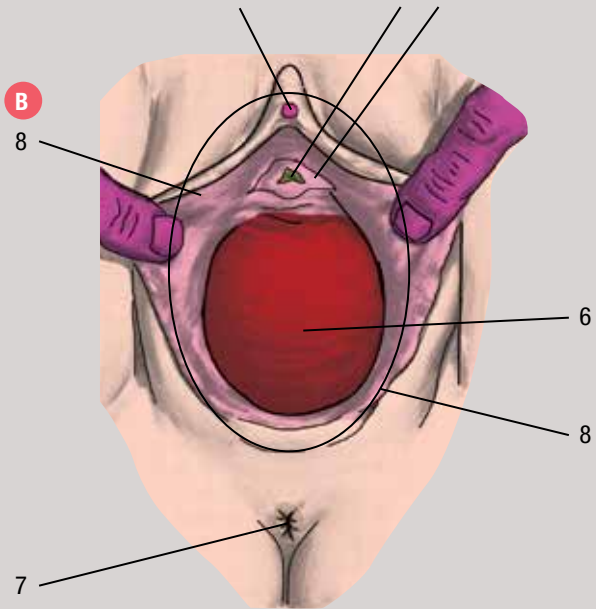
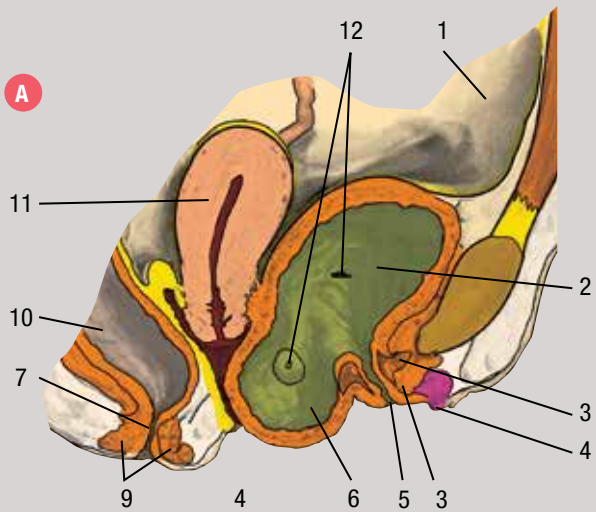
B Anterior view

A cystocele is a displacement of the bladder wall into the vagina due to weakness caused by increased abdominal P which may be due to childbirth, straining &/or lifting heavy weights, along with being overweight & menopausal. It may also occur with other prolapses e.g. the uterine, rectal or intestinal.

Stage 1 protrudes into the vagina; Stage 2 visible at the vaginal introitus & Stage 3 protrudes through the vagina.

Symptoms include: urinary incontinence, inability to completely empty the bladder; recurrent UTIs; difficulty holding any intra-vaginal object in place e.g. a tampon; difficulty in starting, stopping or continuing to urinate, and a sensation of fullness or pressure inside the vagina.

- 1 peritoneal cavity
- 2 bladder
- 3 urethral sphincter
- 4 clitoris
- 5 urethral orifice
- 6 cystocele
- 7 anal opening
- 8 vestibule
- 9 external anal sphincter
- 10 rectum
- 11 uterus
- 12 openings of the ureter



Ectopic pregnancies AKA Extra-uterine implantation

Schema

Ectopic pregnancies are any which occur outside the uterus. Predisposing factors are: previous ectopic pregnancies or previous abdominal or pelvic surgery including appendectomy; IVF Tx; IUCD in situ or PID

The commonest site of ectopic pregnancies are tubal implantation >98%.

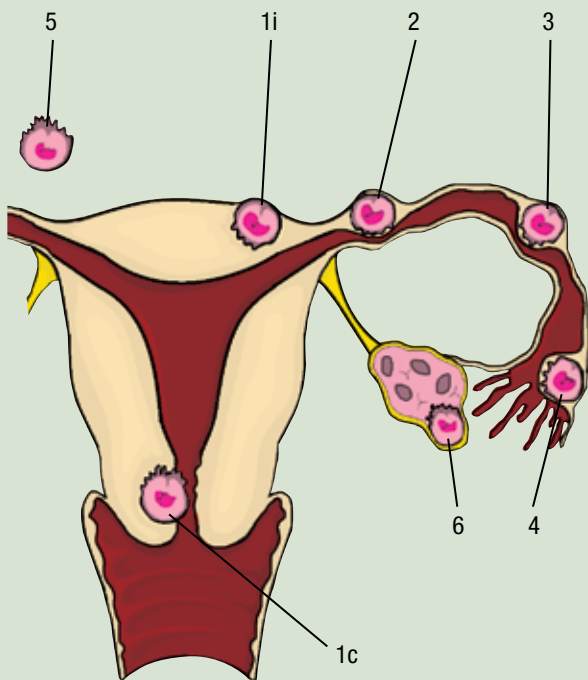
Sites of implantation and their prevalence are broken down as follows

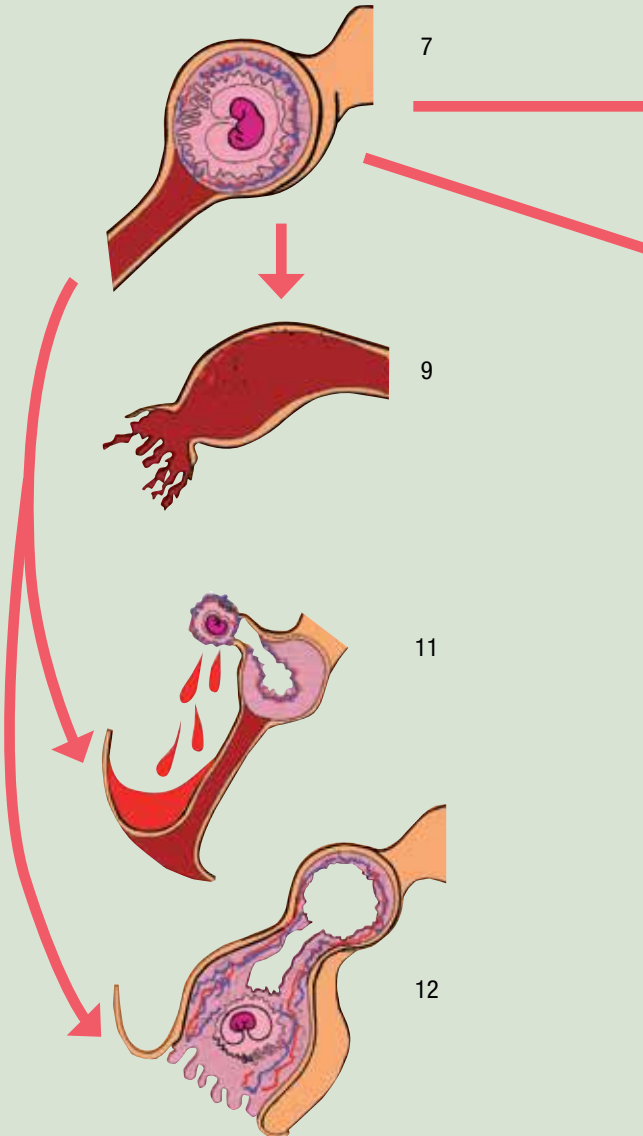
- 1 uterine ectopics = 2%
i = interstitial segment = 1.5%
c = cervical = .5%
- 2 isthmus of the oviduct = 25%
- 3 ampulla of the oviduct = 55%
- 4 infundibulum - fimbriated edge = 17%
- 5 abdominal cavity = .1%
- 6 ovary = .5%

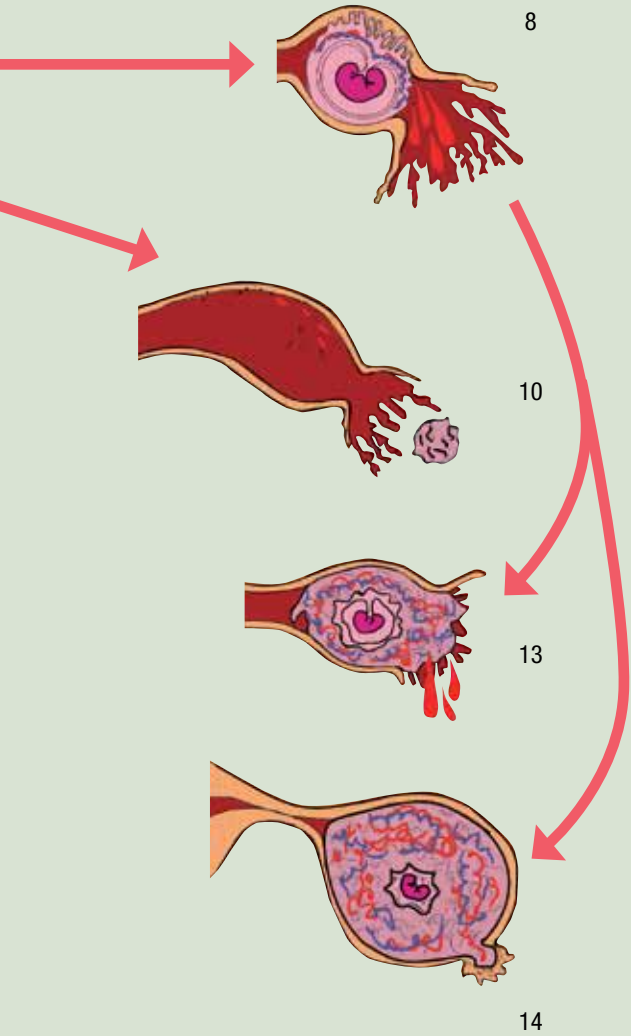
please note that in regions 3 & 4 the oöcyte has a surrounding shell of follicular cells - the oocyte-cumulus complex which is shed during 3 - the highest % of ectopic implantation.

Ectopic - Tubal Implantation (TI)

- 7 TI
- 8 rupturing TI
- 9 absorption w/o extrusion
- 10 absorption with extrusion
- 11 intraperitoneal ruptured TI with haematocele
- 12 ruptured TI into the Broad lig
- 13 incomplete TI
- 14 tubal blood mole







Ductus Deferens AKA Vas Deferens (VD)

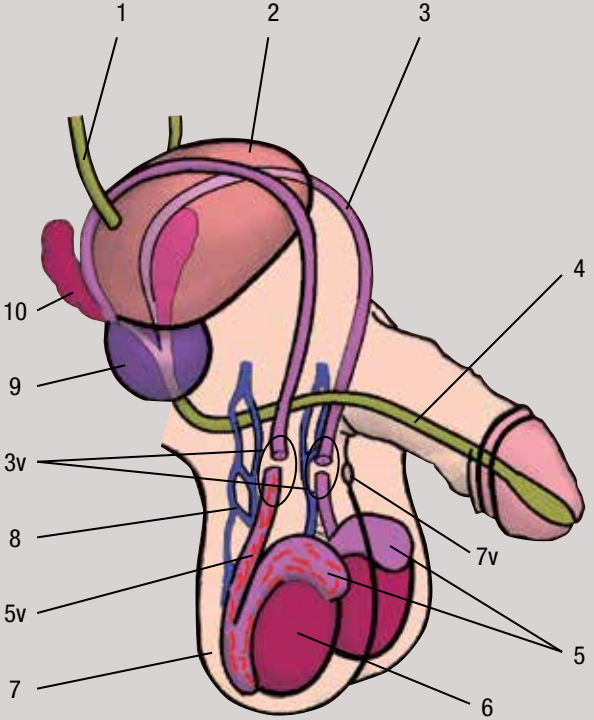
Schema showing the sites & and procedure of a vasectomy

The ductus deferens carries the sperm from the testes, epididymis to the seminal vesicles where they are stored until ejaculation. When ejaculating they leave the seminal vesicles, pass through the prostate via the urethra. The prostate adds secretions to the sperm to help with their passage and preservation. The sperm leave the body via the penis. If any parts of this pathway ie blocked or cut, the ejaculate is rendered sterile. A vasectomy is the cutting (& possibly removing a section) of the VD. At least 2 -3 months must pass for all the sperm stored in the seminal vesicles are removed. Secondary blockages may develop after a vasectomy & the procedure cannot always be reversed as escaped sperm - leaving the cut end of the VD may cause the development of anti-sperm Abs, destroying the sperm in the testes.

- 1 ureter
- 2 bladder
- 3 ductus deferens AKA vas deferens
- 4 urethra (penile)
- 5 epididymis
- 6 testis
- 7 scrotum
- 8 pampiniform plexus
- 9 prostate
- 10 seminal vesicles

v VASECTOMY LANDMARKS

- 3v division of the VD - may be a small cut or the removal of a section
- 5v site of secondary blockage after a vasectomy - preventing a successful reversal
- 7v site for the entry to cut the VD



Endometriosis

A Schema - sagittal

B Macroscopic - sagittal view

C Microscopic view of the endometrial lining

D Macroscopic - superior view

E Macroscopic - deep internal view of the cervix

F Macroscopic - superficial view of the vulva

Endometriosis is ectopic endometrial tissue. It may be caused by retrograde flow of the menstrual tissue*, but this does not account for all the sites of endometriosis ie it may be found rarely in the eye. More than 40% of women have this ectopic tissue but with many it is destroyed by the resident macrophages. In 5-10% of women it persists, although this is only a rough approximation as unless the woman presents with symptoms that are then investigated endometriosis is not detected.

Infertility, pelvic pain, dysmenorrhoea, dyspareunia & menstrual irregularities are common presenting symptoms. Endometriosis is also found incidentally on laparoscopy.

commonest sites

- 1 bladder
- 2 pouch of Douglas (cul-de sac)
- 3 rectum
- 4 sacroiliac lig
- 5 broad lig
- 6 ovary
c = ruptured ovarian / peritoneal cyst (AKA chocolate cyst)
- 7 sigmoid colon

rarer sites

- 8 umbilicus / site of laparoscopy
 - 9 SI
 - 10 appendix / LI
 - 11 peritoneal cavity
 - 12 round lig
 - 13 perineal body / vulva
 - 14 rectum
 - 15 cervix
- p = posterior fornix

other deposit sites

- 16 myometrium (with endometrial invasion is adenomyosis)
- 17 Bartholin's gland

* commonest sites follow a retrograde movement of the endometrial T and are marked with dark red circles ●

Vulva

Innervation

Pudendal Nerve

Examination & Block

Macroscopic Inferior view - female

The external genitalia is innervated by the pudendal N, (S2-4). Hence the vulva can be anaesthetized by blocking this nerve, which can be found by pressing on the internal vaginal surface for the ischeal tuberosity and injecting 2 fingers further medially.

- 1 ischeal tuberosity
- 2 ischeal spine

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