George Bruce's notes on the lectures on surgery given at Edinburgh Medical School by Dr. Alexander Monro (Secundus)

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Geo: Bruce.

Notes of
Professor Monro's Lectures -
on Surgery

Mem. to read Callisen Surgery

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T. Cat.

Lectures 1799-1800

on

Surgery

Lecture 61st of the course

On Inflammation. Swelling, increased heat, pain & fever distinguish. it from other disorders. In local inflammation the increased action of the arteries takes place only at the particular part. By the microscope the vessels are observed to be enlarged, & lymph effused between the interstices; & the inflammation increasing red particles are effused. In a recent inflam.n the number of vessels appear to be increased. Or as Boerhaave explains the vessels

vessels which formerly transmitted globulus. colourless lymph now transmit ~~lymph~~ but, new vessels are also produced, as in the ophthalmia; where the vessels spread from the sclerotic coat over the cornea - The arteries contract in succession from the heart towards the extremities - Where there is an obstruction at the begin.g of the aorta the heart from over exertion becomes dilated & the same thing happens in Introsusceptio - the sides are separated by their distent exertion the parts become thicker from their interstices being filled up. Inflam.n by interrupting the function of an organ necessary to life may produce immediate death (Pneumonia. Phrenitis) or through the medium of the nerves - Inflam.n may terminate fatally, as in the cutting of the teeth, in operations on the knee, to extract a cartilage, & the like -

Inflammation always precedes scir-
rous tubes on the mamma arti-
-cle inducing as an inflammation is to
frequently
served to have this termination

The inflam.ⁿ preceding schirrous may
be so slight as to be little attended
to — Inflam.ⁿ terminates in resolution
in suppur-
ation — or in Gangrene — or frequently
+ or in hardness schirrus which ends in Cancer.
Dropsy follows inflam.ⁿ + — Adhesions
consequent to inflam.ⁿ of bowels from
are produced — an effusion of lymph
W.ⁿ first covers the surface of the inflamed
bowel then vessels spread out upon it
arising from the sound parts these uniting in
to the effused matter unite contiguous parts.

In a violent inflammation — its dissip-
ation is first to be attempted. the impulse of the
blood in the vessels is to be lessened by bloodlet-
ting by compressing the artery going to the
inflamed part, which may have a good effect —
or an artery communicating with the
diseased parts may be opened — cupping
or scarifying the part or cultivating

substracting the blood from the vessels of the part - Purgatives - the Inflamed part to be raised as high as possible above the level of the heart - free dilution necessary - with the use of Acescents - Gum sail in resolving the tumor - Suppuration is to be encouraged - Some further change than mere effusion of serum is necessary to the formation of pus - Every ulcer may be considered in some measure as a gland changing the parts of the blood - Poultices & warm applications useful to favour the suppuration - the absorption of the lymphatics favours the waste of parts —

Mortification - in one stage of it there is a want of action - has been seen to succeed a typhus fever - In one case which Dr M. attended with Mr Rupel - without any apparent evident cause (inflammation did not seize the parts) the a numbness was felt in the toes which mortified - then the nose shared the

same fate – the patient died – Some times there is an increased action fol lowed by a weakening of the powers of Life – Every sensible vascular part of our Body is subject to all the varieties of inflammation – N. B. by this have been an extensive mortification of the gluteal Muscles the part having been li gord from the commencement of the disease. (Lecture 2 Patient recovered –

Sutures & ligatures are used to prevent Hemorrhage during an operation or in taking up vessels after it, to bring to gether the sides of wounds –

(Recollect) soon after I began to Lecture I desired the workmen to blunten the edges of the needle recommended by M^r Sharp – the sharp triangular edges were apt to injure the Surgeons fin gers or what is worse injure a neigh bouring artery & nerve in using it. The part of the needle taken hold of ought to be round & a groove made in both sides – that the threads may read ily pass – The Thread is flattened and re tained to gether by wax –

The edges of the needle ought &c

6 Before extracting the testicle a ligature passed around the chord effectually serves the place of a Tourniquet.

When the mouth of a bleeding vessel presents after an amputation it is to be taken hold of by the tenaculum or by an anatomists forceps, where the Surgeon has no assistant. Artery forceps. Sleisters forceps when a large vessel is to be taken up. The flat Tenaculum with the Lancet point is to be preferred. The thread is tied into a noose which is hung upon the tenaculum. When the artery has been laid hold of the loop is brought over the vessel & is then held by the assistant. The double or Surgeons knot, does not stop close enough to the artery. A single knot is quite sufficient, & there is no occasion for putting one knot above another. The threads to be passed but once through the noose by which means it may be slipped or tightened if there should be occasion. Where a ligature cannot be applied to the vessel

itself, on account of its being deep seated, 7
the artery is to be surrounded by the
ligature completely by means of a needle nearly
in its shape semi circular including some of the
soft parts & then tied &c

When a thin part e.g. the intestine is
wounded - the edges are to be sewed
together as two peices of cloth are sewed
the instestine to the containing parts -
or a number of threads on different needles
are passed at the fourth part of an inch
from each other & tied singly - afterwards
these can be readily be removed by cut
ting one side of the knot - this is what
is termed the Interrupted Suture -

The twisted Suture such as is used in the
hare lip - is made by passing a needle
or pin through opposite sides of the
wound - a steel point is added to the needle that it
may pass through readily - this afterwards
to be taken off by a screw - a thread then waxed
& doubled is passed over the needles
in the form of an figure of eight &c to bring the
sides of the wound together -

8 In deep wounds a semicircular nee
dle of a large size is used ~~[illegible]~~ one
~~[illegible]~~ is placed on each end
of a thread - these needles are passed
opposite one another from without
at the bottom of the wound outwards
& after the requisite number of liga
tures are passed the parts are brought
together & the ligatures tied on the
sides of the wound - Where the depth
of the wound does not require this treat
ment - adhesive plasters & a proper ban
dage are necessary -

Operations for the removal of calculi
in the urinary passages -

Preparations shewn

1. calculi in the infundibula of two kidneys
2 Kidneys filled with calculi - persons
from whom the preparation was taken had
passed calculi perhaps amounting to
pounds - 3d a stone shewing at the
top of the Infundibulum - 4 Examples
of the Pelvis enlarged by the calculus - the
Kidney rendered extremely thin - 4 in one
enlged

brought into the class room a very great number of calculi were found in the Bladder with numerous cysts – 5. In Sp.n of a schirrous of the Prostate glands in consequence of the resistence it gave to the stone hermany cysts were formed & were filled with a black hardened mucus matter – 6 cysts in the bladder from the same cause 7. Collections of sand of a red colour exhibiting regular crystals void'd through the urinary passages – other calculi – one extracted by Mr. Dewar from the side of the anus. having concentric lamellæ & every way resembling a urinary calculus – The man had no fistula – nor connection of the gut with the urethra – One calculus weighing 14 ounces shewn out out by Mr. Alexander Wood in the lateral way – The man lived one years & three afterwards. When there are more stones than one in the bladder the edges of one are adapted to the other sometimes like Ball and Socket – some calculi are rough resembling in appearance a mul

mulberry - In one case large Balls were formed from the Sediment of the urine out of the body, when the patient died no stone was found in the Bladder - Shews one preparation of a stone weighing 32 ounces - variegated & lamellar -

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Lecture 3d of the Surgery

At an average the calculi in my hospital weigh two ounces & a half - as 2 to 2 or 15 to 16 heavier than water - The urine in the healthy state deposites Sediment - forming a crust in the vessel which contains it - hence this crust may collect upon any extraneous body in the urinary bladder - from the calculus matter being generated & dissolved in the urine it does not form any deposition or calculus - except in those who have a certain predisposition to the formation of the Stone - even before the urine has boiled - I have seen crystals deposit from the urethra - & sink to the bottom of the vessel - Mr Scheele has discovered that the

Calculus consists of an acid which forms the Lithic - Acids in the stom ach lead to the production of calculi Calculus more common in the Herbi verous than in the carnivorous ani mals - Dyspeptic patients more liable to calculi - The Secretion by the Kidney may be vitiated - Diabetic patients more subject to Mucous ones - Stagna tion & absorption of the watery parts of the urine increased perspiration may contribute to the formation of calculi Where the Catheter has been used fre quently there observed in a short time a gritty matter in the urine as if from the irritation of the catheter or entrance of the colder air with it Alkaline medecines may be of use in preventing the formation of calculus whether in the caustic state or when saturated with Carbonic acid - one pa tient although he used this remedy con tinued daily to discharge Chemical stones - Know no instance of the dis solution

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dissolution of a calculus by alkaline medecines - The sediment of the urine in a particular person will probably correspond to a calculus in the same person hence it ought to be examined - & may point out a mode of treatment At first a Stone gives most pain - afterwards the sensibility of the parts are more blunted - pieces of stone after violent exercise blood is discharged when the Stone is formed in the Kidney - but would not authorize a Surgeon to perform Nephrotomy - This operation is seldom or never to be performed (except where the Stone has wrought its way low the surface) on account of the size of the vessel & depth of the parts —

The Stone passes down the ureter but ~~urethra~~ are apt to stop where the ureter ~~urethra~~ contracts & enters the Bladder obliquely upon the female in such circumstances an operation is advisable & safe —

When the Stone passes into the bladder in addition to the other symptoms, pains & stranguary

of

of voiding the urine is felt – the patient suffers much from any jolting motion or violent exercise – or in coming down stairs – In bathing water. The patient to relay the parts bends forwards by which means the stone is thrown forwards – after the discharge of urine the patient has exquisite pain the stone being now three times heavier than it was when suspended in the water – a pain is felt along the urethra sensations are referred to the extremities of nerves – as when pain in the toes after amputation occurs from vibrating the nerves of the stump But upon these symptoms alone no prudent Surgeon would perform the operation before he had felt the stone on the point of the instrument – the sound – This instrument ought to be shaped to the curvature of the urethra – hard metal as steel preferable to silver to connect the nerve to the hand – to discharge the urine at pleasure Dr Monro desired the workman to make the sound holeow ——

Sounding- The Instrument is first to be warmed in warm water & then lubricated with fluid oil- in preference to Butter or any unguent- The Patient laid on his back on a Bed- with the Shoulders elevated The Surgeon seats himself on the Left side of the Patient- The Concave side of the instrument is turned towards the abdomen- a large instrument is preferable to a slender one- the instrument is then entered into the urethra- & is brought upon the instrument by the left hand- It is then cautiously passed along the urethra & thence into the bladder but when there is a resistance to its passage at the neck of the bladder the Surgeon introduces a finger into the anus to direct it or determine its situation- When the instrument has got into the bladder the stone is searched for- & a stroke giving to the instrument to feel it- if it is not felt- The Patient is directed to raise himself & then to bend forwards- to bring the stone upon the

neck of the bladder or a couple of fingers
are introduced into the rectum to push
up the stone by use the bladder is
enlarged behind at the neck where
the stone may lodge & the instrument
may pass over it — if these methods
are not successful a little of the water
is evacuated — When the stone is felt
we endeavour to ascertain its size
by introducing a finger in ano &c — It is
not altogether improbable that some
means may be discovered for dissolving
calculi taken by the mouth — Nothing
has yet been found by injecting solvents in
to the Bladder — calculi little acted upon
by substances which are innocent with
regard to the Bladder itself — Therefore
the operation is the only Remedy —

Lithotomy

The Staff differs ~~only~~ from the common
in having a furrow at its under con
vex part — ought to be blunt at the
point the groove not reaching the ex
remity — it ought to have a wooden
handle

16 handle – Scalpels used to make the in
cisions – to cut into the bladder a wedge
like instrument named a gorget is used
having a button at its extremity fitted
to the groove of the staff – M. Hawkins
instrument a great improvement is only
sharp towards to the left side of the pa
tient – but it may wound the bladder
at the upper & back part – In one case
of this happend da lurn of the ileum
got into the incision – the contraction
of the bladder & cries of the patient force
the parts upon the sharp edge of the
instrument – D^r Monro invented a
double gorget having the sharp instru
ment underneath M. Lefbries instru
ment too complex may entangle itself
from the cutting edge being uppermost
M. Broomfields gorget too clumsy –
Three years after the Doctor began to
lecture he proved the Making the
groove upon the side of the staff. to
avoid the vesicula seminalis – the button of the
gorget is so fitted to the groove that it
cannot slip out ———

When a pair of forceps are used to extract the stone - they do not meet at their extremity as this might puncture or injure the soft parts - the finger ought to be placed between the handles to regulate the pressure -

Lecture 93 of the course

Extraction of the Cataract or lens rendered opaque by disease - The speculum is applied to secure the eye lid & keep the eye steady - a conical shaped knife is used to make the incision of the cornea - the flap is lifted up by a blunt shoon & then a sharp lancet is used to cut the capsule of the lens -

after applying the speculum the hand with the knife to be rested on the cheek the cornea separated at its lower part - the speculum is removed - & the flap raised by the shoon the sharp instrument is introduced to puncture the capsule of the lens. then a very moderate degree of pressure will suffice to protrude the lens - the Eye is then excluded from the light &c & Sol. Cerus. Acetat. applied.

We now return to the operation of the

18 of Lithotomy or rather Cystotomy - The operation when performed above the Pubis is termed the high operation - In this part the Bladder is left uncovered by the Peritoneum

We begin with a common scalpel - but make the incision into the bladder by a round convex concave one - then a short pair of forceps are used to extract the Stone - The Bladder is to be distended before the operation - a ligature tied around the Penis - to retain the urine the Surgeon ought to be certain, that the bladder is full before commencing the operation by examining above the pubis & introducing the finger into the rectum to feel the fluctuation -

The Surgeon places himself between the thighs of the patient & makes his incision directly in the middle between the recti muscles - of three inches in length then the common cellular substance is divided - & the muscles separated - the last muscular fibres may be separated on a common furrowed probe - then the curved knife is taken & is thrust into the bladder & is followed by the finger &c - The knife is directed upwards or downwards to enlarge the opening so as to permit

permit the extraction of the stone which is done by the forceps, and these ought to be short - This operation was not performed by the ancients - in the quadruped the bladder is surrounded by peritoneum It was introduced by accident and by comparison we find that it is less successful than the lateral operation -- The admission of air is the chief cause of danger - Where the stone is very large & the subject young - it is perhaps the best mode of operating - provided the wound be immediately and accurately closed --

Lateral operation - not more than one often die of this operation - Children and old People escape better than those in middle life especially if the person is Plethoric, an antiphlogistic regimen is first to be observed - the Extremes of heat & cold avoided - On the morning of the day on which the operation is to be done - a Clyster is to be exhibited - The Bladder ought first to be moderately distended with urine - after the staff is entered a moderate pressure is made upon the urethra by an assistant

assistant to prevent the flowing onto the urine - The Pelvis of the Patient is raised that the Bowels may fall backwards & the stone fall more into the way of the forceps - The Patient is first to be secured - The Palms of the hands are applied to the soles of the feet & tied by a garter - the knees are secured by an assist.t The Surgeon places himself upon a low seat in front of the patient - The staff ought to be introduced before the patient is secured as this frequently is the most difficult part of the operation - after the staff is introduced - this gives to the assistant - who turns it to the left side with his right hand - whilst with the left he supports the scrotum - an incision is next to be made with a common scalpel - The convex part of the staff has been turned towards the left side - the incision is made at that angle where the urethra joins the crus of the Penis - & is continued halfway between the Ischium & anus - A free incision is the best - then the cellular

cellular substance & fat is divided
& soon the transversales perinæi appear
which are to be cut - within these
levator ani comes in ~~the way~~ view & this also
is divided - & these are the only muscles
which come in the way - the erector penis
is quite out of the way - then we reach
a cellular substance lying between the
muscle last divided and the staff - this
is separated so as to feel the membra-
nous part of the urethra - then a smaller
~~double edged~~ scalpel is employd to cut
through the membranous part of the
urethra - the back of the instrument to
be kept towards the rectum - after the
membranous part of the urethra is di-
vided, the staff is to be drawn towards
the assistant - who ought to keep hold
of the staff - the button of the gorget is next
introduced into the groove of the staff:
w^c the operator holds steady in his left hand
& is pushed into the Bladder - along the
hollow part of the gorget the forceps are
introduced - & next we endeavour to lay
hold of the stone - by the smallest dia-
meter - the blades of the forceps are turnd

turned towards the Rectum & Pubis & the stone extracted slowly & gradually drawing downwards & forwards - when it is necessary to enlarge the wound - a probe pointed scalpel is best calculated for this purpose.

Lecture - 94

Cystotomy in the female - most calculi formed upon mucus or bloods coming from the Kidney - Men from their more active employments are more subject to calculi than the female in whom the urethra is also short & straight - by which calculi more readily escape - For sounding in the female a hollow probe is advised whence the free command of the urine - made of steel - The urethra lies between the Symphis & behind the clitoris - the finger readily sinks into it - When the stone is discovered & the operation determined upon - the Low Lateral Operation is preferred - there is no prostate gland nor excrescence to females in the way - so that the operation is much more safe than in the male Prefers Slitting open the whole of the

the urethra to opening it partially - A staff with a groove in the side is introduced into the urethra - the beak of the gorget is inserted into the groove & pushed along into the Bladder - upon the concave part of this Instrument the Forceps are introduced & the Stone extracted — the operation ought never to be made from the Vagina - the part may not heal & may contract the parts - by throughing off sloughs & the Vagina may be ruptured in subsequent delivery - If the Stone has partly gone into the urethra by the guidance of the staff it is to be cut upon & extracted as in the lateral operation — When a stone is impacted in the urethra - common methods to promote its expulsion have failed, we are then to make a cut upon the Stone & extract it - previous to this Incision the Skin is to be drawn upwards & after the cut returned to its place to prevent Ingress & exclude the air - When effusion is threatened a Catheter may be introduced & made to pass the wound in the urethra - When the stone stops

at

extremity of the urethra it is to be cut out in a similar way under the frenum— When the stone is stopped in the female the urethra is to be slit open by a common scalpel on a furrowed probe—

In Incontinence of urine from want of tone, or from inflam.ⁿ & wasting of the Sphincter muscle, in other cases from a paralysis of the sphincter— we give lenes empty the cold Bath— & endeavour to stimulate the Sphincter of the Bladder to action— for this purpose Blisters have been applied above the sacrum— which act also by being absorbed & applied to the neck of the Bladder— Jugum Penis— instrument not to be used. The neck of the Bladder, and urethra, become more & more dilated & the patient after using it for some time is left worse than before— Urinal— a necessary instrument

Retension of the urine from whatever inflames the neck of the Bladder— has arisen from an ill managed gonorrhoea— contraction of the Sphincter— & loss of power of the detrusor urinæ— too long retension of the urine has caused a com-

ple

complete retension – If the Catheter can not be introduced – the surgeon must let off the water by puncture – The Patient is placed upon a low bed or table horizontally – the puncture is made not greater than the breadth of the finger from the Pubis. the skin may be first be divided by a Lancet – the cannula may be withdrawn & wiped – & introduced through a probe & replacing it again upon it – Silk oiled cloth to prevent excoriation – or the bladder may be punctured from below – the staffs introduced – the skin divided by a Lancet & the Trochar pushed into the bladder in the direction of the urethra where it is not covered by the peritoneum – It is proper to the puncture above the Os pubis – where it can be done –

Prolapsus uteri – horizontal posture – or rather elevating the pelvis – the application of mechanical support – Elastic gum bottles compressed at the top near the os uteri – piece of sponge – or ring named pessary – dis invented sideways & then turned round –

Prolapsus Ani most frequent in Children from

from

from relaxation or irritation of slimy cathartics - stone in the bladder - or species of introsusceptio - the last mentioned part is best to be reduced by the forefingers previously dipped in oil & applied alternately -

The natural passages are sometimes obstructed - the lips - sometimes the nostrils from irritation or inflammation - from constricted mucous - the hymen is sometimes imperforated - best method is cutting out a circular portion - the blood might in such a case get into the cavity of the abdomen, from the uterus, passing through the fallopian tubes - In one case at the Hotel Dieu where the whole side of the urethra was open nothing could be done - when there is a preternatural opening in the urethra the glans is to be perforated kept open & the other closed by the twisted suture -

Where the rectum terminates in the vesica urinaria or vagina - An opening in the latter part of the rectum is to be made & established - Where the Colon does not extend to the rectum -

rectum we may perhaps save the life of the patient by making an artificial anus at the caput coli —

Lecture — 65

Supposing the pelvis so much contracted that a full grown child cannot be delivered through it alive — we attempt to save it by performing an operation on the Mother — named Cæsarean Section

The vesica urinaria & rectum emptied the patient properly situated — the Surgeon makes an incision from the umbilicus downto the Symphysis Pubis — separates the recti muscles, then takes up any arteries that may spring — a small hole is scratched with a knife through the peritonæum — directed directly by his assistant to press on each side of the wound to exclude the air — the uterus is then cut perpendicularly through the middle — the fœtus is then taken out — the patient put into a proper position for discharging any fluid collected in the uterus — after wards — the wound must be closed exactly by stitches — operation exceedingly dangerous — Inflam^n of the uterus

28 uterus readily followed by gangrene - Six instances of it in this Island have terminated fatally - Life of the Child ought to be sacrificed to that of the Mother

In the Division of the Symphysis a thinner edged knife is used to divide the cartilage, then means to push asunder the ossa Innominata, bending the knees & using the limbs as levers - perhaps the bones may be separated an inch from each other - the agglutinating cartilage & ligament connecting the ~~Sacrum~~ os sacrum to the ossa Innomena to must be torn - This operation that may be of use when a small addition to the width of the Pelvis will suffice for the delivery of the Child is less dangerous than the Cæsarean Section.

Where a Child has burst from the uterus into the cavity of the abdomen & that the uterus has contracted - the only remedy is the making an incision into the abdomen - & extracting the Child - To guard against inflam^n the Operation ought to be delayed some days - prescribing

down the head of the chord lowered the Pubis- and directly upon it- after ex
traction by stitches exclude the air—
Callisen Book on Surgery two volumes
recommended-

In cases of Gonorrhoea the injection is
prevented from going too far by pressure
upon the urethra with the finger & thumb
the urine might [illegible] returned- a little of
it evacuated before the rest some time
after the Injection- Lues venerea may fol
low although no ulceration in the urethra
has been produced- Strictures- Carundes
not imaginary- Stricture consequence of
Gonorrhoea [illegible] takes nonotice of it- Mer
cury will neither prevent nor remove a
stricture- Cure by mechanical dila
tation- or by destroying the part- Bougies.
Stricture more common in the bulb or be
yond it in the membranous part of the U
rethra— caustic is applied by fixing it
to the extremity of the wire & introducing
it through a hollow catheter open at the end
to the stricture— or Dr. M. proposes to use
a sharp pointed probe thro' the catheter

perforating the Urethra & following this with the Catheter. Armed Bougies. Some on Strictures of the Urethra.

Lecture 96

Fistulous the urethra. or the Perinæum frequently, not always the consequence of fracture when the fistula occupies the neck of the Bladder there is a continued dribling of the urine more case of Fistula pennoi the urine made its way into the cellular part of thigh & broke out there. Whenever urine is effused it should be evacuated as quickly as possible. for the irritation of urine is very apt to produce that kind of inflam^n that readily terminates in mortification. The urine is sometimes poured into the Scrotum. If the urethra be dilated enough to allow the urine to pass freely the case will be cured. but where this impracticable. the parts are to be laid open. a staff is introduced into the urethra and a probe entered in at the Fistula downwards into the furrowed probe. a staff. then the Fistula is to be completely laid open upon a director. or furrowed probe by means of a scalpel. & the sides are not allowed to adhere

adhere - a flexible catheter is introduced 31
to the urethra & carried past the fistula
then the parts divided &c applied together
& retained by sticking or suture -

Fistula Ani - In 9 of 10 cases the fis
tula begins above the verge of the anus. Acrid
matter confined by the sphincter lies at the
upper part & irritates it - examined by in
troducing a probe into the fistula & finger
into the anus &c. Incomplete fis
tula takes place when there is no com
munication between the intestine & ex
ternal fistula - neither internal medicines
nor injections have any good effect - cure
can only be performed by laying open the
parts -- The surgeon first introduces the fin
ger within the rectum - the finger sinks in
to the communication the parts are hard
round the opening - An External incom
plete fistula may frequently be cured
merely by enlarging the external opening -
Recommends the probe razor of Sheiler - This
instrument is introduced into the fistula
the probe received upon the finger of the

one hand within the rectum - brought out at the anus - & taking hold of the other extremity - by making a circular sweep the intermediate parts are divided - Simple dressings the best - An issue may be advisable - especially if the Fistula has communication & the patient is plethoric - to prevent Apoplexy - Palsy -

Phymosis - or contraction of the foreskin so that it cannot be drawn back - in children if the urine finds vent. The operation to be delayed until the child has advanced in years - It sometimes arises from want of cleanliness - from Gonorrhea more frequently from Chancre - after the ordinary means have failed - an operation is necessary - The parts are to be divided - A Gorget is introduced under the glans - they rest upon the instrument at the handle the cutting Blade is made to start up & to divide the prepuce at the side - Dr Monro - advises a small flat canula to be introduced under the prepuce - & then dividing the parts by a knife introduced within it - and carried forwards

Paraphymosis- by reverse of the former disease happens sometimes from a swelling of the gland which helps from the irritation & inflam. of a gonorrhoea- Patient to be freely bled Wounds by Leeches become chancres in vener. cases. Fomentations- Prepuce to be divided by the shoulder of a Lancet- &c.

Cancer Penis

Cancer- sometimes communicated in coition from the diseased uterus of the female it is seldom observed under the age of 40- cancerous sore not distinguishable from venereal sore with excrescences Swelling of the inguinal glands does not always prevent success from y operation

C. Amputation

C- The skin is to be retracted- an assistant grasps the penis firmly with the hand above the part to be amputated- the skin is first divided circularly- then the penis is divided by a large Scalpel- the arteries are taken up- Dreg. & bloke vice- Skin to be brought over the stump- tube introduced into the urethra & supported by a ligature- tube like a gum tube for conveying the urine into a vessel

Lecture - 67 -

Hydrocele - & Sarcocele -

Water may be effused into the cellular substance under the Skin - generally attended with Anasarca of the lower Extremities — puncture of the Scrotum sometimes necessary to give relief - Water is seldom found collected in the cellular substance connecting the vessels of the Spermatic chord together — The Dropsy is most frequently encysted and is collected in the Tunica Vaginalis - Where the passage into it remains open from the abdomen the Water may proceed from an Ascitis - sometimes observed from this cause in young Children - it disappears generally very soon with or without any Astringent Application — Has been Hydrocele within the body of the testicle - sometimes a sarcocele Bag fixed to the Testicle by a pedunicle is met with we had an instance of this in one of the dead bodies for dissection in one of the Subjects — It is observed that all External applications

have very little effect in resolving the tumor - sometimes, as where the disease has originated from a blow within a month or two, the fluid has been reabsorbed — Where the testicle is at the same time swelled mercury has been useful - it is to be tried where an V. D. is suspected

The operation may be palliative or Radical — In the first the water is simply to be drawn off — for this purpose Dr Monro recom.d the lancet pointed Trocar of his own invention - the slit at the sides of the Cannula is an improvem.t by Mr. Andre of London -

The Patient is laid upon a table or across a bed - the Surgeon places himself before the Patient between his legs - he judges by examination of the thickness of the sac - applies the fore finger to the Trocar to prevent more of it entering than what is necessary - he avoids the course of any vessel - he then grasps the tumor with the left hand - the instrument is raised obliquely under - the skin for one quarter of an inch - then causing the

hand the sac is punctured - afterwards the trochar is removed & the water allowed to flow off through the cannula which after the operation is cautiously removed as the discharge ceases - The Patient is then confined for some time - & flannel cloth dipt in spirits applied over the scrotum The lancet pointed trocar is best as inserted perpendicularly (thus |) to avoid wounding the veins by a horizontal puncture ——

The Radical cure is effected by producing an adhesion between the vaginal coat & the surface of the testicle - which may take place without much or very little suppuration - i.e. by adhesive inflammation, or what is the same thing by the first intention — By means of the seton after the operation last described a long silver tube is introduced through the cannula which is removed - then a sharp probe armed with the seton is passed through this - & brought out at the

the other end of the tumor — & the tube removed the seton is allowed to remain — as an improvement of this operation of Mr Pl — Dr Monro advises along probe & cannula to be used — a little curved & the canula perforated by holes — by which means the parts are protected — the end of the trocar is followed by the seton & the water flows out by the holes mentd — Cure seldom perfect in this way — That by incision more certainly one effected — Dr Monro knows of no instance where it has proved fatal — The Palliative method ought to be pursued the radical — by which the state of the testicle may be ascertained — & a smaller curfew afterwards exposed to the air —

The Patient is laid horizontally — then with a common scalpel the skin is divided Lengthways from above downwards leaving a small pouch before the testicle — then by slight scratches the cel-

lular

cellular substance is divided-avoids any large vessel- then by an an Ab cess lancet- the vaginal coat is opend at the middle- a thin smalle orifice a director is introduced into the furrow of which the probe at the Sa hemity of a sheight knife is entered introduced & hyit me dividede the vagi nal coat first upwards then downwards introduce a folded peice of cloth spread with any simple ointment into the wd to prevent it from adhering- the sides of it are folded over the sides of the sore- Light applied above & then the above dressing with a suspensory or T bandage.

Swelling of the testicle- quickness of Pulse- increased thirst- & heat- rest lessness follow- the swelling slowly de minishes- the pain at least ache- but the testicle seldom regains its natur al size- but continues somewhat enlarg'd In Nine cases- the cure by injection succeeded in Eight of them— to inject the portwine- Dr. Monro prefers the Teas he gum- Bottle filled with a sth each

Two parts of Port wine to one of hotel water incused — The water is first let out by the Palliative operation & after the tumor is lessened in size + the Port & water is injected & detained for Seven or Eight minutes — This method then may be tried, and if the disease does return — the other radical operation may also be had recourse to — This operation of extensive swelling & suppuration is not so severe — nor its consequences so alarming as in the mode by incision — + by delaying the injection for a day or two the extent to which inflamed is lessened —

Lecture — 98 —

The sac is seldom much distended with water in the hydrocele with some enlargement of the testicle —

Sarcocele — in certain cases this swelling of the testicle terminates in Schirrous or in Cancer — In Gonorrhoea when the matter is thrown upon the seminal ducts — the testicle swells — This also frequently happens after the Lateral operation of Lythotomy

KB and in one case ulceration of the neck of the bladder gave rise to the swelling – Testicle much exposed to injury – Bowels from internal causes arise the Cynan che Parotidea – from Lues venerea

When the swelling arises from obstruction from the urethra the Strictly thymis first occurs then the testicle but when it proceeds from internal causes the body of the testicle is first affected – this also happens when the swelling arises from cancer in other parts – at least Dr Monro has always observed this to be the case – Sometimes swelling occurs in rather elderly persons who constitutions are broken who have used freely ardent spirits have swallow hook &c Inguino cele the swelling is hard knobby unequal – but sometimes more soft Preg.y brought on by a blow – painful – & in the case of Scirrous or cancer the pains are shooting – There is no fluctu ation

fluctuation of fluid observed — By these marks it is generally distinguished from hydrocele — Where the Patient is exhausted emaciated sallow — & the swelling has spread to the Epiplocystis — the Patient ought to have a chance of recovery from the operation but the Prognosis of the Surgeon should be guarded —

Extraction of the Testicle — The Patient is laid horizontally in bed the Surgeon seats himself between his knees — & uses a common scalpel to make his incisions — He begins his incision at the ring of the external oblique muscle & continues it downwards to the bottom of the Tumor, dividing only the skin — next he is to take up the Spermatic cord — by passing a round curved needle armed with a strong ligature round it — including what Cleiselor names the

nerve

nerue— the vas deferens is also to be tied up— then he forms upon the ligature a running knot— this makes a very good tourniquet— next— Dr Monro advises that the chord be divided, because then the parts can be dissected out with the utmost ease— This division is made a little below the ligature— after the testicle is removed— any vessel that should have sprung ought to be taken up by the tenaculum— the ligature of tenaculum & the several arteries of the chord taken up in the same manner— in this case three or four branches are found as large as the principal artery— the ligature in the event of any hemorrhage may be tightened until the surgeon is called— then the wound in the scrotum is to be brought together by stitches— & the cure attempted by adhesive inflammation— unless

the

When the parts have descended through the abdominal ring, the case is called bubonocele, or inguinal hernia; if they are in contact with the testis it is named congenital. The crural or femoral is that which takes place under poupart's ligament: & the exomphalos, or umbilical hernia occurs at the navel.

the skin be diseased or the tumor very large, none of the skin need be removed - but when this is the case - the diseased parts are to be cut out leaving the lips of the wound somewhat of a semicircular shape - so that they may be more accurately the Scrotum

Hernia - or protrusion of an internal viscus from its natural cavity - Dr Monro has seen some apparent instances of hernia of the Brain - where probably it has never been in its natural situation - the Lungs are perhaps never protruded - although pieces of longhing have occasioned such tumors of the Pleura & even laceration of the Intercostal muscles - we often observe attention principally to the hernia of the Abdominal viscera - & none of these are exempt from such protrusion - the Stomach Liver. Pancreas - & in one case of a Child the kidneys were both protruded - through a preternatural

opening

opening - they could not be sound
the patient is now alive & 6 years
old - the colon in one case was
protruded through an oval pre-
natural
~~per~~ opening in the diaphragm
into the Thorax - the Ileum has
been protruded & the Bladder - & is
always
is uncovered by the peritonæum in
the humor - the same ~~appears~~ ~~to~~
trunk
the kidneys - the colon - the small
intestines particularly the Ileum -
which has the largest mesentery & is
most liable to be protruded - The
Ring of the external oblique muscle - the
Passage for the vessels under the Li-
gament of Fallopius to the thigh -
the umbilicus - the sides of the abdo-
men - the linea alba - In the french
are the points at which the bowel generally
protrudes.
Memoirs Garengeot relates cases of her-
nia where the obturator nerve & artery
which
pass - the Sacro Sciatic notch - these
are the parts where the Bowels may
be protruded -
Annular inguinal hernia where the
bowels

peas through the ring of the external
oblique muscle - the most common kind of hernia
(where they pass under Fallopius liga-
ment - the femoral Hernia - these
is besides the umbilical & ventral
hernia - the annular inguinal
more freq.t in men - the crural or
femoral occurs oftener in the females
the weight of the bowels bring them
down to these places - & as this infer
ior part of the abdomen the Peritone
um to allow of the rising of the blad
der is not fixed - & thus explaines the
reason why these sh.d occur more fre
quent than the umbilical hernia &c.
however is more apt to occur in very
young children from the width of the
umbilicus - next pregnant women are
more subject to umbilical hernia -

In the annular inguinal hernia of the
male the bowels lies before the chord
In the congenite hernia the bowels & the
testicle however are in the same sac - but
in other cases they are contained in seper
rate

ochanale sac in women - in the same species of hernia the intestine lies above the round ligament - In the umbilical hernia - the omentum is sometimes found - By the continuance of the disease - the parts are thickened - dilated - form adhesions with the omentum is most apt to do - these increase the danger - This is however less in ventral hernia because then there is not so much stricture - In the Hernia congenita the testicle is surrounded by the bowels so that it cannot be distinguished the Vaginal process remains open - sometimes (when this is not the case) the hernia may descend extends down to the bottom of the scrotum - A thickening of the sac by causing strangulation of the intestine may prove the cause of death - In one case a portion of the tunica dartos was found to have slipped down into the sac & adhered to it - Sometimes the hernia is complicated &

complicated with hydrocele -- In one very remarkable case the Bowels were found upon the fore part of the vas deferens - accumulame of which Surgeons should be aware of

Lecture 99 —

In the ammilar inguinal hernia the bowel lies above the Spermatic chord in the Pale - This known how a hernia from the cause that produced it - nausea - vomiting frequently attend - The bowels are costive - When the Omentum is protruded - it feels hard - We are certain of the complaint when the bowels can be reduced by putting the patient into a horizontal posture — In the female the bowels are pushed out above the round ligament and lodged in the cellular substance at the side of the vagina & thigh - Femoral hernia from its deep situation - smallness of size more apt to be mistaken — The umbrical hernia is apt to occure soon after birth — The Bowels from

their

18 their being compressed - twisted &c are inflamed - so that they cannot be reduced - have then ceased to be strangulated - Reduction is attempted first by elevating the pelvis - thereby relaxing the neighbouring muscles - the pressure to be made upon that part of the bowel which was last involved by the two fore fingers of the hands alternately favouring their return by pressing in the inguinal hernia upwards outwards in the Femoral upwards & backwards in the umbilical directly backwards for the resistance is equal on all sides. Agitation of the body can have little good effect in favouring the reduction of the Bowels - if these methods fail Blood is to be let very freely - using a large broad shouldered lancet & making large opening - then suddenly loosening the in a sitting posture of the patient ligature - ~~& bleeding in an erect posture~~ to induce deliquium - then the Surgeon attempts again the reduction - If we are unsuccessful here - we are next to endeavour to communicate the Intestines by

intestines by injections - if an injection
of infusion of Lemmd - or other acrid
glysters fails we then make use of Tobacco
to smoke - which hitherto has no great
er effect than a common glyster - A
Purgative of Salah & Halomel given by
the mouth after other means have failed
has not only - produced an evacuation
by stool. but caus'd a reduction of the gut.
during its operation - p. does not much
approve of warm or spirited applica
tions to the tumor - & puncturing the
intestine is a rash and very hurtful
practice & ought to be explored —

The Bowels from being inflamed
are increased in Buck - & the strangu
lation is owing to this cause - the bowels
press against the ring not the ring agt
the Bowels - & the same thing would
happen were the ring of iron - where
the strangulation has been continued
for some time the Involuded gut loses
its tone - from the inflam^{n}. the bowels
& then the abdomen are corroded round
by action - & wind & purulent matter are forced
down enlarging the tumor & increasing

50 the danger — To remove the decease
then the Back of the Tumor must
be lessened or the tendon divided —

Operation

The Patient is laid horizontally. The
Surgeon places himself between his
knees with a common scalpel he is
to begin his incision above the ring &
carry it down to the bottom of the tu-
mor — then by very cautious strokes the
cellular substance is to be divided. This
done a hole is to be scratched with the
utmost caution — at this opening a per-
rowed director is introduced — & passing
a probe pointed bistoury the sac is
further opened & a probe is introduced before
finger — upon which the knife is to be intro
duced — & the whole sac divided upwards
& downwards — Dr Monro thinks a straight
knife a safer instrument. because then
no part of the intestine can get between
the perpendicular & concave part of the
Pott's knife — Then if the intestine can-
not be reduced by the forefingers thro
the ring — with the same knife the ring
is to be divided — and after the reduction

of

of the intestine - the wounds to the ac- 57.
curately stitched up - objects to the
operation - enumerat of the exposure
of the parts to the air - and proposes
that the tendon only be divided in
lengthening the sac - Danger from
cutting a tendon a mere bug-bear -
A furrowed probe is to be introduc-
ed under the tendon - & with a scal-
pel the tendon is to be divided by -
slight scratches - sometimes it may
be necessary to divide the neck of the
sac - only where the hernia is of long
continuance - & the neck of the sac
gives an irresistible resistance -
Where adhesions have formed Dr Physick
so thinks it advisable to allow the part
to remain in the tumor only dividing
the tendon - In cases where the Peri
toneum is so discoloured that we
cannot distinguish it from the intes
tine - after every small scratch has
been made a probe is to be introduced
the sac divided upon the point of it
[illegible] - After the operation

52 The wound is to be accurately stitched up — Where mortification has taken place — the upper part of the intestine is to be fixed to the wound by ligatures passed through the mesentery —

In the umbilical Hernia Dr Monro prefers that the cut be made from an inch above to an inch below the tumour — Then the cellular substance is to be divided deeper — upon the chord tendinous kind of membrane is placed — a director then is to be passed within the ring — & this is to be divided upon it — An incision is made upwards and outwards in the direction of the fibres of the obliquus Exter. Muscle.
In Femoral Hernia — the best possible rule is to direct the point of the knife towards the umbilicus — here also the incision passes from an inch above to an inch below the ligament — Here are to avoid as much as possible the inguinal glands — the condensed cellular substance — & then the the vaginal tendon — or tendinous fascia is cut through — when the tendon

vide

53

London is reached a furrowed probe is entered under it - & make such incision on it with the knife - neither inwards with Le Dran or outwards as Sharp directs because in the one case the Spermatic chord in the other the Epigastric artery is divided infallibly - but we are to direct the point of the knife towards the umbilicus - & make but a small enlargement only.

Lecture - 108th

Dropsy.

Preparations - a cyst containing water found within the human Brain - 2 Hydatids undoubtedly animals extracted from the Brain of sheep - 3 Instances of Hydrocephalus - 4 cysts containing water adhering connected to the Liver - 5 the Kidneys 6 an ovaria prodigiously distended with fluid - 7. a dropsical cyst connected with the spinal marrow the back parts of the Bones were wanting & hence the disease is termed Spina Bifida

In Dropsy the water may be effused into

into the common cellular substance named edema - or moves passing between the muscles - Anasarca - Dropsies are devided into effused, and encysted - The water may be poured into natural cysts - This sometimes is called natural encysted dropsy - When the cysts, however, are formed by disease & are filled with water - we term this a preternatural encysted dropsy - There is still another species & that is when the sacs filled w.t a number of Hydatids floating in water - Dropsy may be owing to an increase of ~~exhalation~~ exhalation and diminished absorption or it may be caused by the rupture of a lymphatic vessel - by too little of the agglutinating principle & too much of the watery part of the blood - hence Schirrous kidneys - obstructed viscera have given rise to effusions in other parts of the body - a great loss of blood by a wound by occasioning a thinness of the blood may give rise to dropsy - Hepatic Dropsy is occasioned by relaxation of

the

the solids - hence the dropsy in a limb
in hemiplegia — obstruction to the
return of the venous blood - increases
the exhalation by the arteries & gives
rise to dropsy — as in ascites. from indu
ration of the liver - which may also
press upon & obstruct the lymphatic vessels - Asci
tes has sometimes originated from indu
ration & enlargement of the spleen
& at others from that of the Pancreas
which passing over must compress the
vena Portarum — Indurated lungs
frequently give occasion to an exu
dation of water from their surface a
(by)
hydrothorax - or this desease of the
lungs - or enlargement of the heart the
passed upon in the same manner
vena cava is affected as by the liver
(diseased)
& anasarca is produced — The Inha
lation or absorption
lation may be diminished — Relaxa
tion of the lymphatics may prevent
their absorption as capillary tubes -
they in this state
& although absorb they are less able
to propel the fluid to the heart -
Indolence or want of moving powers
the attends dropsy - as friction &

a good effect
friction & exercise may have, in
removing the edematous swellings
of the conglobate glands - may be the
cause of dropsy - or such causes
ing & accretion - of the sides of lym
phatics — of particular parts —
Formerly Drastic Purgatives were
much employed — are more per
manent when the natural watery
discharges are encreased as by some
Preparation — Oxydate of Tartar
Mercury in large doses - Squill
of late. The Digitalis — are the usual
Remedies in this disease.
In edematous swellings - we draw
off the water - small punctures are
made about the ancles by a broad
shouldered lancet - entering and re
moving it perpendicularly - and
making the openings small and at a
distance from each other & so placed
that the water drilling from one punc
ture may not run over & irritate ano
ther — Where the limbs are much swd
led it recommends that the punctures be made at
the upper part of the thigh - above

above & sometime afterwards below
the knee & least of all at the ancles
The parts to be protected from the water by being
covered by a greasy ointment - a flan-
nel roller necessary which by its elas-
ticity squeezes out the water - Which
punctures dangerous. & in cldaly peoples in
particular often occasion fatal inflammation of the parts.
Encysted dropsy - In the safe Methest
mode of cure is to cut upon the cyst
longitudinally - & then dissect out the cyst
entire - & immediately bring the opp
site sides of the wound together retaining them
by Plaister & Bandage -

Paracentesis Abdominis.

Ascites, combined with Jaundice un
favourable - when an operation is deter
mined upon - we make use of a
Trocar with a lancet point - & Ca
la - The Patient is first put in a hori
zontal posture - and the puncture
is to be made half way between the
umbilicus & the anterior spine of the
Ileum - there is no great objection to
puncturing at the middle of the belly do
≈ three inches below the navel
men - between the recti muscles - but
when the puncture is made sideways
by reclining the part the lowest of the
abdomen

lowest of the abdomen by turning the Patient over to that side so that every drop of fluid may be evacuated - To prevent deliquium animi - & hemorrhage from the abdominal vessels after the pressure of the water has been taken off - It is necessary to apply a bandage and tighten it by straps as the water is drawn off In one patient - 120 pounds of water were taken off at once - 16 oz to the pound - & the bandage instantly relieved the patient - who frequently begged it to be tightened &c — a probe pierced at one end may be used to push off any turn of intestine obstructing the evacuation - The punctures by the trocher may be made in a slanting direction so to exclude the air -

Dropsy of the Ovarium - slow in its progress - uneasiness till the tumor begins in one side only - the water is not here so obviously felt by fluctuation it lies deeper & is more widely than in ascites & the sides of the ovarium are thickened -

. The

the mass may be made to slide wi
thin the internal parts- In one case
a patient was killed by the puncture
having passed into a turn of the intes
tine which lay between the tumor
& containing parts of the Abdomen—
-After the dropsy has continued for some
time & then becomes stationary- some
Patients have carried about such tu
mors for upwards of 12 years- No ope
ration is to be performed when the tu
mor is moveable- even where it has
adhered to the containing parts- the
prognosis ought to be very guarded in
deed- Sometimes the tumor have
burst into the Abdomen— &c

Lecture 101—

Preparations— 1 The Lungs covered by
an inflamy crust- a pound of mat
ter was collected within the Pleura
without ulceration of the lungs- 2
Examples of abscess within the Lungs
the matter is confined by a membrane
3- Examples where the sac opens exter
nally- 4 A large tumor was introdu
ced

60 externally - the matter coming from within the chest the shape of the heart was communicated to it -

Hydatids seem to have no connection with the neighbouring parts by vessels - they seem to be animated in sheep & other animals but in man there is no loria or worm connected with them - neither symptoms of inflammation nor suppuration precede the formation of Hydatids - The liver is most apt to be affected with them - In one case the tumid ovarium burst in the night time & the Hydatids were discharged by stool - having made their way into the colon from its continuity with the ovarium - From the liver they pass into the stomach - or colon - or they may be discharged through the Biliary ducts which have been found enormously dilated - In one case these Hydatids wrought their way outwards In most instances the Hydatids are numerous tho numbered in a few - at other times there is only one hydatid of great

great size – In one case the swelling between the liver & diaphragm had pushed the liver almost down to the bottom of the abdomen – an opera tion was performed. The water evacuated – & the patient recovered –

Hydrothorax Paleness. Thirst – Lan gor – Scarcity of urine – Ticklingdry Cough – Oppression on motion – espe cially in going up hill – but easy in the horizontal posture – relief in the Erect posture – Oedematous swellings of the feet – from the obstruction to the return of the venous blood in consequ of pressure on the Vena & Thoracic duct. The Pulse is quick – small & remarkably intermit tent – Starting from sleep – The blood from imperfect Oxydation is rendered livid – we are made certain about the nature of the disease by agitating the body – that one may be sensible of the fluctuation – This is sometimes felt or heard by the patient himself when rising from bed or from his seat We examine the place of the sound & by

apply the hands to opposite sides of the chest - agitating the patient at the same time - the fluctuation is much more obscure when the water is collected within a cyst - In one case the water collected within the pleura of the left side had so far displaced the heart that it was turned over to the right side it was felt beating there many more cases of Hydrothorax are cured - Ascites - In Empyema an operation is more generally required - In this case Inflam[n] & symptoms of suppuration have preceded - dyspnoea shivering - exhaustion colliquative diarrhoea are the consequences.

Although the lungs are frequently adhering to the ribs in elderly persons - yet no particular difficulty of Breathing has been noticed - The Palliative method of cure by letting out the water may be converted into a Radical cure by promoting adhesion of parts - This may be at

attempted by allowing the perfora-
ting instrument to remain some
time within the thorax to enhance
inflammation - where this fails
perhaps wine diluted may be thrown
in as in Hydrocele ~~[illegible]~~ with
success - In hydrothorax the trocar
is the most eligible instrument - but
where purulent matter is collected
a larger opening is necessary - where
the water is collected in the pericardium
the Pulse is quicker & still more irregu-
lar than in Hydrothorax
& the patient is not relieved by
the erect posture - but finds more
ease by kneeling forwards - when the
Pericardium is relaxed -

Paracentesis of the Thorax - the part
(ought first to be marked at which
the opening is to be made) with ink
the skin is divided by the point
of a lancet - & then with a com-
mon trocar an opening is made
into the thorax through the intercos-
tal muscles & pleura obliquely

64 In the case of Empyema the opening ought to be made about the middle of the Thorax half way between the Vertebræ & Sternum — The Patient is laid horizontally on bed — & his side brought over the corner of bed — the incision is kept near to the superior to avoid the intercostal artery ^ to avoid the intercostal artery
portion of the inferior rib — a common shaped Scalpel is used for this purpose — and the muscles are to be divided cautiously by many slight strokes — perhaps the fibres of the muscles may be drawn aside upon a director with advantage — when we reach the pleura a small hole is to be scratched in it with great caution — into this a director is to be introduced & upon it the perforation is enlarged by a straight probe pointed knife — & the matter allowed to escape — no faintness here follows the evacuation of the matter — the lungs are supported either by partial adhesions — or are

prefsed

prefsed upon by the air admitted
the lips of the wound are afterwards to be kept
separate by a plaister of simple
ointment applied over the wound
& prefsed inwards between the
sides of the wound - applying that first
pie above this - where blood is
effused within the thorax as in con
sequence of wounds - the operation is
to be delayed for some time until
we can form some idea of the most
probable event -

Lymphatics - It is possible that the
air may be secreted - or it may get
out from the alimentary canal
from - an ulcer or wound having
been made in it - In one case
the lymphatic followed dysentery
a hole was evoded in the arch of the
colon - the operation was performed
& the air evacuated - but the Abdo
men was next day distended as before
before - In one case from the severe
operation of an Emetic a rupture
was made in the colon - the Patient

the patient died —

- Air may be effused into the cavity of the Pleura - in consequence of wounds of the Thorax - or a rupture of the lungs. may follow a violent fit of coughing - In such cases we attempt to give the patient relief by puncture without any incision by means of a small round trocar — the place where the Empiy ema began - the point where the pain is felt - direct us to the part where the instrument is to be entered - It is entered in a slanting direction - then raising the hand the instrument is made to perforate the Pleura working it like a drill - then the perforator is wire removed - the Patient makes a free inspiration - to press out the air - after the wound in the lungs is closed we extract the air by means of a small Bottle screwed upon the Canula & filled with water each repeating the Ope-

where water is collected in the ven
tricles of the Brain no prudent surgeon would
undertake an operation - even
when the water is without the
Brain an operation is seldom
successful - the Brain is wasted
& a fatal degree of inflam^{n} will
follow - see page 182.

Melicer is <u>of</u> atheromatous Tumor
situated about the head the tumor
has little cells in & may necessarily
separated -

In <u>Scrophulous</u> <u>abscess</u> puncture
leaves a smaller scar than is produ
ced by the suppuration of the Tumor -
In large abscesses in children a
small puncture to evacuate the
matter - although incision is to be
introduced & advised.

Lecture 102.

Tumors seated on the surface -
Preparations - 1 Cornu-haring
roots of considerably size - 2 - Pretty
large horns which grew from the
sides of the head -

69- -Mealomatous humors— of vari
ous shapes- some in clusters re
emvling a bortose inform- hence
the unnecessary term- Testudo-
some are soft others more hard &
firm-
Sarcomata the humor is hard
and fleshy- —
Warts- some of a cancerous nature-
within one cancerous humor on the
surface a chalky substance was
found- Schirrus of the Mamma-
the mass is much indurated & be
comes of a closer texture- Watery cysts
in the mammæ with bony shell
shims-

Corns com.ly are indurations of the cu
ticula- on the feet occasioned by
tight
shoes with high heels
by which the weight is thrown
more upon the toes- the indura
ted portion sinks deep injures
the neighbouring parts & often creates
intolerable pain- Water softens
the

the corn so much that a portion may be cut off- the plaster to be since the horn from pressure ought to be thickly spread-

The Horns demonstrated resemble the hair & hence a similar connection to the cuticular membrane- They have also longitudinal fibres- these have rooted in a cyst- in which however no vessel could be perceived- They are removed by cutting the cyst- Other hard tumors have been formed by exudation obstructing matter on different parts as on the mamma umbilicus lips- Application of warm water alone removes these

Steatoma- The cyst surrounding the tumor is formed merely by condensed cellular substance- By the microscope it appears that the mass in a steatoma is completely organised- every bag is surrounded by its proper vessels & membrane pressure can have no effect in curing these,

there tumors - therefore an operation is necessary the tumor is to be cut out - have never met with a single instance where the disease was reproduced - this must happened from the removal not having been complete - A long radial incision over where the tumor is large a crucial one or one resembling the letter T may be formed & the tumor dissected out - the connection to the neighbouring parts is very slight - except where the tumor is large no part of the skin ought to be removed - the wound is to be accurately closed -

Sarcomata - the tumor very seldom is absorbed - therefore another operation similar to that above will generally be necessary -

Cancer - Schirrus of the breast does not degenerate into cancer - the lungs are seldom affected with

cancer

Nor the Brain — the Salivary glands are in a great degree exempt from cancer — although Dr Monro has met with some instances of cancer of the Parotid cancer seldom begins in the lenticular glands — and more frequently commences in the conglomerate glands — The Bones are liable to cancer — and the thin — especially in elderly persons — dark warts as upon the face are very apt to degenerate into Cancer — such tumors ought to be cut out as soon as they appear — The skin above & below the knees peculiarly subject to cancer —

Warts affect the hands of Children & young people not apt to degenerate into cancer — about the anus termed *fici* — Warts from venereal complaints appear on the Penis —

A Schirrous degenerating into

Cancer

73

cancer of the mamma has originated from a blow - the schirrus is more frequent in the under parts of the mamma - from the pressure of clothes - stays acting as a blow - Dr Monro has met with but a few instances where schirrus succeeded inflam^{n} after nursing - cancer more apt to attack about that time when the menstrual discharge becomes irregular between the 40 & 50th year - the fullness following affects the mamma slowly as a blow does more quickly - An abstemious & cooling regimen might prevent the frequency of cancer - attended to about this period - If the tumor small & hardened be cut out early it is observed to be less liable to recur than where an open ulcer has been formed - the malignancy is increased then by the neighbouring glands - & does not proceed from the

from the mass of blood having been
tainted – If the tumor does not
quickly disperse by the usual means
by abstinence & cooling diet – the
Mamma & the whole of it ought to
be extirpated – If a blow can pro-
duce the disease – the incision of
the Scalpel in the operation must
4, therefore no part of the gland should be left
equally have the same effect – Let the
Surgeon first be certain that no
other part is affected by the disease
as the nipple – The central
part of the breast is most frequently
affected & the nipple drawn inwards
the glands under the pectoral mus-
cle are swelled – & from this the
glands in the Axilla are enlarged
the glands behind the clavicle are
swelled – The swellings arise from
translation of matter – not from sym-
pathy – In such cases the operation
probably will not be successful – &
the either decline the operation or

as if we intend to make the operation – we give a very guarded prognosis – & we are never to perform the operation excepting when we can remove the whole of the swelled gland – If the gland adheres to the pectoral muscle the probability of the operation succeeding is lessened – but may yet be performed –

Operation The Patient ought to be placed horizontally on the assistant placed himself at the shoulder of the Patient – No more of the Skin ought to be removed but what covers the Papilla & areola – as this is of a glandular nature – With a common scalpel two longitudinal incisions are made from the top to the bottom of the tumor – beginning towards the axilla – & cutting down obliquely through the Skin on each side of

side of the Patella - That the axil
lary glands may be examined -
Where there is an Edematous swel
ling on the Breast we may be
nearly certain that the axil
lary glands are enlarged - The portion of skin
which separated with the mamma
is best made of a shape like the
Section of an orange - because
then the lips of the wound apply
more exactly after the glands is
taken out - The skin is then dis
sected back on each side from
the tumor - Any artery that
springs if it comes from the skin
it ought to be immediately tied
but if it proceeds from the mam
ma - it is needless to tie as it
will be cut again when the Breast
is separated from behind - The assis
tant merely applys his finger to
it - after the skin is removed
& turned backwards - the glands is

to

separated from the inner parts beginning at the sternum - by which means the Surgeons handle the pectoris borne from the weight of the parts - & we avoid cutting the large vessels towards the axilla until the last strokes of the operation - The vessels proceeds from the internal Thoracic artery - The Surgeon examines all along with his fingers that no hardened portion may be left - The Bleeding vessels are tobe secured - Where the axillary glands adhere to the axillary artery or vein this by far the best method to turn them out by the finger alone -

Lecture 103

We are now to consider the treatment of such tumors as form within cavities - & I shall begin as usual to shew some preparations

pl

1 Examples of Polypi which formed within the cavity of the nose - 2 In one apertion of the tumor projected with the nostril, it was of a cancerous nature and grew again in a short space of time 3 Various Excamples of Excrescences from the Amygdalæ - 4 Examples of soft tumors which are very vascular & grew out from the Basis of the cranium & hung down into the throat - 5 A prodigious tumor which stretched from the top of the Oesophagus down to the very bottom of the Stomach - one half of it was taken out by an operation 6 Polypus tumor hanging from the uterus - 8 Hemorrhoidal tumors - These are solid - & have small cells which contain a watery liquor - The cavities in which these tumors are formed are lined with mucous membranes - and they all have a sameness in appearance - such tumors might be named with

with propriety- Internal Sarcomata- they seldom appear in young people before the age of puberty- they are divided into Polypi of a hard & irregular and into a smooth & soft kind- this last bleeds readily upon the smallest injury- and very seldom degenerates into cancer—

Where the constitution is otherwise vitiated- & lancinating pains are felt unless we can readily remove the whole of the tumor no operation is to be attempted-

In the rectum these tumors are termed Hemorrhoids- which instead of being varicose veins- are most certainly sarcomata or at least the greatest part of the swelling depends upon this circumstance- internal remedies- nor time has any effect in dissipating such tumors unless they are situated about the verge of the anus- where sometimes the whole tumor the skin excepted has disappeared

N. Have seen a tumor of this kind, which grew from the scrotum of a middle aged man, of the size of two fists- an attempt was made to remove it by ligature, but the patient died before it could be effected- & the separation succeeded

caustic improper— after the Polypus excrescence has continued for some time they remain stationary and in this situation - unless the bleed much, or meanwhile the parts in the neighbourhood may be materially injured in consequence of pressure - or that the Polypus has ulcerated - we rather delay an operation

Instruments - Speculum oris of Garengeot - with a plate of metal added to keep down the tongue - Scissars - Forceps of various shapes - straight or crooked - they are less apt to slip off when the blades are made strong and short - the Polypi are directed to be torn away by these - but such instruments do not remove the whole of the tumor - where the tumor grows from a delicate bone we may fracture it - but the case of the Ethmoid bone it may pass to the Brain - such tumors are removed more efficaciously by ligature - drawn round the

root of the tumor - a flexible silver wire - or catgut is used for this purpose - Heldanus's instrument for drawing a knot on the wire - or this is done by shoving a probe bawn an eyen it along one of the threads making the necessary revolution - Where the Base of the tumor is broad ~~&c~~ ~~&c~~ a crooked needle armed by a double ligature - each ligature having of a different ~~having separate~~ colour - is passed throught the base of the tumor - & separating the ligatures on each side the base of the tumor is compressed in two different portions - a single knot is tied, that it may afterwards tightened at pleasure - Where such broad tumors are deep seated - each ligature is passed through a hollow tube - & this being twisted acts like a knot or a double ligature may be passed up to the root of the tumor by a probe having a slit at its extrem.

ity & the ligatures separated & made
to include the tumor - & the opposite
extremities of the wire a catgut being
passed through a hollow tube - may
also be carried to the root of the tu-
mor - both ends of it are then tobe
twisted -

Where the tumor is seated within the
verge of the anus - an operation is
determined upon - the Patient is or-
dered to make an effort as if going to
stool - Cheseldens needle is passed
through its base & the ligatures tied
on each side -

In swellings of the anus dalo the same
operation has been performed - but
unless the tumor is hard, knotty &
impedes respiration no operation is
necessary & the tumor will generally be
diminished by scarifying - Bloodlet
ting &c

Within the vagina Polypi are removed
by passing a wire round the root of
it by the finger or the ligature may be
inserted through
a double canula - by drawing the

extremities of the wire - In Polypus in the Throat the hearing is onee - the smell impaired - the patient is drow sy from the pressure on the jugular vein - the tumor pours out great quantities of blood exhausting the Pa tient - where the tumor grows from the Sphenoid or Sphenoidbone the double canula of Le Dran - may be entered by the nose - the catgut is preferable to the Silver wire - because more freedom can be used without breaking - the tube oiled is entered with the flat side towards the septum nasium - to avoid injuring the os Spongiosum inferius - the catgut is then pressed down - it slides on the back of the uvula - & is held fast by the finger in the mouth or a split probe is used to push up the noose over the root of the tumor; but this may in general be done by the finger - when the tumor is indured

inclosed by pulling the extremities
of the cat gut without the noose. it
is plain the noose will be strengthen
ed on the root of the tumor - the extre
mities of the threads are passed thro
rings at the end of the curved canu
la - they are fixed there - there is no ne
cessity for loosing the ligature - after
the tumor is removed - the remain
ing part of the root of the tumor is
wholely destroyed by caustic - introduced
through a canula through the nose
by a finger introduced into the mouth
the caustic is directed to the root of
the Polypus - case of the enormous
tumor which hung from the oesopha
gus into the stomach - narrated by
D. Mento in the Physical Essays
the whole of the tumor might have
been removed - by introducing into
the oesophagus a ligature armed as
aflet probe - then the patient making
an effort of vomiting throws the tumor

out

out of the mouth- This is again re
turned within the divided liga
ture- & a flexible cannula passed
along the ends of the Catgut it may
be tightened over the root of the tu
mor— In cases of Hemorrhagy
from the nose- the openings into
the throat & nostrils are to be stop
ped up by- sponge retained in
its situation by ligature & bandage.

Lecture - 16th

Nævus Maternus- of a dark red colour
such tumors are apt to ulcerate and bad
sores form- their growth is rapid &
proportionately greater than the body
by early excision the complaint may
be prevented from becoming here
tary- where they are small hard
& incompressible excision is proper
but on the contrary where they are
soft compressible & seem to be made
up solely of blood vessels- the operation
is dangerous & ought not to be employ
ed

J. Bell's aneurism by Anastomosis

until the patient has gained strength
2. Suppuration and erosion of
parts of the Larynx — 3. access of
Structure of the Oesophagus — and often
both take place the matter bursts into the
Trachea & suffocates the patient —

Bronchocele — Swelling of the Thy
roid gland — happens often in Wo
men than in men — generally not
before the ninth or tenth year
have not met with an instance in
which the Patient from the size of
the tumor was in danger of suffo
cation — sometimes it suppurates
the pus much resembles there
of a scrophulous nature — In some
instances the matter has burst into
the Trachea & suffocated the Patient
sometimes water is collected there in
great quantity — in such instance a
seton may be used with advantage
at others where the tumor has con

tinued

continued for some time - bloodis
collected — Dissecting out the gland
advised by Mr. Sharpe brought with
the greatest danger - the Blood vessels
the vicinity of the 8th pair - of nerves
& the great internal forbids any
operation of this kind — The gland
in such circumstances where it
impedes respiration is to be lessen
ed by caustic - or by introducing
a seton —

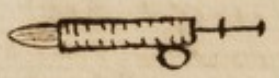
The Oesophagus is subject to stricture
& inflammation — Mercury can only be
useful in venereal cases - at least
Dr Monro & Cullen do not find it so
By patience & perseverance the Oe
sophagus may be dilated by bougies
as they methis - introduced into &
suspended from the nose - where the
stricture is very considerable the Pa
tient is to be fed by injecting aliment
into the Stomach - or the diseased parts
when

above the Sternum may be cut and a flexible tube introduced — Sometimes the Oesophagus is affected with spasm — in one case this happened upon endeavouring to swallow suddenly a cup of hot smelled beer — it was removed by an anodyne Glyster — where it is more permanent — nutritious glysters necessary & useful continues after three or four weeks the structure must be forced by a bollow probe — & aliment injected into the stomach —

A complaint of an opposite nature sometimes happens — Viz is the Oesophagus is affected with ~~Spasm~~ Paralysis — which is sometimes partial or affects the Oesophagus alone — nourishing soups are to be injected into the stomach through a flexible catheter — or obstructed where meat is retained in the Oesophagus — we first imitate the

89- the fauces become vomiting - where it is not rejected by this means - we endeavour to extract the morsel by means of a crooked forceps - where it is not very large & does not impede respiration no operation is necessary - an Emetic is injected by the Anus & the substance may get down during sleep where it does not - it may be forced downby a Probang - that is a long piece of whale bone - or thick a cheroidal piece of ivory - or sponge tied. This is preferable to sponge - or perhaps a flexible metalic instrument of the same shape may be used with advantage

Where a piece of Money has been swallowed - a blunt hook fixed to a piece of whale bone - turning - the hook behind from the Trachea - when it has passed the substance is drawn + the obstructing substance + using both the instrument & muscles low — Pins —

Where Laudanum has been swal-
lowed - by means of a flexible tube
introduced into the stomach it
maybe diluted - or by allowing
the elastic bottle at the extremity
of the tube to expand itself by w^h
means the contents of the stomach
may be extracted - or where an
acid has been swallowed by mis-
take an alkali maybe thrown in
& where nis necessary Emetics
or cathartics may be given in the
same way - It is possible that
suppuration of the amygdala may
by bursting suffocate the ~~patient~~
patient - The instrument of Public
is best adapted for dilating
the amygdala - or evacuating matter
from these -  In Melo
ariasmus the vomer may be evacuated
from the stomach by introducing a
flexible tube into the stomach -

Lecture – 165

Structure of the rectum resembling the pylorus – discovered by Monsr. Desgenettes Instrument – with great ease & safety –

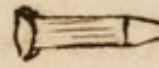
Death from hanging or drowning is caused in a similar way as from obstructed respiration – Death from foul air – ~~death~~ is produced by its acting upon the nerves of the lungs directly – or indirectly upon the heart through the medium of the blood – or as is more generally believed from the want of oxygene gas – the foul air preventing it from entering – a perforation may be made into the Pleura by a small round trocar – forcing in atmospherical air into the Chest by which the lungs are compressed & the foul air expelled – the air is withdrawn by allowing the elastic bottle to expand itself – at the same time the atmospheric air rushes into the Lungs ——— finis.

Where the blood is deprived of oxygene it becomes of a dark livid colour and is not capt to stimulate the heart to action— the heat of the body gradually diminishes— at last it becomes quite cold— the person becomes insensible and death ensues— After death the lungs cannot remain collapsed— because the air from its gravity rushing in must distend them— Where the respiration has been suspended for five or at most ten minutes there is very little probability of recovery—

We ought then very early & as soon as possibly attempt to distend the lungs with air— & the instrument used for this purpose ought to be introduced into the nostril— which hangs over the larynx— covering the mouth with some folds of wet Paper & the hand laid over it— an assistant presses back the larynx against the

Oesophagus

87_93.

Oesophagus to prevent the air from entering it – where a bellows is not at hand – the lungs may be distended through a female wooden tube  entered into the nostril – by blowing into it – or a catheter tube the same materiae may be introduced into the larynx through which the nozle of the Bellows may be introduced – Dr Monro recommends a double bellows – the upper Bellows has a valve on the outside – in the under the valve is placed within there is a partition within – when its handles are separated the atmospheric air rushes into the under bellows the upper one is filled by the foul air of the lungs – by shutting the handles the 1st gets into the lungs – the other – forces the upper valve & the foul air escapes or a common bellows having a perforation on the upper side fitted by a metallic valve –

may be employed with equal advantage – the bellows are first opened – allowing the valve to remain shut – the foul air of the lungs fills the instrument – by elevating the valve – & shutting the bellows thus repeated – opening them again the atmospheric air enters the Bellows – then let down the valve & fill the lungs – & the same is repeated alternately – Transfusion of arterial blood proposed by Dr Tuller – recommended to be tried – Stimulating – glysters – warm bath

Tracheotomy – considered necessary from the Trachea being obstructed – by extraneous bodies – drawn in during inspiration – from tumors about the oesophagus – where mucus shuts up the rima glottidis – in the Lynan che Trachealis – from swelling of the Parts in venereal cases – In Bronchocele – an opening below the tumor may save the life of the patient.

87

95

Operation — The Patient ought to be seated on a low seat before the Surgeon — & the body bended back wards — A longitudinal incision directed. Let it be begun — directly under the cricoid cartilage continuing it down a couple of inches making the cut between the Sterno hyoydai muscles dividing the cellular substance between — we are under the necessity of dividing the middle portion of the Thyroid gland unless the case is urgent let us pause a moment. allow the vessels to bleed freely — next tie up the larger vessels by the Tenaculum & stopping oozing from the smaller by compression with a sponge — after the bleeding has ceased — we cut between the 2 & third ring under the Cricoid cartilage — with ~~the~~ an Abscess Lancet — This opening is preserved by the introduction of a double canula — fixed round

round the neck by a collar - the
canula may be removed, cleaned
introduced upon the other a screw
regulates the position of the canula
Laryngotomy - when the Larynx
is to be opend the incision is made
higher up - & the opening is made
between the Thyroid & cycoid car
tilage - This operation preserved
nethere around the Thyroid gland -
are guided by certain marks. the
parts are firmer & bond so easily
close - any substance sticking in the
Larynx can by this operation be more
readily extracted &c - Let us take
care that the air do not get under the
Skin and induce an Emphysema -

Lecture - 106

Mudges inhaler - the air enters
at the hollow in the handle & pas
ses from the end of it into the
liquor - from which it causes evaporation
is drawn in from the end of the flex
ible tube - the warm water merely

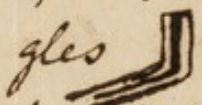
impregnated with Pus — the air from the lungs is expelled by the side opening - (a)

Distortion of the neck more frequently from Spina ventosa than from a contraction of the Sterno mastoid muscle - this may however take place - when it is to be avoided let this be done by cautiously dividing the fasciculi of the fibres upon a furrowed director - bleed to be done at the lower end where it can be done with greater safety — The void space will not fill up with flesh, but the ends of the muscle pull for themselves to the cellular texture - Cases may occur where it is necessary to divide the skin - The void space fills up -

Hare lip - frequent in Children rarely in the under lip - sometimes there are two fissures hence the term Labium Leporinum - In a number of

cases

the palate process of the os maxillare superius
the os palati and
the fissure extends to the bone ~~and~~
the velum pendulum palati &
the uvula are also divided The
bones is imperfect as if reflected up
so that there is communication
between the mouth & nose — Some
times the medelle piece is moveable
at other times fixed — The line is per-
formed by removing the callowed
of the lips
ges and applying the parts together
where the chord is prevented from
arching from the fissure we ought to
perform the operation immediately
where the fissure is double & the skin here
we operate upon both at the same
time when there is not the case The
fissures are united at separate times
The sides of the opening are first to be
separated from the gums making
use of a sharp pointed crooked bis
bury — next the callous edges are
to be cut i.e a thin slice taken off the

99 the lips are held steady - by means of a forceps crooked at right angles  recommends the lip to be held stretched by the finger and thumb - & crooked scissars are used to cut off the edges from the fissure - it is thus done more accurately - the Surgeon places himself behind the head of the Patient - & stands at that side where he makes his cut - - the Angle must be removed - The sides are to be united by the twisted suture - A gold pin - having a steel point screwed on is used - which after it is passed is removed - the red parts of the lip are adjusted with the utmost exactness - entering the pin there first the 2d pin out here put in very near the upper corner  one hitched waxed threads both pins - begin with the thr. over it over the under pin crossing the thread - after the parts have adhered the thread is to be cut off - In incision

moved

should the pin be removed earlier than the fourth day - where there is a retraction a plaister applied to each cheek - may be brought together by ligatures - lint between these - D^r. Monro prefers the round pin to one that is flatter - Let the Surgeon press together the lips of the wound whilst he removes the Pins - and remove the uppermost first - The same treatment is necessary when the lip is divided by a wound - Where the velum pendulum is divided by a crooked scissars hairy brought it forwards by laying hold of the uvula with a forceps - fixing the edges of the wound by making use of Cheselden's needle - the eye bent is united in the same way that the lip is - using the interrupted suture instead of the pins -

Where the lip is affected with Cancer the part is to be cut out making the incisions meet in a angle towards

towards the chin -  where the
cancer is broad - a semicircular
peice being cut out increases the
length of the wound -

where a part of the nose is cut off
a peice of wax is adapted & shaped
to the nose - then it is flattened out
& attached to the forehead - a piece
of skin - of an equal size is dissected
out then the edges of the nostrils where
the want is - the skin of the forehead
is then folded down & turned - so
as to fit the parts - after adhesion
has taken place - the neck of the
slip of skin - at the root of the nose
which must be left to continue
the circulation - is now cut. The
invention of Taliacotius.

Where the Frenum Linguæ is to be divi
ded - Petits Scissors are used - an
assistant stands behind to raise
the tongue - any vessel which bleeds
ought to be taken up Where the fren
um is too lax - the tongue has been

prefsed

pressed back so as to prevent suffocation - the child's life was saved by pulling forwards the tongue by the finger (vide Petits) -

Rana - and Ranula - in one case the matter distending the cyst under the tongue - is merely from imprisoned saliva - the duct is generally found to be obstructed by a calculus pressing against its orifice - the Superior maxillary gland of the same side is generally found swelled - the calculus is extracted - the cyst is evacuated by an operation - I once attempted instancing an accretion of the sides of the sac -

Where the Parotid duct is obstructed Dr. Monro would recommend a mercurial by me advised by Mr. Latta - the introducing a piece of catgut into the duct next the mouth - & passing the other end of it into the duct next the gland bringing the ends of the wound accurately together -

Operation – The Patient is directed to move the jaw towards opposite side – then by a [illegible] the cheek is perforated by a perforator – the handle of which is removed – upon the perforator bougie is introduced and a small cannula – [illegible] upon the end of the bougie within the mouth – it is brought along the bougie into the perforation – but is prevented from going further by a piece of sponge – then the bougie removed the cannula is supported into situation as long as is necessary & the external wound closed –

Lecture – 107

Diseases of the Ear –

The lobe of the Ear is perforated – for the purpose of wearing Earings – It is supported on a piece of cork & is perforated upon it by a hollow silver needle having a sharp steel point which

clears

sticks in the cork & is removed with it - a piece of lead is introduced in place of the silver needle until the part grows callous -

The membrane of the drum may be examined by directing the rays of light upon it - probing both the hole of the ear to bring the cartilaginous and osseous parts into one line - In general where animals have got into the Ear they may be killed by dropping oil into the ear - stopping up the trachea or air holes of the Animal - then it may be washed out - ——— Where wax is collected in the Ear and induces Deafness - Let it first be softened by some warm water which has a little soap dissolved in it - this answers better than oil - then the indurated parts are broke by an Ear picker - afterwards washing out the wax - by injection - Dr Mon ro has observed in three cases an ulceration & hole in the tympanum without

which Seized up and the hearing was restored – an injection passed from the meatus auad. Extern. into the mouth. through the Eustachian tube – a sponge of cotton is necessary to prevent the transmission of air in the same way – & promote the healing up of the ulcers – Polypi – are removed by surrounding their root with Catgut tightening it – by passing along the ends of the ligature a perforated piece of metal – the root is afterwards destroyed by Caustic –

Where the Eustachian tube is obstructed – the air within the cavities becomes effete – and deafness of hearing follows – It is merely necessary to enter an instrument into the Eustachian tube from the nose – directing it with the finger introduced into the mouth under the Palate – Injections however are not at all useful or necessary – But where the tube is shut up

tube is obstructed in consequence of ulceration & fungous growth - Thro' a bended canula the tube may be opened - Cabongie introduced - Where in Chuloteen deafness arises from want of an Eustachian tube - or closing up of it — a perforation of the Mastoid Process - and letting in air into the cavity of the Tympanum we may give hearing - In other cases of deafness - Trumpets are useful in collecting sound - the model of these may be perhaps taken from the Ear of a large Quadruped that hears acutely - as the Horse - these are made of Iron Brass or Silver -

Inoculation - Instead of again inoculating the sick which has been imposed - to prevent danger from its having been cured ~~right~~. An issue is the best means of effecting this - The same where a scrofula diathesis requires

Small Pox rendered less dangerous by inoculation - one sixth or one seventh part die of those who are affected naturally - whereas not one in an hundred die when the disease is introduced by inoculation - By this means in we have it our power to time a proper age of the Patient - a proper season of the year - the also prepare the Patient - can heal nature to the Pat. previous to the eruption - ~~[illegible]~~ - Since Pox were not known in Europe until the 6th century when men were certainly as Robust & healthy as they are now - therefore since P. was not intended by nature to render other diseases more mild - The safest period for inoculating is after the 2d year when the teeth have appeared - where a tooth has

mesres against the gum after in
Inoculation Let it be instantly
diverted – The coldest penod
of the year most proper for Inocula
tion – or about this season March
or April – The Child for some
weeks previous to the operation
ought to be fed upon vegetable
diet – have one or two gentle
Laxatives if necessary – Let the
Child also be accustomed for some
time before to bear cold – Let the
matter be fresh if possible and
from a healthy Child – A Gold
or Silver Lancet gilded may be
used – to avoid rust – I rude mat
ter from an unripe pustle has
frequently proved more success
ful than that from a matured
pustle –

The part for making the Puncture
ought to be out of sight & the usual

part is under the clavicle muscle. The lancet is introduced with its flat side towards the arm under the scarf-skin. If two punctures are to be made they ought to be at the distance of an inch. after the lancet is introduced it is to be held there for a second or two then let the skin be pressed down upon the lancet which is then to be withdrawn. The matter is softened on the lancet by holding it over boiling water. If the puncture succeeds & looks red on the next day we may be certain that it will take effect. Let next some purgatives be given before the Inoculation. The matter is not multiplied in the general mass. but the skin acquires the property of forming pustules and secreting variolous matter.

Dr. Lemon discovery of the Cow pox made about this time. by Jesty of Yarmouth. Jenner made it universally known.

Nicholson Encyclopedia: art. Surgery.

Cow Pox. variolo-vaccino, vaccina &c. This is an universal poison derived from certain specific sores on the teats & udders of cows, & capable of being communicated by accidental contact, where the cuticle had been removed, or by means of inoculation to the human subject. A person who has been thus affected is rendered for ever after incapable of receiving the small pox infection. That subjects, who had taken the vaccine disease accidentally, were thereby secured from the small-pox, was popularly known in several of the dairy counties in England. But it was reserved for Jenner to show that the cow-pox could be propagated by inoculation, & that the inoculated disease possessed the same prophylactic power as the original disorder. It is not a merely local affection, but produces a general though extremely mild disturbance of the constitution, which is ordinarily so trivial as not to excite any alarm in the very youngest

youngest subjects. It seems probable at present, that it is not an infallible security against the small pox, although the number of failures is very small, when due allowance has been made for the mistakes of the ignorant, & the misrepresentations of the designing. A small inflamed spot discharges about the third day. shows that the inoculation has succeeded. This increases in size, becomes hard & rises above the level of the skin. A small quantity of fluid can be discerned in the centre on the 6th day, & the pustule increases until the 10th day. This fluid will communicate the disease by inoculation. On the 8th day when the pustule is fully formed, the constitutional effects begin to appear, & manifest themselves by slight pain in the head & axilla, headach shivering, loss of appitite &c. These subside spontaneously in one or two days. During the general indisposition, the pustule becomes surrounded with a broad circular inflamed margin, called the areola. Afterwards the fluid dries up, & a dark brown

The Patient is to be kept cool - unless a convulsive fit attends - & then the best practice is immersing the Child into warm water -

The Measles may be ~~inocula~~ communicated ~~ted~~ by innoculation - by applying cotton to the body of a person labouring under the disease & introducing it into a puncture in another whom we intend to innoculate - ———

Where a person is bit by a mad dog the part ought to be immediately cauterized but even after two or three weeks this may be done & the Patient saved from the disease - because the disease comes does not appear untill after the 7 or 8th week or for a longer time - where this cannot be done - the Part is to be destroyed by caustic -

— Lecture — 108

Chirurgical Treatment of the teeth -

In Early infancy - there are 20 teeth

in all - these Completely fill the jaws
-there are six on each side of either
jaw- they begin to appear about
the 6th. a 7th. month after birth- roots
are added by which they are raised
press upon the gum- which is ab-
sorbed & the tooth appears - In conse
quence of the stretching irritation
from this - more or less pain is produced.
Gum-sticks are improper from their
increasing the inflam.n from their hard
ness- therefore the finger is only admis
sible - In delicate children - from
this irritation - sickness - vomiting
Purging - fever - cough - have followed
fever - convulsions terminating
in death - in very delicate children
- Topical Blood letting by a
Leech a two - the warm Bath Lax
atives may be given - but almost
in every case the most effectual
remedy is dividing the stretched
gum - avoiding Going too far in

inwards- here we not only let
blood from the part but incelvide
nerves which are upon the sheath
I even altho. the opening be made me
matively- the symptoms are great
ded against. nerves do not often
adhere- besides the cicatrix easily
separates again- In one case Chorea
Sancti Viti arose from the stretching
of the gum upon the tooth- Swelling
of the amygdalæ have been caused
by the cutting of the dentes sapientiæ
The gum is dwelled by a Scarifi
cator or concealed steam-
Where the first set do not readily quit
the jaw- & the root of it endanger
of injuring the permanent tooth
below- by mechanical attrition
or formation of matter- but as the
first give the Second the proper direc
tion, they ought not to be removed
too early & perhaps not until the
as they are thus Abstraction might
are found loose- hurt the other- If they
(they) be

be drawn without using much force by the finger and thumb. Caries does not necessarily follow abrasion of the enamel — In elderly People where the tooth is becoming loose little can be done in fixing it — astringent Tinctures of Bark — or Myrrh may be prescribed — but where the tooth is elevated from the socket in consequence of the want of the resistance from the want of a tooth on the opposite side — an artificial tooth will have the effect of preventing this —

Tartar upon the Tooth. formed from the Saliva — unless it is separated from time to time — it lodges about the collar of the tooth — pushes between the gum & socket & may deprive this of its nourishment from the vessels arising from the gum — the Tartar may even reach the roots of the teeth & make it impossible to destroy it Therefore it must be separated

on

occasionally
or scaled off ~~from time to time~~ by instru
ments used for the purpose - sup
porting the tooth at the same time
by the forefinger of the left hand -
next the teeth are affected - by sacch
arine matter inducing toothach & from
the density of the tooth Nerve & Globel is
more directly applied to the nerve
of the teeth - The teeth are affected
in Rachitis - In Scurvy - Lues venerea
- Mercury affects the gums & sockets
much wasting them - so that after
repeated courses of Mercury the teeth
frequently drop out. Rheumatism affects
the teeth Plethora - hence in Women
with Child - Pain in the teeth is often
complained of - The Pain in Tooth
ach arises from the confinement of
the enlarged inflamed pulp within
the tooth - The Pulp may suppurate
or even become gangrenous. & in either
case the matter confined will des
troy the tooth - By disease the ena

enamel is wasted - this frequently
the index of internal destruction of
the tooth - it seldom proceeds from without - but when this is suspected - fil
ing off the black or brown spot has
been said recourse to by Dentists - this
is an improper practice - because we
allow the ingress of air to the tooth by
which it is much sooner wasted In
no case are the teeth to be levelled
by the file - for very obvious reasons -
In toothache - tincture of opium or red
uced opium put into the hollow have
allayed the pain - Ardent Spirits - with
resinous substances as myrrh - Electri
cal shock - Terror from approaching
a red hot iron to the lobe of the ear &
burning it - Evacuations - Topical
Bloodletting - To save the tooth - the
Pulp by be destroyed by a hot iron
or by introducing into the orifice a
small bit of Caustic K. after the pulp
is destroyed - the cavity of the tooth is filled
by tin - leaf - using a small instrument
made for

for this purpose- In one case the stump
ling remained in the hollow for 36 years
Where these methods fail- it is necessy
to relieve the patient, to extract the
tooth - (Instruments) & one incision
on the under jaw- let the Patient be
seated on a low chair- before the Surgeon
so that the tooth is below the hand -
but when a tooth on the upper jaw
is to be pulled let the Patient be
laid along the floor: his head between
the Surgeons knees- who stands behind
the Patient- first the gum
is to be separated from the tooth to
prevent its being torn- perhaps the
socket ought also to be separated -
to avoid fracturing the jaw which often happens- As the outer sides of
the socket is the thinnest- the instrument
and the tooth drawn from within outwards
ought to be fixed on the outside but
the backmost teeth are drawn from
without inwards- The claw of the
Turn-key is applied to the the collar of

the

the tooth - & the rest is made upon the
jaw on the opposite side - the turning
the gums
the tooth out: If any bleeding follows
the Extraction of the tooth the holes
should with Sponge or a piece of a
garic -

The antrum maxillare [illegible] vici
nity to the teeth often affected - some
times it is in a cancerous state - the
bones are soft - the Parts swelled the
Patient sallow wasted - no operation
is here to be thought of - but where
matter is collected in the cavity - one
of the molares, ought to be extracted under the ca-
vity - the matter runs out - where it
does not a hole is drilled into the antrum by a
perforator - or the same operation may
be necessary to remove an insect situ
ated there & two many great inconve-
nes - the sinus may be filled with to
bacco smoke - or by making a mixture
of honey camphorated into it or may be injected &

— Leisure - 109

Calamack - by this is understood an opa-
city

opacity of the crystalline lens or its membrane— at Birth the lens is muddy—somewhat opaque but in some instances this has afterwards continued so The Crystalline lens has been rendered opaque by above— in old quadrupeds the lens grows dim & argues a yellow tinge In the lens—then there are circulating and absorbent vessels—inducing such changes— Of late it has been said that the opacity has been removed by the external application of the steams of ether to the face of the eye— when the disease exists in one eye only no operation is to be performed— the vision of one eye suffices to the performance of all the ordinary and necessary functions of life— The surgical operations performed in this complaint— consists either in displacing or removing the lens— Before either operation— it is necessary that the eye be fixed— the fingers are insufficient for that purpose— & instruments named Speculæ are used— Here at

these at the same time make pressure upon the ball of the eye - Mr Mellers Circular Speculum - improved by removing a part from the side of the Circle recommended to allow of its removal in couching - while the instrument remains in the Extraction of the Lens - The Back of the eye knife need to divide the cornea ought to be sharp a little way only & just far enough to allow the rest of the instrument to enter - it ought to be made perfectly conical to retain the aqueous humor as it enters - it is entered at the outer part of the eye at the distance of a line only from the Sclerotic coat - & the knife is carried across passed out at the opposite side; then carried downwards so as to separate one half of the cornea - the flap is turned upwards - a blunt pointed probe flattened at the point is introduced thro the Pupil - & the capsule of the Lens punctured by it at its anterior & middle part - then by gentle cautious pressure the Lens is forced out through the pupil the capsule however remains - & no part of the vitreous humor escapes By examining the contractility of the Pupil

pupil upon the admission of light we de
termine whether the Iris adheres to the lens
In Amaurosis - there is no opacity - it is not
ceeded by headach - & perhaps paralysis
of other parts - the sight is improved by
strong light - on the contrary in Cataract
and the reverse is the case the patient
sees best at twilight &c In every
case the capsule is left - & therefore al
though it adheres to the iris an operation
may be successful - even where the capsule
itself is opaque - by surrounding the fore
part of it by the needle it may be tor
ren out whilst the posterior part which
may be transparent is left - this at least
gives the pat. a chance of sight - at any rate
we can do him no worse than we found
him - that is if we take care not to injure
the eye to any depth - As we examine
more objects below than above the eye &
retain a portion of the aqueous humor
it may be better necessary to cut the flap from
the upper part of the cornea - turning
the sharp edge of the instrument upwards
Let the Patient be seated on a low stool

so that the eye is on a level with the hand of the Operator who seats himself before the patient allowing the light to fall over the shoulder - he rests his right elbow upon a table of proper height - the ring & little finger of the hand are rested upon the cheek of the patient - after the flap of the cornea is made by an incision it is to be supported by a spoon - first removing the speculum - then a needle is introduced to puncture the capsule the Patient is turned round with his back to the light - to prevent a contraction of the iris - then by slight pressure the lens is pressed out - the eye lids are closed - cooling applications - applied over the eye - Sol. Sal. Plumbi - keeping the cloths constantly moist - both eyes are tied up - the Patient loses some blood which may be repeated if necessary - is kept on a cooling diet - confined to a dark room - &c.

Depression of the Lens for this purpose needles are used - these are plunged into the body of the lens - prefers a round needle having a lancet point - the needle is entered at a tenth of an inch beyond

backwards from the edge of the cornea it is then pushed behind the iris into the lens - which is depressed by elevating the handle of the instrument [illegible] & after a little the instrument is removed - In this operation the retina is unavoidably punctured and lacerated - the ciliary processes are in great danger of being injured - but further, before the instrument reaches the lens the capsule of the vitreous humor is perforated & the vitreous humor hurt - the Extraction therefore preferred to couching - Where the vitreous humor collects in too great quantity so as to endanger ruptures of the coats of the eye - & the arrangement of the situation of the parts a portion of it may be let out by puncture - & a similar operation may be necessary when the aqueous humor is collected

Lecture - 110 (in too great quantity)

After extraction the capsule of the lens remaining sometimes becomes inflamed - & is rendered opaque - obstructing

D'Monro's Treatise on the Eye page 99

Substances irritating the eye)

116. The rays of light from falling upon the Retina - the Capsule may be in some degree separated by introducing a Coughing needle at the upper part of the eye thro' the cornea so that we can examine the operation through the pupil - Where any irritating substance has got into the eye or under the Palpebra - this is removed by separating the eye lid lifting it with by albumt both - & then the irritating substance is taken out by a forceps or washed out by injection - where sharp metallic spicula have got into the eye they are removed by enlarging a little the opening at which it entered and extracting the hard body by a slender pair of forceps or a couching needle may be used for this purpose - Where the ad nata is enlarged & prominent - we may extract this portion by a common scalpel - laying hold of the fold of the ad nata by passing a ligature through it Dr Taylor after the operation used to wash

a small hair pencil dipt in cold water & drawn between the eye lid & ball of the eye - carefully so as not to irritate the conjunctiva

apply

apply caustic but this seldom is ne
necessary - and Scarification or excision
will in general answer the purpose.
Suppose there are vessels and specks
upon the cornea - such vessels are a
new formation & come from the Tuni
ca adnata - they can be traced from it -
& do not proceed from an error loci or
the admission of red particles into ves
sels naturally conveying serum only
such vessels at least secrete an opacous
matter - In such instances Miller gave
Emetics - & antimonial wine - he seldom
used mercury - previous to his operation
he fixed the eye with a speculum. then
Scarified the cornea cutting the membra
nous part horizontally. & perpendicularly
after this he applied a plaister of diachy
lon over the cornea - the ends of which were
applied to the forehead & cheek & the whole
covered by a compress & Bandage - he
performed this operation with success
Mr. Pelham again used a corrosive ointment
which he found necessary & had the effect of lessen

ing

lessening instead of increasing the inflam.n His ointment consisted of one part of Merc. Nitrat. Butter to Ten or Twelve parts of Axunge incorporated together— In humors seated in the eye lids - it may sometimes be necessary to open them especially when the sebaceous matter is collected in great quantity - in cases of ulceration of the Cilia the unguentum citrinum is the most effectual application— ~~as to the destruction of~~

Where the eye or a portion of it is affected with cancer the whole of it ought to be removed as also the eye lids if they are thickened & much inflamed even when the Lachrymal gland is cancerous & enlarged - if at the same time the eye is turbid & affected the whole ought certainly to be dissected out that is if the cancer has not yet come ulcerated— The Eye is tied hold by passing a strong ligature through the ball - a common straight needle

is used to dispell out the eye or the cu
ved scalpel may be employed to
divide the optic nerve — the hemor
rhage is seldom profuse & therefore
there is no need for tying up the ves
sels. a piece of sponge having a thread
affixed will stops the bleeding — It
is necessary to guard against the
return of the disease by removing the
edges of the eye lids — removing the Le
bacrymal glands — An artificial Eye
ought to be made of gold &c and it
is only to be worn during the day —
Fistula Lachrymalis — Ulcers venerea
& cancer apt to appear about the Lachry
mal sac — The ducts from the puncta
Lachrymalia do not unite — they enter
separately into the Lachrymal sac —
& thus these ducts are seldom obstructed
the obstruction generally is in the L. Sac itself
which from inflam^n is more affected
from its being inclosed by bone — when
this happens the sac first swells, no
flames — upon pressure a viscid matter

to inflect through the ducts- the inflammation increases- the Lacrymal sacs and the cheeks- the parts are irritated & inflammed- at last abcess in the ducts & Lac suppuration takes place- and the neighbouring bones become carious especially if the person has any Lythylitic or Cancerous taint- Annels Probe- Injections of cooling medicines astringent &c of quicksilver- are of no use- Where the Tumor threatens to burst to prevent a scar it is necessary to puncture the part by the point of a lancet and let out the matter- It is possible to introduce a tube into the duct under the os Spongiosum inferius- but this cannot be of little service- after emptying the sac- we may throw a blind into the eye which is absorbed by the puncta &- a. which at last frees the duct Nasalis- then by pressing with the finger we may attempt to force the sac- &c- if other methods fail we make an artificial opening thro

through the os unguis by a small bro
car- a leaden probe is introduced
to keep the opening from closing-
Inflam^{n} is abated by common applic
cations- by collyria- sol. Junc. Virtriol
vel. Plumb. Acetat- the Sac is to be
emptied three or four times- perhaps
the inflam^{n} may be effectually effectually
removed by preventing the tears from
entering the duct- by pressure-

Operation- the sac is evident from
its distention- & it may be discovered
by inserting a bristle into the punctu
it is merely possible to save the tendon
of the orbicularis- the cut is made 1st.
through the skin begin^{g} under the
tendon & the sweep of the muscular
fibres of the orbicularis palpebrarum
No harm arises from dividing disten
sion- there is no deformity from the
retraction of muscular fibres- a suture
needle in entering a probe through the
sac into the nose- next one is to pass

2

a common steel probe through a canula with this we perforate the os unguis and make an artificial opening into the nose between the superior Spongiosa and lastly to preserve this opening a leaden wire is introduced & moved - where it rests upon the outer parts - or a small hollow tube is introduced into the opening & the parts healed over them - Dr Monro preserved tube of Pellier - one instrument I was worn for two years & found use the purpose of the natural duct - the tube is introduced along the ~~duct~~ probe into the duct - As a precaution merely Dr Monro says that the trocar after puncturing the sac ~~or~~ the nasal duct may be forced by pressing the probe or trocar in the direction of the natural opening - into the nose

Lecture - III

Accidents affecting the cranium or cerebrum requiring surgical operations - Pp. among large effusions of blood effused in

into the Lateral ventricles causing a
ploplexy and death — 2. Hydatids — 3.
a kind of Schirrous mone of the hemis
pheres of the Brain — 4 Suppuration
of the Brain emeaning from a disease
within the Ear — — Fracture in gen
eral extends further in the inner than
in the outer table — after a portion of
the cranium was taken out by the Ge
pan-making animal the space
was first filled up by a membrane
into which vessels shoot — at last it os
sifies — the ossification beginning from
the central part — In one subject a considera
ble portion of the upper part of the
brain was found awanting in an
adult subject. Nature seemed to sup
ply the defect by an ossification in the
dura mater at the void space — In
one case of Fracture behind the Ear
the fracture traversed the Lambdoid
but stops at the Sagittal Suture —
shewing that the Sutures do not cer
tainly interrupt the course of fracture
In one case the Bone was seen sepa
rated

adhered
separated but has grown to again
very firmly—

A Blow upon the head suddenly
causes insensibility. as lightening
does— from this state some recover
others are killed by the accident
without any fracture— & even with
out any effusion upon or mark
of injury done to the Brain— Ani
mals killed by Electricity— there is no
seeming injury done to the Brain
The Death in such instance is said
to proceed from Concussion— altho
by no means improper— Thunder
a Blow or fall from a height may
kill a person without fracture— but
in this case there frequently is a rup
ture of vessels & effusion of blood within
[illegible]— and this may happen
altho the injury has not been received
upon the Head— In Concussion the
Operation of the pan must by admitting
air & injuring the part increase the dan
ger— the effects of Concussion are said
to arise instantaneously— Compression
from

they

come on gradually - In cases of compression the pulse is ~~quick~~ fuller & slower than in Concussion - the Breathing is more affected - so far Both but in several cases the Concussion has not caused its effects immediately & effusion or extravasation from the rupture of a large vessel or depression of the Bone - may happen very immediately these two may be and frequently are conjoined - The Surgeon regulates his practice by the symptoms - If symptoms vomiting insensibility stertorous breathing of compression, continue after bleeding & other evacuations - the operation may be necessary - Where the Scull is split if no symptoms of effusion come on no operation is required - Where the Bone is depressed in Nine out of ten cases the operation to elevate the depressed portion is necessary - other wise death follows - In some cases after a free incision through the integuments - a good deal of blood was discharged and the symptoms of compression went off

consession in time is very often fol
lowed by the formation of matter
on the surface of the Brain - this
may require the Operation - Where
matter is collected upon the Brain
from the Ear by getting through
the Plate upon the meatus and
forms internus - a perforation above
the Mastoid Proces - may save
the Patient by giving vent to the
matter -

Operation - Instr.ts Scalpel - Tena
culum - artery forceps - Raspatory
ought not to be used - apt to cause
exfoliations - a Circular conical
saw - a circular straight one perforable - Leva
tor - the sides of the Cylynder ought to
be perfectly smooth - a prickbooth
to examine the depth to which the saw
has penetrated - with a Brush to clean
the teeth of the saw from particles
of Bone - To the saw a centre pin
is adapted around which it is
turned - it is taken out or fixed only
a key - or it slides up by a Spring

The centre pin is first fixed by making a perforation in the middle of the portion of bone to be removed - the inst used for this purpose is termed a perforator = The teeth of the saw ought to stand out perpendicularly - The Trepan works twice as quickly as the Trephine does - Thinks a unpreferable Instrument - Elevator Lenticular - a very improper instrument when such an instrument is necessary a simple inst with a flat plate at the extremity - to remove ragged Portions of Bone may be employed.

The Patient is placed across a bed his head brought over the edge of it & supported on a stool - upon a pillow an assist is placed on each side to fix one the head - two others secure the hands - The Surgeon seats himself before the Patients head - he begins his incision with a common scalpel - no part of the teguments are to be removed - he makes a straight

or crucial incision as is necessary following the fracture - the Tegument are detached leaving the interior membranes & periosteum - so as to leave an opening for the saw - he now makes a print with it on the bone where the centre pin is to be entered - with the perforator a hole is to be made - but it must not be made too large nor too deep - the centre pin ought to be of a round or cylyndrical shape - with the scalpel - the periosteum is removed so as not to impede the motion of the saw - after fixing the trephen saw the centre pin is to be taken out when we have perforated the bone near by through - it is a material improvement to weak the bone - to avoid plunging in upon the Brain or injuring the dura mater - an elevator is used & the finger serves as the puleman- sev: perforations may be necessy to remove a large portion of Bone. The piece taken out must be form the sound bone adjoining the fracture.

Lecture - 112

Lubrication of fluids from the body - the colourless - are drawn off by Issues formed by Blistering and kept open by ye application of an irritating ointment ung.t Epispast mit. vel fort - Ye absorption has caused Strangury - an ointment made by 3ij of the common caustic to an Oz of Axunge has been used - Abele Worlee has found that an Ointment composed of one part of Tartarized Antimony - to two of Axunge answers this purpose - or 2 an opening is made through the Skin and a foreign irritating substance as a pea - is introduced - supported by an adhesive plaister - in timorous patients the opening is so made by caustic - an adhesive Plaister with a hole in it is applied - (a) the caustic is put in the middle & a smaller plaister laid over it &c - by an incision the pea is

The skin is raised double by an assistant - then we pass an abscess lancet through - below - & divide it upwards wth or three pairs are introduced -

Setons The ancients used Bristles

Seta for keeping up the discharge we form a kind of sinus ulcer - the cut is made longitudinally that the matter may readily escape - The part at which the lancet is to be introduced & to come out at is marked with ink - the flat sides of the ones thumb upwards & downwards - the lancet is followed by a probe armed wth a quantity of lotton or silk thread & thread with some Basilicon or ung.t Supus. Canthaid: The Nape of the neck. Intercostal spaces - under the 12th rib. [illegible] - behind the great Trochanter where the joint of the thigh is dislocated above the knee & on the inner side measurable to one below nor the outside - under the clothed muscle are the places generally chosen for such drains

the Serum effused by a vesicatory has a considerable proportion of coag^{a} lymph - From all these Issues the matter discharged is the same - In lo cal cases the nearer the part they are sit uated the better - so that in diseases of the uterus the bowels may be kept made over the organ diseased when matter is taken up by the Absorbents it creates great disorder in the System - nausea shivering - &c^{a} Dr Monro has even observed Purulent matter passed by stool - particularly in one case where an abscess was seated under the gluteal muscles - The discharge of pus by stool was regularly preceded by cold shivings - In such cases the issue acting as a gland may relieve the System from this oppression - Thus too perhaps morbific matter as that of cancer may pass out of the System however this is, an issue certainly counteracts plethora - the matter discharged

discharged from an issue in the space of a month supports a discharge from the body equal to two pounds of blood subtracted at separate times with a view of preventing cancer issues may be extremely useful - In white swelling - and in Scrophulous cases where the vertebrae are affected Issues are often useful - Mr Potts expectations from their use in such cases too sanguine —

Blood may be subtracted from the small external vessels - by frequent punctures with a lancet - wiping the part - A Scarify cator - having a number of rounded lancets concealed within it - they lye oblique by - by pressure upon a spring they are turned round - & consequently when this has been done the fence of the box being applied to the skin a number of orifices are made - By taking off the pressure of the external air by a cupping glass the bleeding is promoted

a great part of the blood drawn by scarifying or by leeches is arterial- - - -

Venesection a ligature is applied between the vessel part we mean to open and the Heart- Lancet bent at an angle of 38 degrees- it ought not to be too spear pointed- Fleam an improper instrument- It might be used with advantage in opening the external Jugular vein — If we want to bring on the ligating it may be advisable to bleed the pat. in an erect posture, make a large orifice- and suddenly untie the ligature- In other cases the patient is laid horizontally with his head low- The best ligature is a common garter- where the skin is wrinkled it may be spread up & made tense- the ligature is applied an inch above the part of the vein to be opened, at the bend of the arm- it is tied by a running knot on the outside examining the state of the artery- at the wrist. the Lancet is held between the finger & thumb. leaving bare about half an inch of its extremity- the Surgeon cuts him

seats himself before the patient - He commends the preserving the median Basilic vein because over it the cutaneous nerves are smallest & the skin is thinner - we only avoid that part of it under which the artery is felt to run - The vein then is secured by the thumb of the left hand - then let the Surgeon push his lancet gradually forwards - not cutting in its passage making a sweep - after a large enough orifice has been made the lancet is to be withdrawn, the left thumb lifted & the blood allowed to flow - Let the ligature be taken off slowly - except where we want to induce fainting - after the operation a proper compress + & bandage is applied - & the arm bended upon the Patients Breast ——

In opening the Jugular vein - the Surgeon slips his thumb below the part to be opened - & an assistant makes a similar pressure on the other - do not withdraw the hand. if you miss the vein

+ a small compress of linnen wetted in plain water & the garter with which bound the arm round the arm & elbow in the figure of Eight.

Lecture 113

Bad symptoms arising after vene section proceed either from a prune ture of the cutaneous nerves - or the admission of air into the vessel - Such accidents were treated of in a former part of this course -†

Arteriotomy - Erasistratus knew of this operation - it was familiar to Galen - & was also practised by Celsus - who says - "transversam in arteria sanguinem febrem fieri" - the opened artery usually is the Temporal - its situation is fect by the finger - a small spear pointed lancet is preferable to a large broad shouldered one - and perhaps it would be an improvement both in this & in venesection to have the shoulders of the lancet blunt till near its point - the length of the incision required may be perhaps nearly half an inch - when the artery pours out its blood forcibly - pressure of the finger beyond above the orifice makes it bleed more freely - If the compress & Bandage do not stop the bleeding - Dr Butters Tourniquet may be used - & where this also is ineffectual the artery is cut across

† on the 10th Lib 3 Cap 11 - Malleria incisa, neque coit neque vanescit: inclusum aëra, ut saepius vehementior urina post effici-

to be

Ita si nervum scalpellus attigit, sequitur nervorum distentio, cap, hominem crudeliter consumit. Celsus

In local affects the application of the Scarificator may have equally good effects— Where a person suddenly drops down apoplectic the Temporal artery may be opened— but Dr. Monro thinks it ought not to become a general operation— No prudent practitioner will think of opening the carotid artery—

Treatment of wounded arteries

We discover that the blood comes from an artery by knowing that when it is opened— the blood when the arm is at rest flows out per saltum— it is of more florid and red than the venous blood when pressure is made below the orifice the bleeding from the artery is increased when as if the vein only is wounded this effectually stops the flow— where the wound in the vessel & that in the integuments are not directly opposed to one another— the effused blood necessarily forms a tumor— which very frequently is circumscribed— the point of the lancet in venesection pierces the aponeurosis & punctures the artery the blood is confined by this aponeurosis

Aponeurosis & the puncture being made on the anterior part of the artery the blood forms a circumscribed tumor In one case operated upon by the late Mr Bereford in the Hospital here the puncture had been made in the back part of the artery — Aneurismal ba viz first described by Mr William Hunter. the puncture in this case passes through the vein into the artery — & the vein closing on the fore part — a communication between these vessels is left the veins are consequently much distended — a Thrombus is formed from the opening in the Integuments and that in the vein do not correspond — on where the vein is chiefly opened in the back part. The Ligature ought instantly to be removed — & blood drawn off as necessary from a vein in the other arm

1st It has been proposed in some few instances put in execution that the wound in the artery be closed by pressure — using an instrument that makes pressure on a particular spot

2d. that the wound be brought into view & a piece of agaric applied to the wound

applied to the wound & over all a compress & Bandage. Mr Lambert of Newcastle employed the Twisted Suture, he passed one pin thro the sides of the wound & a thread twisted round it. Ferriers in Scotland use a similar method to stop the bleeding at the jugular vein in Horses. This method is applicable where the artery is small it would obliterate a vein too easily. The usual mode of treatment is by applying a ligature above & another below the tumor. In the aneurismal varix the disease soon becomes flat & many & there is no need of an operation at other times it makes rapid progress proves the source of very great uneasiness so that the Patient himself has exhorted the operation. It has been proposed that as the artery & vein cohere at the place of Communication the blood may be intercepted by ligature, or the vein may be tied above & below the communication instead of the artery. before any other operation these methods may be tried. or pressure to the particular spot.

1st True aneurism is said to happen when the coats of the artery are equally dilated - when the dilatation is unequal it is termed 2d Mixt aneurism - 3d False aneurism is where the artery is wounded & the sac containing the blood is not formed by the coats of the artery - and 4 - the Varicose aneurism happens when the veins of the limb are dilated in consequence of a communication between the artery and vein - Except in the last case the method of treatment is much the same - that is the part is intercepted by ligature. Before the invention of the tourniquet, above a century ago, the artery was brought into view, by dissection, & a ligature tied above & below the tumor, suffering it to remain - but since the invention of the Tourniquet Surgeons prefer to open the sac remove the cloated blood - slacken the tourniquet & tie up the vessel from which the blood springs - In Popliteal aneurism Mr. Hunter has proposed

proposed the tying the artery at the inner side of the thigh - a method mentioned by Paulus long ago - where however the tumor is smaller no larger than a hens egg a number of arterial branches may be saved by tying the vessel above where it is pulsatile below the tumor - but where it is large we imitate Mr. John Hunters method - where the Bones are rendered carious, instead of thinking of the patient, we can save the Patients life by amputation only two thirds of the subjects of such operations recover - where the aneurism is high up in the limb. the operation for aneurism may take the Patient - the circulation being carried on by the anastomosing vessels

Operation Aneurism at the bend of the arm. eg — First the Tourniquet is applied, the cushion being put upon the humeral artery at the inside of the arm - as soon as you can entirely stop pulsation at the wrist, then with a common scalpel we

make a free incision over the tu
mor. avoiding as much as possible
the veins - some of them are necessarily
divided - first the skin & cellular sub
stance are divided & then the aponeu
rosis of the Biceps muscle appears
under it the deep seated veins are found
veno arteria humeralis commites Le
tallites. generally two in number
when the sac, then, is brought into
view a puncture is made into it
with a common lancet - the sac
is completely divided from top
to bottom - the coagulated blood is rem
oved - the Tourniquet loosened
the blood rushes through the supe
rior orifice of the artery. the Surgeon
fixes his eye upon the spot - the
Tourniquet is again turned - then
the Surgeon introduces a blunt
probe crooked at the end - (the lower
the arm to relax the artery) into the
orifice to raise the artery - therewith
a common round blunt needle
a strong ligature is passed a quar
ter of an inch above & as much

for below the inferior orifice - thesthe Tourniquet is again slackened to ascertain that the ligatures are fully applied - and first the superior ligature is simply tied by a single knot including the artery - if blood flows from the inferior orifice we are morally certain our operation will succeed - the inferior ligature ought to be tied in the same way the Tourniquet is slackened but allowed to remain in its place the wound made is to be accurately closed - & we avoid making too much pressure upon the veins -

Popliteal Aneurism. The cushion of the Tourniquet is applied to the hollow on the inner side of the thigh the artery passes within the Sartorius muscle - turns round & perforates the adductor maximus 6 inches in a middle sized person - above the joint - to some the external branches the operation is done a little above this part a pretty large incision - perhaps of three inches is made

146 When a large artery has received a small wound, as the Brachial in bleeding, the following plan may be tried. Apply a tourniquet so as to command the flow of blood into the vessel. Bring the edges of the external wound into contact. Bind on firmly with a roller a graduated compress with the apex placed exactly in the situation of the wound of the artery &c

Nich. Sneyd. Surgery.

made through the skin in the direc
tion of the artery - the situation of
we examine by the feel - the
artery is laid bare to the dis
tance of an inch and en
rounded by one ligature
upon it a single knot is to be drawn
and the wound afterwards accur
ately closed - In the Ham the oper
ation is just a peice of simple extrac
tion the incision is made
between the Condyles of the thigh
bones - making an incision
in a Subject of middle size
of 3 or 4 inches - after the le
guments & tendinous fibres are cut
through we are to be cautious in
avoiding the Sciatic nerve & Popli
teal vein in this place - these are drawn
aside - the artery is brought into
view - & the ligatures attached above
and below the tumor - this operation
is only applicable where the tumor
is of small size - where it is not disco
loured - the limb not wasted - above & below
and the bones free from caries
Tourniquet - first the cushion of a
moderate

hardness is applied over the artery formerly a compress of leather was put on above this - a piece of tape surrounds all - & by means of a piece of stick under this & twisting a compression is made - This Tourniquet was improved by Monsr. Petite - a screw separates two plates of Boards - & the ligature is tightened without the necessity of the continued twisting of an assistant Palmer constructed a similar instrument of wood - for cheapness sake - Used in armies - The Instrument at present in use - perhaps the invention of Mr Crane - It works twice as quick - & takes up the tape double

Lecture 114

Amputation - the arteries of the limb ~~the~~ injured by accident or wounded by ulcers - This injury may render amputation necessary - Formerly in comp.d Fractures - amputation was frequently performed - Mr Cooke has shewn that the projecting portions of the bones may be cut off & then reunited & more lately Mr Pot has shewn the very

147

In Amputation of the thigh, the sound leg should be tied to the Table. - - - - The limb shd be cut off as near the knee as possible. The femoral artery should be drawn out by means of a pair of forceps & tied separately; other large arteries should also be secured without including any of the soft parts. Smaller branches must be taken up with the tenaculum. The wound should be thoroughly cleansed from all coagulated blood, by means of a soft sponge & water & one end of each ligature removed. &c

In Amputating the Leg, the bones should be sawn through about four inches below the patella. The tourniquet is applied in the lower part of the thigh &c

In amputating the Arm or forearm we shd preserve as great a length of the limb as the case will allow.

Amputation of the shoulder joint. An incision should be carried through the skin & deltoid muscle down to the bone from the front of the joint a little below the clavicle obliquely downwards & outwards. The deltoid should then be turned up so as to expose the head of the bone, which must be brought entirely into view by dividing the orbicular ligament all round. The

cut

cut of an amputating knife will then
separate the limb. The axillary
artery should be immediately tied.
This object must be firmly com
pressed by an assistant above the cla
vicle. During the whole of the operation.
Nicholson's Encyclopedia. (Surgery)

very great advantage that may be de-
rived by the removal of the diseased
part of the limb - Where the Joint
is diseased & corroded amputation
was always performed especially when
the large Joints were thus affected - of
late however there has been proposed & even put
in practice to remove the diseased
Joint altogether - the knee joint has been
cut out with success in this way by Mr
[illegible] - but in another case
the Patient sunk under the great
discharge - Dr Monro thinks this opera-
tion less advisable in the diseased
knee joint than in others - Where
Mortification has come on, means
never to operate until this has stopt
& then little remains but merely di-
viding the bone - In Gun shot wounds
shattering the larger joints Amputation
is necessary - we can only save otherwise
useless & distorted limb - & must lose
no the attempt a number of lives which
might otherwise have been saved
It is an advantage in the upper extre-
mities to save as much of the humerus
as we can - & when the hand is diseased

or if

the meta carpals or carpal bones - where the fingers are diseased they may be taken off at the carpus, which will enjoy also the rotatory motion -

Where the foot is diseased - the surgeon may amputate 1st at half way between the joint of the knee & sole - or 2d below the knee the breadth of the Patients hand. in the former case the motion of the knee is preserved & the stump may be put into & filled with an artificial foot - In the other the motion at the joint is destroyed & it becomes stiff - the stump is kneeled backwards - the knee resting on the artificial leg. The latter operation is preferable when the person does not much study appearances & must gain his livelyhood by labour -

Operation

The Patient is to be placed horizontal by along sheet - two principal assistants are necessary - one to pull up the flesh when the bone is to be sawed, the other holds the limb firm - a third manages the Tourniquet - The surgeon when the leg is to be amputated must so that he may apply the saw to the tibia & fibula at the same time places himself between the patients legs

149. The fingers & toes should be removed at their joints. Make a circular incision through the skin, about one third of an inch below the articulation; draw the integuments up, & cut through one lateral ligament of the joint, which you can then dislocate. The remaining connections are easily divided. Bring the skin together over the end of the bone. If you amputate at the first joint make two cuts one at the back & the other towards the front; these must meet when the bone is removed. It is sometimes necessary to tie the arteries.

Nicholson Encyclopedia
art: Surgery.

but when the thigh is to be amputated he placed himself on the outer side of the patient perhaps he should always stand on the outside when any part of the arm is to be amputated—

The invention of Petit.

Instruments—the Tourniquet & its cushion to be applied upon the principal artery of the limb—In the arm it is put upon the artery at the inside of the brachi flexor tibialis—When the thigh is to be amputated—it is placed in that hollow between the Sartorius & adductores muscles—and when the operation is to be done below the knee the cushion is put between the condyles of the femur We are indebted to Chesselden for his improvement by the double incision—If the Surgeon were to cut at once to the Bone the skin retracting would leave the stump pyramidal & the bone uncovered—The skin is therefore to be cut below the part where the incision is to be made in the muscles in such a manner that the skin may cover the face of the stump e.g. when the member measures one foot round

As

diameter is four inches. & therefore we ought to leave the skin two inches over the stump - the first incision is made by a large straight amputating knife - perpendicularly - through the tegiments. & the incision through the muscles ought to be perpendicular & direct - not digging out the muscles as Mr Alanson directs - The scraping off the periosteum improper because it causes after exfoliations Metalline Retractors are employed to pull back the muscles when the bone is dividing by the Saw - the invention of Dr Munro - He prefers Mr Sharps Saw -

Amputation below the Knee -

The Tourniquet is applied between the two slings - the assistant pulls up the Integuments - with the eye the Surgeon directs his incision - the incision to preserve some of the flesh behind ought to pass down somewhat obliquely take up the cellular substance along with the skin - this is called oblique incision slanting upwards.

backwards & supported - then with one cut of the amputating knife the muscles are divided. in a slanting direction to the Bone - the inter-osseous ligament is divided by the Catline - & the Surgeon standing between the legs of the Patient by the saw both tibia and fibula are divided at the same time - Below the knee the danger incurred is less - especially in women where the parts are thicker - We save the flexor muscles which then become muscles of the thigh - the Patient has a more secure rest & there is less chance of ulceration - there is less chance of wasting of the limb - therefore the operation below the knee is preferable - After the incision through the muscles. it is of great advantage to separate the muscles from the Bone by the Scalpel - then the Retractors are applied. & now the saw is used - That the matter may be freely discharged the skin is to be brought together perpendicularly - we may thus more easily get

get at the blood vessels in case of ac cident - Tenaculum is passed thro the sides of the artery & the noose of the ligature passed over it & tied by a single knot, sometimes it is necess to take up the veins - dare exclude the nerve -

In taking out the bone from the Hip or shoulder joint - in the first case the tourniquet is to be applied to the artery over the os Pubis & the artery is to be tied in the first place -

When the Humerus is to be taken out the artery is to be compressed firmly by an assistant upon the first rib above the clavicle or a tourniquet may be used for this purpose - The first incisions are made to include a considerable portion of the Deltoid muscle - first by cutting perpendicularly - on the forepart down to the insertion of it - & then we make a similar incision from behind beginning from the acromion process - the Deltoid muscle is dissected upwards - the capsular ligament is cut into & the bone separated or dislocated - lift the head of

the bone only is deseased we may
desect off & save the limb- or where
we are to remove the limb entire
ly- let the vessels be divided in
the last place- they are then to be
taken up by the tenaculum- after
wards the muscles fall up the
bottom flesh adheres readily to the
cartilage- the wound is to be accu
rately closed- In the flap opera
tion upon the thigh a double edged
knife is pushed through the thigh
at the side of the thigh Bone on each
side laterally. Mr. Bell has pro
posed another method of making
the flap from before & behind-
We can take of an Exostoses just that
it may not come in the way & then
cut out the bone alone from which
it grows & thus save the limb- this
operation is frequently necessary in
the hand or foot where the Meta
carpal or metatarsal bones have
become deseased- after the bone is
cut out the parts are brought as
closely together as possible to conceal the
defect.

Lecture 115

On Bandages and Dressings.

In simple wounds Pledgets are applied to exclude the external air after the lips of the wound have been accurately brought together - where there is no particular acrimony of the fluids acts cure of the system a simple ointment of wax rose spread thin upon Lint is usually applied to sores - but when the fluids are disordered as in the Lepra Graecorum - the ung.t Citrin. has good effect - in other cases some other metals are used with advantage - a Poultice is sewed up in a bag one side is made of flannel & the other another side of fine muslin organse - Tents of various kinds are used to promote a discharge from any abscess - or pestilent sore - where this is thought necessary - Sponge Tent - A Plaster composed of Gum Ammoniac with vinegar of Squills - Dr Monro has found useful in discussing the swelling in the case of dropsy in the knee joint Adhesive Straps are used to bring together the lips of a simple incised wound

wounds- these Plasters may be ap
plied across or on either side of the
wound & held together by ligatures

A Simple Bandage is when the
linnen a flannel is rolled up in
one peice- a compound Bandage
when two or more peices are united
or these rolled up in their com
position- - a single headed rol
ler is the most simple- & most easi
ly applied- it ought to be bound as
tightly & equably- in applying it the
head is kept towards the outside
from the arm- it may be applied
in a circular or serpentine form
& when we wish to make pressure
we make a turn or twist- keeping
such a knot off the principal ves
sels of a limb- in taking off the Ban
dage- the head of the roller is kept
towards the limb- this thus taken
more easily up-

For the Head-

The Principal Bandage is the Cross
chef

chef- it is merely a folded napkin
applied over the forehead - its bought
over the chin - a flap is left out which
is folded back over the forehead it
is gathered together & pinned behind
or a handkerchief folded as its corners
is applied - the ends are brought
over the forehead & pinned ——
Galens six tailed Bandage - the
middle of it is applied to the crown
of the head - the two tails behind
therefore & pinned over each other &
then the lateral ones are brought over
the chin. This makes a secure & lighter
Bandage than the former - The com-
mon cap worn by Woman answers well
the purposes of retaining dressings
on the head - as after the operation
of Trepan - Le Cat's Bandage con-
sists of a double headed roller - its
first applied round the head over
the eye brows - one of the tails [redacted]
reversed & brought over the middle
of the head & then secured by
the other going round & under & by
the former may be reflected so as to

make

to make pressure upon a particular part
Where we mean to make pressure on
the temporal artery after arteriotomy
first a compress is applied over the
artery then we apply the middle
of a double headed roller to the nape
of the neck- it is brought up over the
ears- & the one end is turned within
the other so as to form a kind of knot
by this Bandage we may make
pressure on any part of the face or
it may be converted into the Facies
Nodosa of Heister— The uniting Ban
dage is formed by making a slit
in the middle of a double headed
roller- passing the head of the one
end of the Bandage through the other
opposite the wound to bring its edges
together- such Bandage is not to
be trusted to in cases of Slave Lips—

The Monoculus- is a Bandage applied
in a Spiral form over the eye passing
behind the ~~Head~~ such Bandages
are never to be applied & a hand
kerchief folded & applied to the eye

&

159 & fixed behind over the head is better.
In operations upon the tongue a bag
fixed to a wire - bended & fixed over
the chin may serve to fix it - & at the
same time defend it from the saliva
A Bandage made broad in the middle
shewing holes cut there for the eyes
nose and mouth - to this three tails
proceed from each side the middle
one is pinned behind the head &
the lowest to hold over the chin & tops
of the upper part of the head - any
soft ointment may be thus employed
so often as occasion requires & prevent pitting
in the confluent smallpox -
Where the Inferior Jaw Bone is fractured
the Bandage termed a sling Dr Monro
has found to be the best application
In two cases he first applied two
pieces of cork covered with linnen
to be put within the teeth on each
side of the Jaw - leaving a space in
the middle for a spoon - rolled
pasteboard was applied over the fracture
& over the Basis of the jaw

Jaw- the middle of the roller has a
small perforation which is fitted
to the chin- then the tails are car-
ried over the head & downwards
again upon the jaw - in both cases
the line was complete- & the parts
union smooth even -

For the <u>Trunk</u>-

A Bandage may be applied over
the shoulder turned under the arm
pit- and carried to the opposite
side- does to form the figure of 8
on the Breast, Back, or top of the
shoulder as the nature of the case
requires, this done with edgings is
termed Spica - Pressure may be
made upon the top of the shoulder
by using a double headed roller
passing it round the chest- then turn-
ing one of the rollers over the shoulder
we can fix the other - & turning it
round we can repeat the pressure
or increase it - such a Bandage
may be employed in the fractured
clavicle -

For the <u>Abdomen</u> -

The same bandages apply - observing

161 Tourniquet maybe employed to prevent hemorrhage from an artery springing in the Perinæum -
- A Scapulary Bandage consists of a Broad piece of cloth covering the Breast & united behind - this is supported by straps passing over the shoulders - & fixed at both ends to the former - This Bandage is used in cases where the mammæ have been extirpated - but we ought to be cautious in making pressure - strength to be moderate - A Broad flannel Bandage may be used to make moderate pressure in cases of fractured ribs - & where the ribs press inwards - distending the stomach by food or drink - only pressure upon the Abdomen by a bandage - may have some effect in pressing downwards but in gen[l] little attention to bandaging in cases of this kind is needed
The T Bandage is used to apply dressings to the parts about the anus or perinæum - & it may be used as a suspensory B - for the scrotum

It is used with advantage in fis 162
the Ani- after the operation of
Lithotomy- in fistula of the Peri-
oeum- after castration - or Hydro
cele- It may be applied to keep on
dressings on Buboes in the Groin
A Suspensory Bandage is used
to support the Scrotum - where the
Testicles are affected- a purse made
of flannel. is used to support the
humor in Scrotal Hernia It is ter
med a Bag - Truss -
After the section - the lips of the wound
are brought accurately together - the
Patient bends his arm - a small
compress of folded linnen is put
above the orifice - the a semple ban
dage is applied forming the figure
of 8 - & pinned instead of forming a
knot - a common garter answers well
For confining the Bowels in Hernia
In Prolapsus Ani a circular pessary
answers best - where the anus in
cludes the instrument described by
Mr Gooch answers completely the pur

purpose- a circular steel bell cov
ered with leather is applied over
the ossa Ilei- from behind a bent
steel spring- piece of the same pro
jects having a pad fixed to the end
of it which is applied to the anus
after the Rectum is reduced- Ban
dages of a similar nature but of
lighter form are used to keep up
the bowels in cases of inguinal hernia
the cushion is best made of cork per
haps of bone or wood covered by
leather- Circular plaister begun
with a small one & increasing the
size of them- applying them warm
so as to form a cone- with a large
plaister over all- has answered
the purpose of keeping in the bow
els in cases of umbilical Hernia

Lecture- 11th

On Luxations-

In the complete luxation of the larger bones
the capsular ligaments like others wan
ing elasticity are almost always torn
the bone cannot be completely dislodged
from its socket- without such lacera
tion in the first joint before the head

Of

the bone cannot get into the foramen Thyr
oideum without a laceration of the
round ligament - the projecting ed
ges of the articular cavity from which
the bone has been forced out form an ob
struction to the replacing of the bone
besides the muscles acting contrary to
the will of the patient prove obstacles
to the reduction - & where the bone has been
long dislodged the muscles are shortend
the cavity in some measure fills up
so that the replacing it in most
cases becomes impossible - The luxe
ation of the humerus happens most
frequ from the great degree of motion
allowed at that joint - from the va
riety of accidents - falls &c to which it
is exposed a person naturally throws
out the arm to protect himself when
he falls - & from the length of lever the
arm affords this readily luxated at
the shoulder joint - We are first
to endeavour to gather information
about the position of the arm when the
accident happened - from this we learn
the part the capsular ligaments has sus

ruptured - at which opening we attempt
to replace the head of the bone - The
Bone forming the cavity of the joint
the Scapula is meade the fixed point
and the lac is now applied to the bone
dislocated - in this case, the humerus -
not at the wrist because by this other
joints are unnecessarily injured
Previous to attempting the reduction
the muscles are to be relaxed - & their
situation with respect to their action
upon the neck upon the bone considered. In Re
cent cases - the Patient is placed on a
stool fixed to the ground one assist
fixes the Scapula with his hands &
keeps himself steady by applying
his foot against the stool - another as
sistant extends the humerus - & pushes
against the stool on the opposite side
the Surgeon observes the effect of the
traction - attempts first to disengage
the head of the bone & directs it to its
natural situation - If the head
of the bone is lodged under the pector
al muscle we are to raise the bone
to a right line with the body - so that the

so that the head of the bone may be directed towards the rupture of the capsular ligament - when it is lodged in the axilla the arm is elevated a little the luxation is then made to disengage the head of the bone from the edge of the glenoid cavity - A lac is to be applied above the elbow joint - & the cords by which the Arm is to be extended are fixed to the hooks of it - The attempting the reduction by pressing up the head of the bone with the heel is preferable to the forcible jerks by the Ladder - the rough operation by the Rolling-pin - Arnbe of Hippocrates - Petit's instrument - M^r Freakes instrument - powerfully extends the limb besides has all the advantage of the Arnbe of Hippocrates - it has a Rotatory motion - the strap of M^r Freake however does not sufficiently fix the Scapula - This is also a considerable Experience shews that in 3 of 4 cases the head of the bone is lodged under the pectoral muscle - In one case the os humeri was introduced into the socket

socket after being luxated for six weeks
The Patient is laid on the sound side
on a bed upon the floor - the Lac ~~[illegible]~~
applied & a strong rope fixed to the li
gatures & then ~~[illegible]~~ thrown over a pul
ley fixed into a beam in the roof a knot
~~[illegible]~~ made upon the Rope - pulling
it down until the patient is a little raised
& then the rope is suddenly relaxed
& the Patient after several shocks
of this kind had the bone reduced -
where the head of the bone is placed
in the axilla - the patient is laid more
on his back -

In the luxation at the wrist we dreme
a want of motion a prominent
hard swelling at the one side with a
corresponding hollow of the other -

The Thigh bone is most frequently
luxated forwards & inwards - the thigh
appears lengthened - the ligg sacs turned much outwards
the acetabulum
feels empty - & the head of the bone
is felt lodged in the ~~Foramen~~ Thyroi
dium - when this dis placed backwards
the thigh is shortened - the thigh before
making any extension is bent
ded to a right line with the body -

In two cases of luxation of the legat the knee joint - the cure was complete - the leg was kept bended & reduced in the way - the one case was healed by Mr Alexander Wood - the other by Dr Anderson of Leith -

Lecture - 117

On Fractures

Fractures are divided into simple compound & and complicated. In the former the bone is merely broke in the second the coverings of the bone also lacerated - when such an accident happens the limb at the place injured is swelled - often distorted - one part of the bone yields upon pressure by the hand - the patient feels great pain - & the bones are felt to grate on each other

We ought to put the bones into their natural situation in the first place when the fracture is recent when the accident has been of some standing - & the parts are much swollen - the patient is to be bled freely - leeches are often inadmissible

madness ible - & when the inperor & hemiles are whe purgatives are improper - how much time ought to be lost in such practices - especially in young subjects where the parts are quickly glued together so that reduction becomes impracticable - when the accident has happened at a dis tance from home - he is wheelbarged to the nearest home - & put in that situation in which he is to remain

Mr. Pott has very great merit in exciting the attention of surgeons to the studying of the proper posture of the limb. in general the muscles are to be relaxed - their action upon the parts must be carefully attended to - there is no necessity for untying the Bandages often to examine the state of the limb - & this is a very prin cipal objection to the use of the roller Discutient applications - Pleisters & compresses prove unnecessary & hurt ful embarrapments - Splints made of Pasteboard covered with flannel when the line enters into the composition

composition of the Pasteboard has
received a great deal thinner - Whale
bone covered with leather - others are
made of thin wood holeowed out or
of tin - Those of Pasteboard are pre
ferred. It when moistened & fitted
to the limb takes on its Shape exactly
& when the the water is evaporated
it becomes sufficiently firm - The
Splint employed is advised by Mr. Pott
not only to take in the fractured part
but the whole of the bone & the joint
above & below - now this & the old me
thod of applying very small splints
covering only the fractured part are
in opposite extremes - The confine
ment of the limb prevents the Patient
he attempts motion to obtain relief
& dis orders the situation of the bones
when a bone is broken let the Splint
be made to cover the whole of it be
ing the measure from the sound
limb - The Splints formerly used are of
no utility and therefore are exploded
Bandages - in such cases are best
made

are best made of flannel – The Eight teen tailed Bandage was formerly much employed – It is formed by applying bone another three dry percent straps having six tails each three on each side – the limb is applied upon the middle of it and the tails are selected over each other alternately beginning from above or below – The Bandage not long ago mentioned by a writer as an improvement made in an hospital in the Metropolis of this Island was pantalet by Scultetus almanced fifty years ago – The splints covered with linnen are applied next the limb – Over this the compound Bandage & 12 tails may be sufficient –

Where os humeri is broken – the Patient ought to be seated leaning a little to the fractured side the weight of the limb made some extention further one assistant keeps hold of the bone above the fracture – another assistant on a low stool takes hold of the inferior part & makes extension the sur-

The Surgeon endeavours to replace
the bones rapidly the fractured ex-
tremities loose one another - he fixes them
in this situation with one hand
& with the other he fixes on the Splints
moistened with water or vinegar - in
doing this he is to avoid placing them
on any sharp ridge of bone - or so as
to compress the principal veins - In
this case two Splints are sufficient
in the arm one is applied before & a
nother behind - after this Dr Monro
advises the application of a flannel
roller which he thinks preferable to
the compound Bandage - when it is
necessary to remove the roller on and
off its growing either too hard or too
lax inconseq.ce of the swelling or deter-
mitting of the arm - the Splints are
to be supported by an assistant putting
the patient in the former situation while
a new roller is put on - the arm
should be kept bended - & a com-
mon Serviette fixed by two of its
ends over the shoulder should be by
folding up the end below in the com-
mon

common manner does whom a thing makes every convenient support for the arm — when the bones of the forearm are broken - the arm is to be held in the bended posture turning the hand towards the breast of the patient the fingers are to be bended moderately thus both the flexor & Extensor muscles are relaxed as much as is possible - the radius & ulna are in this situation made to cross one another - the patient finds more relief from this posture when one of the bones is broken after the application of the splints the Doctor draws a roller. but when both are broken the twelve tailed Bandage is used The Splints should extend so far as to take in the whole of the bones of the forearm covering the wrist - but not covering entirely the fingers moving them can do no harm - & it relieves the Patient - here I advise the use of the case invented by Mr Park of Liverpool - made so as to extend to the roots of the finger

Dislocation

Fracture of the Femur-

The thigh ought first to be bended & then it ought to be laied upon the outside as advised by M. Bell- by this means the bone is kept from starting from the situation in which it is set we apply two large splints each long enough to cover the whole thigh the outermost stretching from the great Trochanter to the knee using the 18t. Band.ge

Fracture in the Bones of the Leg-

Two splints are used long enough at least to cover both bones & passing the knee joint, one above & the other below- holes are cut in the splints for the malle oli & Dr. Monro advises another to be made to admit the head of the fibula which projects considerably

Compound fracture dangerous on account of the admission of the air- Therefore this is to be kept in view- where ever Bones projects- let us first relax the muscles attempt the reduction- probably it may be necessary to dilate open a part of the skin- when there fall a

portion

of the projecting ends of the Bones must be sawn off - On account of which this necessary where the limb extended by mechanical means to keep the leg of the natural length & allow the intermediate space to fill up - but instead of extension and counter extension we must in most cases trust to the effect of posture.

Lecture - 118

In one preparation I have received accurately two organic parts. The parts united & the connecting substance was not osseous by ligaments. cartilaginous - In club foot the contortion takes place principally at that part where the os naviculare rolls upon the astragalus and not at the ankle joint - It rarely happens that Vertebrae bones are not united by osseous matter - but where they are either not connected or are joined by a flexible matter we may as below directed imitate the ends of the bones by grinding them against each other - preventing the

long

flexion only one supported - While
of Manchester has proposed carrying
out such connecting matter - treat
ing the case as one of recent frac
ture afterwards -
Where the Clavicle is broken where little
care is taken - after the cure a bump
remains from the ends of the bone
having passed each other - The
fractured Bones are reduced by
an assistant drawing back the
shoulders - after this three pieces
of moistened pasteboard are applied
above - thenext below & the third one
directly over the fractured - a cir cu
lar is passed round the body un
der the arm pit - straps of collo
are attached to this & carried over
the pasteboard splints then pressed
hind - the shoulders are to be held
backwards the arm kept in its place
by proper Bandages -
In one case where the acromion pro
cess was broken the arm was first ex
tended - then a splint moistened was

applied to the biceps above the fracture
& kept applied by a roller begun from
above - a large splint was applied
over the whole arm on the forepart
to prevent flexion - the arm was hung
by the side - a cure was effected -
Fracture of the Patella - the Limb
is extend - a compress covered with
flannel & rolled is applied above
the upper most - another below the
undermost of the fractured bone
& such soft compress defends the
ham - these are fixed by a roller -
& the compresses may be brought
nearer together if necessary by ap
proaching the ends of two longitu
dinal strips of cloth which have
been placed longitudinally under
the compresses - these are fixed by pins
D. Sleisler - Dr Cramper on fracture
of the patella - Dr Monro recommends
a more compound Instrument than
Sleislers - with straps & buckles - Dis
Luxation of the Patella - that case is
worst when it is dis placed outwards
the leg is brought to a right line with

the

thigh & the body raised to an angle of 45. the Surgeon then places himself between the patients legs- he presses the bones outwards to disengage the patella from the outer condyle. then it is brought inwards into its situation and as it is apt to start out again it is necessary to fix it- this is best done by applying a pair of compresses made of thin iron covered on the inside with stuffed leather to the side from which the Patella has been removed- this instrument is kept applied by a tape proceeding from one side of the compress- this applied in a circular direction round the limb. it is perforated by small holes. which apply to studds on the outside of the instr. This method has succeed very completely- where the tendon of the rectus muscle is lacerated- the leg is to be extended the body raised- the extensor muscles are brought downwards by a spiral roller- & the

patella

& the patella is brought upwards by straps coming from a circle under the knee - a splint is applied behind the knee joint - this method they also succeeded -

Laceration of the Tendo Achilles. This happens by a sudden effort of the Muscles most frequently the laceration is incomplete - The cure consists in bring the lacerated ends of the tendon together for this purpose the leg is bent as Mr Pot advises in fracture to relax the Gastrocnemii - a circular roller is applied to the ham - a slipper open at the toes is put on from the heel of this a straps extends the foot to a buckle in the upper circular - A plate of tin - applied to the inst.[ep.] of the foot - another to the fore part of the leg - having a piece of the same metal connecting them - prevents the sudden motion of the parts from starting during sleep -

Curvature of the Spine - we endeavour

to

prevent its increase & to extend the spine the Instrument used for this purpose was painted by Monsr. Vachee of Paris - although Mr. Jones of London has hanel ingenuity enough to appropriate the merits of the Instrument - It has been no inconsiderable advantage in some cases

<u>Club Foot</u> - the distortion takes place from the os naviculare having two pegs apiece upon the astragalus carrying the other bones along with it - the shape of the Bones is in general found much altered - besides this the convexity on the upper part of the foot is greater than natural - on these accounts our prognosis ought to be very guarded - the feet may be made to approve one another by putting them with shoes - these are connected together by a hinge by which the toes may be turned outwards. a cure can seldom be expected Stiffness of the limbs - this is occasioned by rigidity of the muscles not of the tendons - pouring warm water on the limb - fomenting - or by calling the parts

rubbing in oil - nothing but the heat can penetrate so deep as the muscles These means are by no means so effectual as moderate use of the limb provided it does not give pain - Friction or by the use of machinery the limb may be exercised gradually every day a certain degree.

After amputation — in the thigh - A circular has been put round the pelvis - previous to the operation straps hang from this over the thigh - after the blood vessels are secured - we begin by applying a flannel roller from the upper part of the thigh with edging & moderate tightness - to bring down the flesh - it is pinned down before we come to the stump - next let the skin & muscles be adapted to each other & the skin united in a perpendicular manner hanging out the ligatures behind - adhesive straps [illegible] to fix the parts are applied & crossed over the end of the wound - over this a compress of lint

low is applied. over this a covering of flannel rolled with tails these go up upon the thigh are fixed by the circular roller. It may sometimes be necessary to pin down the limb by the bed. Lamb's sponge Agaric compresses are never to be employed where the vessels can be taken up by the tenaculum or the needle in circling parts of the flesh. When sponge must be used it ought to be removed early before it be filled by granulations after the sponge is put on a common tourniquet is put over it the straps are fixed by a circular on the thigh and ~~now it is plain~~ that by turning the handle, the sponge is pressed downwards upon the bleeding vessels.

Surgical operation in the case of Hydrocephalus Extermus

If when the disease began it was not attended with acute pain, and the other common symptoms; and if

from

17 1/2 1/2 182

from every evident fluctuation of the water, chiefly at the Bregma, it is supposed, that the Water is situated immediately within the Dura Mater, between it and the surfaces of the Brain, Cerebellum and Spinal marrow: we ought to puncture the dura Mater; as this can be done without danger, may give immediate relief, and may have some chance of producing a Cure. The Dura Mater ought to be punctured cautiously with a Lancet, at the side of the Bregma, or as far as possible from the Superior Longitudinal Sinus. Monro on the Brain 68 p.

Comparative Anatomy-

The first class of animals compre
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species

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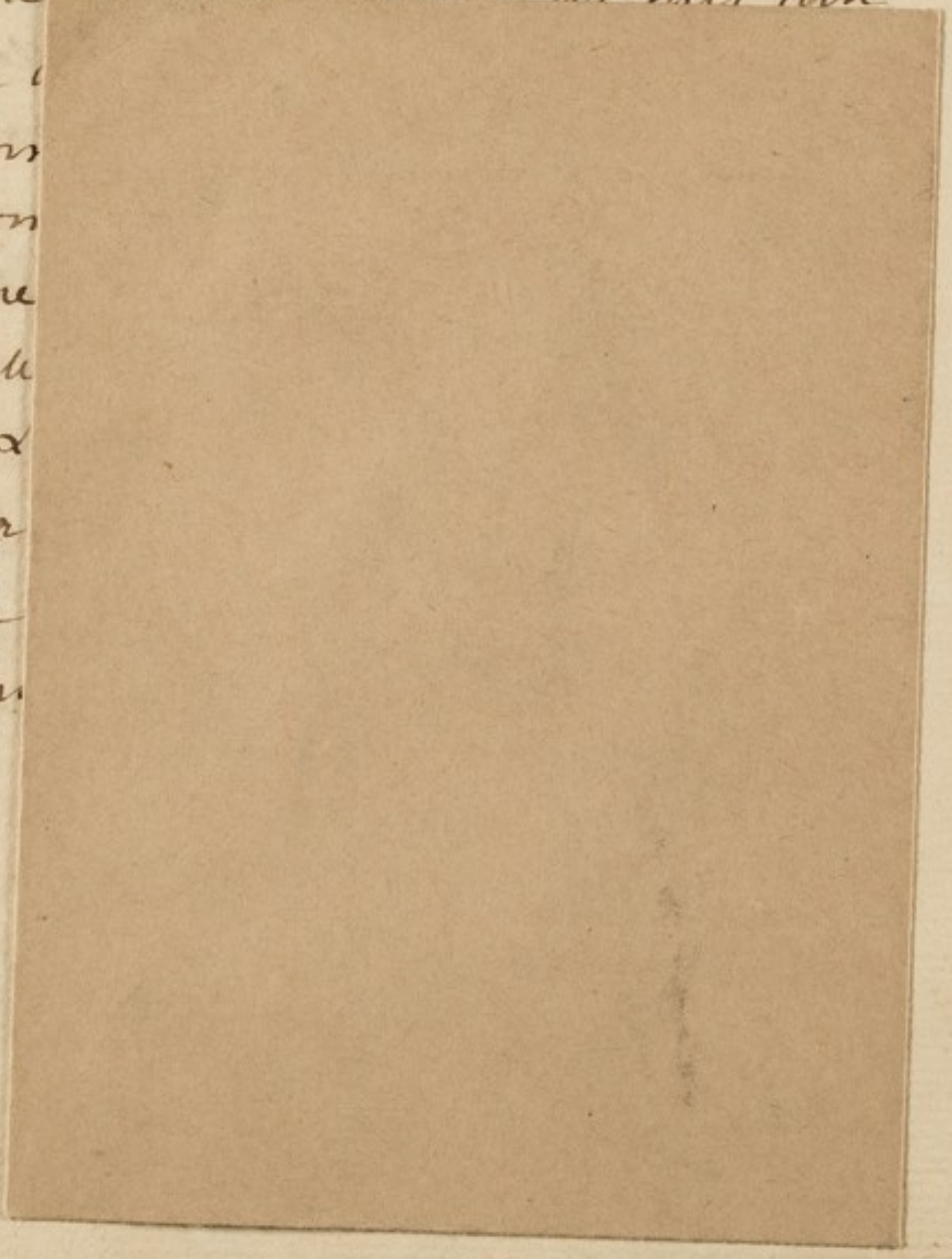
- the
lungs are large- the heart double
Mamma are found in the female
The organs of generation in either
sex have a resemblance- the tail

1/2 17 182

from every evident fluctuation of the water, chiefly at the Bregma, it is supposed, that the Water is situated immediately within the Dura Mater, between it and the surfaces of the Brain, Cerebellum and Spinal marrow: we ought to pure[illegible] the dura Mater: as this can



Comparative Anatomy-

The first class of animals comprehends man - the terrestrial animals together with Linnæus has added the whale like - he terms this class Mammalia - The Second class includes Birds - The Third Amphibia which animals however can only remain certain time under water - The Fourth class comprehends the Fishes with the former exclusion two classes remain - Worms - Insects - These classes are again subdivided in orders genera - Species & varieties -

Mammalia - In the Corpus. The smallest of the whale like the lungs are large - The heart double Mamma are found in the female The organs of generation in either sex have a resemblance - The tail

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2. Lare inclined & being perpendicular is horizontal in the whale that it may raise itself to the surface from the deep waters
In the elephant the teeth succeed one another in progression anew one pushing out the one which has been worn - its Proboscis serves the place of incisores - inclaying hold of leaves - Sheep have no incisores on the upper jaw - The Horse has six incisores with cutting edges - In the fera these teeth are pointed the tusks termed canini are equally remarkable in the Cat as in the dog tribe - Amongst the amphibia the Tortoise - Frog. Lizzard & Serpent are ranked -

In the quadruped the canini is awanting - from the horizontal position of quadrupeds there is no necessity for such a monitor - the food cannot goe into the throat & lungs -
In the Ruminant animal the muscular

Muscular coat of the Oesophagus is furnished with a double layer of oblique fibres crossing one another they act in opposition -
on opening the abdomen of the dog the omentum is found reaching to the pelvis - whereas in man it goes no farther than the umbilicus - this proves that man ought to live in the erect posture, and that afluid does constantly pass the omentum - The Spleen of this animal is dark colour'd oblong much connected to the omentum - & stomach - In the Spleen of the Cow a number of knots are felt the Human Spleen feels uniform - In the dog the liver is divided into a great number of Lobes - that they may slide easily one each other in its rapid motions - the gall bladder is seated between two of these lobes the Cystic & Hepatic ducts join there but there are no Hepato cystic ducts Bones are found in its Stomach evident

evidently in a state of solution - Its pylorus is very straight & contracted - on the inner side of the stomach a number of rigid valvules commences are found - Its stomach is thicker than mans - Its intestines thicker stronger more red - & shorter - than his - In the quadruped the intestinum Cæcum is long and is furnished with follicles. The food is admitted into it undergo some change - in them the valve of the colon is circular - and performs its function less exactly than in man -

In the calf - the first stomach the ingluvies or receptacle is large it is subdivided into several cells - this situated on the left side - A lesser receptacle is found on the right side with cells on its inside resembling a honey comb. a gullet leads from the first stomach along the second into a third the smallest it is subdivided into innumerable plyo - from which papillæ inject the

the manny plys- aguttus is continued from that into the fourth stomach which in this large resembles much the human stomach. It has valvulæ conniventes - the pylorus has too a greater resemblance to that of man— The grass passes first into the first stomach. then the animal lays itself seemingly to rest but in reality to masticate what has been taken in thoroughly— after this it is passed into the second &c on— the Gullet leading through the different Stomachs. for the purpose of conveying liquid into any of the Stomachs the calf does not ruminate and after having filled the first stomach it may through aquantity when hungry into the fourth Stomach— Digestion was merely a fermentation— less one Stomach would suffice— There is no air between the lungs and Pleura—

A dog does not sweat altho the perspiration

is evidently carrying on in this and how far can the want of sweating be connected with the Rabies Canina? acrid humors lend to the Salivary organs to prevent - The Bladder in this animal is covered compleatly by the perinaeum - In the dog the passage into which the testes have descended from the abdomen remains open - a piece of fat covers the opening - acting the part of a valve in guarding against hernia - The dog has no vesiculae but the vasa deferentia are somewhat enlarged - the gland is long - the penis has a bulb in its structure - the Semen is conducted along the urethra through a groove - their copulation is tedious the animal is retained in connection drum averse explaining the reason of such structure - & further we conclude that from the copulation being quick where testes are found that these really contain semen -

Birds- Hawks- Pico. anseres.
Grallo-as the heron- Gallini- Pas-
seres comprehending the smal-
ler birds- Birds are furnished
with a beak instead of jaw bones
teeth- they do not manducate- they
are covered by feathers- the hollow
of the quice contains air- In walking
unless when pushed they use only
the inferior extremities, but when
pursued he accelerates his mo
tion by flapping the air with his
wings- Muscles of great bulk &
strength are attached
to the Breast bone which is exten
ded for this purpose a great way down
wards- All Birds are oviparous
i e the rudiment of the Foetus grows
in the egg without connection with
the mother-

On opening the mouth of the Gre
nivorous fowl- a chink is found in
the roof of the mouth opening into

the

the nose - and a cavular chunk with
muscular sides leads to the trachea
without any epiglottis - no ligaments
are perceived in the larynx & the
voice is not formed here - they have an
inferior mesaraeny gland with nu-
merous mucus orifices - the oesopha-
gus is wide & leads to as an placed
upon the right side - this is the recep-
tacle of the food the crop - it may be
compared to the first stomach of the
Mammalia - mucus glands with
orifices are found on its surface &
charge a white fluid - aqueous
passes along this pouch - thro which
fluid may pass - a probe may be
passed through this opening behind
the trachea - & below of the heart &
behind a membranous diaphragm
into a second stomach - furnished
with follicles on the inside from w^h
a white slime may be pressed out
from this we may pass to a third
stomach which is very muscular -

w

which grain is found broken down
mixed with small hard pebbles
the outer part of the Stomach is cov
ered by a tough membrane. Pliny
calls this Stomach Ventriculus cal
losus Carnosusque. under this another
covering is found above the muscu
lar Stomach which is very thick
and strong — Reaumaur calculates
that from experiment it is equal
to 437 pounds but recollecting at
the same time that it could make
the pressure & resistance in blowing
the Cylinder of iron therefore need
must double this calculation —
The first Stomach not only serves
as a receptacle but the food is
changed in it — the animal seems
hence a power not only of passing
food into the third Stomach thro'
the gullet — but also pebbles — where
alone the could use the grain
is here ground by attrition. the stones
acting as teeth — were there are deno

ted

172 1,

10 and hard grain is given the animal is in danger of being starved

7. In the abdomen - particularly in Birds of rapid flight the bowels are tied down by membranes - in the granivorous fowl the alimentary canal is long - The Spleen sends its blood to the Liver. it has no duct - A pear Bladder is formed lodged in one of the lobes of the Liver - One duct comes from the Liver. the other from the neck of the pear Bladder they are not joined and enter se parately into the duodenum - When air is blown upwards into the Hepatic duct the pear Bladder & hepatic ducts are distended by Hepatobyssic ducts. — An organ of a white colour is placed along the mesentery of the duodenum - This is the pancreas. no duct is observed entering the duodenum without dissection - Vesalius discovered this in Turkey a century ago - The great intestine is

is short & straight it may be called rectum - from the intestinum rectum at its extremity two intestina bæca project backwards into this the fæces pass backwards by inversion - Dr. Monro three years before Mr Hewson attended Lectures here describ monstrated lacteals in the Eloth the chyle in this animal is clear - the fæces does not admit coloured particles - two lacteal ducts convey the aliment to the Inguinal vein - The heart is double as in man - & the right ventricle sends the whole of its blood through the lungs which are firmly fixed down - the air passes from them into the cavities of the bones - rendering the animal lighter & more easily suspended in the air - the bones want marrow therefore this is neither necessary for the nutriment or for giving toughness to the bones - the Trachea before its entrance into

the

172 1

12 the lungs is examined - this is the glottis were there no voice is produced - although the Trachea above has been cut across - Bird's Perspire - the have a discharge of some Black coloured bodies on each side of the back bone are the Kidneys from these the ureters proceed these terminate in the common cloaca - the urine is discharged then with the faces it is white coagulated & probably contains much earthy matter absorbed from the Feathers In the Brain the corpus Callosum Pineal gland - nates & testes - are a wanting - the optic nerves decussate each other - - The membrana Nictitans protecting the eye from the strong rays of the sun - the entrance of the optic nerve enters very much to one side that the picture of the object the animal examines may not fall upon it - a marsupium nigrum is attached to the lens discovered by the french academicians

its use probably is to turn the lens
round towards an object placed
near the nose -
The testes of the male are large in pro
portion to the animal. Convoluted
tubes pass from ~~a~~ ~~e~~ ~~e~~ ~~e~~ ~~e~~ ~~e~~
an epididymis this is the Vas De
ferens. it terminates in vesiculæ
seminales - into which the semen
is lodged. & terminates in the com
mon cloaca which the animal
can invert. There is no prostate gland
& the semen is of a white colour -
In the female ahead of yolks or ova
ria lies above the uterus - in the
uterus the egg remains to its expul
sion is lodged - alube conveys the
ovum into the uterus - by surroun
ding it with spiral edges - fe
tes going into pores in the shell
join the uterus & together - when
an Egg is laid upon its side & al
lowed to rest awhile then the shell
is taken off - the ammion is always
found uppermost - of a white colour -
upon small hard bodies compared

14

chal stones. halladzo the yolk turns
an air bag is found at the extremity of the egg- the yolk by mutation is connected into a funel of Placenta it is furnished with vessels which have stretched from the amnion- the yolk receives the amnion in passing through the allantoic tubes- the halladzo or poles on which the yolk turns do not support it equally- the yolk turns that the amnion may rise so that the young chick may not be injured by pressure from the yolk- the shell is secreted by the uterus- the vessels of the Placenta or yolk proceed to the air bag- & they imprestionably draw in air from the atmosphere the air bag continues enlarging- the air is secreted by the vessels of the chick- as the air of the quill is secreted from the pulpy substance within the flesh of the animal- a portion of the yolk still remains to nourish the chick-

3d Class. Amphibia — Fishes — Reptiles. Pedati — Serpents — In the Frog — the stomach intestines spleen liver & pancreas are found connected as in the other Class — the amphibia are terminations of life in a remarkable degree — they stand less in need of food — & heat air than the other class — some of these animals exist longer under water than others. This is the case with the seal. whose inferior cava is very large. & a receptacle is formed where the Hepatic veins come out from the liver to receive the blood when it cannot be transmitted readily through the lungs of the animal — the sea seal muscle are numerous in fishes — & are more so than the circulating — the lymphatic system terminates — nearly as the human does — the Frog has a single heart from the ventricle a single

artery

a single artery comes off - this splits into two - each vessel going to auricle - the lungs of the animal this animal has large jaws & fauces - by a sphincter muscle it can shut the nose & then by the action of its jaws it dilates the lungs which in man are passive & follow the motion of the thorax - the Heart is double in the Tortoise the auricles have no communication but between the ventricles there is a hole of communication - both the Aorta & Pulmonary artery arise from the right ventricle - In the amphibia there is a brain & cerebellum in various proportions & the top of the spinal marrow has the power inherent in the human brain — The testes in the Male are situated as those birds are - In the female the uterus is large - the tubes connected with it are long & contorted they have no fimbriated edges - but are fixed near the diaphragm - which is membra-

membranous- the ovaria are si
tuated on each side of the vertebrae
of a black colour- the Ova float
about this season loosely in the ca
vity of the abdomen- the oviduct
is fixed. Where ova can only enter
by being carried with by the contrac
tion of the abd.e muscles- Fishes
move in the water by fins- & the water
is applied to the gills by the eleva
tion & depression of the gill flaps-
A slime is poured out on the body
of fishes from large ducts- which
ramify in black lines regularly
upon the body to defend the ani
mal from the water- these ducts
have a common termination- where 2e y.
is a nerve equal in size to any of the
nerves- this ramifys along the duct
& becomes pelluced in its branches
from this we learn the necessity
of nerves to glandular organs- The
Alimentary canal in fishes is short- Duct
with short ducts encircle the duo
denum- the Pancreas of the fish-
the Spleen is large & red- its blood
to

18 is conveyed to the Liver which
is pale — There is a gall Vessel
& the cystic & hepatic ducts join
In the Cat fish There are hepatic ly
ke ducts — in the Salmond where
they enter the gall Vessel near
its neck — A large Bag — the Comm.
Bladder of fishes is found in the
Abdomen of fishes. it is thick &
tough — like Leather — in the cod we
Think it there is a spongy red or
gan — two blind horns lead up
wards towards the receptacle
of the Chyle & lymph — In the Carp
the two are Vessels with Vend
tubes into the Oesophagus from w.
by Bladder may be discovered — the
Salmond. & Sea col. a similar one
but is found — In the Sturgeon the
Stomach & air bag directly com
municate by large openings
furnished with a sphincter — It is pro
bably that the air is secreted from the
Stomach in the cod by compres
sing the air or raising down the ani
mal sinks & v. v. The mucous

Macarel wants the air bags
the intestine in the scale appears
very short & thick - but when the or
ler covering is taken off it may be
extended much - the pancreata
are large - & in the inferior lam
there are numerous dilatations
the lamellæ double in fishes - in the
abdomen - & at their entrance into
the heart valves are found - When
afluid is pushed into the great lym
phatic vessel of the fish - the scale
is exudes from innumerable pores
upon the back of the fish - Salivary
ter is found in the Brain & Pericar
dium - into his last it enters
at extra pore above on each side
of the anus - In the Chirgeon 2d
is a com.n between the pericardium
& pelvis of the kidney - The lym
phatic system in the fishes is not
furnished with valves - they are as
extensive as the sanguiferous sys
tem - they open upon the surface
& possess a living contractile power

Fishes have in the heart two auricles. one ventricle from which the Pulmonary artery comes out this terminates in the gills. is returned by Pulmonary veins. they join & form a trunk which is the aorta of the animal. this supplies the heart. the gills & other parts of body. - arteries carry pure blood the intestinal tract. the veins return the blood to the liver from which seperate veins enter the cava & return the blood to the heart. In fishes the arteries are immuscable. pellucid & certainly perform secretion. those terminate in red veins in the fish. there is no pulsation in the aorta. which propells the blood by its own proper action & not from axis alone. & the coats of the vena porta in fishes must be active because here the blood is in a 3d tube & the diaphragm is membranous.

Fishes- in the male Scate- at its extremity- there is situated a very formidable weapon when it can very well be folded beneath an instrument resembling the tool of a goose but furnished with sharp knives- the Testes- & vasa deferentia near by to remote there of fowls- there is no prostate gland- the vesiculæ seminales discharge the semen into a common cloaca- mixed with a greenish fluid from a connected muscular- In the female at the back bone there is a duct of yellow hue down both by membranes- we find here a tube one tube evidently of a muscular structure- it is connected to a membranous diaphragm- from this tube the ovums may be distended the yellow bodies have been found in this animal floating loose in the cavity of the abdomen- the eggs of

the

21 The scales of an oblong square form with Carina having a white & yolk within - as in the ova of birds - The matter of the yolk is conveyed into the small intestine - These animals therefore are oviparous

In the lobster & crab the cavity of the cranium bears a very great proportion to the back of the brain - The remainder is filled up by a saline water little dif fering from that of the Ocean it is not however altogether filled up by inorganic matter but is crossed by fibres & membranes - The Brain is very small - is divided into Cerebrum & Cerebellum - The nerves are large - both the Ganglions & the nerves are very large - The Brain has a hollow or ventricle in it - The Spinal marrow is large & nerves come out from it nearly

nearly resembling those of man
the Organ of taste is perhaps still
to acute - but that of Smell is
more complex. in most fishes
the nostrils are placed as in Birds
& have no Turbinata - Most
fishes are possessed of an organ
of Hearing - The Whales Ear has
the same general structure as
in Man or in the quadruped
the Meatus is very small In
the largest Greenland Whale has
a hard bony plug in the meatus
which acts as a valve within -
the Ear we find Cochlea & semi
circular Canals - In the Turtle
there Meatus is no external Meatus
but it has the eustachian tubes
the Temporal bone is scalloped
within & touching it is found
a slender cartilage like a Surgeons
probe - the Skin extremely velvety
upon

upon the oval hole - In Birds
the Eustachian tube is easily
found the external meatus
is protected by a shaft of feathers
the drum of the Ear is convex
externally - & is supported by
a cartilage as in the Amphibia
serving the place of the chain of
Bones found in Man - The Ears
communicate below the Brain
with each other - Therefore when
the Bird turns one ear side
of its head towards the sonorous
object it listens with both ears
In the Scala the cochlea are
awanting - the Canals are near
ly circular - & contain a bag -
the scale has osmaee meatus
auditorius externus - with small
a concha describing nearly a cir
cle. the meatus leads to a large
bag containing a fluid like Mem.
albumen ovi & containing ano
gularly formed calcareous matter

In Thread all the side of the brain
a small hollowed out shell is
placed upon which nerves are
ramified in many beautiful
manner - so that the tremor
giving sound affects it thro the
medium of the water surrounding
the Brain - It has no ear
also auditorius externus -
The optic nerves plainly crossed
them - they enter the balls of the
eye obliquely - the Retina is so
nitrans parent - although the op
tic nerve is opaque. The vitreous
humor is thinner & lighter. The
lens is however more dense &
heavy than in man - it is more
spherical & is composed of two
parts adapted together - by pres
sure we throw the outer parts
& come at a hard pellucid nucle
us but when cut by the knife
or bruised like a piece of gum Ara
bic

Arabic it becomes opaque. it
sinks in water - like a piece
of glass

Worms and Insects - in them
the heart & circulation of the
blood goes on - the heart is pel
lucid - as in the lobster - In the Ec
chinus Esculentus there is no
heart but two circulating ves
sels are perceived in the mem
brey - When Eyes are found be
tween them we generally find a
brain - which when injured causes
convulsions - In the Echinus Esc
culentus there is no Brain - yet the
Animal possess a great degree
of nervous energy - The prickles on
its surface are to feel down al
though the shell is broken it
moves in each particular part
for some time - In the Cepia
Loligo - no fewer than three
hearts are found - - - - - -

Monsters- Preparations. A calf with two heads- In this monster there are two hearts but the aorta proceeds from the ventricles single- In one case two small lobes above the eyes instead of brain; but the nerves & spinal marrow are of natural size- Five preparations of the hand & the bones of the head in all are imperfect- A human monster with two heads- & a single body & heart- another with a double body to one head- in which there are the rudiments of two brains with one cerebellum- where 2 one head & two bodies were found there was but a single heart- In a calf- there are two distinct heads- the body well formed & the spinal marrow found- In a human monster- both

28

Both the Head. brain & heart were awanting. The Spinal marrow began by a conical point. No Lungs or œsophagus Chylopoetic viscera were found. The Sciatic nerves were formed and of the natural size. There was no Liver & the umbilical vein when it entered the body commenced Arborescent & sent its ramifications to the several parts to the superior & superior extremities. The Blood was returned to the Placenta of the Mother by two umbilical arteries much in the usual way.

Lecture -

Man is well nourished and invigorated by a mixture of animal & vegetable food - Animals receive their aliment into a receptacle the Stomach Vegetables on the contrary receive it from innumerable external pores opening upon their surfaces - The dilution of the food in the mouth & fauces - its solution in the Stomach by the gastric juice the action of the muscles of respiration - the heat of the body - all combine in producing a change upon the food by which it is assimilated

The

1.

2 Liquor secreted from the Stomach
acting as a menstruum—
Where the coats of the Stomach
are Schirrous - the food is
subjected to heat & compression
& the food is not digested
so far back as 1764 D. Mor
so found that the fluid of the Stomach was
capable of dissolving bones pie
ces of bone ~~[illegible]~~ in
the Stomach of dogs — Meat
is dissolved in the Stomach
of animals although enclo
sed in Silver or Cylinders —
& the Gastric fluid is
found also to be antiseptic
so that in some animals who
live upon putrescent matter
their food is
when taken into the Stomach
it becomes Coagulated so Some
fishes swallow stones, which
their

Stomachs are incapable
one
of receiving the polipi
bodies in the Stomach the
other in the oesophagus but
is the former only which is
found dissolved — The Bile com-
municates acidity — & promotes the
union between oil &
water of Nutriment — —

~~By these two fluids the process of~~
~~Digestion and nutrition~~
~~is completed~~

Generation

Some animals like vege-
tables grow by shoots as
the Polypi —
Others have organs of gener-
ation — commonly the sexes
are in distinct individuals
no male insect found upon
the leaves of the Myrtle to copu-
late

separate process of generation
viz Sinale

The Rudiment of the Fœtus
is contained in the ovaria
of the Female — the volume
of the Male Semen rendering
it — Also then carried to
the uterus — this included in
an ovum — Animalcules
are certainly to be perceived
in the Semen — but when the
they are killed by Vinegar
this semen remains fertile
Born dead most probably
contribute by a mixture
of Elements to the growth of the
Fœtus —

Menstruation

The Uterus is arterious not in
nerve — about the 15 year it takes
plenum the Female — this pro
ceeded by headach pains of

the Lochia &c. The menstruation does not take place immediately after delivery - if the woman suckles her child - About the 45 or 50 year the discharge becomes irregular & then ceases - The symptoms also which are to follow - as Schirrus - Cancer &c. will in a great measure advise him by telling blood & hence has observed that Vena Section performed regularly at the menstrual period - in case of inflammation the return of the discharge when it has been checked is the best way of restoring it -

— Lecture —

Structure & functions of the nervous system —

Vision

The humors of the eye by their pellucidity transmit the light; by their form they collect the rays; they serve to depict the coats of the eye particularly the Retina —

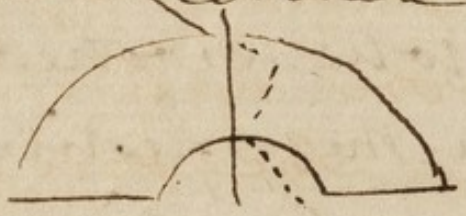
From a luminous or illuminated body light is thrown in straight lines in all directions —

Light is reflected from a surface in such manner that the angle of incidence is equal to the angle of reflection —

Light in a passage from one medium to another of different density

changes its direction or as
opticians speak it is refrac
ted — hence a straight rod im
mersed one half in water
appears to be crooked — and
the denser the medium the
greater the refraction ~~from~~ from
by perpendicular —
The Suns rays are colored
or each ray is composed
of others of different colours
as is seen in the rainbow
or is demonstrated by the
prism — Violet — indigo
blue, green, yellow — orange, red —
or this is shown by
~~demonstrated~~ by
turning rapidly round a
wheel divided into seven
equal parts — when the whole
appears white —
After refraction in passing
through a denser medium
the rays are collected into a
focus —

8 A concave glass scatters
the rays of light - whilst
they are collected by one
which is convex



Two may be applied to our
cornea -
The Retina is fixed to the
fore part of the crystal
line lens - The coat of
the arteries humor when
it comes forward to the
lens - divides into two pro
cesses between which is the
ciliary circle -
The contraction of the Iris
is proportioned to the quan
tity of light entering the eye
The rays of light decussate one
another nearly about the
Centre of the Lens

rays of light from a picture
passing through a sphere
filled with water collects the
rays & figure at the dis
tance of one half of the
sphere — The Iris in its
contractions does not alter
the Cornea - but serves merely to cut off superfluous rays
The straight and oblique mus
cles of the eye — Compress
the sides of the eye & render
the cornea more convex -
The orbicularis Palpebra
rum when we wish to
view minutely an object
are brought nearer together
by which act we make
the rays from the objects brought
near distinctly which we
were confined -

The object is inverted in our
eye — how come we to see it

10 in its natural position
we are taught by mouth
that the rays that strike
the bottom of the eye come
from above & that those
which fall from the upper part come from be-
low.
By instinct the eyes move
together even although one
of them be covered -
By comparing the distan-
ces of intervening objects
we judge of distance -
of the object we look at

Lecture

Experiments
In the frog the heart is com-
posed of one auricle & one
ventricle - the ventricle emp-
ties so that when contracted
the purple colour of the blood

blood-vessels appears - the animal lives for upwards of an hour after the heart is cut out - the heart although separated from the body does continue to contract though more irregularly - & when it has ceased for some time its contractions may be renewed by pricking the heart by a needle -

When the Sciatic nerve is divided the limb of that side loses all power of motion & of sensation - but although all but the nerve be divided the limb continues to move & feel when the limb is entirely taken away & the top of the Sciatic nerve pinched it is convulsed or contracted although the nerve be removed

12 If this be done above - the
animal continues to move
about - for three days - but
if the separation be made
below the 3d vertebra the
motion of the hind legs ceases
but if the spinal marrow
be irritated by a pin the
legs are convulsed -
When an injection of opium
be injected into the cranium
of a frog - it is instantly de-
prived of motion & killed by
it - & the heart moves very
languidly - applied to
the heart - in a similar man-
ner its motion becomes very
feeble the animal extends
its limbs & is in a great mea-
sure killed. When injected
into the cavity of the abdomen
the opium exerts its influence
more slowly - if the heart has

been previously cut on the
spinal Cheneure affects
the extremities - Injected
under the skin of one of the
extremities - Metallic brush
to its power of motion
into
When the heart of a living frog
accidently ceases to contract
Stimulus the vessels by any
stimulus —

The spinal marrow may
be cut out without destroy
ing the frog of life - The wound
closes up - but the motion
in the inferior extremities
is destroyed — when all
but the Sciatic nerves is cut
the cauda equina is placed
one plate of Zinc - a piece of
Gold is put under the hind
then a brass wire needle to
touch the plate of Zinc & gold

by

12 14 by its ends the limb is in
steadily convulsed —
When a wire is introduced a
cross the Sciatic nerves and
the animal is immersed
in a vessels of Lime water
regardless it is instantly con
vulsed —

Lecture —

The nerves nicely actuate the Ar
teries which are the proper organs of
of growth, nutrition & secretion — The
Nerves and Brain exist independent
of each other — Although the
nerve of a member be completely
divided yet the part below will con
tinue to live & the circulation will
be carried on through it — the nerve
still continues after its connection
with the brain is cut off to generate ner
vous energy — but it does not now
convey sensation or Volition — Pro
perly speaking there is no voluntary mo
tion the action of our Muscles is
innate —

The End

Index to the Notes from Dr. Monro's Surgery.

A.

B.

Warts 69 W