7604. In English, on paper (watermarked 1814): written in 1816 by Edward Osler: 6 × 3¾ in., 10 leaves.

'Surgery by Astley Cooper delivered at the Theatre St. Thomas' Hospital in the Course commencing October 8th, 1816. No. 1. 4 lectures, 1816, on Surgery in General, Irritation & Inflammation.' Signed 'E. Osler' on fol. 1. Notes of three lectures only. Foll. 9–10 are blank.

Bound with no. 7605, at foll. i–ii of which are notes by W. O., including a pr. extract from Guy's Hosp. Gaz., 1911, vol. 25, p. 277, 'Sir Astley Cooper's case of ligature of the abdominal aorta', signed William Osler, and quoting the letter mentioned in the last note to no. 7603.

See also no. 7532.

Photo in 7532 at leaf 30

7605 = A
7604 = B

Edward OSLER (1798–1883)

Indenture, 1811, apprenticing sir Wm.'s uncle to a surgeon at Falmouth.

Also his notes on the lectures of Cooper and Travers at St. Thomas's, 1816–17; and photo of his eye-witness report of the ligation of the abdominal aorta.

Esq M D containing lecture 10th continued, 11th & 12th on wounds of arteries, wounds of veins, wounds of nerves, wounds of absorbents.' Foll. i–ii : see no. 7604.

7604. In English, on paper (watermarked 1814) : written in 1816 by Edward Osler : 6 ×

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Photo of it inserted 1953 in 7534 at leaf 30

The original letter I gave framed to Wills Library of Guy's Hospital 15.VIII.17

JULY 8, 191

278 GUY'S H

THIRD EXAMINATION FOR MEDICAL AND

SURGICAL DEGREES.

EASTER TERM, 1911.

PART I.—PHARMACOLOGY AND GENERAL PATHOLOGY.

Examined and approved.

Garrett, G. W. B. | Heaton, R.
Jarvie, J. M.

PART II.—SURGERY, MIDWIFERY AND MEDICINE.

Examined and approved.

The following have now satisfied the Examiners in all three sections:—

Degree, H. T. | Sandison, A.
Webster, V. T. P.

EXAMINATION FOR THE DEGREE OF M.C.

EASTER TERM, 1911.

Examined and approved.

Chapple, H. | Crook, A. H.

7605. In English, on paper (watermarked 1814): written in 1817 by Edward Osler: $6\frac{3}{8} \times 3\frac{7}{8}$ in., iii + 16 leaves: no. 7604 is bound at the end.

'1817. E. Osler. Surgery by B. Travers Esq M D containing lecture 10th continued, 11th & 12th on wounds of arteries, wounds of veins, wounds of nerves, wounds of absorbents.' Foll. i–ii: see no. 7604.

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The original letter I gave framed to Wills Library of Guy's Hospital 15.VIII.17

Sir Astley Cooper's Case of Ligature of the Abdominal Aorta.

IN looking over some letters of my uncle, Edward Osler, a student at the United Hospitals in 1816–18, I came across the following first-hand account of Sir Astley Cooper's famous case of ligature of the aorta, which is, I think, worth printing:—

"London, July 5th, 1817. ——, aged about 40, has a very large tumor on the upper and outer part of the left thigh. It projects considerably from immediately below the crural arch; it is very hard, immoveable, without any pulsation and rather of a more livid colour than healthy parts. It is not circumscribed, but gradually blended with the surrounding parts, and has an unequal knobby feel. It began about twelve months ago and has been gradually increasing. From the size, the situation, and from no pulsation being felt at the femoral artery, no doubt was entertained that it was an aneurysm of the external iliac artery very high up. Cooper thought of tying the common iliac, but I believe was afraid. I mentioned that I could indistinctly feel the descending branch of the external circumflex, and it is probable I was correct, as one of the branches probably formed a large anastomosis with one of the vessels of the pelvis. Towards the end of May every part was very hard except one spot, which was soft and fluctuating like an abscess. About the middle of June a line of ulceration began to appear, which extended, and at last formed an eschar as large as a crown piece. On the 24th of June (Tuesday) Cooper saw him. After he had looked at him he sat by his bedside for a few minutes buried in thought, without speaking to anyone. At last he started up with a smile (you know his look!), 'I'll do it, but I'll wait for hæmorrhage.' He had not long to wait. On Wednesday afternoon the patient lost eighteen ounces of blood, and Cooper was sent for. He had taken a subject in the dead-house and operated on it through the abdomen and from the side (for the iliac). The first he found easy, the other utterly impracticable. The patient was brought to the theatre and Cooper made an incision immediately above Poupart's ligament, just large enough to introduce his finger that it might plug the wound. His object was to find the mouth of the artery and thus command the hæmorrhage, and then cut down on it and secure it. He found, however, that the artery was ulcerated higher than he could reach, and that the common iliac itself was affected. He therefore had a plug to fit the wound, which he introduced on withdrawing his finger. He now determined to put a ligature on the aorta. He made a longitudinal incision, about $2\frac{1}{2}$ inches long, on the left side of the umbilicus, about an inch from the linea alba, cutting through the rectus. He introduced his finger, and pushing the intestines away felt for the aorta, tore through the mesocolon with ~~his finger, separated the artery, and,~~ looking round, said, 'Gentlemen, I have the pleasure of informing you that the aorta is now hooked up on my finger.' An aneurismal needle was now carried down under the vessel, and it was tied with facility. The operation indeed was by no means difficult or tedious. The ligature was left hanging out at the wound, which was united by the quilled suture. A dose of tinct. opii. was administered and he had a good night. On Thursday he was very cheerful and sanguine in his hopes of recovery. Both limbs were nearly of the natural temperature; he had no affection of the head or pain in the abdomen. Even Mr. Cooper and Mr. Travers had very great hopes of him, as the circulation was evidently affected in the inferior extremities. His pulse was above 110, of natural strength, and there was no throbbing of the carotids. When I went to see him on Friday morning, after writing you, a great change had taken place. His pulse was above 120 and weak, not at all thready, but above the natural fulness and very soft and feeble, as if the artery were not half full of blood. His face was pale and contracted, his eyes dull and heavy, and he seldom opened them; his left leg was cold, as were his extremities. He had passed a restless night and had slept very little. At one o'clock he died."

Erichsen's comment may be quoted:—"It is impossible not to contemplate with admiration the man whose mind was the first to conceive, and whose hand was the first to carry out, the determination to apply a ligature to the abdominal aorta."

WILLIAM OSLER.

Oxford, June 24th, 1911.

7604. In English, on paper (watermarked 1814) : written in 1816 by Edward Osler : 6 ×

SIR WILLIAM OSLER, BART.

OXFORD

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Photograph inserted 1953 in 7534 ac Aug 30

The original letter I gave framed to Wills Library of Guy's Hospital 15.VIII.17

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Edward Osle
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Appointments.

Medical School Appointments

The following appointments and reappointmen[ts have] been made by the Treasurer upon the recomme[ndation] of a Staff Meeting :—

MEDICAL SCHOOL.

Medical Registrars.—Messrs. Rippmann and Hunt.

Surgical Registrar.—Mr. Bromley.

Obstetric Assistant.—Mr. Chapple.

Demonstrator of Operative Surgery.—Mr. Layt[on].

Demonstrators of Anatomy.—Messrs. R. Davies and J. G. Saner.

Demonstrators of Physiology.—Messrs. Kennaw[ay and] Ryffel.

Demonstrators of Chemistry.—Messrs. Ball and [...]man.

Demonstrator of Biology.—Mr. Reed.

Clinical Analyst to the Wards.—Mr. Ryffel.

Ophthalmic Assistants.—Messrs. Anderson and [...]

Anæsthetists.—Messrs. Shipway, Page, Davies and Townrow.

Anæsthetist to Bright Ward.—Mr. Layton.

Junior Assistant Bacteriologist.—Mr. Browning

~~*Resident Medical Officer in Bright Ward.*~~—[...] Dunderdale.

DENTAL SCHOOL.

Demonstrators of Practical Dentistry with Ch[...] Revision Classes.—Messrs. Malleson and Doubled[ay].

Demonstrators of Practical Dentistry with Ch[...] Probationary Classes.—Messrs. Edgar and Hodgs[on].

Demonstrator of Operative Dentistry.—Mr. Chap[ple].

Demonstrators of Prosthetic Dentistry.—Messrs. [...] and Tomes.

Demonstrators of Dental Microscopy.—Messrs. D[...] and Kennaway.

Curator of Dental Museum.—Mr. E. B. Dowset[t].

Military.

The undermentioned Captain, R.A.M. Corps, [...] Major, dated 4th June, 1911 :—Chas. R. Evans.

Captain H. C. Keats, I.M.S., has been appointe[d] Surgeon at Jullundur, Punjab.

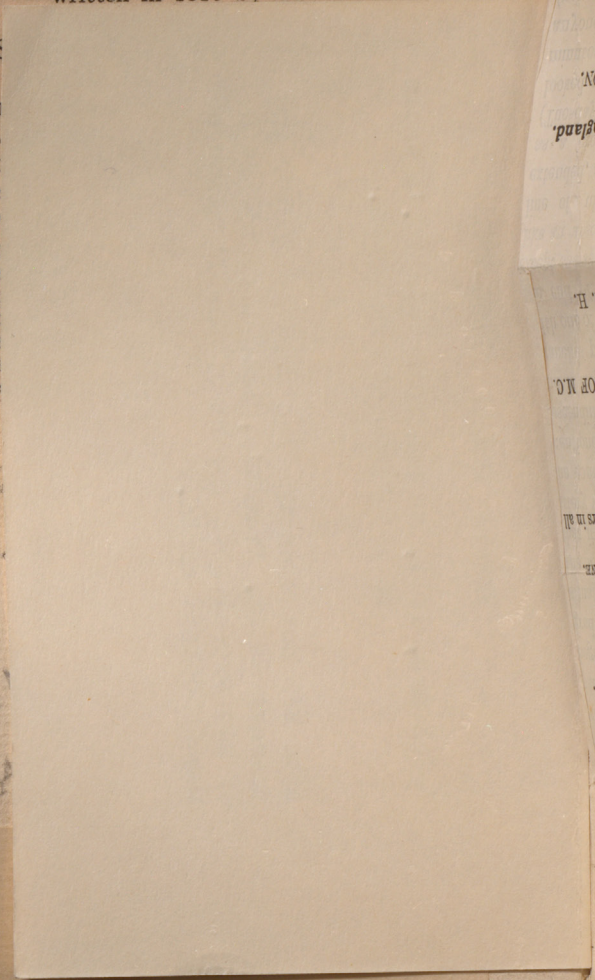
Civil.

C. F. Routh, M.D., B.S. Lond., D.P.H. Cam[b. has] been appointed Physician to the Portsmouth Ey[e and] Ear Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

R. Lawford Knaggs, M.D., F.R.C.S., has been e[lected] on the Court of Examiners in one of the vacancies [caused] by the retirement of Mr. C. T. Dent and Sir F. Ev[e].

7604. In English, on paper (watermarked 1814) ; written in 1816 by Edward Osler : 6 ×



SIR WILLIAM OSLER, BART.

OXFORD

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Demonstrators of Practical Dentistry with Charge of Probationary Classes.—Messrs. Edgar and Hodgson.

Demonstrator of Operative Dentistry.—Mr. Chapman.

Demonstrators of Prosthetic Dentistry.—Messrs. Charles and Tomes.

Demonstrators of Dental Microscopy.—Messrs. Dowsett and Kennaway.

Curator of Dental Museum.—Mr. E. B. Dowsett.

Military.

The undermentioned Captain, R.A.M. Corps, to be Major, dated 4th June, 1911 :—Chas. R. Evans.

Captain H. C. Keats, I.M.S., has been appointed Civil Surgeon at Jullundur, Punjab.

Civil.

C. F. Routh, M.D., B.S. Lond., D.P.H. Camb., has been appointed Physician to the Portsmouth Eye and Ear Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

R. Lawford Knaggs, M.D., F.R.C.S., has been elected on the Court of Examiners in one of the vacancies caused by the retirement of Mr. C. T. Dent and Sir F. Eve.

THIRD EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.

EASTER TERM, 1911.

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EXAMINATION FOR THE DEGREE OF M.C.

EASTER TERM, 1911.

Examined and approved.

Chapple, H. | Crook, A. H.

DEGREES CONFERRED.

M.B., B.C.—Bromley, L.
M.D.—Palmer, A. S. M.

Royal College of Surgeons of England.

FINAL FELLOWSHIP EXAMINATION.

Janmahomed, H. I.—M.D.

Royal College of Surgeons of Edinburgh.

Admitted to the Fellowship : E. B. Hinde.

Society of Apothecaries of London.

Medicine, Section I. : Edmeades, L. K.

1817 E. Osler

Surgery
by
B. Travers Esq

No 6
containing
Lectures 10th continued 11th & 13th

on
Wounds of arteries
Wounds of veins
Wounds of Nerves
Wounds of Absorbents

Wounds of Arteries continued

Looking at the quickness with which a ligature set up adhesive inflammation & considering it used for no other view, Mr Travers tried the removal of it after it had simply performed the task he thought its intention i.e. before suppuration ensued. This was done with the hope that the wound in the surrounding parts might heal by adhesion as well as the wound in the artery. He made many experiments with a view to shew that there is good hope that this is practicable. The experiments clearly shew that the ligature may be removed at a very early period & if the cyst be

them opened it will be found impervious. Finding that this succeeded on the carotid or femoral arteries of a horse he thought it might be done with safety on the human subject & the operations he has thus performed have been attended with success equal to his most sanguine hopes. He expects to see the day when it will be considered an improvement in surgery to remove the ligature before the ulcerative process is set up. He is satisfied it may be done with safety & the point to be ascertained is at what time it may safely be removed. When it an interval between the adhesive & ulcerative process & in this interval it must be removed. When the wound heals like a simple

incision there being no extraneous
body to cause the suppuration.
We found it would sufficient in
the carotid of a horse & in an
artery after amputation.
Section 11th

All the ligature has to do is to
excite Inflammation in the lining
of the artery & when it has excited
this Inflammation it has done all
we require of it. It is true it saves
the purpose of staying the blood
but after a few hours it no longer
serves that purpose for lymph is
thrown out in a short time & which
effectually accomplishes this object.
It has been already explained how
the ligature produces Inflammation on
the two principles of wound and
pressure - wound alone will do it
but not so certainly as to make
it applicable to practice. If we

continue pressure for a time more
or less on the wound & remove the
ligature long before the suppurative
process is set up we may rest assured
that the canal of the artery will be
as effectually obliterated as it would
be if the ligature were suffered to
remain till removed by ulceration.
Mr Travers applied a ligature to the
carotid of a horse for six hours &
in twenty four divided the artery above
it & no blood escaped. He applied a
ligature for twelve hours & immediately
divided the artery with the same
result. He made preparations the
result of these experiments. He divided
an artery to see if it would be
applicable to amputation, applied a
ligature to the cut end & removed
it in twelve hours. The effect was
just the same. He said if adhesion
would equally take place when the
blood was fluid & applied a ligature

on the femoral artery immediately below the Conjunctiva. He found it made no difference the fluidity of the blood not preventing adhesion. The coagulum prevents haemorrhage if adhesion has not taken place but is not necessary to adhesion.

The practice of compressing arteries has been followed much in France & other parts of the Continent. The compresser is nothing more than a pair of forceps calculated to embrace the vessel & by means of a screw to compress it. Mr Travers has applied this for 30 hours but not a particle of lymph was effused nor any thing approaching to obliteration. In another experiment he applied the instrument for 24 hours & allowed the animal to live 20. The artery was obstructed but not satisfactorily for the lymph

was mingled with the coagulum & the sloughing process had begun on the coats of the vessel where the compressor had been applied. Mr. T. then tried a parallel experiment. He put a common ligature on the carotid of a horse & a compressor on that of another. In 24 hours he removed both & allowed the animals to live 70 hours. The result was the ligature had satisfactorily produced all that it ever produces having the space of a coagulum some inches long. The compressor had produced a little flake of lymph & connected with it a small flake of coagulated blood not interrupting the process of circulation. It is but fair to say that the compressor applied for 12 hours & the animal suffered to live too it will obliterate the artery though even then unsatisfactorily. If the compressor is not a good instrument it is a

very objectionable one on account of its greater bulk, the injury done to surrounding parts, & the danger of ulceration from the decomposition which inevitably follows its use.

In the first experiments Mr Travers made with the ligature he was in the habit of following Dr Jones' plan of tying a slip of twine under the circular ligature & removing it by a second knot but the best way of tying it is with a loop by which it may be easily removed only cutting the direction of the loop.

Mr T. applied it in this way to the Brachial artery of a man & took it off in 50 hours. He might have done it in 12 but he wished to ascertain the efficacy of the practice to procure adhesion but in practice he would never think of keeping on a ligature on a continuous artery longer than 12 hours & should not

be deterred by finding the pulse restored in the aneurism because he is satisfied that the inflammation excited by the ligature will produce adhesion. The reason for removing the ligature early is to avoid the inconvenience of suppuration. This would probably be avoided in 24 hours but certainly in 12. With regard to the efficacy of the practice Mr S. has not the shadow of a doubt. He has for a long time applied this ligature to all the stumps at St Thomas' & has removed it at the first or second dressing in every case. As to shutting up the ligature in the wound it is a practice not to be endured for abscess will inevitably be produced. The non-disturbance of the vessel in tying it is of much importance. The best aneurismal needle is a small

bent probe & after opening the sheath we should not detach it from the artery to a greater extent than is necessary for the passage of the probe. There has been a question about dividing the artery when the ligature is applied to one that is continuous. Mr S never saw any good result from it or rather he never saw any evil result from the opposite practice. He believes one ligature as good as a hundred in securing an artery & that the retraction of the divided vessel is not in any way more favorable to the result of healing. There can be no retraction if we apply but one ligature because long before the ligature comes away, the vessel through cut by it is securely fastened by adhesive inflammation. If we apply two ligatures we must either have two wounds under the vessel or divide it & its sheath to a considerable

extent, we must have a larger external wound & have the risk & inconvenience of two ligatures in the place of one. The divided vessel will retract so much that a space is left for suppuration between the retracted ends. If suppuration should ensue from the residence of two ligatures 3/4 of an inch asunder there is danger of the pus getting under the angles of the wound & burrowing there as not to be easily evacuated for when there are two ligatures they hang out at the angles of the wound; when only one is employed we have it opposite the centre of the incision.

Wounds of Veins

It appears that more danger attends wounds of veins than has been commonly apprehended. It is long since practitioners knew that after bleeding the arm was sometimes attacked with Inflammation attended with very severe constitutional symptoms. Hunter was the first who investigated the subject & set it in its true light. It was formerly attributed to Lashing a bad habit of the patient, to the wound of an attendant nerve, or of the fascia of the arm. However it is justly plain it could not be the nerve nor the aponeurosis of the Biceps. as to bad habit of body we find the same person bled again & again in other veins yet not followed by any thing like Inflammation. again it was found that the cut which was followed by Inflammation of a vein might be made with

impunity in any or all the parts of the body. Such a cut inflicted with a much less clean instrument than a lancet rarely inflamed comparatively with the vein after bleeding. Then on examination it was found that the vein was inflamed & the consequences of the inflammation varied according to its degree & extent. Thus if the wound in the skin festered & often happened that a little suppuration took place but this was superficial & unconnected with the vein & soon removed. If however the lips of the vein had not united or being united, were again separated by the efforts of the patient &c it was found that abscess would take place in the vein & that its inner coat suppurated a peculiarity of venous tissue & this is the way in which the accident begins. If any adhesion takes place along the length of union between the sides of the vein it is obliterated & if suppuration take

place at the same time it is confined; if adhesion take place at a distance from the wound suppuration goes on as far as the adhesion & there stops but it may have adhesion & abscess alternately the whole course of the vein. It is necessary that there be adhesion if there is abscess & should there be no adhesion the pus flows with the blood to the heart & makes the tour of the circulation. In some cases there is a string of abscesses all the way up the vein. If therefore there is an abscess it is bounded by adhesion & when there is no adhesion it is not abscess but suppuration of the inner tunic of the vein. Hunter says that he has seldom or ever examined large veins of inflamed limbs when suppuration has taken place in the cellular substance. But he has found inflammation producing symptoms of suppuration in the vein as after compound fractures, amputations &

mortifications &c his observations are confirmed by Mr Wilson Lecturer on Anatomy at Windmill Street. Whether this be the consequence or the cause of the mischief is not known. The jugular vein of horses often inflames & bad consequences often follow. This is owing to the hare-lip suture farmers employ & which often dips into the vein though it never should do so. Veins of the largest size sometimes are obliterated by Inflammation. In the medical & chirurgical transactions Dr Baillie relates a case of obliterated vena cava found in the dissecting room. Another Surgeon has witnessed two similar instances in one of which ℥vi of pus were found with one adhesion below the Hepatic, the other above the Iliac veins. This patient died of Inflammation of the Uterus, 4 weeks after delivery. Sir E. Home formerly tied veins for Varices & the practice

was followed by Erysipelas. out of 4 or 5
cases 2 or 3 were fatal, severe symptoms
followed & the patients who died were
found to have inflammation of the
Saphena extending along the femoral
vein to the inner coats of the most
acute kind. Lately a ligature was
put on the femoral vein of a man
in Guys & the patient died in a few
days in an extraordinary manner. On
examination the vein was found inflamed
The symptoms were rigors followed by
heat & sweating with slight bleeding
from the wound in the vein which
though inflamed was not united.
The ligature was applied by pinching
up a small portion of the coats &
applying a ligature round them. On
examination the artery was healthy
& obstructed. The inner surface of the
vein was covered by lymph & the
Inflammation extended as high as
the bifurcation of the iliacs. Opposite
the wound the vein was obliterated
& above the obliteration was an opening

on the vein by which the bleeding took place. A short time since the femoral vein was included in the ligature after an amputation at St. Thomas' no danger being anticipated the man died in four days & the vein was found inflamed & coated with lapped lymph extending as high as the emulgent veins. This man symptoms were Typhoid. He was very well for two or three days when his pulse became quick & he was bled. a few hours afterwards he was attacked with delirium & 36 hours after died comatose. To shew that the practice of tying veins was not formerly denied it is denied by Astley & Bell. Astley says it is successful in a case of a wounded jugular. Indeed what cooler way can be done for a patient worst bleed to death as soon from the internal jugular as from the carotid artery. However it should never be used for varix. Mr Travers has

cured some of the worst cases of Varix he ever saw by compression but even this is attended with a high degree of Constitutional Irritation & severe local pain. His way of cure takes some time & it is evident the vein inflames becoming afterwards a mere shrunken cord. Hunter & after him Abernethy recommend the plan of procuring adhesion in suppuration of vein. Hunter mentions a case in which he arrested the progress of Inflammation by applying a compress & roller between the wound & the heart preventing the passage of matter into the circulation. Mr Travers does not know what harm the passage of matter would do in the circulation but this we know that veins are more susceptible of Inflammation than arteries & that Inflammation is of the worst kind. They throw out lymph of a honey comb shape & suppurate at the

same time. This is a mark of weak action & it is what we see in the head. There are differences of texture in the inner coats of veins & arteries. We never see grey matter deposited in the coats of veins which are chiefly composed of cellular substance. The venous system is a large area & every vein communicates with the whole. Perhaps it is the admission of air into the wounded vein which occasions the mischief.

Lecture 17th

Wounds of Nerves

There are but few ascertained examples of wounds of nerves but from what we particularly know on the subject they are not attended with any considerable consequences local or constitutional.

I say particularly because there is much theory afloat on the subject & professional men are undecided whether the particular sensual impressions following injuries are not referable to Inflammation of the injured nerves. The Polish General Kosciusko had his sciatic nerve divided which was only followed by permanent lameness & we have instances of the division of nerves in various parts of the body & no further consequence has ensued than paralysis of the parts those nerves supplied. In many instances too the functions of those parts were only suspended as some think from the re-union of the nervous substance or according to others by principles similar to Anastomosis in the nerves. Formerly the inflamed

arm from bleeding was ascribed by many to a puncture of the cutaneous nerves of the arm & indeed this was the generally received opinion. Monro Sen^r, Pott & others thought that & the division of the nerve was proposed as a remedy. The peculiar effects which follow punctured or lacerated wounds of aponeurotic & tendinous structures have been explained by a wound or injury done to the nerve of the part & though this is not easy of proof, it is not easy of confutation. I doubt if tetanus could be produced by an injury of a part void of volition & sensation. The wound giving rise to this formidable disease is generally slight, often deep but generally very small & it commonly goes on well for several days. It is probably a week or ten days before the system is affected with muscular

irritability. It is remarkable that in those cases there is no swelling of the wound of the limb, the gland the absorbents or their glands. When the constitutional symptoms appear unpreceded by other symptoms they are those of pure nervous affection. The first ill omen is the bad appearance of the wound & a serious discharge from it which may lead to this opinion. But it may be said the nerves cannot be discovered to be inflamed. Now we cannot discover this from their texture. However some Physiologists have affirmed that they have seen Inflammation in the medulla or covering of the nerves. Then it might be supposed that the nerve supplying the extremity of the finger or distributed on the aponeurosis of the hand or foot would be so minute that it is impossible the irritation of such a fibril should occasion such disorder; but this is

not a solid objection for the injury must take place in a part superficially seated & deficient of organized power & a fibril of a nerve being injured may be supposed to set up a train of nervous actions as well as a cord made up of many fibres & all the phenomena with which the nervous system is allied to Electricity lead us to expect it. I have seen a fatal case of Tetanus result from including a branch of the anterior Crural nerve in a ligature & a man died of the same disease in St Thomas' after tying the Spermatic cord which was by some attributed to including the nerve, by others to the Vas Deferens. Tic Doloureux can hardly be considered Inflammation & therefore the analogy is inapplicable for this is a disease of paroxysms, has often no certain intervals of quiescence never goes into permanent spasm & its spasm is confined to the muscles

supplied by the affected nerve. It is therefore a morbid irritability of the nerve rather than Inflammation; acute Sciatica much more rapidly assumes the Inflammation but as this is a disease that never kills, we have no opportunities of inspection. Irritation of a nerve excites a delusive sense of injury to the part beyond it. Thus the characteristic symptom of the hip disease is pain in the knee & after the division of the nerves in amputation the patient is troubled with a sensation of tingling in his foot. After irritation of the cutaneous nerves pain has been found to affect the fore part of the arm & a common instance is the sensation produced by pressure on the ulnar & sciatic nerves in the fingers & foot. There are cases mentioned by Pott, where he said to have supervened in injuries some days after their infliction attended with much pain & set down for cases of Inflamed

nerve. Abernethy is of the same opinion. Pott recommends dividing the nerve when those severe symptoms follow bleeding & such dread had Benj. Bell of this disease that he advises a transverse incision down to the bone to be certain of dividing the nerve which we know must be situated above the fascia. If we could satisfactorily make out that any serious consequence had ensued from a wound or injury of a nerve the best practice would be to cut down upon that nerve & divide it at a short distance above the injured part.

Wounds of Absorbents

There is much obscurity in the last subject but with regard to this & the Inflammation from irritating the absorbents, there is perhaps no circumstance more frequently met with & more obvious for almost all forms of injury tend to produce it. Wounds whether incised, contused lacerated or punctured, bites, stings of insects,

every thing of this description will give rise to inflamed absorbents & even irritation of the wound cuticle will produce it. Thus a tight shoe which does not even abrade the cutis will in an irritable person often produce a tenderness in the groin for the gland is always affected before the absorbent is inflamed. A corn on the foot or a close cut of nail on the finger will do the same. A broken shin will often occasion a sympathetic bubo; boils or caruncles which are generally very painful in irritable habits often inflame the neighbouring absorbents & the injuries happening to the fingers & toes in the form of wounds are often followed by the same effects. The absorbents are sometimes inflamed without pain while the glands are enlarged. This shows that it is not entirely referable to irritability of constitution but the irritability of the patient will discover it in one case sooner than another. However the

punctured wounds are more frequently followed by inflamed absorbents than any others. wounds which have been called poisoned certainly have the effect of rapidly producing inflammation of the absorbents & their glands & are followed by a fever of the typhoid type which is frequently & rapidly fatal. It is indeed a mixed fever being sthenic at the commencement but soon becomes typhoid. With respect to the appearance of the inflamed absorbents themselves any one who has once seen it can never again be mistaken. The red lines are surrounded with inflamed & swollen cellular membrane & have a nodulous or knotted appearance. Pressure is intolerable & even the slightest touch is exquisitely painful. It is remarkable that those wounds which produce Tetanic affections very rarely inflame the absorbents. When a Tetanic abscess produces inflamed absorbents opening it will cause the inflammation to subside. Much has been said respecting wounds of the absorbents producing

ill effects from the extravasation of
lymph preventing healing & injuring
the system by its loss but there is
no substantial reason for believing
that the system does suffer or that
the healing process is interrupted. In
poison wounds the absorbents become
inflamed like hard cords as is seen
in venereal cases & in cancer of the
testicle or breast, they are seen forming
hard cords running to the neighboring
glands. The absorbents about the face
& jaws are similarly affected in malig-
-nant diseases of the face ~~& jaws~~. From
the idea that poison was the cause
of these injuries practitioners thought it
right some years ago to accommodate a
stimulant treatment to obviate the
ill effects of the debilitating matter intro-
-duced into the system & the fever
being of the typhoid kind give counte-
-nance to this opinion but these
effects have been found to follow
wounds made by clean instruments
& other modes of irritation which are

perfectly simple & the stimulating
treatment has in many cases evidently
aggravated if not created the disease.
It is not yet determined if the wounds
to which Students are so liable in
dissection produce their ill effects from
a poison inoculated into the system or
merely from the nature of the wound
inflicted. When a person breathes a
bad air the system is predisposed
as is the case of a person immersed
in the pursuits of his profession during
his education & this predisposition
is supposed to account for all the
ill effects but I do not think the
case will made out. I have seen the
ill effects anticipated again & again
by the application of caustic or acids
to the wound immediately after its
infliction. I do not pretend to say
that simple wounds or irritations
with clean instruments will not produce
symptoms but the more severe cases are
produced by wounds (even cut wounds)
inflicted by instruments imbued with

matter noxious to the system. This is seen in the nurses who wash foul linen & in dissecting students & in those cases the disease is unusually rapid and severe. I therefore do not attribute it to the form of the wound nor to the part injured but rather think there is some specific ~~Inflammation~~ irritation to account for it.

E. Oke

Surgery

by

Astley Cooper

delivered at the Theatre St Thomas' Hospital
in the Course commencing October 3d 1816

No 1 – 4 lectures

1816

on

Surgery in General
Irritation &
Inflammation

Surgery consists in the application of remedies to diseases appearing externally & in the performance of operations. There are three sources from which a knowledge of Surgery is derived first by rules laid down by Surgeons for the practice of the profession derived from observations of disease in the living Second from examination of those diseases in the dead & Third from experiments on living animals. By the first we learn the history of the disease, by the second its effects on the body & by the third the steps which Nature takes to restore parts affected by disease. Surgery is divided into Principles & Practice. The first comprises a knowledge of the disease which is necessary first to be known for after the Principles are known their application in practice is easy. Few data are requisite in Surgery. Thus in the case of wound it is of no consequence where it is received, the treatment is the same. The cure goes on in the same manner in three Stages Hemorrhage, Adhesion & ~~Inflam~~ Granulation. The first thing to be done is to stop the hemorrhage then to clear the wound & approximate its edges. The Vasa Vasorum now pour out a fluid which glues the edges together, lastly granulations shoot up & the wound is healed. The Surgeon should guard against speculative opinions & speculations but should use systematic theory: the one makes a talking the other a practical Surgeon. The Practice of Surgery consists in the application of remedies & requires readiness & readiness for every one can judge of those who cannot form an opinion of the abilities of a Surgeon. When an operation is necessary do not be precipitate in telling your patient so. Leave it rather to him to request it to be performed & do not as it were drag him on the operating table. There is one exception to this Hernia which requires promptitude & quick decision for the loss of a few hours is there irrecoverable. Never recommend any operation which you would not submit to were you

in the same situation, never press him to undergo any risk which under the same circumstances you would not run. In operating think first of the patient's health. If an ulcer is sloughy so will be the stump; if the patient has an affection of the lungs an operation would only more quickly destroy him. Debility rather assists the patient than otherwise but it must be distinguished from disease. An operator requires a steady hand, a quick eye & great self possession the last is generally the result of knowledge. Operate as quickly as possible compatible with safety yet never hurry an operation. Tute celeriter was the motto of Surgery. Sat cito si sat bene should rather be applied. Gentleness is indispensible to the Surgeon. The studies necessary are Anatomy which enables us to discriminate as well as to operate. The bones the muscles connected with bloodvessels & the abdominal muscles connected with Hernia are necessary to be known more particularly. The arteries should be as well known as the Alphabet. The eye is also an important part as are the male organs of generation. attention to Medicine & Physiology is required for all the sciences in Medicine are so intimately connected that it is impossible entirely to separate them.

Edw E. E.

Page 3d * When Inflammation runs high discharges are arrested. Where swelled testicle follows suppressed Gonorrhea, is it not that neglect or improper treatment has increased the Inflammation to such a degree that while it suppresses the discharge it ~~&~~ extends to the testicle? E. J.

Edw

Irritation Lect 2^d

is an action excited on the body by the application of any unnatural stimulus. When injuries happen to the body their influence is extended to parts at a distance depending on the degree of that injury. This is owing to the action of the nerves which communicate with each other & it often happens that the most violent pain is felt at a place distant from the diseased part. Thus an injury of the head will produce sickness in the stomach; a stone in the bladder causes pain at the extremity of the Penis rarely extending above an inch into the urethra; a diseased testicle occasions pain in the loins & a diseased liver in the shoulder: In diseased hip-joint the principal pain is felt in the knee. But it is not merely uneasiness that is always the effect, real disease is sometimes occasioned by this sympathy. Thus a checked Gonorrhea will often occasion a swelled testicle.* It often too happens that after amputation of the inferior extremity or even after a compound fracture the patient is attacked with Retention of urine to such a degree as to render the catheter necessary. X Irritations are either local or constitutional for the constitution is not always affected by the irritation of parts. Thus a carious tooth will occasion violent pain, Inflammation & suppuration of the gum &c without affecting the Constitution generally. This may be termed Local Irritation. Constitutional Irritation is where the whole body is affected by the injury of a part. Thus it often happens that on withdrawing a bougie the patient is seized with a sudden faintness & even with rigors. A blow on the stomach will sometimes occasion death even in some cases where the blow has been slight probably by a sympathetic effect on the organs of Respiration more particularly the diaphragm. The usual symptoms of Irritation (which is in fact a sympathetic Fever) are first an affection of the nervous system showing itself

by a pain in the loins extending to the back & head. The Alimentary canal is the next part which suffers the tongue is dry & furred either white, yellow, brown or black according to the degree of irritation, the stomach is affected with nausea or vomiting, the appetite is lost, the bowels costive, the liver secretes less bile, the urine is small in quantity, high colored & deposits much sediment, the skin is dry & parched & there is much thirst. If the irritation be great, the breathing becomes difficult the pulse (which in slighter cases is full & quick) becomes hard, irregular & intermitting: delirium now comes on with subsultus tendinum & death. Such are the symptoms of irritation of the constitution from local injury which vary in number & violence according to the degree of lesion. It is in fact an effort of nature to repair the injury she has suffered from the accident. She begins by shutting up all the pores & diminishes all the secretions. Having thus confined the blood in the heart & arteries, the next step is to direct it to repair the injury. Hence arise all the symptoms the degree of which depends on four circumstances; first according to to importance of the part injured. Where the vital parts are wounded as for instance the stomach or bowels, nature seems to shrink from the office of repairing them & sinks without a struggle. In these cases the pulse is often not to be felt at the wrist twelve hours before death. Secondly On the difficulty which exists in restoring injuries of parts not vital. Thus the slightest wound of a tendon will often cause tetanus & death. Thirdly on age. An Infant will scarcely bear the least injury; a child above two years old will sustain accidents & operations with little comparative danger; robust persons between 30 & 50 are the most subjects for either accidents or operations while those between 60 & 70 of a spare habit of body will bear both perhaps as well as at any age

provided the general health is good. Thirdly it depends on the difference of Constitutional Irritability in different persons. It not unfrequently happens that persons die of the irritation arising from the simple operation of bleeding while others suffer the most terrible accidents without any bad consequences. A man a Brewers servant came into Guy's Hospital with a compound fracture of the elbow. The probe could be introduced at the posterior part of the joint, passed through the articulation & turned round the artery. The man refused to submit to amputation & recovered almost without pain or irritation of any sort. Hence it occasionally happens that we lose a patient from a disease or injury from which we have seen numbers recover. It will in general be wrong to attempt to check the Constitutional Irritation since it is an effort of nature to restore diseased parts but it will sometimes happen that it runs so high as to be dangerous. In this case we are cautiously to diminish it. Our objects in this case are to relieve the secretions in the bowels by purges, in the bladder by diluents & on the skin by Antimonials; to diminish the irritability by opium & saline Medicines & where the irritability is extreme to bleed.

The symptoms of Inflammation are redness, tension or swelling, increased sensibility & increased heat. The redness is occasioned by the red particles being forced into those vessels which ordinally convey only serum. Those bodies which cannot be injected in a healthy state receive the injection easily when inflamed. The tension arises from the dilatation of the vessels & from effusion of coagulated albumen & serum into the cellular membrane. The pain is the result of the great determination of blood to the part stretching the extremities of the nerves & giving them increased sensibility. It has been doubted whether there really be increased heat in Inflammation. Mr. Thos Hunter having ascertained the temperature of the Vagina of an Ass injected it with a solution of Oxymuriate of Mercury & found that the inflammation produced was not attended with increased heat. The same effect was produced on injecting the Rectum of a Dog with a similar solution. Our feelings however lead us to believe that there is an increase of temperature & some experiments which have been made on this subject differ in the result from Mr J. Hunters. A blister being applied to the thigh raised the temperature of the part inflamed by its action in one case 90 & in another 4° above the other. Hence it would appear that there is real heat produced by Inflammation which effects the thermometer. The effects of Inflammation are four Adhesion, Suppuration, Absorption & Gangrene. Inflammation is either healthy or unhealthy. Healthy Inflammation is not of itself a disease but a process by which nature produces restoration. Without Adhesive Inflammation every wound must prove mortal since we could never arrest a hemorrhage

or cure a wound. It is by the suppurative process that extraneous bodies are thrown out of the system. By the ulcerative process parts no longer useful are separated & thrown off. This is generally attended with suppuration but not necessarily. Gangrene destroys the parts which are afterwards thrown off by ulceration. When the stimulus of the disease runs so high as to destroy any part its vessels lose their vitality, the blood coagulates in them & nature immediately begins the work of separation. Hence all these processes are in themselves useful & are only mischievous in diseased constitutions. Unhealthy Inflammation is that which is generated spontaneously from a diseased constitution & here medical surgery is required for topical applications are seldom of much service in Constitutional disease. Inflammation is often ~~the result~~ of a specific & peculiar character the result of constitutional disorder or the application of poisons. Thus though Gout has the symptoms of Inflammation i.e. redness, tension, pain & heat, its secretion is different being pus in healthy Inflammation & Urate of Soda in Gout Concretions on the joints. Herpes is another specific Inflammation. It allows the vessels to shoot into it without checking them & it is consequently weak, spongy having cells filled with serum, it often bleeds & if it suppurates forms a pus like putrid brain. It is also liable to be propagated by the absorbents & to affect several parts at the same time. Cancer, Scrophula & Syphilis also differ in many respects from healthy inflammation. These specific diseases are most difficult of cure since they for the most part

require specific remedies & even these are often unsuccessful & invariably fail in cancer. Among the specific Inflammations occasioned by particular poisons are Syphilis, Small Pox, Measles &c all of which are different from every other disease & require a specific treatment. Inflammation is of two kinds Acute & Chronic the first where it goes on rapidly requiring depletion, the second where the acute is gone & the parts are debilitated in consequence requiring Stimulus. We cannot have a better example of this than in Gonorrhea which at first requires antiphlogistic means, & when the acute Inflammation is subsided, stimulants as Copaiba & Stimulating Injections. The predisposing cause of Inflammation is irritability. When a body is irritable it is liable to be inflamed from very slight causes. Thus after being salivated, an operation of any consequence would probably destroy the patient. A girl had a tumor in her breast. She was put under a course of Mercury which failing, her breast was removed. The inflammation ran so high as to destroy her. When a person has been weakened by fever, slight stimuli will often bring on sphacelus. Blisters applied in measles sometimes occasion gangrene in the parts to which they are applied. Parts which are distant from the heart are more irritable than those which are near. Thus we frequently see ulcers on the legs but rarely on the arms or thighs. In Hydrocele where much irritability exists the injection will occasion violent inflammation & suppuration. The cause then of inflammation is whatever throws the body into an unnatural state. Thus when frozen parts are suddenly thawed they inflame & often sphacelate. Checked perspiration

will often occasion inflammation of some organ which is more irritable than others. Concerning the Proximate cause a variety of opinions have been given. According to the Humoral Pathology it was a thickened state of the blood. But the blood is thinner in Inflammation. Cullen said it was a spasm in the extremities of the vessels. Others that there is an increased action of the vessels of the inflamed part but the reverse is the case. Others again attribute it to weakness but this debility is not the cause but the effect. Inflammation then is when the red particles enter the vessels which had only conveyed serum & this may be proved by ocular demonstration. If on the web of a frogs foot we drop nitrous acid, inflammation takes place & we see the red particles entering the vessels where there were none before & the vessels grow under the eye. The same effect is evident in Ophthalmia. The dilatation is occasioned by the force of the blood upon the vessels the action being at a distance. In short Inflammation is a disposition to dilate in the part itself & an increased action in the parts around it. When nature wants to remove any irritating body she begins by sending large quantities of blood to the part as an extraneous body is washed from the eye by a suffusion of tears. An enlargement takes place in the arteries of the affected part. Thus if we prick a finger affected with Felon the pulsation in the arteries of that finger is far more distinct than those of the others. We may readily prove that the large arteries of an inflamed part are enlarged by exciting

inflammation in the leg of a dog, killing it by injecting the arteries on both sides from the aorta. The arteries of the inflamed limb will be found enlarged.

Lect 4th

The treatment of Inflammation will be either constitutional or local or in some cases both. One of the most effectual means of lessening Inflammation constitutionally is bleeding which is necessary when any of the vital organs are affected. Bleeding operates in two ways first in diminishing the momentum of the blood & secondly by lessening the nervous power. When we have recourse to bleeding in this disease we should abstract it quickly from a large orifice for the quicker it is drawn the greater is its effect on Inflammation. The only objection to this practice is that in very bad constitutions large orifices in veins are healed with difficulty & even the vein itself occasionally inflames. This however occurs so rarely that it is neglected by all Surgeons. The quantity of blood to be abstracted depends on the state of the patients constitution for some will bear the loss of a large quantity much better than others will that of a comparatively small one. We may make the loss of blood act at once topically & constitutionally which is particularly advantageous in Inflammation of any important organ as for instance in Injuries of the head by abstracting blood from the Jugular vein or Temporal artery we act particularly on the affected organ & generally on the constitution. When we are to repeat bloodletting we judge of it propriety from the state of the pulse & the appearance of the blood. The most unequivocal symptom is hardness of the pulse yet this is not an invariable rule for in Inflammation of any of the abdominal viscera the pulse is frequent & small yet bleeding is required which makes it harder, increases its strength & diminishes its quickness. A pulse above 120 generally forbids bleeding as a quick pulse in general is the effect of weakness. Sixty

appearance of the blood also to which much attention is often paid is not so much the result of Inflammation as of quickness of pulse: but when the blood is cupped & the pulse continues hard we may repeat bleeding with safety & advantage. A spasmodic pain of the pulse is not so much the result of Inflammation as of irritation. Bleeding therefore in this case is useless & Opium has the best effect. When we wish to excite fainting as in strangulated Hernia, bleed quickly in an erect position but if the patient be liable to faint & such an effect be not desired, a recumbent posture is the most proper.

The second mode of relieving Inflammation Constitutionally is by acting on the secretions from the bowels, skin & kidneys which are all more or less diminished in inflammation & the restoration of which will very much tend to diminish it. The means of doing this on the bowels are by purges which not only remove from them the load which oppresses them & has been thereby a source of irritation but also restore the secretion by stimulating the alimentary canal & for this reason irritating purges are best. The best purgative for children is Calomel especially if given at night with some saline purgative in the morning. The second Secretion the restoration of which will generally have great effect in the cure of Inflammation is the Perspiration. This is always stopped when the Inflammation runs high & it is extremely useful to restore it. This may be effected by the hot bath either topically or generally; Antimonials liquor Ammon. Acet., Pulv Ipecac. &c. or by diluent drinks taken in a warm state the patient being afterwards kept warm. Perspiration acts by evacuation & by deriving the blood to the surface of the body. The secretion from the kidneys is of less importance.

Squills & diluent drinks will be found most efficacious in restoring it when it shall be judged necessary. Another way of relieving active Inflammation is by exciting nausea which never fails to lower the pulse. Antimonials in this manner act with a very good effect especially in Cynanche Trachealis.

Chronic Inflammation requires a different treatment. Here we must act more gradually & be satisfied with producing such a State of alteration in the system as may ultimately lead to advantage. This Inflammation lasts a long time & the Medicines the most useful here are Alteratives i.e. those which act gently on the bowels & skin. Hence the use of Plummers Pill continued for some time which being composed of Calomel, Antimony & Guaiacum answers both these intentions. The Pilula Hydrargyri is also useful for the same reason. In some cases The Decoction of Sarsaparilla will be found a useful auxiliary to these by diminishing irritability & tending to the skin. In those affections of the Mesenteric glands & even in Ascites following such an affection the Hydrargyrus in doses of 1/16 to 1/8 of a grain twice a day will often be found extremely useful. Given in Decoct. Cinchonae though the mixture is rather unchemical it has often the best effects. In Ophthalmia it will be often found of extreme utility. A girl who had already lost one eye by chronic Ophthalmia was admitted into Guys Hospital for a similar affection of the other. After a variety of remedies had been used without effect she was on the point of being dismissed incurable when the Hydrargyrus was tried which in a short time effected a complete cure.

The local treatment of acute Inflammation consists first in the application of cold which operates in two ways by the abstraction of heat which diminishes nervous energy & by occasioning contraction of the vessels which had been unnaturally dilated. The cold should not be too severe. The application of ice for instance except in cases of incarcerated hernia would increase the irritability of the part & aggravate the disease. The best mode of abstracting heat is by evaporating lotions. Spirits of Wine & Water forms an excellent application of this sort. Saturnine Lotions also are extremely useful. They should be applied by laying rags wetted with them to the inflamed part which should be exposed to the action of the air that evaporation may go on freely. The best proportion for the Spirit wash is Rx Spt. vini ℥ss aquæ ℥v ft lotio. — These are beneficial from their evaporation carrying off a great quantity of the superabundant caloric from the inflamed part & not generally from any specific action or virtues which they may possess. The more simple in general these applications are, the better since they all act by diminishing the nervous energy of the part & by lessening the diameter of the vessels.