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Prognosis.—Varies in different cases. Usually the cure is tedious; it may nevertheless be considered a very curable disease.
Diseases.—The post-mortem appearances depend on the intensity and duration of the attack.
Treatments.—Resection, amputation, suppuration, effusion of lymph; inflammation, caries or necrosis of the subjacent bone; conversion of the membrane into cartilage or bone.
Treatment.—The remedies are divided into general and local. Both are modified by the circumstances of the case.

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PROFESSOR MÜTTER'S

SYLLABUS OF LECTURES.

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PART II.  
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III. DISEASES OF THE FIBROUS SYSTEM.

Some of the affections of this system have been included under the diseases of the joints; for example, Desmodia, and Desmectasis: others belong more particularly to the practice of medicine than to surgery, as rheumatism, &c. The diseases usually considered as strictly surgical are—

I. PERIOSTITIS.

Definition.

Varieties.—1. Acute. 2. Chronic.

Causes.—1. Local. 2. Constitutional.

First, or local:

- a. Contusions.
- b. Punctures.
- c. Incisions.
- d. Extension of inflammation from diseased organs in the vicinity.

Second, or constitutional:

- a. Syphilis.
- b. Excessive use of mercury.
- c. Scrofula.
- d. Cold.

Symptoms.—1. Local. 2. Constitutional.

Diagnosis.—May be confounded with ostitis, caries, necrosis, rheumatism, or gout.

Prognosis.—Varies in different cases. Usually the cure is tedious; it may nevertheless be considered a very curable disease.

Dissection.—The post-mortem appearances depend on the intensity and duration of the attack.

Terminations.—Resolution, suppuration, effusion of lymph; inflammation, caries or necrosis of the subjacent bone; conversion of the membrane into cartilage or bone.

Treatment.—The remedies are divided into *general* and *local*. Both are modified by the circumstances of the case.

First, or general.

1. Bloodletting.
2. Active purgation.
3. Low diet.
4. Mercurials.
5. Preparations of iodine, especially the iodide of potassium.
6. Decoctions of the woods.

Second, or local.

1. Leeches.
2. Free incisions.
3. Poultices and fomentations.
4. Blisters.
5. Iodine, or mercurial frictions.
6. Wool and oil-silk dressing.

II. PARONYCHIA, OR WHITLOW.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Terminations.

Treatment.

III. TYROMA.

Definition.

Varieties.—Partial or general.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Terminations.

Treatment.

IV. CHONDROMA.

Definition.

Varieties.—Partial or general.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Terminations.

Treatment.

V. OSSIFICATION OF THE PERIOSTEUM.

Varieties.—Partial or general.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

VI. MALIGNANT DISEASES OF THE PERIOSTEUM.

Like all other organized tissues, the periosteum is liable to be attacked by the various diseases termed *malignant*, the characteristics of which have already been or will be described under other heads.

VII. WOUNDS OF FASCIA OR APONEUROSIS.

Varieties of wounds.

Symptoms.

Diagnosis.

Prognosis.

Terminations.—Inflammation, sloughing, suppuration, adhesions, contractions.

Treatment.

VIII. CONTRACTION OF FASCIA.

The numerous fasciæ and aponeuroses in different parts of the body, are all liable to undergo a *chronic thickening* and *contraction*, from which results a variety of deformities, many of them very difficult to relieve, and others entirely incurable. Ghidella and Froriep were among the first to describe these affections with any thing like method or correctness, although the disease was long since spoken of by the ancients, as "*crispatura tendinum!*" Sir A. Cooper, Dupuytren, Goyraud, and most of the recent authorities in orthopedic surgery, have likewise carefully and correctly explained the nature of the defect, and also the most approved methods of treatment. We shall describe briefly the most important of the deformities resulting from this cause.

I. CONTRACTION OF THE FASCIA PALMARIS.

Anatomy of the fascia of the palm of the hand.

Deformity produced by the contraction of the fascia, or fibrous cords attached to its inferior margin.—(Dupuytren and Goyraud.)

Fingers usually involved.

Causes of the contraction.—1. Congenital. 2. Acquired: and according to Dupuytren, the defect is occasionally *hereditary*.

Diagnosis.—May be confounded with retraction of the fingers dependent on other causes; as contraction of the flexor tendons, cicatrices, &c.

Prognosis.—By no means in every case favourable. It is, however, often susceptible of relief.

Effects on the adjacent muscles, tendons, and ligaments.

Treatment.—Three modes of treatment. 1. Mechanical extension. 2. Frictions. 3. Subcutaneous section, followed by mechanical extension. The merits of these methods discussed.

II. CONTRACTION OF THE FASCIA CUBITI.

Anatomy of the part.

Deformity produced by the contraction of the fascia.

Causes.—1. Congenital. 2. Acquired.

Diagnosis.—May be confounded with contraction of the tendons of the biceps and brachialis internus muscles, and inflammation of the joint.

Prognosis.

Effects on the other constituents of the articulation.

Treatment.—The same general methods are applicable here, that are employed in the other fascial contractions.

III. CONTRACTION OF THE FASCIA PLANTARIS.

Anatomy of the sole of the foot.

Deformity produced by the contraction of the fascia.

Causes.—1. Congenital. 2. Acquired.

Diagnosis.—May be mistaken for common talipes equinus.

Prognosis.

Effects on the tarsal and metatarsal articulations.

Treatment.—The same general methods that are required in contraction of the other fascia.

IV. CONTRACTION OF THE FASCIA LATA AT THE KNEE.

Anatomy of the joint.

Deformity produced by the contraction of the fascia.

Causes.—1. Congenital. 2. Acquired.

Diagnosis.—May be confounded with contractions of the tendons and muscles, and also inflammation of the joint.

Prognosis.

Effects on the articulation.

Treatment.—The same general methods hold good here.

IV. DISEASES OF THE BURSÆ MUCOSÆ.

I. WOUNDS OF THE BURSÆ.

Varieties.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

II. INFLAMMATION OF THE BURSÆ.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

III. ABSCESS OF THE BURSAE.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

IV. HYDROPS BURSAE.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

V. CARTILAGINOUS FORMATIONS IN THE BURSAE.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

VI. GANGLION.

Definition.—Encysted tumor formed in the course of a tendon or its fibrous sheath.

Symptoms.

Causes.

Pathology.

Joints most liable.

Diagnosis

Prognosis.

Treatment.

1. Stimulating friction and blisters ; 2. Compression ; 3. Seton ; 4. Puncture followed by compression ; 5. Rupture of cyst ; 6. Acupuncture ; 7. Extirpation.

VII. BUNYON.

Definition.—An inflammation with thickening of the bursa mucosa, on the inside of the great toe.

Causes.

Symptoms.

Prognosis.

Diagnosis.—Dislocation from Gout and Rheumatism.

Treatment.—When *acutely* inflamed, leech, and apply cold or warm poultices, and elevate the foot ; when *chronic* inflammation takes place, blister and use iodine locally, and avoid pressure on the foot ; when *suppuration* takes place, let out the pus, and apply a poultice.

When the bursa becomes very troublesome it may be dissected out. (See Brodie.)

VIII. HOUSEMAID'S KNEE.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

V. DISEASES OF THE TENDONS.

I. WOUNDS OF TENDONS.

*Varieties.**Causes.**Symptoms.**Diagnosis.**Prognosis.*

Mode of reparation.—Depends upon the nature of the wound. In wounds exposing the tendon to the air, the process differs essentially from that which takes place when the tendon is not exposed. The degree of separation of the divided extremities also modifies the process.—(See Velpeau, Ammon, and Bouvier.)

Treatment.—1. Simple position and apparatus. 2. The suture, aided by bandages and position. 3. Antiphlogistic system. The apparatus or dressing must be modified to suit each particular case.

II. INFLAMMATION OF TENDONS.

Varieties.—Simple, rheumatic, or gouty ; acute, or chronic.

*Causes.**Symptoms.**Diagnosis.**Prognosis.**Treatment.*

III. OSSIFICATION OF TENDONS.

*Causes.**Persons most liable.**Symptoms.**Diagnosis.**Prognosis.**Treatment.*

IV. TUMOURS OF TENDONS.

See chapter on "Tumours."

VI. INJURIES AND DISEASES OF THE VOLUNTARY MUSCLES AND THEIR TENDONS.

I. WOUNDS AND RUPTURE OF MUSCLES.

*Varieties.**Causes.**Symptoms.**Diagnosis.**Prognosis.*

Mode of reparation.—This process is modified by the exposure or non-exposure of the injured muscle to the action of the air.

Treatment.—1. Rest, proper position, and apparatus. 2. Suture, or straps and bandages 3. Antiphlogistics.

II. MYOSITIS OR INFLAMMATION.

Varieties.—Simple, rheumatic, or gouty; acute or chronic.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Terminations.—Palsy; irregular spasm; suppuration, (Myositis purulenta;) softening, (Myositis emolliens;) hypertrophy; atrophy; hardening; and ossification.

Treatment.

III. SUPPURATION IN MUSCLE.

The symptoms indicative of suppuration in this tissue resemble those already described under the general head "Suppuration," and the treatment is precisely the same as that proper in cases of suppuration elsewhere. The most striking peculiarity of this action here, is the circumstance of the entire muscle often disappearing, as in psoas abscess.

IV. SOFTENING.

This condition of the muscle may result from *defective nutrition*, as stated by Laennec; and also from *inflammation* as Bouillaud has clearly shown. The muscle becomes pale, flabby, friable, and easily torn. There is no remedy for the difficulty.

V. STEATOSIS, OR FATTY DEGENERATION.

This degeneration is exceedingly uncommon, but cases are reported by Vicq. d'Azyr and others, in which the muscles were reduced to all the physical properties of fat.

VI. OSSIFICATION.

This is seen in old persons, and also in certain forms of exostosis. It may exist as the result of inflammation.

VII. HYPERTROPHY.

This condition of the voluntary muscles is rare, but it occasionally occurs from *inflammation*, or *excessive nutrition*. It is also sometimes congenital.

VIII. ATROPHY.

This is a very important lesion of the muscles, and gives rise to many diseases. It presents itself under several forms. We have—

1. *Simple atrophy*—the result of long disuse, palsy, or defective nutrition.
2. *Rigid atrophy*. The muscle is here shortened, rigid, inextensible, and lighter coloured than natural. The diseases produced by this variety are club-foot, some forms of wry neck, contracted limbs, stiff jaw, &c. It generally results from spasmodic affections, or from the muscles being confined for some time to one position.

3d. *Atrophy, with absorption of the muscular tissue.* This is usually the result of exposure to cold for a length of time.

The affections resulting from *simple atrophy* may occasionally be relieved by *removing the cause*, and resorting to measures calculated to *restore tone and vigour to the muscles*. The most common deformities produced by it are

I. PARALYSIS OF ONE LEG OR OF BOTH.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment. 1. Constitutional remedies.

- a. Strychnia.
 - b. Cold bath.
 - c. General frictions.
 - d. Nutritious diet
 - e. Exercise in the fresh air. To accomplish this indication we are generally obliged to use a go-cart.
2. Local measures.
- a. Frictions.
 - b. Galvanism.
 - c. Acupuncture.
 - d. Mechanical support.
 - e. Operation of Stromeyer.

II. FASCIAL PALSY.

Causes.

Muscles involved.

Symptoms.

Diagnosis.

Prognosis.

Treatment. 1. Constitutional remedies—the same as those recommended in the other case.

2. Local treatment.

- a. Acupuncture.
- b. Moxa over the mastoid process.
- c. Galvanism.
- d. Excision of a portion of the paralysed cheek. Proposed by Dieffenbach.
- e. Section of the antagonizing muscles. Also proposed by Dieffenbach.

III. ATROPHY OF THE GLUTEI MUSCLES.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

To comprehend, and to manage properly the deformities resulting from *rigid atrophy*, it will also be necessary to consider each one separately. And first of club foot.

CLUB FOOT.

Definition.

Varieties.—1. Talipes varus, or inversion. 2. Talipes valgus or eversion. 3. Talipes equinus. 4. Talipes calcaneus. 5. Talipes dorsalis or phalangeal.

Each of these *general divisions* may be sub-divided into three groups which I have termed degrees; for example, we have *first, second, and third* degrees of varus, &c.

Causes.—1. Congenital; 2. Acquired or accidental.

1st. *Or congenital.* Various theories entertained. The most rational is that now generally adopted, that unequal or irregular contraction of the muscles, by which their tendons and fascia are shortened, atrophied, and rendered more dense, is the proximate cause of the defect. In some cases, the extensors, in others the flexors are in fault, sometimes only one, sometimes several muscles are involved.—(Refer to some of the most ingenious theories on this subject.)

2d. *Or acquired.* Sprains, luxations, fractures, preternatural laxity of the ligaments, partial or complete paralysis of one set of muscles, their antagonists retaining their natural power and vigour, convulsions, habit of using certain muscles more than others, &c.

Foot most liable.—The right.

Sex most liable.—The male.

Variety most common.—1st, or varus.

Characteristics of each variety, and those of its various degrees.

Condition of legs and knees.

Dissection.—The appearances, of course, depend on the variety of the defect, its degree, cause, age, and the mode of life of the patient. Call attention to the bursæ, exostosis, anchylosis and abrasions, often met with in cases of long standing.

Diagnosis.—Talipes equinus I have known mistaken for certain forms of contracted hip, and knee.

Prognosis.—Depends on the *degree of contraction, the variety of the defect, the condition of the bones, the age of the patient, the character of the cause, the complication of the case, and the disposition of the patient* to submit to our remedies.

Treatment.—1. Prophylactic. 2. Treatment after the defect is fully established. It is rarely possible for us to employ the first, or remove causes operating even after birth. Under the second head several indications present themselves.

These are, 1. The application of such mechanical measures as shall bring the shortened muscles, tendons and fascia, to their proper position.

2. Where mechanical contrivances alone, and unassisted, fail to accomplish the first indication, we may next resort to the *knife, aided by mechanical measures.*

3. The third indication refers to the *retention* of the foot in its proper position, after the tendons, &c., have been elongated.

4. The fourth, to the application of such measures as shall give tone to the weakened muscles, and prevent the recurrence of spasms, or irregular contractions, which would cause a relapse.

5. The fifth, to the *preparation* of the patient for treatment. Keeping these indications in view, which obtain in the treatment of all the deformities

resulting from this cause, we shall next speak of the plan of treatment best suited to each *variety* of the defect, as it presents itself at *different* ages; but before so doing it will be well to explain to you the character of certain operations, to which I must refer in the management of most of these cases. These are

MYOTOMY, TENOTOMY, AND APONEUROTOMY.

The History of these operations.

Their importance.

Their relative merits contrasted with mechanical treatment alone.

The manner in which muscles and tendons are united after these wounds.

The dangers of these operations.

The question of immediate separation of the divided organs discussed.

Manner in which the operation should be performed.

We are now prepared to take up the special treatment, and first, of

CONGENITAL VARUS.

1. Congenital varus, 1st, 2d, or 3d degree at birth.

“	“	“	“	2d or 4th year.
“	“	“	“	6th, or any subsequent age.
2. Congenital valgus, 1st, 2d, or 3d degree at birth.

“	“	“	“	2d or 4th year.
“	“	“	“	6th, or any subsequent age.
3. Talipes equinus, 1st, 2d, or 3d degree at birth.

“	“	“	“	2d or 4th year.
“	“	“	“	6th, or any subsequent age.
4. Talipes calcaneus, 1st, 2d, or 3d degree at birth.

“	“	“	“	2d or 4th year.
“	“	“	“	6th, or any subsequent age.
5. Talipes dorsalis, 1st, 2d, or 3d degree at birth.

“	“	“	“	2d or 4th year.
“	“	“	“	6th, or any subsequent age.

CONTRACTED KNEE.

Varieties.

Muscles and tendons involved in each.

Causes of contraction.—1. Congenital. 2. Acquired.

Diagnosis.—May be confounded with the different varieties of ankylosis, dependent on other causes.

Prognosis.

Effects on the joint if neglected.

Treatment.—1. By mechanical means alone. 2. By section of the tendons, followed by the use of mechanical measures.

Condition of the joints AFTER contraction is overcome, and the treatment required in this stage.

Dangers to be apprehended during the treatment of the case.

CONTRACTED THIGH.

Varieties.

Muscles and tendons involved.

Causes of contraction.—1. Congenital, 2. Acquired.

Diagnosis.—Often confounded with coxalgia when the flexors are involved.

Prognosis.

Effects on the joint if neglected.

Treatment.—1. By mechanical means alone. 2. By myotomy, followed by mechanical measures.

Condition of the joint after contraction is overcome, and the treatment required at this time.

Dangers to be apprehended during the treatment of the case.

CONTRACTION OF THE FINGERS AND TOES.

Varieties.

Muscles and tendons involved in each.

Causes of contraction.—1. Congenital. 2. Acquired.

Diagnosis.—May be mistaken for contraction of the fascia palmaris or plantaris, when the flexors are in fault.

Prognosis.—Depends on the *cause* and the *degree* of lesion sustained by the tendons.

Treatment.—Depends very much on the causes; and we may require mechanical means as well as the knife for the relief of the difficulty.

CONTRACTION OF THE WRIST.

Varieties.

Muscles and tendons in fault in each.

Causes of contraction.—1. Congenital. 2. Acquired.

Diagnosis.

Prognosis.—Unfavourable generally.

Treatment.—The same general treatment applicable to the other cases of contraction, will answer here.

CONTRACTION OF THE ELBOW-JOINT.

Varieties.

Muscles and tendons in fault in each.

Causes of contraction.—1. Congenital. 2. Acquired.

Diagnosis.

Prognosis.

Treatment.—The same general treatment is to be observed here as in the other forms of contraction.

CONTRACTION OF THE SHOULDER.

Varieties.

Muscles and tendons in fault in each.

Causes of contraction.—1. Congenital. 2. Acquired.

Diagnosis.

Prognosis.

Treatment.—The same as above.

CONTRACTION OF THE LOWER JAW.

Varieties.

Muscles and tendons in fault.

Causes of contraction.—1. Congenital. 2. Acquired.

Diagnosis.—Not to be confounded with adhesions, contractions from burns, or cicatrices.

Prognosis.

Treatment.—In almost every case of this defect it is necessary to divide the muscles before the different means usually employed can be used with any effect. (See the cases of Mott, Ferguson, Smythe and myself.)

TORTICOLLIS.

Synonyms.—Caput opstipum; wry neck.

Definition.—An involuntary and fixed inclination of the head towards one of the shoulders. It is sometimes intermittent.

Symptoms.

Causes.—1. Congenital. 2. Acquired.

First, or congenital.

a. Muscle or muscles on one side *too short*.

b. Paralysis of one set of muscles.

Second, or acquired.

a. Hemiplegia.

b. Chronic rheumatism.

c. Fevers of long standing.

d. Chronic myositis.

e. Mechanical injuries,

f. Habit.

g. Palsy of extensors of the neck.

Muscles in fault.—Generally the sterno-cleido-mastoid, but the trapezius, platysma myoid, and, in short, the whole set of muscles on one side may be involved. It is supposed by some to be dependent occasionally on shortening of the *integuments* or *fascia* of the neck, but I have never met with an example.

Diagnosis.—May be confounded with *recent palsy* of the muscles, from blows upon the neck; with acute rheumatism; abscess in the neck; caries of the bones; tumours; old luxations; hydrocele of the neck, and curved spine.

Prognosis.—Depends on a variety of circumstances. State them.

Dissection.

Treatment.—Depends on the *cause, parts involved, and the duration* of the disease. Mechanical measures of various kinds, the knife, and constitutional treatment may all be required.

STRABISMUS.

Definition.

Muscles, tendons, and fascia in fault.

Varieties.—1. Convergent. 2. Divergent. 3. Upward squint. 4. Downward squint.

The first is most frequent, in consequence of the *internal* rectus being stronger than the *external*, from its insertion being nearer the cornea, and from the natural habit we have of looking *inwards*, more than *outwards*.

Symptoms.

Degrec.

Duration.—Occasional or permanent. It is also in some cases, *voluntary*.
Eye generally attacked.—According to some, the *right*; according to others, the *left*. Both are often involved.

Mode of ascertaining which eye is diseased.

Effect on vision.

Causes.—1. Congenital. 2. Acquired. 3. Direct. 4. Indirect.

Diagnosis.

Prognosis.

Dissection.

Treatment.—Several indications. 1. Remove the cause. 2. Use mechanical means to correct the deformity. 3. Where these fail, resort to an operation.

History of this operation.

Cases to which it is applicable.

Mode of performing it.

Treatment after the operation.

Dangers of the operation.

Change in the muscular attachments.

Results of the operation.—1. Favourable. 2. Unfavourable.

First, or favourable—

a. Disappearance of deformity.

b. Improvement in vision.

Second, or unfavourable—

a. Operation fails to correct the deformity. Why.

b. The eye is everted.

c. The eye projects.

d. A relapse takes place.

Methods proposed to overcome these difficulties.

Appreciation of the operation.

LEUCITAS.

Definition.

Muscles in fault.

Varieties.

Symptoms.

Causes.

Diagnosis.

Prognosis.

Dissection.

Treatment.

The *third* form of atrophy is exceedingly rare, but when it occurs, it will of course give rise to a loss of function in the part or organ to which the muscle is attached. The deformities to which it gives rise do not differ essentially from those occasioned by *simple atrophy*. (See Mayo.)

IX. SPASM OF THE MUSCLES.

Spasmodic affections of the muscles are exceedingly common, and referable in most cases, to primary irritation of the nerves of the part; but the disease may originate in the muscle, and gradually extend to the nerves. It is highly important, in forming our diagnosis, to distinguish the true cause, as the treatment chiefly turns upon this point. The permanent defects, resulting

from this condition of the muscles, most frequently met with, are certain kinds of stammer, twitching of the muscles of the face, scrivener's spasm, rigid atrophy, and paralysis.

I. STAMMERING.

Definition.

Varieties.—1. Functional. 2. Organic.

Causes of functional.—Sometimes inappreciable; spasm of muscles; bad habit from imitation.

Causes of organic.—The tongue may be too large, too long, tied, or badly shaped. The fauces and roof of the mouth may also, when deformed, occasion a stammer.

Diagnosis.

Prognosis.

Treatment.—Various methods have been introduced, but of course the character of the cause will modify the treatment. There are four plans chiefly in vogue:—1. Vocal gymnastics. 2. Speaking with some hard substance between the teeth. 3. Acupuncture. 4. An operation.

History of these operations.

Different modes of operating described.

Appreciation of these operations.

II. TWITCHING OF THE MUSCLES OF THE FACE.

Varieties.

Causes.

Diagnosis.

Prognosis.

Treatment.

III. SCRIVENER'S SPASM.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

X. ENTOZOOA.

The muscles frequently become the habitations of parasitic animals, and especially of the *Cysticercus cellulosa*, and the *Trichina spiralis*, first described, I believe, by Mr. Owen, of London.

XI. MALIGNANT DISEASES.

The muscles, like all the other tissues, are liable to be attacked by the various affections to which the term *malignant* has been assigned.

VII. DISEASES OF THE ARTERIES.

I. WOUNDS.

Varieties.—Penetrating, non-penetrating, punctured, incised, contused, lacerated, &c.

Symptoms.—Depend on the nature of the wound, and the size of the vessel.

Prognosis.—Depends on character of the wound, size of the vessels, and the diathesis of the patient.

Diagnosis.—May be confounded with wounds of veins.

Results.—The hemorrhage may cause death, unless arrested by the surgeon, or by an effort of nature; the wound may close, and the circulation continue in the limb, as before; or the circulation may be so much impaired as to occasion gangrene; and finally, aneurisms of different kinds may be developed.

Mode of healing.—Varies with the kind of wound.

Treatment.—See incised wounds.

II. ARTERITIS.

Definition.

Comparatively rare.

Varieties.—1. Subacute. 2. Acute. 3. Chronic.

Causes.

Symptoms of each variety.

Diagnosis.

Prognosis.

Dissection.

Products.

Treatment.

III. DEGENERATION OF TISSUES.

The arteries undergo a variety of pathological changes termed "*degenerations*," the causes of which are often obscure, but usually may be referred to the pre-existence of inflammation. The most common of these degenerations are:—1. Cartilaginous or osseous deposites between the lining membrane and the proper tissue of the vessel. 2. Thickening of the lining membrane. 3. *Ætheromatous* deposites in different portions of the vessel. 4. *Steatomatous* deposites. 5. Ulceration. 6. Softening.

Diseases produced by these changes.—1. Dilatation; 2. Hypertrophy with dilatation; 3. Contractions; 4. Rupture; 5. Obliteration; 6. Aneurism.

DILATATION.

Parts of the vessel usually involved.

Vessels most liable to be affected.

Effect on the shape and size of the vessel.

Symptoms by which it may be recognized.

Diagnosis.

Prognosis.

Treatment.

HYPERTROPHY WITH DILATATION.

This condition is seen in the uterine arteries during utero-gestation, in aneurismal varix, and in aneurism by anastomosis or vascular nævi.

CONTRACTION.

A diminution in the capacity of an artery has been observed by Morgagni, Desault, Laennec, Mayo, Elliotson, Baillie, and others. The defect is usually met with in the larger vessels.

RUPTURE.

This is the result of some mechanical cause operating upon a vessel weakened by some of the different forms of degeneration. Its occurrence may result in the death of the individual, or the establishment of an aneurism.

OBLITERATION.

A variety of causes may produce obliteration, but inflammation may be considered the most common. The results of this condition of a large artery, are *gangrene*, *paralysis*, and sometimes *death*.

IV. ANEURISM.

Definition.

Varieties.—1. Spontaneous. 2. Traumatic. 3. Internal. 4. External. 5. True. 6. False. 7. Mixed. 8. Circumscribed. 9. Diffused. 10. Dissecting. 11. Varicose. 12. Aneurismal varix. 13. Aneurism by Anastomosis.

Breschet's classification.—1. Sacciform. 2. Fusiform. 3. Cylindroid. 4. Varix-like.

Number.—Varies in different individuals. Usually but one. May have several, as in the cases of Pelletan and Cloquet.

Causes.—1. Predisposing. 2. Accidental, or proximate.

First, or predisposing :

a. Disease of the coats of the vessel. (See degenerations.)

b. Sex. Male most liable.

c. Age. Old persons most liable.

d. Location of vessel. Vessels of the lower limbs most liable.

e. Vocation. Labouring classes most liable.

f. Size of the artery. Large more frequently affected, than the small.

Second, or accidental.

a. Some violent exertion.

b. Wounds.

c. Ulceration of the coats of vessel.

Symptoms.—1. Constitutional. 2. Local. Both classes modified by the location, variety, size, and duration of the tumour.

Diagnosis.—The diagnosis is not difficult in the early stages of the complaint. As the tumour becomes solid it is more uncertain. An aneurism has been confounded with an abscess, tumours of different kinds situated near large arteries, dilatation of arteries, and diseases of different organs.

Prognosis.—Influenced by circumstances. It is, under all circumstances, however, to be considered a most formidable disease—usually requiring an operation for its relief, although nature is occasionally competent to the task of “spontaneous cure.”

Progress of the disease.—Great diversity in this respect. Sometimes it runs its course rapidly ; and again, years may elapse before a fatal result takes place.

Effects of an aneurism on surrounding structures.

State of the blood in the aneurismal sac.

Changes which take place in the sac as the disease advances.

Terminations of the disease.

- a. Spontaneous cure.
- b. Death from hemorrhage.
- c. Death from exhaustion.
- d. Death from direct influence of the tumour upon some vital organ, as the brain, &c.

Processes by which a spontaneous cure is accomplished.

- a. Obliteration of the sac by concrete fibrine.
- b. Obliteration of both sac and artery by fibrine.
- c. Pressure on the trunk of the vessel by the tumour itself.
- d. Inflammation, suppuration, and sloughing of the sac, and a portion of the artery.
- e. Bursting of the sac, the effusion of blood under the adjacent tissues, and the subsequent coagulation of this blood, which, pressing upon the artery, causes its obliteration.

Treatment.—The indication in the treatment of every case of aneurism of the usual kind, is to cause an *obliteration of the artery involved*. To carry this indication into effect, *two general modes of management* have been introduced:—1. The first has for its object the *diminution of the force of circulation*, so that the blood may coagulate in the tumour, and the artery contract. 2. In the second we attempt a *complete arrestation* of the circulation through the part, by the *obliteration of the vessel by some mechanical measure or surgical operation*.

First, or, as it is called, the method of Valsalva.—Agents employed under this head—

General remedies.—1. Barely sufficient nourishment to support life. 2. Rest in the horizontal position. 3. Small quantity of fluid in the diet. 4. Digitalis and the antimonials. 5. Venesection.

Local remedies.—1. Leeches. 2. Astringents and refrigerants. 3. Ice.

Second method.—Agents employed under this head.—1. Compression. 2. Ligature of the vessel or vessels. 3. Application of the actual cautery—(employed by Severinus, Monteggia, Sir E. Home, and others.) 4. Injecting the sac with some fluid which produces coagulation of the blood—(proposed by Wardrop.) 5. The introduction of needles, or a seton, into the sac—(Pravaz, Philips, &c.) 6. The use of needles and galvanism at the same time—(Keate and Faraday.)

COMPRESSION.

Mode of applying compression.—Two or three methods—1. That of *Vernet*, on the *capillary* side of the tumor. 2. That of *Guattani*, along the artery, *above* the tumor, and on the tumor itself. 3. General pressure over the whole limb.

Agents employed.—Tourniquet, bandage and compresses, starch bandages; plaster of Paris mould, compressor of Dupuytren, compressor of Sunfio, &c.

Modus operandi of compression.

Objections to its employment.

Appreciation of the method.

LIGATURE.

Not properly employed until the time of Hunter. Before this period the operations for the cure of aneurism were rude and dangerous. By some, the sac was opened, the contents turned out, and compresses or the actual cautery applied to arrest the hemorrhage. By others, the sac was emptied, and then an attempt made to tie the bleeding vessels. By others, Aetius, Philogius, Guillemeau, &c., the artery was tied *above* and *behind* the tumor, the latter then opened, and the vessels tied. The dangers of these measures have induced surgeons to abandon them, and we now choose, when an operation is decided upon, between *three different methods* of *applying* a ligature. These are—

1. The operation of *Hunter*. The ligature is here placed on the *cardiac* side of the tumor, or *above* the sac.

2. The operation of *Brasdor*. The ligature is here applied on the *distal* side of the tumor, or between it and the capillaries.

3. The operation of *Wardrop*. The ligature is here applied to a *branch* of the diseased artery on the capillary side of the tumor.

HUNTER'S OPERATION.

Mode of performing it.

Instruments required.

Cautions to be observed in the application of the ligature.

Immediate effect upon the tumor when the ligature is properly placed.

Subsequent effect on the tumor.

Immediate effect on the limb.

Subsequent effect on the limb.

Time required for the establishment of anastomosing circulation.

Effect on the general system, and especially the brain.

Dressing the wound.

After treatment of the case.

BRASDOR'S OPERATION.

Mode of performing it.

Instruments required.

Cautions to be observed in the application of the ligature.

Immediate effect upon the tumor.

Subsequent effect.

Immediate effect on the limb.

Subsequent effect.

Time required for the establishment of the anastomosing circulation.

Effect on the general system.

Dressing the wound.

After treatment.

WARDROP'S OPERATION.

Mode of performing it.

Instruments required.

Cautions to be observed in the application of the ligature.

Immediate effect on the tumor.

Subsequent effect.

Immediate effect on the limb.

Subsequent effect on the limb.

Time required for the establishment of the anastomosing circulation here.

Effects on the general system.

Dressing the wound.

After treatment.

Accidents which may follow the performance of either of these operations :

a. Convulsions.

b. Fever.

c. Secondary hemorrhage.

d. Increase in the size of the tumor.

e. Rupture of the sac.

f. Gangrene of the tumor.

g. Gangrene of the limb.

h. Chronic inflammation and subsequent ulceration of the artery or sac,

i. Plethora.

Peculiar advantages of the different operations discussed.

CAUTERY—INJECTION—NEEDLES—GALVANISM AND ACUPUNCTURE.

These different modes of treatment have recently been introduced into general practice, and, although one or all may prove more or less useful as adjuvants to other remedies of more importance, it is hardly probable that anything more than this will ever be claimed for them.

Appreciation of all the various methods of treatment for aneurism.

TRAUMATIC, OR FALSE ANEURISM.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Dissection.

Treatment.

VARICOSE ANEURISM.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Dissection.

Treatment.

ANEURISMAL VARIX.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Dissection.

Treatment.

ANEURISM BY ANASTOMOSIS.

Synonymes.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Progress.

Dissection.

Treatment.—1. Compression. 2. Ligature of main arterial trunks. 3. Encircling the tumour by incisions. 4. Seton. 5. Breaking up cells. 6. Puncture followed by caustic probe. 7. Puncture, and injection with some stimulating liquid. 8. Vaccination. 9. Caustic potash. 10. Nitric acid. 11. Tart. antim. 12. Actual cautery. 13. Incisions under the skin. 14. Acupuncture. 15. Darning. 16. Ligature of the whole mass. 17. Excision. 18. Tattooing.

OSSEOUS ANEURISM.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Dissection.

Treatment.

V. PARTICULAR ANEURISMS.

The symptoms and treatment of each one described.

VIII. DISEASES OF THE VEINS.

I. WOUNDS.

Varieties.

Symptoms.

Diagnosis.

Prognosis.

Results.

Mode of healing.

Treatment.

II. RUPTURE.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

III. INFLAMMATION, OR PHLEBITIS.

Varieties.—1. Acute. 2. Chronic.

Causes.—1. Constitutional. 2. Local.

Symptoms.—Vary with the intensity of the attack. They may be divided into the *constitutional* and *local*.

Diagnosis.

Prognosis.

Dissection.

Effects resulting from phlebitis.—Obliteration of the vein, visceral abscess, edema, ulceration of the vessel, calcareous deposits, &c.

Treatment.—1. Constitutional. 2. Local.

IV. AIR IN VEINS.

Effect produced by the introduction of air into the veins.

The manner in which it gains admission.

The causes of convulsion and death in these cases.

Means of preventing its introduction while an operation is going on.

Treatment in the event of its introduction.

V. VARICOSE VEIN.

Nature.

Location.

Extent.—The dilatation may be *uniform* or *unequal*, and involve a *portion* of, or the *entire vein*.

Causes.—Anything that will prevent a free circulation of the blood through the vein.

Symptoms.

Diagnosis.

Prognosis.

Dissection.

Results.

Treatment.—1. Palliative. 2. Radical.

Agents employed as palliatives—1. Compression with rollers or straps, or both, or laced stockings. 2. Frictions with iodine ointment, or Davis' solution of iodine; repeated blisters. 3. Galvanism. 4. Puncture of the vein.

Agents employed with a view to a radical cure—1. The ligature. 2. The needle and ligature, as used by Davat, Velpeau, and others. 3. Caustic paste which occasions a slough—(recommended by Cartwright, Mayo, &c.) 4. Transverse subcutaneous incisions, followed by compression—(Brodie.) 5. Excision, followed by compression. 6. Acupuncture. 7. Seton. 8. Subcutaneous ligature—(Ricord.) 9. Irregular compression with graduated compresses and a bandage. 10. Position, rest for several months.

Dangers of these measures.

Appreciation of the different methods.

VI. OSSIFICATION.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

VII. PHLEBOLITES.

Definition.

Veins in which they are usually found.

Causes.
Symptoms.
Diagnosis.
Prognosis.
Chemical composition.
Treatment.

VIII. MALIGNANT DISEASES.

The veins are frequently involved in the different malignant diseases which attack all organized tissues.

IX. DISEASES OF THE LYMPHATICS.

I. WOUNDS.

Varieties.
Symptoms.
Diagnosis.
Prognosis.
Results.
Mode of healing.
Treatment.

II. RUPTURE.

This lesion is stated to have occurred in a patient of Guiffort's, but the symptoms are too obscure to merit our attention. It was supposed by Morton to be one cause of consumption; by Ackermann, to exist in scrofula; by Henty, to exist in Barbadoes leg; by White it was considered the cause of phlegmasia dolens; by Assalini and others it was reckoned the cause of dropsy; and Brombilla thought it the cause of white swelling.

III. VARICOSE DILATATION, OR CIRBUS.

A rare and obscure lesion, present usually in dropsy and some other complaints. As it is an *effect*, it can only be relieved by removing the cause on which it depends.

IV. OSSIFICATION.

Like the arteries and veins, these vessels are liable to calcareous deposits in their coats.

V. ANGIOLEUCITIS, OR INFLAMMATION.

Varieties.—1. Acute. 2. Chronic.
Causes.—1. Direct. 2. Indirect.
Age most liable.—Puberty and old age.
Symptoms.—1. Local. 2. General.

Diagnosis.—May be confounded with *phlebitis, neuritis, neuralgia, erysipelas, and phlegmon.*

Prognosis.—It is to be considered generally a dangerous disease.

Progress and duration.—Variable.

Terminations.—Resolution, suppuration, induration, ulceration, sloughing, death.

Dissection.—Three classes of phenomena to study—

1. Those which take place in the vessels.

2. Those which take place in the interposed tissues.

3. Those which take place in the viscera, remote regions, and blood.—

(Velpeau.)

Treatment.—1. Constitutional. 2. Local.

VI. INFLAMMATION OF LYMPHATIC GLANDS.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Terminations.

Treatment.

VII. ENLARGEMENT AND INDURATION.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Terminations.

Treatment.

VIII. OSSIFICATION.

Usually the result of inflammation, and the glands most liable are those of the lungs.

IX. MALIGNANT DISEASES.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Terminations.

Treatment.

X. CONSEQUENCES RESULTING FROM THE EXTIRPATION OF A LARGE NUMBER OF GLANDS.

X. DISEASES OF THE NERVES.

I. WOUNDS.

Varieties.
Symptoms.
Diagnosis.
Prognosis.
Mode of healing.
Treatment.

II. STRETCHING AND RUPTURE.

Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

III. NEURITIS.

Varieties.—1. Acute. 2. Chronic.

Causes.—1. Constitutional. 2. Local.

Symptoms.—Depend upon the nature of the attack.

Diagnosis.

Prognosis.

Dissection.

Terminations.—Resolution, effusion of lymph, ulceration, hypertrophy, atrophy, hardening, softening.

Treatment.

IV. NEURALGIA.

Definition.

Varieties.

Causes.—1. Those which act upon the nerve itself. 2. Those which operate through the system at large.

Symptoms.

Parts most liable to be attacked.

Diagnosis.

Prognosis.

Pathology.

Treatment.—Indications—1. Remove the cause, whether *constitutional* or *local*. 2. Palliate the pain. 3. Divide the nerve. 4. Excise a portion of the nerve. 5. Acupuncture. 6. Electro-magnetism, &c. 7. Moxa, &c.

V. ANOMALOUS NERVOUS AFFECTIONS.

These vary in character ; and of course the treatment must be based upon the peculiarity of each.

VI. HYSTERICAL NEURALGIA.

Definition.

Persons most liable.

Parts most liable to be attacked.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Pathology.

Treatment.

VII. TUMOURS.

Varieties.—Solid, or encysted.

Location.—In the neurilema ; between the superficial fibres of a nerve, or they may implicate all the fasciculi at the part attacked ; and again, they may be developed upon the extremity of a divided nerve in the shape of a little button. Lastly, they may occupy the large and deeply seated nerves, or the superficial and cutaneous ; when developed in the latter situation, the tumour is called "*painful subcutaneous tubercle.*"

Causes.—Blows upon the part, the application of a ligature, &c.

Symptoms.—Depend upon the location of the tumour. They belong, however, to the class of "*nervous symptoms,*" general as well as local.

Diagnosis.

Prognosis.

Pathology.

Treatment.—1. Palliative. 2. Radical.

Palliative means—

a. Leeches.

b. Counter irritation.

c. Fomentations.

d. Anodynes.

Radical means—

a. Division of the nerve above the tumour.

b. Extirpation of the tumour.

c. When the tumour is a *cyst*, puncture followed by compression.

Condition of the limb after the removal of a portion of a nerve.

VIII. TETANUS.

Definition.

Varieties as to muscles affected.—1. Opisthotonos. 2. Emprosthotonos. 3. Pleurosthotonos. 4. Trismus, or locked jaw.

Varieties as to cause and duration.—1. Traumatic. 2. Idiopathic. 3. Acute, 4. Chronic.

Causes.—1. Constitutional. 2. Local.

Symptoms.—Vary with the location as well as the intensity of the attack. General symptoms stated.

Diagnosis.

Prognosis.

Pathology.

Treatment.—1. General. 2. Local.

IX. PARALYSIS.

Definition.

Varieties.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Pathology.

Treatment.

X. OTHER ORGANIC LESIONS.

The nerves, like the other tissues, are liable to hypertrophy, atrophy, hardening, softening, ulceration, and malignant diseases of various kinds. But these lesions are rarely recognized until after death, or they give rise to the phenomena already referred to as characteristic of diseases to which specific names have been assigned.

XI. DISEASES OF THE CELLULAR TISSUE.

I. SIMPLE INFLAMMATION.

See "Inflammation."

II. PHLEGMON, OR CIRCUMSCRIBED INFLAMMATION.

See "Phlegmon."

III. ERYSIPELATOUS INFLAMMATION.

See "Erysipelas."

IV. CARBUNCLE.

See "Charbon or Carbuncle."

V. ABSCESS.

See "Abscess."

VI. HEMORRHAGE.

Causes.—Mechanical injuries, and diseases of a peculiar character, as purpura, scorbutus, typhus, &c.

Character of the blood.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

VII. SEROUS EFFUSION.

Synonym.—Œdema, anasarca, aqua intercus, leucophlegmasia, &c.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Different kinds of serum effused.

Treatment.

VIII. INDURATION.

Synonym.—Scleroma, skin-bind.

Persons most liable.—Children.

Causes.

Symptoms.

Duration.

Prognosis.

Diagnosis.

Character of the tissue.

Treatment.

IX. EMPHYSEMA.

Synonym.—Pneumatoxis spontanea et traumatica.

Causes.—Mechanical injuries, and sometimes it occurs spontaneously.

Parts of the body most liable to this collection.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

X. TUMOURS OF DIFFERENT KINDS.

See "Tumours."

XI. CONDENSATION INTO CYSTS.

Causes.

Indications that they have formed.

Uses of these cysts.

XII. DISEASES OF THE ADIPOSE TISSUE.

I. INFLAMMATION.

See "Inflammation."

II. WOUNDS.

See "Wounds."

III. HEMORRHAGE.

Causes.

Character of the blood.

Symptoms.
Prognosis.
Diagnosis.
Treatment.

IV. HYPERTROPHY, OR POLYSARCIA.

Varieties.—1. Partial. 2. Complete.
Causes.
Symptoms.
Prognosis.
Diagnosis.
Dissection.
Treatment.

V. ATROPHY.

Varieties.
Causes.
Symptoms.
Prognosis.
Diagnosis.
Treatment.

VI. TUMOURS OF VARIOUS KINDS.

See "Tumours."

Diseases of the *Skin, Hair, Nails, and Teeth* cannot be embraced in a course so rigidly restricted to the *most important* points in Surgery. They will, however, be found in my work on Surgery.

THIRD DIVISION, OR DISEASES OF REGIONS AND ORGANS.

I. INJURIES OF THE HEAD.

I. WOUNDS.

Importance of these injuries.

Classification :

- a.* Wounds involving the scalp alone.
- b.* Wounds involving the scalp and bones.
- c.* Wounds involving the brain and its membranes, as well as the scalp and bones.

a. SUPERFICIAL WOUNDS.

I. INCISED WOUNDS.

Causes.

Symptoms.

Prognosis.

Results.

Treatment.

II. LACERATED WOUNDS.

Varieties.

Causes.

Symptoms.

Prognosis.

Results.

Treatment.

III. CONTUSED WOUNDS.

Causes.

Symptoms.

Prognosis.

Results.

Treatment.

IV. PRODUCTS OF CONTUSED WOUNDS.

a. BLOODY TUMOUR.

b. SUPPURATION BETWEEN SCALP OR PERICRANIUM AND BONE.

c. SEPARATION OF DURA MATER.

V. PUNCTURED WOUNDS.

Causes.
Symptoms.
Prognosis.
Diagnosis.
Results.
Treatment.

VI. WOUNDS OF TEMPORAL ARTERY.

Causes.
Symptoms.
Prognosis.
Diagnosis.
Results.
Treatment.

b. WOUNDS INVOLVING THE SCALP AND BONES.

I. INCISED, LACERATED, CONTUSED, OR PUNCTURED WOUNDS.

Causes.
Symptoms.
Prognosis.
Diagnosis.
Results.
Treatment.

II. PENETRATING WOUNDS.

Causes.
Symptoms.
Prognosis.
Diagnosis.
Results.
Treatment.

III. GUN SHOT WOUNDS.

Causes.
Symptoms.
Prognosis.
Diagnosis.
Results.
Treatment.

C. WOUNDS INVOLVING THE BRAIN AND ITS MEMBRANES, ETC.

Varieties.
Causes.
Symptoms.
Prognosis.
Diagnosis.
Results.
Treatment.

ENCEPHALOCELE AN OCCASIONAL PRODUCT OF THESE WOUNDS.

Definition.

Symptoms.

Prognosis.

Diagnosis.

Results.

Treatment.

II. DISEASES OF THE SCALP, &c. &c.

I. ERYSIPELAS.

See "Erysipelas."

II. ANTHRAX.

See "Anthrax."

III. TRAUMATIC NEURALGIA.

See "Neuralgia."

IV. PERICRANITIS.

V. THICKENING OF PERICRANIUM.

VI. TUMOURS OF THE SCALP.

See "Tumours."

III. FRACTURES OF THE BONES OF THE HEAD.

Causes.

Varieties.

Parts of the cranium most liable to fracture.

Age most liable.

Symptoms.—Depend on location of fracture, &c.

Prognosis.

Diagnosis.

Mode of union.

Treatment.

IV. CONCUSSION.

Definition.

Extent or degree.

Causes.

Symptoms.—Three groups—1. Stunning. 2. Loss of consciousness, &c.

3. Convulsions, &c.

Prognosis.

Diagnosis.

Anatomical examination.

Results.

Treatment.

V. COMPRESSION OF THE BRAIN.

Definition.

Illustration of the influence of pressure upon the brain.

Causes.—Depressed bone, effused blood, collection of pus, &c.

Symptoms.—Depend on the nature of the cause.

Prognosis.—Depends on—1. Extent of surface involved. 2. Location of the compressing body. 3. Location with reference to *depth*. 4. Nature of compressing body. 5. Suddenness with which compression is applied.

Diagnosis.

Manner of ascertaining the seat of the injury.

Manner of ascertaining the nature of the compressing body.

Dissection.

Results.

Treatment.—Varies with cause.—

a. When the bone is depressed.

b. When effused blood is the cause.

c. When pus constitutes the compressing agent.

TREPHINING.

History of the operation.

Diseases of the head for which it is employed.

Dangers of the operation.

Parts to be avoided in applying the instrument.

The operation itself described.

Dressing.

After treatment.

Manner in which the opening is closed.

II. INJURIES AND DISEASES OF THE SPINE.

Classification.—

a. Injuries and diseases of the spinal column.

b. Injuries and diseases of the spinal marrow and its nerves.—1. Concentric diseases of the true spinal marrow. 2. Eccentric disease, or those attacking the incident or excitator nerves. 3. Diseases of the reflex, or motor nerves. 4. Spinal irritation.

a. INJURIES AND DISEASES OF THE SPINAL COLUMN ITSELF.

I. FRACTURES.

Liability.

Causes.—External violence directly or indirectly applied.

Usual seat of fracture.—Spines, bony bridges, and body.

Division.—1. Those occurring above the fourth cervical. 2. Those occurring below this point.

Symptoms.—Depend upon the location of the fracture and its extent.

Prognosis.—Depend on location and extent of fracture.

Diagnosis.—May be confounded with *luxation, concussion of spine, compression from effused blood, inflammation of marrow or its membranes.*

Dissection.

Treatment.

II. LUXATION:

Liability.

Causes.—External violence.

Vertebræ most liable.—The cervical, especially the second.

Division.—1. Partial. 2. Complete.

Symptoms.—Depend on seat of injury and its extent.

Prognosis.—Depends on the seat and extent of injury.

Diagnosis.

Dissection.

Treatment.

III. SPONTANEOUS LUXATION OF THE FIRST CERVICAL.

Definition.

Causes.

Symptoms.—In 1st, 2d, and 3d stages.

Progress.

Prognosis.

Diagnosis.

Dissection.

Treatment.

IV. CURVATURE.

Definition.

Varieties.—1. Lateral, or scoliosis. 2. Posterior, or gibbus or cyphosis. 3. Anterior, or lordosis.

Causes.—Predisposing and immediate.

Prophylaxis.

Symptoms.—Depend on the variety of the defect.

Prognosis.—Depends on the age of the individual, the duration, cause, degree, and complication of the case.

Diagnosis.—May be confounded with *caries*, *partial paralysis*, *natural inequality in size* of the two halves of the body, &c.

Pathology.

Effects upon the spinal column, its contents, and the health of the individual.

Question of marriage.

Treatment.

V. SHORTENED SPINE.

Definition.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

VI. CARIES OF SPINE.

Liability.—Children most liable; may occur in adults.

Causes.—1. Constitutional. 2. Local.

Symptoms.—Vary in the 1st, 2d, and 3d stages; and also depend on the age of the individual.

Prognosis.

Diagnosis.

Effects upon the viscera of the thorax and abdomen, and general health of the patient.

Dissection.

Treatment.

VII. ABSCESS.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Dissection.

Treatment.

VIII. EXOSTOSIS.

Effects of these tumours on the functions of the spine, and those of the adjacent viscera.

IX. ANCHYLOSIS.

Effects of this condition of the joints upon the functions of the column.

X. SPINA BIFIDA.

Definition.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

b. INJURIES AND DISEASES OF THE SPINAL MARROW, ITS MEMBRANES, AND NERVES.

I. CONCENTRIC DISEASES.

I. WOUNDS.

Varieties.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

II. CONCUSSION.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

III. COMPRESSION.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

IV. CONGESTION.

- Causes.*
- Symptoms.*
- Prognosis.*
- Diagnosis.*
- Treatment.*

V. INFLAMMATION, OR MYELITIS.

- Causes.*
- Symptoms.*
- Prognosis.*
- Diagnosis.*
- Dissection.*
- Results, or products.*—Convulsions, epilepsy, paralysis agitans, either general or partial, tremor mercurialis.
- Treatment.*

VI. INFLAMMATION OF THE MEMBRANES, OR SPINAL MENINGITIS.

- Causes.*
- Symptoms.*
- Prognosis.*
- Diagnosis.*
- Dissection.*
- Treatment.*

II. ECCENTRIC DISEASES, OR THOSE OF THE EXCITOR NERVES.

These are certain forms of epilepsy, puerperal convulsions, tetanus, hydrophobia, hysteria, chorea, stammering, asthma, vomiting, tenesmus, strangury, and abortion. Most of these affections are treated of under other heads.

III. DISEASES OF THE REFLEX OR MOTOR NERVES.

Spasmodic strabismus, spasmodic tic, spasmodic torticollis, spasm of the respiratory nerves—already referred to.

IV. SPINAL IRRITATION.

- Definition.*
 - Causes.*
 - Symptoms.*
 - Prognosis.*
 - Diagnosis.*
 - Dissection.*
 - Treatment.*
-

III. INJURIES AND DISEASES OF THE EYE.

I. INJURIES, &C. OF THE EYELIDS.

WOUNDS.

Varieties.
Symptoms.
Prognosis.
Results.
Treatment.

INFLAMMATION OF THE LIDS.

Texture usually involved.
Causes.
Varieties.
Symptoms.
Prognosis.
Results.
Treatment.

CEDEMA,

Causes.
Symptoms.
Prognosis.
Treatment.

OPHTHALMIA TARSII.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

PSOROPHTHALMIA.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

HORDEOLUM:

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

TYLOSIS.

Definition.
Causes.

Symptoms.
Diagnosis.
Prognosis.
Treatment.

MADAROSIS.

Definition.
Causes.
Symptoms.
Prognosis.
Treatment.

TRICHIASIS.

Definition.
Causes.
Symptoms.
Prognosis.
Treatment.

DISTICHIASIS.

Definition.
Causes.
Symptoms.
Prognosis.
Treatment.

PTOSIS.

Definition.
Causes.
Varieties.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

ECTROPIUM.

Definition.
Causes.
Symptoms.
Prognosis.
Treatment.

ENTROPIUM.

Definition.
Causes.
Symptoms.
Prognosis.
Treatment.

ANCYLOBLEPHARON AND SYMBLEPHARON.

Definition.
Causes.
Symptoms.
Prognosis.
Treatment.

EPICANTHUS.

Definition.
Causes.
Symptoms.
Prognosis.
Treatment.

TUMOURS.

Varieties.—Nævi materni, encysted, half-encysted, tarsal tumours, chalazion, or grandio, milium, and verrucæ.

Causes of each.
Symptoms of each.
Diagnosis.
Prognosis.
Treatment.

MALIGNANT DISEASES.

The lids, like all other portions of the body, are sometimes involved in malignant diseases, by which they are partially or entirely destroyed. These cases are generally troublesome, and often require an extensive operation for their relief. (See blepharoplastic operations.)

II. INJURIES AND DISEASES OF THE CONJUNCTIVA.

FOREIGN BODIES LODGED IN THE EYE.

Various kinds.
Symptoms.
Mode of examining the lids.
Diagnosis.
Prognosis.
Treatment.

WOUNDS OF THE CONJUNCTIVA.

Varieties.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

SIMPLE INFLAMMATION OF CONJUNCTIVA.

Causes.—1. Constitutional. 2. Local.
Symptoms.
Prognosis.
Diagnosis.
Effects or products.
Treatment.—1. General. 2. Local.

CATARRHAL OPHTHALMIA.

Definition.
Synonyms.—Conjunctivitis catarrhalis, conjunctivitis puromucosa catarrhalis, ophthalmia purulenta metior, cold, blight, &c.
Causes.—Cold in some shape, often accompanying influenza, and is occasionally epidemic.
Symptoms.

Diagnosis.

Prognosis.

Seat of the affection.—Seldom involves any other tissue than the conjunctiva.

Terminations.

Treatment.

PURULENT OPHTHALMIA.

Definition.

Varieties.—That of newly-born children, and that attacking adults. Acute and chronic.

Causes of each.—Question of its contagiousness. Is it an epidemic?

Symptoms.

Diagnosis.

Prognosis.

Terminations or products.—1. Sloughing of cornea. 2. Ulceration. 3. Opacity of cornea. 4. Bursting of cornea. 5. Adhesion of iris. 6. Detachment of conjunctiva. 7. Staphyloma. 8. Ectropium, or entropium.

Treatment.

GONORRHEAL OPHTHALMIA.

Definition.

Varieties.—Acute, chronic, and that involving both the conjunctiva and sclerotic coat.

Causes.—Is it contagious?

Symptoms.—In each variety.

Diagnosis.

Prognosis.

Effects.

Treatment.

ERYSIPELATOUS OPHTHALMIA.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

PUSTULAR OPHTHALMIA.

Definition.

Causes.

Age most liable.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

SCROFULOUS OR STRUMOUS OPHTHALMIA.

Definition.

Causes.—1. Predisposing. 2. Exciting.

Symptoms.

Diagnosis.

Prognosis.

Results.

Treatment.

VARIOLOUS OPHTHALMIA.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

MORBILLIOUS AND SCARLATINOUS OPHTHALMIA.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

ULCERS OF THE CONJUNCTIVA.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

GRANULATED CONJUNCTIVA.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

HYPERTROPHY OF CONJUNCTIVA.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Effect on lids.

Treatment.

PTERYGIUM.

Definition.

Varieties.—1. *Tenuë.* 2. *Crassum.* 3. *Malignant.* 4. *Single.* 5. *Pannus.*

Location.—Usually the inner canthus.

Age most liable.—Adult.

Causes.—Often obscure.

Symptoms and growth.

Diagnosis.

Prognosis.

Pathology.

Treatment.

XEROMA, OR DRY CONJUNCTIVA.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

POLYPI, WARTS, AND OTHER EXCRESCENCES OF THE CONJUNCTIVA.

Characteristics of these tumours.

Causes.

Diagnosis.

Prognosis.

Treatment.

III. INJURIES AND DISEASES OF THE CORNEA.

WOUNDS.

Varieties.

Symptoms.

Diagnosis.

Prognosis.

Effects.

Treatment.

FOREIGN BODIES IN THE CORNEA.

Varieties.

Symptoms.

Diagnosis.

Prognosis.

Effects.

Treatment.

INFLAMMATION OF THE CORNEA.

Varieties.—1. Acute. 2. Chronic. 3. Partial. 4. Complete. 5. Scrofulous.

Causes.—1. Constitutional. 2. Local.

Symptoms.

Diagnosis.

Prognosis.

Effects.

Treatment.

SUPPURATION OF THE CORNEA.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Effects.

Treatment.

ULCERS OF THE CORNEA.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Effects.

Complications.—Hernia corneæ, fistula corneæ, &c.

Treatment.

OPACITY OF THE CORNEA.

Varieties.—1. Arcus senilis. 2. Nebula. 3. Albugo, or leucoma. 4. Macula.
5. Congenital.

Causes.

Symptoms—In each variety.

Diagnosis.

Prognosis.

Effect on vision.

Treatment.—1. General remedies. 2. Local remedies. 3. Cunier's operation. 4. Bigger's operation.

STAPHYLOMA.

Definition.

Extent.—1. Partial. 2. Complete.

Shape.—Varies. Hence we have the staphyloma hemisphericum, globosum, conicum, racemosum, &c.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Structure.

Treatment.

CONICAL CORNEA.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

IV. INJURIES AND DISEASES OF THE SCLEROTICA.

WOUNDS.

Varieties.

Symptoms.

Diagnosis.

Prognosis.

Effects.

Treatment.

SCLEROTITIS, OR INFAMMATION OF THE SCLEROTICA.

Varieties.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Results.

Treatment.

STAPHYLOMA SCLEROTICÆ.

Definition.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

CYSTS AND TUMOURS OF THE SCLEROTICA.

- Varieties.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

V. INJURIES AND DISEASES OF THE AQUEOUS MEMBRANE AND CHAMBERS.

FOREIGN BODIES LODGED IN THE ANTERIOR CHAMBER.

- Nature of these bodies.*
- Manner of introduction.*
- Symptoms produced by their presence.*
- Prognosis.*
- Treatment.*

HEMOPHTHALMUS.

- Definition.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Effect.*
- Treatment.*

AQUO-CAPSULITIS.

- Definition.*
- Varieties.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Results.*
- Treatment.*

HYPOPYON.

- Definition.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Results.*
- Treatment.*

DROPSY OF THE ANTERIOR CHAMBER.

- Definition.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Results.*
- Treatment.*

VI. INJURIES AND DISEASES OF THE IRIS.

IRIDEREMIA.

- Definition.*
- Causes.*
- Appearance of the eye.*
- Effect on vision.*
- Prognosis.*
- Treatment.*

COLOBOMA IRIDIS.

- Definition.*
- Causes.*
- Appearance of the eye.*
- Effect on vision.*
- Prognosis.*
- Treatment.*

CHANGE OF COLOUR IN THE IRIS.

- Causes.*
- Appearance of the eye.*
- Effect on vision.*
- Prognosis.*
- Treatment.*

PROCIDENTIA, OR STAPHYLOMA IRIDIS.

- Definition.*
- Causes.*
- Symptoms.*
- Effect on vision.*
- Prognosis.*
- Treatment.*

SYNECHIA.

- Definition.*
- Varieties.*—Anterior and posterior.
- Causes.*
- Symptoms.*
- Prognosis.*
- Treatment.*

FUNGOUS EXCRESCENCES AND TUMOURS OF THE IRIS.

- Varieties.*
- Causes.*
- Symptoms.*
- Prognosis.*
- Treatment.*

MYOSIS.

- Definition.*
- Causes.*
- Symptoms.*
- Effect on vision.*
- Prognosis.*
- Treatment.*

MYDRIASIS.

*Definition.**Causes.**Symptoms.**Effect on vision.**Prognosis.**Treatment.*

TREMULOUS IRIS.

*Definition.**Causes.**Symptoms.**Effect on vision.**Prognosis.**Treatment.*

IRITIS.

Definition.

Varieties.—1. Acute. 2. Chronic. 3. Idiopathic. 4. Sympathetic, which includes the syphilitic, arthritic, &c.

Causes.—1st, or constitutional, as syphilis, gout, rheumatism, scrofula, cold, wet, &c.

2d, or local.—Direct injuries, over exertion of the eye, &c.

Age most liable.—Adult and old age. Rarely occurs before puberty.

Symptoms.—1. Constitutional. 2. Local. These are of course modified by the extent, duration, and intensity of the inflammation.

Effects of this inflammation.—1. Effusion of coagulable lymph. 2. Change in the colour of the iris. 3. Displacement of the iris. 4. Hypopion. 5. Effusion of blood in the chambers. 6. Adhesions between the iris and cornea, or capsule of the lens. 7. Loss of motion in the iris. 8. Closure of the pupil. 9. Atrophy of the globe. 10. Opacity and thinning of the cornea. 11. Partial or entire loss of vision.

Diagnosis.

Prognosis.—Depends on circumstances; for the most part it is unfavourable.

Treatment.—Three indications—1. Arrest the inflammation. 2. Prevent the further effusion of lymph, and promote the absorption of that already secreted. 3. Prevent the contraction and obliteration of the pupil. Remedies to be employed for the accomplishment of these indications.

OPERATIONS FOR ARTIFICIAL PUPIL.

*Object of these operations.**States of the eye requiring the operation.**Proper condition of the eye for an operation.**Prognosis.**Position of the artificial pupil.**Should we operate when one eye is sound?**Should we operate on BOTH eyes when both are diseased?**Preparation of the patient for an operation.*

Various operations described.—Three principal methods at present in vogue—1. Incision. 2. Excision. 3. Separation.

*Relative merits of each.**Formation of an artificial pupil in the sclerotica.*

VII. DISEASES OF THE CHOROID COAT.

CHOROIDITIS.

Definition.

Varieties.—Acute and chronic.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

DEFICIENCY OF PIGMENT.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

VIII. DISEASES OF THE RETINA.

RETINITIS.

Definition.

Varieties.—Acute and chronic.

Causes.

Symptoms.

Diagnosis.

Prognosis.

Treatment.

AMAUROSIS.

Definition.

Synonyms.—Gutta serena, suffusion.

Varieties.—1. Idiopathic. 2. Sympathetic. 3. Symptomatic. 4. Incipient, or recent. 5. Inveterate, or confirmed. 6. Partial. 7. Complete. 8. Organic. 9. Functional. 10. Continued. 11. Intermittent. 12. Periodical. 13. Local, or nervous. 14. Complicated.

Cause.—Several classes—

1. Those operating immediately on the nervous apparatus of the eye.
2. Those operating indirectly through the medium of some other organ, or by sympathy.
3. Those operating through the medium of the sensorium.
4. Congenital causes.

Symptoms.—Depend on the stage at which we examine the case.

Diagnosis.—May be confounded with cataract, glaucoma, muscæ, &c. Refer to the catoptric examination.

Prognosis.—Depends on the *cause*, *duration*, and *degree* of the attack. Influence on sound eye when but one is affected.

Pathology.

Treatment.—Modified to suit the peculiarities of the case.

WEAKNESS OF SIGHT.

Definition.

Causes.

Symptoms.

Diagnosis.
Prognosis.
Pathology.
Treatment.

MUSCÆ VOLITANTES.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

HEMERALOPIA.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

NYCTALOPIA.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

HEMIOPIA.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

NEAR-SIGHT.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

FAR-SIGHT.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.

Pathology.
Treatment.

PHOTOPSIA.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

CHRUPSIA, OR COLOURED VISION.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

IX. DISEASES OF THE LENS AND CAPSULE.

CATARACT.

Definition.—Partial or complete opacity of the crystalline lens, of its capsule, of both conjointly, or of the liquor Morgagni.

Varieties.—Lenticular, capsular, capsula-lenticular, and Morgagnian; true and false; radiated and arborescent; hard, soft, and fluid, and cataracts of various colours; congenital and acquired.

Age most liable.

Causes.

Symptoms.—Impaired vision, opacity in or behind the pupil, deposits of lymph, &c. &c.

Diagnosis.—May be confounded with amaurosis, glaucoma, weakened sight, &c. Use the catoptric test to ascertain the true character of the case.

Prognosis.—Depends on the complication of the case, its duration, &c.

Progress of the defect.

Question of operating when but one eye is affected.

Treatment.—Nothing short of an operation will cure the complaint. Several operations have been devised, viz.: 1. Extraction. 2. Depression, or couching. 3. Reclination. 4. Solution or absorption. (Anterior and posterior operation.)

Appreciation of these different operations.

Description of each, and the instruments required for its performance.

Preparation of the patient.

Season most favourable for operating.

After treatment.

Condition of the eye when the operation succeeds.

Cataract glasses.

GLAUCOMA.

Although this affection, strictly speaking, cannot be considered an affection of the lens in every case, yet as glaucoma is often confounded with cataract, and the lens is often involved, it may be as well to speak of it under this head.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Pathology.
Treatment.

X. DISEASES OF THE GLOBE OF THE EYE.

INFLAMMATION.

Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

HYDROPTHALMIA.

Definition.
Varieties.—1. Dropsy of the anterior and posterior chambers. 2. Dropsy of the vitreous humour. 3. General dropsy of the eye-ball.
Causes.
Symptoms in each form.
Diagnosis.
Prognosis.
Treatment.

ATROPHY OF THE BALL.

Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

COLLAPSE FROM SUPPURATION.

Character of the defect.
Mode of relieving the deformity.

EXOPHTHALMIA.

Definition.
Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

XI. AFFECTIONS OF THE LACHRYMAL ORGANS.

INFLAMMATION OF THE LACHRYMAL GLAND.

Causes.
Symptoms.
Diagnosis.
Prognosis.
Treatment.

ENLARGEMENT AND INDURATION OF THE LACHRYMAL GLAND.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

EPIPHORA, OR EXCESSIVE SECRETION OF THE TEARS.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

STILLICIDIUM LACHRYMARUM.

- Definition.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

XII. DISEASES OF THE CARUNCULA LACHRYMALIS.

ENCANTHIS.

- Definition.*
- Varieties.*—Innocent and malignant.
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

TUMOURS OF VARIOUS KINDS.

XIII. DISEASES OF THE LACHRYMAL SAC AND DUCT.

INFLAMMATION.

- Causes.*
- Varieties.*—Acute and chronic.
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

ABSCESS:

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

FISTULA LACHRYMALIS.

- Definition.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

PERMANENT OBSTRUCTION OF THE NASAL DUCT.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

CONGENITAL DEFICIENCY OF THE NASAL DUCT.

Operation for its relief—(see Berard.)

XIV. MALIGNANT DISEASES OF THE EYE.

FUNGOUS EXCRESCENCES.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

CARCINOMA OF THE EYE.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

FUNGOUS HEMATODES OF THE EYE.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

MELANOSIS OF THE EYE.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

XV. EXTIRPATION OF THE EYE.

Mode of performing the operation.

XVI. INTRODUCTION OF AN ARTIFICIAL EYE.

- Preparation of the eye.*
- Mode of placing it.*

XVII. ANALOGOUS DEGENERATIONS OF THE EYE.

OSSIFICATIONS AND CALCULOUS CONCRETIONS.

XVIII. ENTOZOOA IN THE EYES.

- Kinds usually met with.*
- Symptoms produced by their presence.*
- Effect upon the eyes.*
- Treatment.*

XIX. DISEASES OF THE ORBIT.

WOUNDS.

- Varieties.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

FRACTURES OF THE BONES.

- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*

FOREIGN BODIES LODGED IN THE ORBIT.

- Symptoms.*
- Prognosis.*
- Treatment.*

INFLAMMATION OF THE CELLULAR TEXTURE OF THE ORBIT.

- Causes.*
- Varieties.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Results.*
- Treatment.*

TUMOURS IN THE ORBIT.

- Various kinds.*
- Causes.*
- Symptoms.*
- Diagnosis.*
- Prognosis.*
- Treatment.*



Part II

5



