

**A BRIEF ACCOUNT OF AMERICAN SURGERY  
DURING THE PAST TWELVE MONTHS.**

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**GENERAL SURGERY, INFECTIONS, ANÆSTHESIA, SHOCK.**

ESTES<sup>1</sup> gives a *study of 724 major amputations*. The mortality for single major amputations is a little better than before the present series—4·30 per cent (former 4·76). This is but small improvement. We have to consider continually saving of blood, asepsis and antisepsis, and carefully discriminate when to operate. The blood-pressure is a valuable guide. Systolic pressure below 80, contraindicates. The author's material is of a somewhat special character, owing to the proximity of great steel mills, mines, etc. There are not a few cases of double major synchronous amputations (mortality 23·68). The author adheres to the old classical amputations, making little attempt to devise new ones.

Beckman<sup>2</sup> writes about the *complications following operations*. He gives figures from the Mayo clinic—5835 indoor patients. These are summed up under infections, pulmonary complications, thrombophlebitis, rashes, epididymo-orchitis, acute dilatation of the stomach. There were 111 cases of infection, the rationale of which was for the most part unknown. Certain factors were, introduction of the hand through a too small opening, and escape of secretions into the peritoneal cavity. The great majority of these infections were peritoneal. There were 80 cases of pulmonary complications, not counting embolism, of which there were 3. The 80 cases were divided among pleurisies, bronchitides, bronchopneumonias, and lobar pneumonias, bronchitis being the most frequent. There was no palpable connection between the operation and the pulmonary complication. The greatest number of bronchitis cases followed posterior gastroenterostomy, and next in frequency appendicectomy and inguinal hernia; the greatest number of pleurisies followed appendicectomy, etc. There were 16 cases of thrombophlebitis, chiefly on the left side. In a larger series of operations—8,703—there were 119 deaths—between 1 and 2 per cent.

Ashhurst and John<sup>3</sup> attempt to bring together the various methods in the *rational treatment of tetanus*. The authors believe that an intensive and synergistic treatment begun very early in the case would reduce the mortality to 20 per cent. Antitoxin should be injected by all the routes—intraspinal, intracerebral, intraneural, intramuscular, intravenous, and subcutaneous, and the doses should be comparatively frequent and large. Phenol injections may be superadded, and perhaps cholesterin and magnesium sulphate, as well as the usual depressants. The author's mortality of 56·5 per cent up to 1912 is about the average of recent reports. Since that period, and under the above management, seven out of eleven cases have been saved (36·36 per cent mortality). Three other authors quoted have saved two cases out of three. In many series of cases, the mortality is from 65 to 85 per cent.

Robinson<sup>4</sup> has collected a large number of cases of *intratracheal ether anæsthesia*. The author, originally connected with the Massachusetts General Hospital, has records of this form of anæsthesia in 1400 cases (22 clinics). His conclusions are brief: the method is safe, it is the anæsthetic of choice in operations about the head, neck and thorax, and should reduce mortality for these operations. It is not contraindicated in any operation, and is believed to diminish operative shock. All the usual forms of this apparatus are trustworthy.

Luke<sup>5</sup> records some instances of *emphysema from intratracheal anæsthesia*. The subcutaneous emphysema was naturally due to a tracheal wound made with the catheter. It reflected in no wise on the method of narcosis, nor was it followed by serious consequences. Another case (unreported), different in character, ended fatally from the entrance of the catheter into a bronchus, plugging the latter, with distention and rupture of the lung.

Crile<sup>6</sup> gives some of his results in the use of *anæsthesia and anoci-association*. The author considers chiefly abdominal operations and operations for Graves' disease, and gives his technique for each. He emphasizes the two following points: that the technique of surgery is now standardized all over the world; and that to obviate the dangers of anæsthesia presents a vast problem for the future. After explaining how various substances produce their anæsthetic effects, he states that anoci represents the exclusion of all harmful results, by sparing the brain and the psyche. In other words, he depends as much as possible on local and nerve-trunk anæsthesia. In connection with Dr. Lower he has performed during the past year 629 abdominal sections under anoci-association, with a mortality of 1.7 per cent. Dr. Bloodgood has obtained analogous results by the same methods.

#### SURGERY OF THE BONES AND JOINTS.

Coley<sup>7</sup> gives details of some cases of *myositis ossificans traumatica*. Three are related in full, showing the difficulties in diagnosing these cases from sarcoma. Both patients are young adults; there were history of traumatism shortly before development and similar x-ray pictures. But in myositis ossificans the sharp outline, corresponding to the juncture of the tumour with the bone, is always present, while in sarcoma it is less marked, unless in the earliest stages. Again, myositis is harder to the feel and exhibits in general more pain. Coley would make diagnosis sure by cutting down. Treatment differs with the case—usually conservative.

Roberts<sup>8</sup> discusses *operative fixation as a cause of delay in union of fractures*. The author wishes to obtain a verdict as to the wisdom of using fixation in closed fractures. After having operated thus once with a resulting long period of consolidation, he consults the opinion of other surgeons through their writings. He is surprised to find that advocates of fixation often admit delayed union as a drawback. The author would use fixation for special indications. In ordinary cases the old plan secures "rapid bony union, absence of deformity, and absence of pain." Some eminent surgeons who have had much experience in the operative treatment of fractures, are first in enumerating possible drawbacks, including delayed union, yet still speak in praise of it.

Binney and Lund<sup>9</sup> relate *eighteen cases of separation of the lower femoral epiphysis*. The cases are tabulated and beautifully illustrated with photographs

and  $x$ -ray plates. Separation is simple or compound. The cartilage always participates in the injury. Frequent exposures to the  $x$ -ray are required after treatment, which is chiefly fixative, a single transfixing nail apparently being sufficient for retention. But precisely this resource tends to assist epiphyseal growth and prevents shortening of the limb. Injury to the cartilage at the time of accident may have the same effect.

Pfahler<sup>10</sup> writes on *Koehler's bone disease in the U.S.* The so-called Koehler's disease, which is limited to a single bone—the scaphoid of the foot—was first described in 1908, and has been seen for the first time in America by Pfahler, of Philadelphia. About nine cases have been reported in Germany. The author made his diagnosis from the localization, as shown by Koehler, but while some at least of the victims were perfectly healthy, the author's patient had bleeding gums and attacks of fever. He had several attacks at considerable intervals, and no history of traumatism. Whenever a boy between three and nine presents attacks of temporary lameness, and  $x$ -rays show an increased density at the ossifying point of the scaphoid of one foot, with pain and tenderness in the arch of the foot, the diagnosis is sufficiently established. Rest and massage, the former by immobilization, seem to be the logical treatment, and recovery occurs as a rule without deformity, the radiographs being normal. On the other hand, some degree of condensing osteitis of this one bone undoubtedly occurs, the bone then being smaller and more irregular than normal.

Coley<sup>11</sup> relates a single unique case of *sarcoma of the femur*, apparently cured for ten and a half years by his serum; then a sarcomatoma developed in the same member at the site of an  $x$ -ray dermatitis. We know that sarcoma can be produced in rats. The author is unable to learn how  $x$ -ray cancers can throw any light on the nature of that disease. It is possible that it so devitalizes the tissues that some universally present irritant can cause general cell proliferation. The same thing has, of course, been said of bruises, chronic irritation, etc.

Murphy<sup>12</sup> has written a long article on *arthroplasty*. He refers under this title to any methods which remove ankylosis, so that a working joint remains. His work goes back to 1900. In one hospital alone he has operated on 124 patients. The technique in the different joints does not differ essentially. The strictest asepsis is absolutely necessary. Sixteen cases are given to illustrate special localizations. The first step is to expose the joint and open its capsule; the ankylosis is freed. The originally ankylosed bone ends are treated for the establishment of the new joint, and an interposing flap of fascia, muscle, or fat inserted. There are many technical details.

#### DISEASES OF THE BREAST.

Miller<sup>13</sup> deals with a comparatively new disease, *carcinoma mastoides*, of which there are at present but twelve cases all told. It occurs chiefly in pregnant and puerperal women, and while really a fulminating form of mammary cancer, resembles strongly a subacute purulent mastitis. Thus far, the disease is so highly refractory to treatment that operation hardly prolongs life. In discussion, Rodman did not believe the disease so rare; he had seen ordinary cancers which took on this acute development, and they occurred in the non-pregnant also.

Syms<sup>14</sup> discusses the subject of *lymphangioplasty (Handley's method)*. He secured only a failure when operating for brawny arm. The ratio of success here is about 50 per cent. In elephantiasis the operation has always failed. In various simple lymphangiomas or œdemas, cures have readily been effected. Erdmann reports one of the leg. A. S. Taylor cured lymphangioma of the arm following a dog-bite. There is a general opinion that the operation is in its infancy.

Speese<sup>15</sup> writes about *tumours of the male breast*. Dealing with carcinoma, he mentions the latest reports. Despite the alleged infrequency, this is relative only. Even as early as 1885 there were 348 cases of malignancy, some of which were probably sarcomata. The author regards 500 cases of cancer as a conservative estimate. To the total, whatever it be, the author adds two personal cases which call for no remarks. In discussion, Gibson mentioned 4 personal cases of apparent malignancy, only one of which was cancerous; the others were sarcoma (1), and fibro-adenoma (2). Rodman had seen 9 cases of cancer.

Deaver<sup>16</sup> gives a review of 534 operations on *the mammary gland*. The primary mortality has come down from 25 per cent to 1 per cent. The Halsted technical principles have brought local recurrence down to 6 per cent. Of a recent series of 200 cases operated upon, 31 should have been inoperable on account of metastases. Patients delayed until sixteen months as the average duration before operation. A cancer readily recognizable is usually inoperable. About 21 per cent pass the three-year post-operative limit (one in five permanently cured).

#### THE CHEST, AND ORGANS OF RESPIRATION.

Lund<sup>17</sup> writes of *sarcoma of the chest wall*, and continuing Parham's work (1898) makes the total of subsequently operated cases 28. The mortality for such a formidable affection was very low—but two deaths. This evidently refers only to primary mortality. The material is all subsequent to Parham's, which dealt with resection of the thorax in general. The author reports a case because of the rarity of the affections, the excellence of the *x-ray* pictures, and because of the ease with which the lung was kept expanded with widely open thorax: intratracheal anæsthesia was used. The lung was inflated with bellows. Recovery.

Crile<sup>18</sup> in an article on *laryngectomy for cancer*, reviews his work to date. He has now done 27 laryngectomies with 2 operative deaths. He limits his activities to early intrinsic cases, in which there is a possibility of radical cure. The causes of death were mediastinal abscess and tracheal necrosis with septic pneumonia. The operative deaths are present in about the same ratio in cancer of the tongue, rectum, etc. The author studied the statistics of all countries to find the causes of mortality (pneumonia, local infection, mediastinal abscess, vagus inflammation, inhibition of the heart, etc., through mechanical stimulation of the superior laryngeal nerve), and details the measures for averting each of these. The questions of the anæsthetic, and substitute for the larynx, are discussed fully. In nearly half the cases, tracheotomy was necessary. These growths seldom cause metastases, and when all is taken into account should be more readily curable than any other cancer. The author speaks of at least one three-year cure, but does not give the full statistics.

Barnes, Lake, and Fulton<sup>19</sup> deal with *pulmonary tuberculosis treated with artificial pneumothorax*. Seventeen cases were treated at the Rhode Island State Sanitarium. Nitrogen gas alone was used, and the technique was Forlanini's throughout. The cases were naturally of the severer types (all bilateral), with very bad prognosis. As to results—14 only tolerating the treatment—7 had temperature reduced to normal, 5 to a subfebrile point (99.5°) and 9 gained weight; but 8 who had been helped renounced the treatment, and 7 cases ended fatally, on an average of 5½ months after treatment began. The authors would further test the remedy on less severe and unilateral cases.

King and Mills<sup>20</sup> discuss therapeutic artificial pneumothorax, as illustrated by 16 cases of pulmonary tuberculosis at the Loomis Sanitarium, Liberty, N.Y., which have recently been treated by the above method. Two have shown marked improvement, amounting perhaps to recovery, 6 have shown temporary or slight improvement, 1 case improved as to hæmorrhages; while 1 received no benefit, and 6 could not profit at all by the method on account of the amount of pleural adhesions.

#### SURGERY OF THE ABDOMEN AND ALIMENTARY CANAL.

W. J. M. Mayo<sup>21</sup> gives particulars relating to *surgery of the spleen*. Between April, 1904 and October, 1912, there were performed at the local clinic 27 total splenectomies, with two operative deaths. Of the total number, 18 were of splenic anæmia (including Banti's syndrome), while the other 9 were divided among floating spleen (2), tuberculosis (1), pernicious anæmia (1, diagnosis doubtful), cirrhosis of the liver (1), and cases termed "infections" (4). The two operative deaths occurred among the splenectomies for splenic anæmia. The case of floating spleen recovered; the patients with tuberculosis and cirrhosis of the liver survived but a few months. The case of so-called pernicious anæmia showed no improvement. The so-called infectious cases are not discussed. The author's mortality was about 8 per cent, much lower than in certain other series quoted, and he thinks that it ought not to exceed 5 per cent.

Wilson,<sup>22</sup> continuing the preceding article, deals with studies of eighteen spleens, the seat of splenomegaly. Very large, smooth spleens represent overgrowth of characteristic splenic tissue. The rougher spleens are the result of a later overgrowth of the splenic fibrous tissue. Great connective-tissue overgrowth and degeneration of splenic pulp are associated with cirrhosis of the liver.

Noland and Watson<sup>23</sup> describe three cases of the *spontaneous rupture of the malarial spleen* seen in the Canal zone. A very rare accident. It is dangerous to employ deep palpation, etc., in these cases, or to perform exploratory puncture. The victims were two negroes and a Spaniard. The symptoms were those of traumatic rupture. There were two recoveries. The third operation was successful, but the patient died of urinary retention.

Fowler,<sup>24</sup> in an article on *cysts of the spleen*, refers to non-parasitic cysts; he has collected the total material from the literature, including autopsy, puncture, excision, and drainage, partial and total splenectomy cases. The author's study of the entire subject is the first to appear since Bircher's in 1908.

W. J. Mayo<sup>25</sup> discusses *injuries to the pancreas* while operating on the stomach and spleen. In operating upon 378 cases of resection of the stomach, this occurred with 11 per cent. In 8 cases in which pancreatic attachments had to be divided, no added mortality resulted. In 30 splenectomies, the tail of the pancreas was wounded three times, but with no mortality. To deal with these injuries requires much technical resource. The pancreatic duct always escaped injury. Separated portions of pancreas may have to be fixed to the stomach or spleen. The author has resected the pancreas for tumour, with recovery. It makes the eighteenth case on record (10 recoveries, 8 deaths).

McDill<sup>26</sup> gives a paper, partly experimental in character, dealing with *lymph-angioplasty for chronic ascites*. A trocar wound is made and lymphangioplasty done for drainage. Loss of nutriment by repeated tapping is too costly. The author's procedure is by no means original in its idea. He punctures above the pubis under quinine and urea anæsthesia, and inserts a cannula through which three pieces of silk are passed by the aid of a carrier. The author's method differs from that of Mitchell and others in that drainage begins in the immediate vicinity of the puncture, so that the "peritoneal pond" slowly escapes beneath the skin.

Lund,<sup>27</sup> under the title of "*The Surgeon and the Ptosis Problem*," gives an article typical of many similar papers. He refers to methods of visceral suspension in which he sums up the work of Jackson, Lane, Coffee, etc., and then gives his own views, viz. :—For simple ptosis, no surgery; if constipation is present as a result of mechanical causes, he seeks to eliminate the "cesspool" by the procedure most suitable for the case, including separation of adhesions, extirpation of membranes, lateral anastomosis, ileosigmoidostomy, and even resection of entire cæcum and ascending colon, hepatic flexure, and part of the transverse colon (done twice by the writer). The author also discusses resection of the sigmoid and transverse colon (separately), and a form of lateral anastomosis for prolapse of rectum (McArthur's) which he has done successfully in one case. This field seems illimitable, and diagnosis is of the greatest importance, the *x*-rays being checked by all other methods. (He evidently does not believe in trial laparotomy in routine work.) But as to end results, we must expect relief only, for cure is not often realized. As for the proportion of failures, there is a belief that this is large.

Abbe<sup>28</sup> relates his personal experiences of *malignant disease of the mouth and tongue*. Within ten years he has treated 40 cancers of the tongue, 15 leukoplakias, 27 sarcomas of jaw (including epulis), 40 sarcomas of tonsil and pharynx, in addition to various cancers and benign tumours. He announces that of this group we can cure few with radium save in giant-cell sarcoma, in which it is a specific; the same may come to be true of leukoplakia. Even in advanced cancers, in which the knife is our stand-by, radium may be an adjuvant.

Richter<sup>29</sup> has a practical article on *congenital atresia of the œsophagus*. Seventy per cent of all congenital malformations affecting the gullet consist of atresia, involving a tracheo-œsophageal fistula. Less than 150 cases have thus far been reported, and the lesion has always been essentially fatal, with or without treatment. The author first closes the gullet opening at the bifurcation of the trachea by the transthoracic route, followed at once by gastrostomy. The

former intervention is the severest. Anæsthesia is with ether of the Meltzer-Auer type. The steps preliminary to ligation of the gullet comprise those used in all deep intervention in the thorax. The gullet is isolated and closed by a very elaborate technique, and the chest closed. Gastrostomy is then performed. The author has seen this condition four times. Two babies died without any intervention and two were subjected to operation, the first dying from shock, while the second lived twenty hours. It had taken eight ounces of milk through the gastrostomy tube. Death was evidently due to bronchial infection before operation. The author thinks that his good technical result in two cases warrants a hope of ultimate success.

Torek<sup>30</sup> gives an account of *the first successful resection of the thoracic portion of the œsophagus for carcinoma* in a brief preliminary report. The patient is a woman of 67 years. She had already submitted to a gastrostomy. The author entered the thorax through the seventh intercostal space, then made a cross incision at the back of the chest extending to the fourth rib, the line corresponding to the angles of the ribs. Vagus collapse was averted, and the pulse remained constant. Small thoracic branches of the aorta having been ligated, the œsophagus was drawn into the field, and carefully detached from the pleura. The œsophagus was divided and drawn outside the thorax through an opening above the clavicle. The woman made an amazingly quick and sound recovery. Details will be published later.

W. J. Mayo,<sup>31</sup> in an epoch-making paper on the *operative treatment of cancer of the stomach*, comes to the conclusion that at present cancer of the pylorus can be diagnosed so as to permit radical operation in about one-half of all cases. The operative mortality is about 10 per cent, and by using a little selection based on the patient's condition, it can be reduced to below 5 per cent. About 25 per cent of those who survived operation should attain the five-year cure, while as regards the three-year cure, 38 per cent should be alive and free from recurrence at the end of that period. Mere resection gives on average not above one year's survival. In the discussion of this paper, Rodman would try to improve the percentage of recoveries by excising all pyloric ulcers. He has done this for thirteen years. Deaver added that exploratory laparotomy had practically no mortality and is freely available in the diagnosis of pyloric affections.

Scudder<sup>32</sup> has collected from literature 21 cases of the very rare affection, *sarcoma of stomach*, which were all he could find, and he adds another. One year only had elapsed since his operation, the patient having made a complete recovery for the interval. The first diagnosis was duodenal ulcer. (There had been hæmorrhage from the bowels.) Laparotomy, with intent of performing a jejunostomy, revealed the real condition. After the operation, patient improved greatly, and a partial gastrectomy was done, extirpating the growth.

Outerbridge<sup>33</sup> has written a monograph on *carcinoma of Vater's papilla*, containing all records of cases in the literature. There are some successful extirpations on record, but no cures (three-year limit). Little is known of the histology and pathogenesis. The duration of the disease unchecked is seldom over seven months. Death is due in most cases to cholæmia.

McDonald<sup>34</sup> reports a case of *congenital atresia of duodenum* (a rare abnormality of which perhaps 50 are on record). This case was complete atresia, so that the manifestation appeared very soon after birth. No other anomalies were

noted. Diagnosis of pyloric stenosis. Death occurred after several days. The condition was revealed at autopsy.

W. J. Mayo<sup>35</sup> gives his experience of *excision of ulcers from anterior wall of duodenum*. This paper refers naturally to operations unaccompanied by gastroenterostomy. The author and his brother have excised 52 of these ulcers, and both immediate and end results are good. In a few cases ulcers were also found on the posterior wall and in the pylorus. In these multiple cases gastroenterostomy was indicated. Should the ulcers of the anterior wall turn out to be of the gastric type—thickened and callous—the policy of excision would be of doubtful value.

Ladd,<sup>36</sup> under the heading of *progress in intussusception*, refers to the statistics of the Children's Hospital, Boston. In the period 1908–1913 there were ten times as many recoveries as in 1903–1908 (world-wide figures). Practitioners bring their cases in earlier, and we have the bismuth *x*-ray diagnosis. Patients operated on within thirty-six hours should recover. The series 1908–1913 embraced twenty cases, with a mortality of 45 per cent, much greater than Chubb's 8 per cent in fifty cases, but a great improvement on their own (90 per cent between 1903 and 1908).

White<sup>37</sup> puts forward the idea of the *contracture of psoas parvus muscle, simulating appendicitis*. The author reports seven cases in which the appendix was found normal, despite the clinical picture of appendicitis, and in which he suspected the latter to be due to contracture of the psoas parvus tendon. In pseudo-appendicitis, surgeons usually invoke adhesions or mechanical anomalies, or a neurotic element. Only one of the author's patients was of this last-named type. In the literature, the author finds only hysterical or functional spasms, without reference to appendicitis. In the author's cases, tenotomy was performed with marked success.

Eastman<sup>38</sup> discusses the presence and significance of the *fœtal peritoneal folds*, in an article representing a thorough study of the fœtal membranes so frequently mentioned by Lane as the indirect cause of intestinal stasis. The subject is by no means modern. The folds were known to Virchow, and numerous surgeons have noticed their existence in certain localities and given them names for the most part topical. Treves' "bloodless fold," Douglas Reid's "genito-mesenteric fold," Jonnesco's "parietocolic fold," are all discussed by the author in connection with Jackson's membrane, because all these three structures are fœtal. He concludes that fœtal studies will never solve the problem, which must be done by a composite study of the work of Flint, Mayo, Lane, Jackson, Connell, Pilcher, Coffay, Binnie, Gerster, and Martin.

Jackson,<sup>39</sup> the discoverer of "Jackson's membrane," writes an extensive paper on *membranous pericolicitis and allied conditions of the ileo-cæcal region*. He discusses the treatment of the colon in these cases, without advocating any classical procedure. Among numerous competitive operations, he mentions a cæcosigmoidostomy recently devised by Youmans, of New York.

Douglas<sup>40</sup> reviews the subject of *diverticulitis of the sigmoid*. The modern American literature of this condition goes back to about 1907, when Brewer reported 6 cases of left-sided abdominal suppuration, in two of which diverticula were present. In the same year Mayo reported 5 cases. In 1908, Telling, of England, collected from all countries notes of 105 cases adapted for analysis.



At the Mayo clinic 27 cases have been reported, C. H. Mayo saying that in only 9 was a diagnosis made. Since Telling's paper of 1908, many new cases have been reported. A weak spot in the intestinal wall paves the way for the diverticula, which may be very numerous, yet cause no trouble at first. Eventually inflammation follows, involving adhesions with the bladder, inflammatory thickening of the gut, perforative peritonitis, perforation of bladder, and cancer. Symptoms on the left side, simulating appendicitis, should suggest perforating diverticulitis. Statistics show it to be a disease which develops at about fifty-five years.

Brown<sup>41</sup> writes an article on the *complete physiological rest of the large bowel in certain affections of the latter*. Among the colonic conditions referred to, are mucous colitis, with obstruction, ulcerative colitis, and obstructions of the colon by tumours. In mucous colitis some stasis is usually present; the cæcum is in the pelvis fixed by adhesions, and there are angulations at the hepatic and splenic flexures, the transverse colon sagging. The author is a believer in short-circuiting operations for this condition, and has operated, often without benefit. After mentioning the other affections, he gives an account of his operation for "resting" the bowels. He loosens the cæcal adhesions, and ties off the distal portion of the ileum, which is buried. In an incision in the cæcum, a catheter is fixed opening externally. The divided end of the ileum is provided with a tube, which constitutes an artificial anus. In his way both cæcum and small intestine are amply drained, and this gives to the colon its needed rest. When the latter has healed, the ileum may be anastomosed laterally to the ascending colon or sigmoid. The author has operated on ten cases. These cases of malignancy and one of tuberculosis were relieved, while the other four were cured.

Dr. W. C. Lusk<sup>42</sup> and others discussed before the New York Surgical Society, *rectus transplantation in radical operations for inguinal hernia*, in which the whole subject of ligature material was involved. The transplantation is done chiefly when there is deficiency of the internal oblique muscle, and in both direct and indirect hernia. Downes had done this operation 165 times, and as far as he knows, but a single failure has occurred. He used two layers of suture material under the cord. Coley approved of this plan. Moschkowitz has seen numerous failures, and blames the choice of suture material, which he now believes should be absorbable. Dawbarn thought recurrence to be due to separation of the conjoined tendon from Poupart's ligament. He uses non-tension sutures of linen, and believes that they are now used at the Mayo clinic and by others. Coley defended absorbable sutures; Gerster used silk for many years, until he began to have infections and changed to chromic gut. Lusk, who reported a new method of rectus transplantation on a former occasion, had since learned that he had been preceded by Halsted, Bloodgood, Wölfler, Berger, and others, most of these surgeons having apparently originated the operation independently.

#### SURGERY OF THE HEART AND VASCULAR SYSTEM.

Stewart<sup>43</sup> gives an account of *five cases of suture of the heart*. Despite the numerical frequency of reports of heart suture, the author states that this has been done by Philadelphia surgeons but eleven times. Two cases have never been reported. Six of the eleven cases have recovered. The author, as a result

of his work, does not believe in pericardial drainage after an operation on the heart; but if, after complete closure of the sac, pus regathered, drainage is of course inevitable. Of four cases in which he practised complete closure, no empyema formed. One died within an hour. The last lived forty-one hours, the sac being distended with fibrin.

Matas and Allen<sup>44</sup> have made an experimental study of the *practicability of reducing the calibre of the thoracic aorta by plication*. They claim that they have all but succeeded in plicating this vessel in the dog. No animal has yet survived the third plication. For the present, all these aneurysms in men must be exposed (thoracic and abdominal aorta), and the older resources employed. Suture and plication, despite their lack of success in the dog, may yet prove feasible in mankind.

Halsted<sup>45</sup> writes on *partial occlusion of the thoracic and abdominal aortas by bands of fresh aorta and of fascia lata*—a paper which is wholly experimental in scope and is a late development of Porta's efforts to secure partial occlusion of arteries. The bands tend to absorption. The femoral tension is not increased. Successful constriction might succeed in curing certain aneurysms.

Meyer<sup>46</sup> discusses the *surgery of the pulmonary artery*, with special reference to an original case. The author first reviews the Trendelenburg operation for embolus of the pulmonary artery. This intervention is successful in animals only, and is pronounced by some of no value, because in successful cases, survival either is impossible or would have occurred spontaneously. In the United States the delay of seeking the consent of patients' relatives would be fatal. Meyer believes that with a more careful selection for indications and the use of Sauerbruch's cabinet, the operation may yet succeed in man. The indication should be limited to embolism of protracted course. He has operated on one case, in which the patient, a woman aged 70, died on the table.

Vaughan<sup>47</sup> describes some cases of *aneurysm treated by Matas' method*, and endorses the claim of many that Matas' work is the most progressive step since the activity in this field of John Hunter. He reports two cases treated by the method, in one of which death occurred, but not from the operation or the aneurysm; these were seated in the external iliac and popliteal arteries respectively. In the first case, arterial blood entered the sac when the external iliac was compressed. The source of this blood-flow was unknown. Hence, entrance into the sac was made and the vessel ligated. Collateral circulation was soon established.

McWilliams<sup>48</sup> contributes a partially successful case of *arteriovenous femoral anastomosis (lateral transverse) for threatening gangrene*. The patient, male, aged 53, had already lost two joints of his second left toe. Six years before, he had to lose his right leg for gangrene extending up the foot. The left toes continued to die. The author, in order to save the foot if possible, did a Bernheim transverse anastomosis, as done with success eleven times by the latter. The operation was promptly done, and was followed by intense pain for five days. The circulation in the foot became re-established. The popliteal pulse cannot be felt. The stump of the second left toe, which had been amputated some time before the operation, was the only portion of the foot which presented active symptoms. It will doubtless require amputation.

## SPINE, SPINAL CORD, AND NERVES.

Rugh<sup>49</sup> describes *ten cases of Albee's bone grafting for Pott's disease*. The cases are freely illustrated, showing the removal of the tibial graft and its insertion into the vertebral canal. The author extols the simplicity of the operation, the absence of shock and elements which contraindicate operation, the complete fixation and immobilization of the spine without interference with function. A plaster-of-Paris jacket or steel brace may be worn later, the first-named to be preferred. The author would prolong fixation over the interval taught by Albee—at least eight months of outward support, and more if occupation strains the spinal column.

Frazier<sup>50</sup> writes on *the relief of gastric crises in tabes dorsalis by rhizotomy*. He did his first operation of this sort on Sept. 19, 1911, following Förster's original technique. At present, the results of the intervention show the greatest improvement over the original condition. There is a difference of opinion as to whether the nerve roots are best divided without or within the dura. The author believes in opening the latter for the better separation of the anterior and posterior roots. About 30 rhizotomies have been performed for this condition, with 9 complete recoveries, 16 cases of improvement, and 5 deaths.

Elsberg,<sup>51</sup> under the title of *experiences in spinal surgery*, details the conclusions derived from 70 operations on the spine, of which 60 were primary laminectomies and the remainder secondary interventions. With experience, the intervention becomes easy, provided osteoplastic flaps are not involved, and these are seldom necessary. Hemilaminectomy has a very narrow field. The technique is more simple than in cranial surgery. One stage ordinarily suffices. A least two, and as many as seven spines and laminae may require removal. Tight closure of the dura and paravertebral muscles is essential, and drainage should never be required after laminectomy. The dura should not be opened before oozing in the superjacent structures has ceased, and if possible the pia should be opened afterwards to prevent access of dural blood to the cord. Many cases of removal of tumours of the cord are given.

Taylor and Casamajor,<sup>52</sup> in discussing the *operative intervention in traumatic Erb's paralysis*, report some original cases, and admit that their results are by no means brilliant. This was due to conditions which could not be made to yield recovery; or rather, the operator would have done more ultimate harm than good. Results are late, and benefit rare. Operation gives better results than a let-alone policy, and is essentially simple if the nerves can be loosened and resected preparatory to end-to-end suture. This may at times be effected by fracture of the clavicle. Post-operative fixation may be necessary for from six weeks to six months.

## DUCTLESS GLANDS, GENITAL ORGANS, AND SKIN.

Parker<sup>53</sup> has collected reports of *fifty cases of thymectomy*. He states that thymus gland surgery is for the most part emergency in character, and practised in infants and young children. He has been able to find but one case in an adult, operated on by Garré. The patient also had Graves' disease. The author has carefully tabulated the fifty reported cases, and has drawn from their analysis a complete description of the disease. There have been only some half-dozen

American operators. Even the Mayos have published only a single case. After compilation of his table, the author learned of a recent case by Schroeder, of Chicago. In speaking of the non-emergency or continuous cases, and their intermittent form, the author states that in either case crises occur, and one of these may be severe enough for intervention. The mortality (33½ per cent) is sometimes due to complications, but more often to some previous surgical intervention or infection. There was always more or less survival, not a death occurring on the table. The method preferred at present is the intracapsular, which is simple and easy. General anæsthesia is well borne. In other words, the so-called "thymic death" has not been seen in thymectomy.

C. H. Mayo,<sup>54</sup> in writing of the *surgery of the thyroid*, draws his conclusions from the 5000 cases treated at Rochester, Minn., during the past twenty-five years. The number of goitres in the ordinary sense was very nearly the same as that of the Basedow or exophthalmic type (2396, 2295). There were 59 operations for malignancy, and 309 operations done early, in which no diagnosis seems to have been made. (These were probably cases of simple goitre.) Basedow's were treated with double and single ligations, extirpation, and partial thyroidectomy. The mortality of operation has come down from 25 per cent to 1 or 2 per cent. Of Basedow's, 75 per cent are cured and the rest improved.

Crile<sup>55</sup> writes of *aseptic wound-fever and post-operative hyperthyroidism*. In demonstrating the identity of these two conditions, the author states that when centripetal stimuli from a wound were barred by urea hydrochloride and quinine, and with further exclusion of psychic and traumatic stimuli, the post-operative temperature and pulse commonly known as aseptic wound-fever do not occur. He had already observed that the technique which controlled the one also controlled the other. This technique, in direct reference to hyperthyroidism, was the feature of anoci-association, which dealt with the emotional sphere.

Gerster and Mandelbaum<sup>56</sup> have described a case of *the formation of a bone in the human penis*, which is said to be almost unique; but literary research shows now a total of 16 cases.

J. S. W. Davis<sup>57</sup> describes the *extensive thickening of Thiersch grafts due to amidoazotoluol*. He mentions the prevalent scepticism as to the healing powers of certain substances which contain amido-bodies like scarlet red. Amido-azotoluol, a constituent of the latter, was used on portions of Thiersch grafts, and these were stimulated to double their normal thickness, while controls retained their original thickness. No tendency to malignant overgrowth has been noted. The case was held to be unique.

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