him to recover from his sprain, the bandages were removed only to find that there was a dislocation.

The patient being etherized an attempt was made to wind up the humerus on the coraco-humeral ligament, but without success. Both arms were then put upon the stretch, three assistants pulling upon each, and with the knee in the axilla it was endeavored to tilt up the humerus, while crowding down upon the scapula, but without accomplishing anything, after a protracted trial of ten minutes. The arm was then elevated above the head, and with the bootless foot upon the scapula, extension made, but all to no purpose. Winding up was again tried without avail.

Both arms were again extended as before, three assistants pulling on each, and chloroform poured freely over the shoulder to relax the muscles, when by a powerful effort the head of the humerus was lifted into the glenoid fossa, and the deed was done. The arm was then flexed and bandaged to his side for a few days, after which he was allowed to slowly recover the use of it. (W. Danforth, Surg. Clin. Hahn. Med. Coll. and Hosp.; U. S. M. and S. J., v. 9, p. 56.)

Miss S., æt. 19, ran a tack into knee, causing a *fracture of ligamentum patellæ*. Limb was bandaged and put in straight pasteboard splints, with an aperture for application of *Arnic.* (M. Macfarlan and M. M. Walker, Proc. H. M. S., Penna., 1873.)

Fracture of Tibia. Mr. M., æt. 27. Nov. 1st, while wrestling, sustained an oblique fracture of tibia, lower third; leg much swollen; reduced fracture; applied extension; bathed with solution of *Arnica;* placed sand bags at the sides. Afterwards used Day's ankle splints. ℞. *Calc. phosph.*^{2c}, one dose. Dec. 16th. Limb sound and straight. (J. C. Burgher, H. M., March, 1873, p. 360.)

Fracture of Patella. Mr. C., æt. 45. Patella had been twice broken before in the same place, across the upper third, with cartilaginous union. Approximated fragments with adhesive strips and straight splint. ℞. *Calc. phosph.*^{2c}. (J. H. McClelland, H. M., March, 1873, p. 357.)

Fracture of Tibia and Fibula. Mr. D., æt. 30, comminuted fracture of tibia and fibula, lower third. The leg had been in binder's board splints, and was doing well, but to allow the man to rise, a plaster dressing was used. An ordinary roller was applied, then a bandage into which the plaster was well rubbed; it was moistened with water, and a second bandage applied in the same way. The man was able to get on crutches at once. (J. H. McClelland, H. M., March, 1873, p. 357.)

Fractures of the Leg and Spinal Injury. J. S., æt. 29, crushed by a fall of rock. Four hours afterwards found patient suffering intense pain; etherized and undressed him. Found double fracture of left tibia, lower and middle thirds; fracture of left fibula, upper third. Reduced fractures, applied plaster of Paris splint. Examined back which was much bruised, with partial dislocation of last dorsal vertebra. Applied *Arnica* and arnica cerate. Patient was placed on his back. Lower limbs were powerless, with undiminished sensation. Incontinence of *urine.* For several days restlessness with pain in back and well leg. At sixth day there appeared a sacral slough about the size of the hand. Placed patient on his side, and filled ulcer with raw cotton saturated with a solution of chloride of zinc (one part chloride to twenty of water). Renewed this daily till healthy granulation occured; then used *Calend.* Removed splint on twenty-third day; could feel callus; bathed leg in *Calend.;* re-adjusted splints; allowed patient to sit up; used passive motion of legs five minutes, three times a day. Applied a padded spinal support. Used *Arnic.*, *Hyper.*, *Nux vom.*, *Rhus tox.*, internally; urine, etc. under control; can turn in bed; free from pain; fractures healed; has some control over legs; sits up an hour at a time. (J. C. Burgher, H. M., May, 1873, p. 465.)

Tibial Fracture. Mr. E., æt. 30, by falling on pavement, produced a transverse fracture of lower third of right tibia. The fracture was reduced and Day's ankle splints applied. Saw patient two days later, when he, having cut the roller about foot and ankle, had a blister below internal malleolus with extensive ecchymosis of foot. Removed dressings, applied arnica solution, arnica cerate, and the Bavarian splint. Removed splint on sixth day, sponged in a weak solution of *Calend.*, padded and replaced splint, allowing him to sit up or walk on crutches. Rapid convalescence. (J. C. Burgher, H. M., May, 1873, p. 467.)

Sprains of the Joints. (Wrist, knee, ankle and shoulder.) May be uniformily cured in one week's time or less, by means of adhesive strapping. (A. G. Beebe, M. I., v. 10, p. 443.)

Munger's Improved Splint for Fractures of the Femur. *Description.* Take an ordinary straight splint (as described in Liston's or Ericksen's surgery) and fit it to the limb as if for application. Saw it asunder opposite the seat of fracture, and remove an

inch or an inch and a half from each section of the splint where sawn through. To the outer edge of the upper portion screw two iron rods, each three-eighths of an inch in diameter and twelve to sixteen inches in length. These rods slide into grooves in the outer edges of the lower section, which are covered with tin. At the upper end of the lower segment is attached an iron bracket, its head rising an inch and a half above the splint. (In severe compound fractures it should be elevated still more for convenience in dressing the wound.) Through the head of this bracket runs a screw ten or twelve inches long, the end of which fits into a depression in a second bracket corresponding to the first, and attached to the upper segment. Turning the screw forces the two sections of the splint apart, obtaining and maintaining extension to any degree. There should be from three to five inches space between the sections where the splint is applied and extension made, to facilitate examinations and dressing of the injury. Each section, made according to the foregoing directions, should be well padded. The whole is then applied in the same manner as an ordinary Liston's splint. (S. H. Talcott, N. Y. J. H., March, 1873, pp. 24, 28.)

Willow-twig Fracture. Six months. Treated by J. B. Bell. (N. E. M. G., Aug., 1873, p. 353.)

Treatment of Fractures. By W. Tod Helmuth. (Trans. N. Y. H. S., 1872, p. 139.)

Fracture of Internal Malleolus. A young girl was thrown from a carriage, the whole internal malleolus of right ankle broken off, with slight displacement of the fragment downward. Had been treated with rest and cold applications nineteen days. The fracture was reduced under ether, and the foot kept in flexion four weeks by means of bandages. At the end of this time passive motion and hot water showering were used. Well. (J. B. Bell, N. E. M. G., April, 1873, p. 165.)

Compound Fracture of Leg. Use of sand in fracture-box advocated instead of bran, for the reason that it is cooler, a better disinfectant, will when wet, stay where you pack it, and will hold fracture in place better than splint and water dressings, will readily pass off without any detriment to limb or clothing. (G. W. Williams, A. J. H. M. M., v. 6, p. 185.)

Complicated Injury of the Left Leg, caused by jumping from a wagon, whereby the left leg was caught between the spokes of the wheel. On the inner side of the shin-bone was a wound five inches in length, from which the lower portion of the tibia protruded, denuded from all soft parts. Tendons and muscles were torn, the foot dislocated outward, the fibula broken; the outer part of the foot was turned upward; the malleolus internus protruded downward almost to the sole of the foot; the tendo achillis was injured and swollen. The loss of blood had been very great. After great exertions the doctor succeeded in bringing the parts into proper position. The wound was now dressed with a compress saturated with a solution of *Arnic.*, 1: 10, and the whole secured by two splints, cotton and bandage. Internally the patient received *Arnic.*[3] and *China*[6], alternately. Within three weeks great improvement; the wound being clean, suppurating very little. Interfering friends called in a quack, who by salves and hard bandaging soon succeeded in setting the whole limb on fire. The doctor being recalled applied his former dressing and gave internally *Bellad.*[3] and *Laches.*[3], alternately. Six weeks after the aggravation, the patient was able to walk with crutches. Although there remained an anchylosis of the ankle-joint, yet the patient is able to walk a little limping. (Uljanitzky, Hom. Gaz., in St. Petersburg; H. Kl., 1873, p. 40.)

Fracture of Internal Condyle of Humerus. Miss C., æt. 26, was thrown from a carriage, fracturing the left humerus through its trochlearic extremity. Found arm half flexed and pronated, the ulna dislocated backward; partial immobility; arm much tumefied and tender. Chloroformed patient; reduced dislocation and fracture; placed the arm in a straight splint well padded, keeping it there until the acute inflammation and swelling had subsided. Now removed the straight splint, applying a circular bandage to include and gently compress the internal condyle against its fellow; applied a flexible splint to the anterior face of the arm, and made daily flexions of the fore upon the upper arm. Continued this four weeks and removed the splint. Daily flexion and extension were made for four weeks. Has nearly the full use of the joint. (T. D. Stowe, H. M., Dec., 1873, p. 206.)

Abscess of Abdominal Pareties. Mrs. W., æt. 18. Nov. 5th. Six weeks ago had dull pain in left hypochondriac region, extending toward back, with swelling and tenderness. Was treated allopathically. Pain and swelling continue; has to lie on her back with thigh and leg flexed; sacral bed sore; dry, hacking cough; thirst; slight chills; perspiration; anorexia; diarrhœa; sleeplessness; pulse 90, feeble. Dressed bed sore with simple cerate; applied a warm linseed meal poultice to swelling. ℞. *Hepar s. c.*[30],

four hours. Nov. 9th. Constant improvement; opened abscess by a free incision along outer border of latissimus dorsi, two inches above iliac crest, from which three pints of pus were discharged, giving great relief. ℞. *Hepar s. c.*[30]. Nov. 17th. Convalescent. (J. C. Burgher, H. M., March, 1873, p. 360.)

Femoral Hernia. Radical cure of. Mrs. R., strangulated, old, femoral hernia, right side. Strangulation of one and a half day's duration; divided stricture; replaced gut; found the opened sac thickened, unyielding when forcibly drawn upon. Trimmed sac close to its attachments, applied interrupted sutures, leaving the ends out at the wound to be drawn upon. Cured without need of a truss. (M. Macfarlan, H. M., May, 1873, p. 176.)

Three Cases of Ventral Hernia during Pregnancy. (B. F. Joslin, N. Y. J. H., Feb., 1874, pp. 526, 534.)

Hysterotomy. Congenital (?) closure of os-uteri, except opening sufficiently large only to admit fine wire probe, and this further obstructed before entering internal os. Hysterotomy by Sims's method, two lateral incisions, extending through internal os. For three days sea-tangle tents in cervix, and dressing of carbolic acid and glycerine; relief of previous dysmenorrhœa and pruritus. (Mary J. Safford, N. E. M. G., May, 1873, p. 223.)

Are Abdominal Wounds Fatal?—*A Parallel to the Fisk Case.* G. R. DeM., pistol-shot in abdomen, bullet remaining in intestine: *Acon.* tinct., half an hour after; wound not probed; no stimulant given; *Calend.* sol.; compress upon the wound and abdomen; milk and iced tea third day; face sunken; temperature of body and extremities cold; pulse low; eyes glassy; mind wandering, but answered questions when aroused; abdomen tympanitic, painful to touch; *Arsen.* Recovery. (M. Bryant, N. E. M. G., Aug., 1872, p. 293.)

Herniotomy. Several cases of operation with excision of portions of the omentum. (M. Macfarlan, A. J. H. M. M., v. 6, p. 305.)

Gun-shot Wound of Abdomen. By Melville Bryant. (Trans. N. Y. H. S., 1872, p. 168.)

Oblique Inguinal Hernia Operation for the Radical Cure. Adda T., æt. 17, ruptured for the past six years; has tried several trusses to no good effect.

Patient etherized, the operation for the closure of the hernial sac was performed, as suggested by Dr. Wood of London.

No considerable pain or inflammation followed. The stitches were removed on the tenth day, and a firm plug remained with every assurance of a radical cure. (W. Danforth, Surg. Clin. Hahn. Med. Coll. and Hosp.; U. S. M. and S. J., v. 8, p. 458.)

A very simple method of operating for radical cure of oblique inguinal hernia is to place the patient in a recumbent posture with the legs semi-flexed and the hernia returned. A long shanked awl (a little larger than a knitting needle) is then introduced, and worked so as to scarify the inguinal canal and pillars of the ring; after which a firm compress is applied, retained three or four days, and a truss worn for thirty days. (W. Danforth, U. S. M. and S. J., v. 8, p. 459.)

Scirrhus of Right Breast. Mrs. G., æt. 45. It had first appeared some six months previously, with characteristic, irregular, rigid, cartilaginous enlargement, retracted nipple, and lancinating, sharp, uncertain pains; ulceration eventually took place, and about the excavation large medullary or fungous growths were formed with neighboring glandular enlargement. When called to operate the patient had been unconscious for a day or so from the atrocious pains, and was thought to be dying.

Removed the breast with the greater part of both pectoral muscles, the lymphatics being followed up from the wound into the axilla and enucleated. Section of the deeper tissues showed them to be pearly-white, with radiating stroma, containing cancer elements, displacing normal structure. ℞. *Arsen.*[2c], in water, with complete relief for several months. (M. Macfarlan, H. M., June, 1873, p. 523.)

Multilocular Ovarian Tumor. (M. Macfarlan, H. M., July, 1873, p. 565.)

Ovariotomy. Mrs. G., æt. 29, had been tapped a few days before, emptying one cyst of the tumor, before this had been assured that she was pregnant; general health bad; so weak as to be confined to her room. She was chloroformed and an exploratory incision of two and a half inches made in the linea alba between the umbilicus and pubes, dividing the layers separately until the peritoneum was reached and slit up to the extent of the wound. Introduced hand examining for adhesions, etc. The incision was enlarged to eight inches, the mass transfixed, drawn upon and punctured, the abdominal wall being compressed on either side. Emptied the cysts outside the abdomen. Fluids of diverse colors were noticed. The tumor was largely adherent, matter locular, weighed forty-three pounds, the solid portion weighing eight and a

half pounds, the liquid thirty-four and a half pounds. The adhesions were torn away, the bleeding vessels ligated or twisted, the pedicle on the left side was secured when it joined the tumor, by saddler's silk with the cobbler's stitch and the attachment cut loose above the ligature. Cleansed abdomen by sponges wrung out in tepid water; closed opening with wire sutures; transfixed the pedicle by two long probes placed crosswise, to relieve the great tension at the margins of the incision, and as a support. Applied clamp above ligature, taking care to have equally distributed pressure on the pedicle to prevent the thinner portion slipping. Charpie to the wound and a roller bandage for the abdomen completed the operation. Placed patient on her back, head depressed. Bilious vomiting was very severe for some days. ℞. *Arsen.*^{2c} in water with warm clothes to the abdomen. Diarrhœa occurred at the end of second week. Removed clamp on eighth day. Cured. (M. Macfarlan, H. M., Sept., 1873, p. 82.)

Ovarian Hernia. Out of thirty-eight recorded cases, twenty-seven were herniæ inguinales, nine herniæ crurales, one each through the foramen ischiaticum and obturatorium.

In a third of the inguinal herniæ the affection was on both sides. Half of the cases were adnatæ. All seventeen adnatæ herniæ ovariorum were inguinal herniæ, and on both sides; from which we may conclude that the innate ovarian herniæ owe their origin to an abnormal descent, finding its perfect analogy in the normal descent in the male. Ovarian hernia is also frequently combined with anomalies of formation in the female sexual organs. For ovarian herniæ appearing at a later time, we must accept a certain disposition, consisting in too great a length of the ligamentum ovarii, declination of the uterus, or of the pelvis, etc.

In the hernia adnata we mostly find ovary and tube; whereas, in the acquired, the ovary alone passes out at a given cause. The uterine end of the prolapsed tube was in most cases obliterated.

The prolapsed ovary was in fifteen cases normal; in seventeen, inflamed; in five, like a cyst; and in one, cancerous. With the ovary, intestine and omentum were prolapsed in five cases.

Herniæ are divided into hernia ovaria simplex, libera inflammata, incarcerata, hernia ovarii complicata. Ovarian herniæ are mostly pyriform, the part near the abdominal opening is very thin. The disproportion between the contents and neck of the sac shows plainer during ovarian degeneration. The normal ovary is

always sensitive. Neither form nor consistence give diagnostic signs but menstrual symptoms are important.

Inflammation of the prolapsed ovary sets in during the menses, or from traumatic causes; also, in omental and intestinal herniæ, the time of incarceration frequently coincides with the menstruation, for the congestion during the menses radiates to the peritoneum, and may, in suitable cases, produce all the manifestations of incarceration.

When a cystic degenerated ovary mortifies, it may be mistaken for a gangrenous intestine. The vomiting, which frequently accompanies the inflammation of a prolapsed ovary, may be laid to a sympathetic affection of the intestinal tube; although Mulert thinks that it may be caused by the pressure of an overlying intestine on the tense edge of the ligamentum latum.

In inflammation of the ovary the abdomen is less bloated, and the features less sunken in than in intestinal incarceration.

An abscess of the prolapsed ovary rarely opens into the abdominal cavity. If, with the ovary, some intestine becomes incarcerated, the symptoms are far worse. The symptoms of constipation may give some clue, but the diagnosis will be difficult.

Of twenty cases with systoms of incarceration, only seven were accurately diagnose; in all others, only after opening the hernial sac was the ovarium recognized. Prognosis is favorable *quoad vitam*, but unfavorable for the function of the organ, and reposition must therefore be tried with the same rules as for other herniæ. If irreducible, a hollow truss may be recommended. When the swelling is very painful, extirpation of the ovary is indicated. In traumatic inflammation, cloths wrung out of cold water, and rest, are indicated; menstrual inflammation needs moist heat rest. Where an abscess forms, it must be opened with a large incision.

Half of the patients succumbed to sub-peritoneal suppuration where the irreducible ovary was extirpated. (J. English, translated by S. Lilienthal, H. M., March, 1873, p. 354.)

Multilocular Ovarian Tumor. Mrs. M., æt. 42, growth a year old, has been several times tapped; opened abdomen in median line by an eleven inch incision. The tumor enucleated about the sides of the opening, and the rounded cysts made prominent were punctured and evacuated. Every character of fluid was present, in some of the cysts, like black coffee, others blood, thick mucilage and pus, as well as serum. A portion of the omentum was cut away with the emptied cysts, because separation was

impossible. The cobbler's stitch was used to prevent hemorrhage. Ligatures were freely applied within the abdomen, and the emptied mass turned out. The tumor came from the right ovary, which was secured by a long Wells clamp. Wire sutures were used to close the abdomen. Knowing how they die, with symptoms similar to arsenical provings, I gave her that medicine, and although she was very low for some days, she made eventually a fine recovery. The clamp was removed on the eighth day. This was all the medicine I gave her. Diet consisted mostly of light broths; local treatment was flannels wrung out of very hot water, applied to the abdomen. (M. Macfarlan, H. M., April, 1873, p. 423.)

Ovarian Tumors. Dr. W. Danforth reported a cure of ovarian tumor by galvanism. Four gold needles were thrust into the tumor, and connected with the negative pole of a twenty-four all battery (zinc-carbon), while the positive pole was applied in the immediate neighborhood of the tumor. All cases of stricture the doctor also treats with galvanism through a catheter made especially for the purpose. (M. I., v. 10, p. 427.)

Ovariotomy.—I. *Prophylaxis.* First. The patient be informed of the graveness of the operation which she is to undergo, and ought never to be persuaded into it. On the day before the operation, it is well to take a warm bath.

Second. During forty-eight hours before the operation, it is advisable to use the mother tincture of the *calabar bean* every three hours, on the first day one drop, on the second two drops, and on the day of operation three drops per dose.

Third. The room must be light, airy and disinfected. Its temperature must be at least 19° R. Hot and cold water in open vessels must prevent too great dryness of the air.

Fourth. The patient must be protected against taking cold, and getting wet from the contents of the cyst by a gum cloth spread over her. This cloth has a sufficient opening for operating purposes, the edges of which are fastened by adhesive plaster to the abdomen. The legs are to be covered with warm blankets.

Fifth. The operator and assistants must be free from any septic or putrid matter, and have to wash their hands thoroughly in a weak solution of carbolic acid. Long nails or finger rings with sharp edges must be disposed of.

Sixth. The necessary sponges must be entirely new, soft, and free from calcareous substances. Before their use, they have to be

boiled in water with two per cent. carbolic acid; they have to be counted before and after the operation.

Seventh. All necessary instruments must be thoroughly disinfected.

Eighth. During the first part of the operation, the patient is to be brought under the full influence of chloroform. The nourishment two hours before the operation, must consist of only a soup of broth with barley or sago and the like. The narcosis has to be watched by an assistant expressly for this purpose; as the operation progresses, the narcosis must be made lighter and lighter.

II. *The Operation.*

First. The incision through the abdominal wall must at first be made only through the skin and the areolar tissue underneath to the tendon of the obliquus ext. in the linea alba and at once long enough for the operation. I commence the incision above the umbilicus, pass by the umbilicus towards the left, and continue in the linea alba down to about one inch and a half above the symphysis pubis. All bloodvessels must at once be secured by ligatures.

Second. Midway between umbilicus and symphysis I deepen the cut for about one inch long to the peritoneum. If it adheres to the wall of the cyst, I gradually and carefully cut still deeper until the appearance of some fluid proves that the wall of the cyst has been opened. There is now no doubt that the peritoneum forms the outside layer of the cyst, which must be separated by the finger along the incision, in order to open under the guidance of the finger the abdominal wall to the necessary extent.

Third. All adhesions existing between the wall of the cyst and the wall of the abdomen should first be separated by the finger before the cyst is emptied. If they are so strong that they do not yield without violence, the cyst must first be emptied, when the wall of the cyst is cut off around the adhesion by the scissors, and the adhering portion left remaining, after thoroughly cleansing its inner surface and subduing all hemorrhage. The same proceeding is to be observed where strong adhesions exist between the morbid growth and intestines.

Fourth. After separating the adhesions the cyst is to be emptied by a large hose trocar. During this procedure the cyst must be drawn up into the abdominal opening to prevent any fluid entering the abdominal cavity. Afterwards the opening of the cyst must be closed by sutures.