When the lungs become dense by disease they may obliterate not only the outlines of the ribs but also those of the liver, spleen and heart as I have already indicated. When there is not marked contrast between the intercostal spaces and the ribs or when the outlines of the clavicle and of adjacent organs are not defined it should always arouse suspicion of something abnormal in the lungs or pleura.

The application of x-rays to surgery has hitherto formed the prominent side of their usefulness; I have pursued my investigations believing that it would be possible to demonstrate their usefulness in medicine, as distinguished from surgery, and am now confident that the advances these x-rays render possible in medical diagnosis are great, and that they will prove a more valuable instrument in the hands of the physician than of the surgeon. I have found them especially useful in diseases of the heart and lungs. We may now look where we have previously only been able to listen, and sometimes to hear but imperfectly. The advance consists not alone in what we can now see that we could not see before, but also in that we can by hand and ear and eye together strengthen and confirm these separate observations beyond their respective limitations; singly they are beams, together an arch which justifies a heavier weight of inference.

Most of the work here described has been done in the x-ray room at the Boston City Hospital; the cordial interest of the Trustees and of my colleagues on duty have facilitated greatly the carrying out of these observations, and I shall always be indebted to Prof. Charles R. Cross of the Massachusetts Institute of Technology and to the assistants in his laboratory for the opportunity of studying the physics relating to the x-rays.

Clinical Department.

A CASE OF PROLONGED ANURIA AND A CASE OF COMPLETE REMOVAL OF CARCINOMA OF THE NECK.¹

BY F. B. HARRINGTON, M.D.

PROLONGED ANURIA.

MAY 27th. S. Y., a female twenty-three years of age, was operated upon, and the right kidney removed in very advanced stage of tubercular disease.

MAY 28th. As the patient had passed no urine, the catheter was used and about one ounce of thick purulent fluid was drawn from the bladder. There was much vomiting during the day. The usual means were tried to stimulate the kidneys. Nitro-glycerine, hot poultices to the renal region, digitalis, etc., were used with no effect.

MAY 29th. An ounce of fluid pus was drawn by the catheter. Uremic symptoms.

MAY 30th. Pilocarpine and hot-air bath. Caused sweating. No urine.

MAY 31st. The symptoms were more uremic. There was much vomiting. Repeated large enemata of salt solution were given for several days.

JUNE 1st. Bowels were moved with calomel. The patient was decidedly uremic, stupid and vomiting. In the afternoon twelve ounces of blood were taken from the ulnar vein and replaced by a quart of salt

solution. This produced no apparent effect on the pulse, but the patient became brighter. No urine secreted.

JUNE 2d. The patient had held her own. The vomiting was less, and she retained some nourishment. Six ounces of blood were withdrawn, and replaced by two quarts of salt solution. One-half of the solution was Ringer's solution. After the infusion the pulse became stronger and slower. The patient appeared brighter and stronger.

JUNE 3d. Forced sweating was continued and purges were used.

JUNE 4th. The uremic symptoms were more marked.

JUNE 5th. Infusion of two quarts of Ringer's solution into saphenous vein. It made the pulse fuller and stronger. Sweating by hot air was continued.

JUNE 6th. Condition the same. Pustular eruption. Wound clean and nearly healed.

JUNE 7th. Infusion of Ringer's solution one quart.

JUNE 8th. Patient was weaker. No sweating could be produced with pilocarpine and hot air.

JUNE 9th. Took large amounts of water and considerable food. There were copious watery movements with blood from the bowels. No twitchings.

JUNE 10th. The patient was weaker, but still took food and liquids. No urine. In the evening labored respiration. Pulse failed steadily till death on June 11th at 12.05 A. M.

Autopsy revealed total absence of left kidney and ureter.

RINGER'S SOLUTION. :

Sol. sod. chloride (.6%)		1,000 c. c.
Sol. sod. chloride (1%)		10 c. c.
Pot. chloride (.75%)		10 c. c.

Sod. bicarb., 10 c. c. of 1.0 %, formerly used, omitted because it caused precipitation of calcium chloride on sterilizing.

EXCISION OF THE LEFT PNEUMOGASTRIC NERVE AND THE CAROTID ARTERY IN A CASE OF CANCER OF THE NECK.

F. S. D., male, twenty-five years of age, came to the hospital June 1, 1894. Fifteen months before he had noticed a white spot on his tongue. After four operations by Dr. Coolidge for the disease leucoplakia, there was no return in the tongue, although at the last operation, March, 1894, enlargement of submaxillary glands was noticed. At the time of entrance to the hospital they had attained considerable size. The submaxillary lymphatic glands on both sides were removed on June 2d. The patient made a rapid recovery and was discharged on the fifth day after the operation.

July 17th of the same year he was re-admitted to the hospital, and the deep lymphatic glands were dissected from about the vessels on the left side, exposing one and one-half inches of the common carotid. The dissection was carefully made and all suspicious tissue was removed. Discharged on the fourth day.

Notwithstanding this the patient returned on August 10th, showing disease along the anterior border of the sterno-mastoid well up toward the mastoid process extending deeply into the neck. The patient who had very remarkable healing power, was very anxious to have another attempt made to extirpate the disease. At his urgent request a seventh operation was undertaken. An incision was made extending from below the ear almost to the clavicle. After careful dissection it was found that the growth had involved the

¹ Read before the Surgical Section of the Suffolk District Medical Society, April 1, 1896.

carotid sheath and to such an extent that it was impossible to separate it from the vessels and from the pneumogastric nerve. The external, the internal carotid and the pneumogastric nerve were hopelessly involved in the cancerous mass. Half an inch below the fork of the common carotid a double ligature was passed and tied, including the artery, nerve and veins. The tissues were cut between. The patient's condition was good, and he showed no symptoms when the vagus was tied and cut. The mass, including the vessels and nerves, was dissected off to the base of the skull and then tied and cut. All suspicious tissue was removed, even parts of parotid behind ramus of jaw. There was not much bleeding. Patient came out of the ether well, though three or four hours later the respiration was somewhat irregular, and varied from four to ten to the minute. The patient passed a comfortable night. He was hoarse and unable to swallow. For three days he was fed with a stomach-tube. He had considerable cough, and raised much mucus. On the fourth day he was able to take liquids by mouth. The wound healed by first intention. He was discharged at the end of two weeks.

The disease began to reappear in less than a month. It perforated the larynx, allowing the escape of air. The patient died four months after the last operation.

It was formerly held that section of the pneumogastric nerve was a fatal accident. Roswell Park, in Volume XXII of the *Annals of Surgery*, has shown that this is not true. He found 15 cases of accidental injury; of these, 11 cases died. It is probable, however, that many of these died from the accompanying injuries. Of 50 cases of injury during operation 21 died, 27 recovered, and the result in the two remaining cases was not recorded. The number of cases in which excision of this extent is desirable is small. When malignant disease has invaded the vessels and nerves so completely, the hope of complete extirpation is very slight.

A USEFUL METHOD OF SUTURING THE FRAGMENTS OF FRACTURED PATELLA.¹

BY FRANCIS S. WATSON, M.D., BOSTON.

THE patient I show to-night sustained a simple fracture of the patella through direct violence in September, 1895, a little more than six months ago. There were the usual evidences of the injury—swelling, ecchymosis, etc. The leg was placed on a straight splint with the foot sharply flexed, and a firm compression was applied to the knee-joint for four days. The swelling had then subsided for the most part.

Operation, September, 1895.

The knee-joint was opened by a large semicircular incision, convex downward. All clots, fragments of bone and shreds of tissue were removed and the cavity of the joint thoroughly cleansed and washed out with sterilized water. The edges of the two fragments were then sawed off evenly, so as to fit each other. There was no comminution of the fragments, and with strong traction they could be approximated satisfactorily. The fragments were then brought together in the following manner, which so far as the writer knows is a new method. The novelty consists in passing the sutures transversely through the substance of each fragment and as far from their fractured edges

as the size of the smaller fragment will allow, instead of passing them vertically as is customary.

The results are so excellent in this and two other cases in which it was practised, in one by Dr. F. B. Lund and in the other by the writer, that it seems worth while to call attention to it. The object sought in this way of placing the sutures is to secure the longest possible bearing for them, and therefore the least liability of their tearing out through the bone. One long suture made up of three single silkworm-gut strands braided together (which material was suggested to the writer by Dr. Lund) was passed through the fragments, as shown in the cut. The ends *E E*, of the suture, were entered respectively in the openings

A and *B*, on the same side of each of the fragments of the patella, passed through the channels drilled in the bone, and brought out at the corresponding holes *C* and *D* on the opposite sides of the fragments; these ends were then tied tight, and the fragments were closely approximated in so doing. In order to ensure the result, a second or supporting suture was passed through the tendons close around the upper and lower ends of the two fragments, *GG*, *HH*, in the same way as the first suture was passed, except that the ends were brought out on the sides opposite that of the first one.

Convalescence was uninterrupted. Through a misunderstanding, the leg was kept confined by a splint much longer than was intended, so that the motion of the joint has only recently (at the end of five and a half months) become at all free. There is perfect union, no separation whatever of the fragments, and the motions of the joint, which are already nearly natural and without any pain, may be expected to become practically entirely normal in the course of another month or two. The silkworm-gut sutures can both be felt beneath the skin, but they cause the patient no inconvenience.

A CASE OF SECONDARY SUTURE OF THE PATELLA.¹

BY F. B. LUND, M.D.

THE following case is of interest as showing the value of suture of the patella for marked disability caused by old fracture with wide separation of the fragments, and of certain simple expedients by which the separated fragments may be brought together

¹ Read before the Surgical Section of the Suffolk District Medical Society, April 1, 1896.

¹ Remarks made before the Surgical Section of the Suffolk District Medical Society, April 1, 1896.