weak and exhausted condition. Having suffered from three such attacks, he concluded that surgery alone could give him relief, and to this end he consulted several prominent surgeons in New York City, being at the time associated in the work at the Carnegie Laboratory; but operative measures were not advised.

A long sea-voyage was suggested as of probable advantage. Acting in accordance with this advice, he made the trip to the Azores; but, during the three months he was on board ship, he suffered severely from two attacks not unlike those previously experienced, and he returned to Boston decidedly less well than at the time of his sailing.

Dr. Nelson was under my personal observation during the last attack, which commenced with a severe chill, followed by a marked rise of temperature. There was a distinct tumefaction in the right iliac quarter, which was very tender upon pressure. The pain was so intense that it required one-fourth-grain doses of morphia, administered hypodermically about every three or four hours, in order to keep the patient in any degree comfortable. The acute symptoms promptly subsided, and in three or four days he was able to sit up for a little while at a time. The swelling and tenderness were nearly gone at the end of a week. It was then determined that operative measures were imperative; and two weeks later, November 9, 1886, I operated upon him at my private hospital, assisted by the late Dr. Holt, Dr. Chapin of New York, Dr. A. P. Clarke and others.

An oblique incision was made through the abdominal wall, three inches in length, directly over the seat of the former swelling. The tissues of the abdominal wall were unchanged, and the peritoneum was healthy. The appendix was much shorter and larger than usual, but free from adhesions and empty. Slight bands of adhesions radiated in various directions from the head of the cæcum. I examined very carefully the small intestine for a considerable distance above the cæcum, also the large intestine, but both appeared to be normal. I then divided freely the bands about the cæcum, but it was the opinion of all present that the condition of the appendix did not warrant its removal, although it was undoubtedly in a degree abnormal. The wound was closed in lines of buried animal sutures, without drainage, and hermetically sealed with collodion.

The patient had developed an inguinal hernia upon the left side, which was but imperfectly retained by a truss. This I operated upon for radical cure after my usual method. Both wounds healed without suppuration, or pronounced suffering; and convalescence ensued without any noteworthy symptoms. He was discharged from the hospital the twelfth day after the operations, being conveyed to Boston in a carriage without suffering or harm.

Dr. Nelson closes the notes of his case, which he sent me within a few days, as follows: "I have not had my attention called to my abdomen by reason of pain or other symptom since recovery from the operation, and at this date I am as well as ever. In the summer of 1888, after a long period of very hard work, a right inguinal hernia rapidly developed, which despite my care soon became scrotal and could not be retained by a truss. In November, 1888, Dr. Marcy operated upon me for cure after his usual method. I have had no discomfort at the site of the herniæ since either operation, and have never worn a truss."

It was the opinion of each of the surgeons present at

the operation, as well as my own, that it was exceedingly doubtful if the bands of adhesion were sufficient to have served as cause for the many severe attacks of local pain and swelling which the patient had suffered; but the resulting history of prompt and complete cure which has now remained permanent for nearly four and one-half years, indicates that in some way the adhesive bands resulting from the primary attack so interfered with the physiological functions of this circumscribed portion of the bowel as to induce the severe and oft-repeated inflammatory attacks.

I have since operated eight times for the cure of appendicitis in the acute stage, fortunately followed by recovery, save in a single instance, but during the entire period I have met with but the one case where the attacks had been recurrent.

THE TREATMENT OF ACUTE URETHRITIS.¹

BY GARDNER W. ALLEN, M.D.,
Surgeon in the Genito-Urinary Department, Boston Dispensary.

I HAVE no new contribution to genito-urinary therapeutics to offer, but merely wish to make a few general observations on the treatment of acute urethritis in the male, based on my own experience.

The internal treatment is of some importance. The value of copaiba, I think, is apt to be underestimated, and, because it is disagreeable to take, some physicians discard it from their formulary. Many persons take it well, and it undoubtedly has a marked influence on the disease in a large proportion of cases. Where internal treatment is indicated, copaiba should be considered, but, of course, must be stopped when found to produce gastric or intestinal disturbance, or a cutaneous eruption. Sandalwood oil is perhaps even more efficient and is less nauseating. It is expensive, however, and most preparations of it are unreliable. Its action on the kidneys should be looked out for. My experience with salol is small and somewhat disappointing, as far as it goes.

For diuretics, acetate of potassium and liquor potassæ are perhaps as good as any. The latter combined with compound tincture of cardamom makes an agreeable preparation, but where there is severe pain on micturition, it works better if given with hyoscyamus.

Local treatment, however, is the most effectual, and although many advise the postponement of injections until the third week or later, it seems to me that the sooner we begin with them the better. If we are to use simple astringent injections it may be well to wait until all acute symptoms have subsided, but I think the time has come when we should consider the question whether it is not better to eliminate simple astringents from the routine treatment of gonorrhœa. They are doubtless useful in certain cases and should not be wholly neglected, but it seems to me that we now have more reliable agents, namely, antiseptics, which should always be used when practicable, beginning the treatment as early as possible. In cases of extremely intense inflammation or of phimosis with long œdematous prepuce we must, of course, defer the use of injections until a more favorable opportunity presents itself.

For injecting the urethra it would seem hardly

¹ Read at Meeting of the Surgical Section of the Suffolk District Medical Society, March 4, 1891.

necessary, now, to speak of the importance of using a large syringe, holding about half an ounce of fluid and having a blunt point, yet the small, sharp-pointed syringes still seem to be the favorites with most patients and many physicians. It will be found of advantage to carefully instruct patients in the use of the syringe.

Among the substances supposed to have antiseptic properties, that I have used for injections are hydronaphthol, sulphate of thallin, peroxide of hydrogen and pyoktanin, which have been on the whole rather disappointing, seeming to have few, if any, advantages over old-fashioned remedies. Permanganate of potassium and nitrate of silver make useful injections. The former is comparatively unirritating, but the latter should be largely diluted in the acute stage, a solution not stronger than from 1-4000 to 1-2000 being used. Corrosive sublimate, according to my experience, is more reliable. As an injection, in solutions of 1-8000 or 1-10000, or even weaker when irritating, it may, I believe, generally be depended upon, if not to limit the duration of the disease, at least to reduce the discharge to a thin, milky oozing from the meatus, devoid of the most disagreeable and painful symptoms.

The best results in the use of corrosive sublimate, however, are to be obtained from irrigating the urethra with a hot solution of this substance. The strength of the solution should be from 1-40000 to 1-10000. The latter is too irritating for most cases, but many patients bear 1-20000 very well, and 1-30000 is strong enough to be effective. The irrigation may be carried out by means of a fountain syringe, syphon or any other more convenient arrangement, and the solution introduced into the urethra through a soft catheter or other irrigator passed down to the bulbous portion, or through a blunt nozzle, with either a single or double current, held at the meatus. I have generally used and preferred a simple, blunt-pointed glass nozzle. Adjusting it so that the lips of the meatus fit snugly about the tip the current is turned on. As soon as the urethra seems to be fully distended, the nozzle is very slightly removed, allowing the fluid to escape, and immediately replaced. By alternately filling and partially emptying the urethra, it is thoroughly washed out, and by distending it with the fluid all the folds of the mucous membrane are laid open. I have not found this operation painful when carefully and cautiously done, sudden and violent distension of the canal being avoided. Many surgeons, however, prefer retrojection through a catheter; this is probably quite as effective, and, if the passage of the catheter is not painful, it is open to no objection. The danger in carrying gonococci into the deep urethra, even beyond the sphincter, either on the end of the catheter in retrojection, or by the force of the current in simple irrigation is probably slight, for any microorganisms would be rapidly destroyed by the solution. The chief objection to corrosive sublimate is that it is irritating. Micturition is apt to be painful during treatment. The meatus sometimes becomes very sensitive, requiring the use of cocaine in order to continue the irrigation.

To obtain the best results irrigation should be repeated two or three times a day, but this is generally impracticable. It should at any rate be done as often as possible while there is hope of aborting the disease. During the intervals and after the irrigation has been discontinued, ordinary injections of corrosive sublimate

in somewhat stronger solution, say 1-8000 or 1-10000 may be used by the patient. Or, what is still better, he may use an instrument called the universal injector, which is described by Prof. Keyes in his book. It is a hollow rubber ball, holding an ounce and a half, with a blunt-nozzle on one side. It makes a good substitute for the irrigation apparatus.

Notwithstanding all that can be said, however, in favor of this treatment, we cannot, I think, feel at all confident of really cutting short the disease unless we see the case very early, that is, within twenty-four hours or perhaps within twelve hours of the very first symptom noticed by the patient. In a few cases I have succeeded in obtaining very satisfactory results. Unfortunately none of them were first attacks, but each had a purulent discharge coming on after a regular period of incubation of from three to five days. In the cases in which the discharge was examined it was found to contain gonococci. The disease was apparently aborted in these cases within a week, and did not recur.

Of course, a few isolated cases like the above do not prove much, but the results were satisfactory to the patients and to me, and I think indicate in a general way, that the antiseptic treatment is the best. For every such quick result as this there will be a number that, as I said before, if not aborted, will at least be so modified that the disease will run its course in a mild, subacute form, causing comparatively little inconvenience to the patient, and less liable to be associated with the painful and sometimes serious complications that often accompany the disease.

CONSERVATIVE SURGERY APPLIED TO A CASE OF GUN-SHOT WOUNDS WHERE FOUR LARGE PISTOL BALLS ENTERED THE BODY AND ONLY ONE BALL WAS REMOVED.¹

BY SAMUEL N. NELSON, M.D.
Surgeon to the Soldiers' Home in Massachusetts.

ON Friday, May 16, 1890, at 1.30 p. m., O. M. W., aged fifty-seven years, was assisting painters who were at work upon his house. One painter was engaged on a staging about eighteen feet from the ground, and Mr. W. was on a long ladder which reached from the ground to the house. He was on a level with the staging and about five feet from the painter, who, without provocation, drew a seven-shot, self-cocking revolver of the "British Bulldog" pattern, carrying a ball 32-100 of an inch in diameter, and began firing at Mr. W. The first ball fired broke his right shoulder causing him to loosen his grasp on the ladder and in consequence he nearly fell, but succeeded in saving himself with his left hand. While attempting to step down, a second ball was fired, which entered the right forearm. When he had stepped down two rounds more a third shot was fired, the ball of which entered his back and then he lost his grasp on the ladder and fell to the ground, about twelve feet. While lying on the ground a fourth shot was fired and the ball entered his hip. The ball of the fifth shot did not hit Mr. W., and a sixth cartridge missed fire. Mr. W. got upon his hands and knees and crawled around the corner of the building out of sight of his assailant. He then arose, walked about twenty-five

¹ Read (and patient exhibited) at the meeting of the Surgical Section of the Suffolk District Medical Society, March 4, 1891.