

Between 1882 and 1886 the patient had, in spite of his swollen joints, indulged in vigorous exercise, and had more than once walked a distance of eighteen miles.

On May 8th, 1886, I tapped the right knee-joint under a carbolic spray, and withdrew three and a half ounces of fluid. One ounce of a solution of iodine was then injected into the joint, and allowed to escape at the end of five minutes. The wound was sealed with collodion, and the limb firmly fixed upon a back splint. The fluid removed separated into two strata on standing; the upper was clear, the lower formed a kind of loose yellow coagulum. The specific gravity of the fluid was 1020. It was thick and sticky, faintly alkaline, and solidified by heat. With acetic acid it gave a copious opalescent deposit. It was cleared by liquor potassæ, and slightly clouded by nitric acid. It contained $\frac{1}{2}$ per cent. of urea.

No pain and no rise of temperature followed the little operation. After becoming much swollen, the joint again diminished in size. By May 20th the circumference of the knee was $14\frac{1}{2}$ inches, and by June 12th, $13\frac{3}{4}$ inches. The back splint was kept on.

On June 12th the left knee was tapped, and injected with iodine in the same manner; $2\frac{3}{4}$ ounces of fluid were removed. No pain and no rise of temperature followed the operation. The joint very soon refilled, and attained its original dimensions. The fluid showed no sign of abatement.

As the patient was becoming enfeebled by long confinement to bed, and as the injection of the joint had failed in both instances in effecting a cure, I resolved to open and drain each joint in turn. On June 25th I opened the left knee-joint from in front, making an incision on either side of the patella. A drainage-tube was then passed through the joint under the patella. The operation was performed under the spray. The splint was retained. A dressing of carbolic gauze and iodoform was applied. No disturbance and no rise of temperature followed the operation. The dressing was taken off for the first time on the fifth day, and the drainage-tube removed. No pus had formed. By July 15th the little wounds were entire-

ly healed, and the joint was sound. No fluid appeared in it again.

On August 6th, during my absence from town, the right knee-joint was opened in the same way, and a drain passed through under the patella. The drain was removed on the sixth day, and by that time, through some flaw in the antiseptic appliances, the joint was suppurating. The patient's temperature rose for the first time since his admission. The knee became red and greatly swollen. On August 15th it was necessary to make fresh incisions into the joint, and to introduce two drainage-tubes. On August 23rd the patient came again under my care. His temperature was now between 101° and 103° . He had had rigors. He was very feeble, had lost his appetite, and was unable to sleep. For nine days his average temperature had been 102° . His tongue was dry. His general condition had become greatly changed. The whole limb was swollen, and the foot and leg were very œdematous. The joint was the seat of a great deal of pain. Through four openings drainage-tubes passed from the joint, and from these much pus was issuing. Within the last day or so the part had been poulticed. The joint was in a condition of acute suppuration, and so marked a change had taken place in the patient's state that the question of possible amputation was discussed. I resolved to apply continued irrigation according to a method I had already adopted in some other suppurative conditions.

The patient was anesthetised. The limb was well secured by straps and buckles to a back splint with a foot-piece, and with large bays cut out of the splint on either side of the knee-region. The splint pad was covered with gutta-percha tissue applied with chloroform. The whole limb was then slung from a large cradle. The knee-joint was well washed out with carbolic lotion; the drains were removed, and in their place one fenestrated tube was passed right across the joint under the patella, two of the existing sinuses being made use of. One end of the tube was connected with an india-rubber pipe that passed into a large bath and was made to act as a siphon. This bath