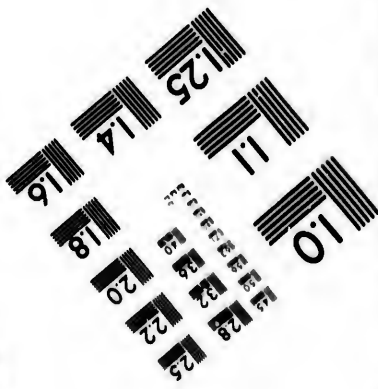
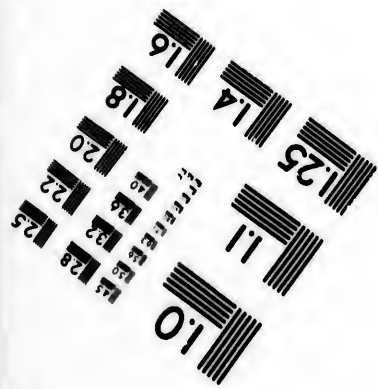
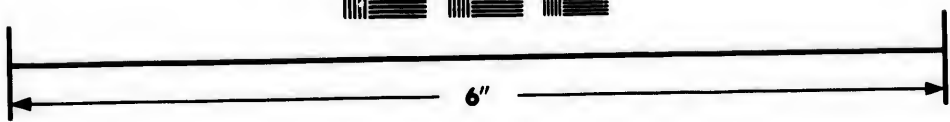
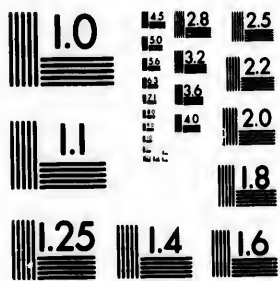


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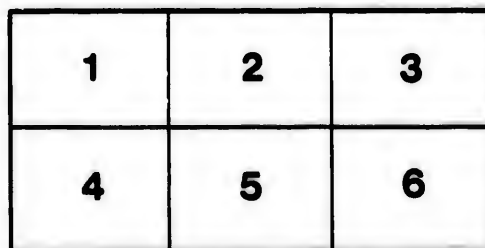
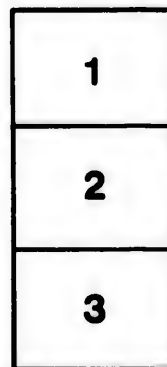
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**CLINICAL REMARKS ON THE TREATMENT OF  
COMPOUND FRACTURES.**

DELIVERED AT THE MONTREAL GENERAL HOSPITAL, 12TH MAY, 1886.

BY FRANCIS J. SHEPHERD, M.D., Surgeon to the Hospital.

GENTLEMEN :—The treatment of compound fractures was, up to the period of the introduction of antiseptics, in a very unsatisfactory state. The surgeon always dreaded the occurrence of such fractures in his practice, knowing how uncertain the results of treatment were, and how often these cases died of blood-poisoning. If the external wound was small, good results frequently resulted by immediately scaling the wound with its own blood, collodion, or the compound tincture of benzoin, but not unfrequently the wound failed to close and suppuration ensued, often necessitating an amputation, which frequently ended in death. Occasionally there was not time for amputation, the patient dying rapidly of pyæmia.

If such results not infrequently followed fractures accompanied by slight wounds, in larger wounds, with much laceration of tissues, the leg was rarely saved, and if not amputated immediately, fatal pyæmia generally followed. The idiosyncrasy of the patient and not the surgeon and his methods had to bear the blame of the fatal issue. It was only with the knowledge of the principles of antiseptics and their influence in wound treatment that the cause of failure of success in the treatment of wounds was understood; then it was found that it was from external and not internal sources that danger was to be feared. Lister was the first to insist on the necessity of absolute cleanliness, not only of the wound, but of the surgeon himself and the instruments employed by him. He introduced the method of treating compound fractures by carbolic acid. It was first em-

played in the form of a paste made with whitening and linseed oil, and gave very fair results, remarkably lessening suppuration. Later, the gauze, spray and McIntosh were employed, and wounds connected with fractures were treated like wounds in other parts with the best results, but with an infinite amount of trouble. Still later, iodoform and bichloride of mercury came into vogue, and dry and infrequent dressing of the wound with some antiseptic absorbent material, such as cotton-wool, jute, peat, wood-wool, etc., surpassed any method that had previously been employed. This method of treatment I shall shortly describe, the results have been most excellent, and, armed with a knowledge of modern antiseptic surgery, no surgeon need now dread treating a compound fracture of the leg, even if the bones be comminuted and the wound large.

Compound fractures being most common in the leg, I shall describe the treatment adapted to such a case. The method is as follows\* :—

When called to treat a compound fracture of the leg, if there is severe hemorrhage and the wound is small, it would be better to enlarge it and search for the bleeding point. Having arrested all hemorrhage and placed the fragments in proper position, the wound should be thoroughly irrigated with a solution of 1-1500 of mercuric bichloride and then dusted freely with iodoform; over this, some washed gauze wrung out of bichloride solution is placed over the wound, and over this a pad of finely-carded sublimate jute, covered with bichloride gauze, and dusted with iodoform. This pad is kept in place by an antiseptic gauze bandage, and the leg placed in a McIntyre or other splint. The pad, if there be much oozing, should be removed next day and a new one applied, but the gauze over the wound had better not be disturbed. After this the dressings should not be changed unless the temperature and general condition of patient indicate that something has gone wrong in the wound. In my cases, as a rule, the second dressing has been left on a month, with result of finding, on its removal, the wound perfectly healed. If the

\* In describing this method, it is, of course, understood that before treating the wound the surgeon's hands and instruments should be rendered aseptic by the usual means, a description of which is unnecessary here.

wound is not of very large size, I have been in the habit of immediately putting up the leg in plaster-of-paris bandages, leaving a window opposite the wound, protecting it with an antiseptic towel whilst the plaster is being applied. The edges of the window I stuff with antiseptic jute to prevent the blood and serum getting under the plaster. After the plaster has been applied, the wound is dressed in the way I have described above. It is a very rare occurrence that the dressing has to be removed after the second day, when oozing generally ceases. In one case treated in ward 23 last summer, where there was a compound fracture of the ankle joint, with rupture of the posterior tibial artery, the wound was enlarged, the artery tied, and the parts dressed with iodoform and a large jute pad, and left undisturbed for a month, with the result of finding, at the end of that time, the wound completely healed. The temperature never rose above 99°F. In another case of compound fracture of the thigh, the same result followed the same course of treatment; and many fractures of the leg have healed in this way without the slightest febrile reaction. When the wound is large, sutures of catgut are used; but when not very large, no sutures at all are employed, the wound apparently, with the aid of iodoform, which forms a crust over it, healing as under a scab.

I take this opportunity of presenting to your notice the patient, Ed. N., aged 33, sailor, now before you, who has occupied a bed in ward No. 23 for the last nine months. His history is shortly as follows: On the 11th of August, 1885, he was brought to the hospital with severe compound fracture of both legs, consequent on falling some twenty feet into the hold of a ship. He had lost a considerable amount of blood, and there was a good deal of oozing when he was admitted. My house surgeon, Dr. Eberts, as it was near the visiting hour, merely put on an antiseptic towel and bandage. On my arrival, I found that patient had sustained a compound comminuted fracture of left leg, the wound in soft parts being some two inches long, and a compound fracture of right leg, with considerable riding of bones and a large amount of laceration of soft tissues. Both legs were much swollen. After cleansing the wounds in both legs thoroughly, the left was put

up in plaster-of-paris bandages, a window being arranged for opposite the wound. The right leg was so severely lacerated that it was not thought wise to put it up in plaster, so a McIntyre splint was employed. The wounds were dressed in the manner I have already described. The same night, owing to the profuse oozing of blood, the dressings had to be changed. From that time till the 9th of September (nearly a month) the dressings were not removed, and then the wounds were found completely healed, or, rather, scabbed over. After the third day, the temperature, which, on the second day, rose to  $100^{\circ}$ , was perfectly normal. The fracture of left leg, on removal of dressings, was found to be firmly united, but there was no union in the right, in which, as I said before, there was considerable riding of fragments, the bone being broken about the junction of lower with middle third. The bones were rubbed together and put up in plaster-of-paris. From time to time this was renewed, the man being allowed to go about early in November, and at present you see he has fair union in right leg, but some shortening. He leaves hospital during the present week to return to his occupation. I have advised him to wear for a time the plaster splint on his right leg. This case is a very good example of the happy results of this method of treating compound fractures when the wound is very extensive. Before the introduction of antiseptics the man would probably have had one leg amputated, and might possibly have lost his life by some form of blood-poisoning in the effort to save the other. As it is, the man is in a fit condition to resume his ordinary work, and the accident will not in the slightest degree interfere with his future prospects.



