

the joint and have lodged in the lower end of the femur, or in the upper end of the tibia. The wound or wounds inflicted may be small. They are rapidly sealed up, and present no evidences of inflammatory reaction. The joint may, or may not, fill gradually with fluid during the next few days. If fluid forms and is removed, it is commonly found to be sterile. In such cases conservative methods are fully justified by the results. The joint must be perfectly immobilized, and the patient retained if possible at the clearing station, so as to avoid the disturbances often inseparable from travel. Aspiration of the fluid, and the injection of formalin and glycerine, formerly often practised, do not seem to insure or hasten the recovery.

2. *Cases of penetrating or perforating wounds of the joint with a larger aperture of entry, or of exit, or both, when the projectile is retained in the joint.* All such cases must be submitted to operation. The limb, which should be immobilized at the field ambulance, is kept absolutely at rest until an X-ray examination is made. This is indispensable; under no circumstances may a blind exploration of the joint be made in the hope that the missile, if any, or if many, may be discovered and removed. The surgeon must know beforehand the conditions he will probably meet, and must deal with them purposefully and deftly.

The position and size of the projectile being ascertained, the track of the missile must be determined. The position of the limb as it lies on the splint is, of course, hardly likely to be that which it had when the wound was inflicted.

After the whole limb has been thoroughly prepared in the usual manner, certain definite objects must be pursued. The wounds and the track of the projectile must be excised; missiles must be removed, all foreign bodies, fragments of clothing taken away and such damaged and loosened fragments of bone sacrificed as may appear to be necessary. The technique of wound excision is the same in these injuries as in others; the damaged skin and all the bruised and lacerated track down to and including the synovial membrane are removed, if possible, in one piece. A preliminary sterilization of the track with the actual cautery is an undoubted advantage. How precisely the incision is to be made will depend upon the exact circumstances. A good rule for the surgeon in all his technical responsibilities is that he should see well what he is doing and do well what he sees. These should be endeavors in the knee-joint especially. To make a small incision, and to introduce his finger to "explore" the joint, which may mean to grope blindly and clumsily therein, is not in accord with the needs of cases such as these. A quite adequate exposure is necessary. If this can be obtained by an enlargement of the aperture of entrance, or exit, or of both, nothing more is required;