

which has come from the torn vessels, in and about the bone and periosteum, clots all round the broken ends, while between the broken surfaces of the bone there exudes a milky fluid, which we term *lymph*. After watching this, we will imagine, for a few days, we see that the fluid first becomes creamy, and then cheeselike, in consequence of the drying up of its more liquid constituents; and so, as the drying-up process continues, the tissue becomes harder and harder, binding the broken ends together, and forming a sheath or collar around the fragments. This is called *callus*, and, gradually hardening up, it becomes more and more like bone, until, finally, in five or six weeks, we find that the bony ends are firmly united altogether,

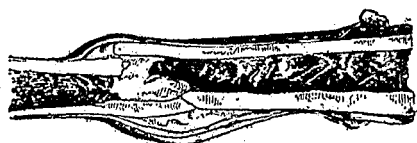


FIG. 16.—Fracture of the Femur, showing the ends of the bone nearly together and a buttress of new bone around them.

as is well shown in Fig. 16, and the injury is completely repaired. In fact, it is a popular saying which, as one can easily understand, is based upon a certain amount of truth, that a broken bone becomes in time the stronger for having been fractured.

In connection with this, it is important for nurses to remember that some people's bones take much longer to heal than others, just as some people recover very much better from illness than other people do; or as two identical wounds in two separate people will heal in very different spaces of time. The bones of pregnant women, for example, generally unite very slowly or badly, the reason for which probably is that the earthy salts of their diet are being used up by Nature in the formation of the baby's frame. And, for the same reason, some women in this condition suffer from a disease of the bones known as *osteo-malacia*, in which the bones become so soft that the slightest injury may cause them to fracture. This illustrates, by the way, a very important factor in the progress of diseases, which is popularly termed the *constitution*, or general condition, of the individual. So we sometimes find that after being in splints for the ordinary time, a bone is discovered to have united very badly, or not at all, in consequence of the patient's general health being impaired, or of some constitutional taint, or, perhaps, because the bones have not been properly "set." That is to say, the ends have not been

brought properly together before the splints were adjusted, or, perhaps, the splints became loose, and the broken ends again shifted apart.

Fig. 17 shows very well the results of this accident, and it is obvious that there must have been great shortening of the affected limb, so that the patient would be lame for the rest of his life. Now the nursing of a fracture, in view of the facts which we have just considered, is seen to be a very simple matter, and to consist in keeping the injured limb at perfect Rest; being careful that the bandages never become too tight, and that in the event of swelling of the limb occurring below the bandages, the fact shall be reported at once to the doctor; because this shows that the pressure of the bandages on the vessels of the limb has

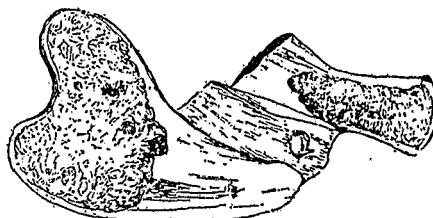


FIG. 17.—Fracture of lower third of Femur, showing edges widely apart and deposit of new bone between them.

become too great. With regard to compound fractures, the first essential is to close the wound in the skin; and if the nurse should see the case before the doctor can arrive, she could do no harm, and might do much good, by placing a piece of cotton-wool over the wound, and pressing it firmly with her finger until the blood clots into the cotton-wool so as to form an artificial coating, and thus prevent the further ingress of air to the deeper tissues. If the blood from the wound be excessive, as, for example, it will be if a large artery be torn, the surgeon will, of course, require to take active measures for its treatment; but in ordinary cases where there is only a little oozing, the skin wound can be closed at once and with perfect safety by the simple manœuvre suggested, or, if the materials are at hand, by placing upon the wound a little pledget of lint soaked in colloidion. There is, however, in this connection one point which should always be remembered, to observe whether there is any dirt in the wound or whether any fragments of clothing or other foreign bodies have been forced into it. A man who has fallen through a glass roof, for instance, is almost certain to have some fragments of glass in the wound, and, of course, these must be removed before the wound could possibly heal.

(To be continued.)

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