

being used once. Strange to say the favorite remedy in subinvolution is the fluid extract of our own *Hydrastis Canadensis*, of which they speak in the highest terms. Want of time prevents me from saying more at present, but I may write again about two wonderful cases of recovery after laparotomy for extra uterine foetation, complicated with shock and internal hemorrhage.

Till then adieu.

Yours truly,

A. LAPHORN SMITH, M.D.

## *Progress of Science.*

### SPRAINED JOINTS.

BY EDMOND OWEN F.R.C.S.

A sprain is the result of a twist or wrench which has stretched the fibrous capsule of an articulation and its synovial membrane, but which has not sufficed to cause either fracture or dislocation. The injury should be treated upon exactly the same surgical principles as those which guide us in dealing with a fracture or dislocation of a joint; yet a joint which is only "sprained" is somewhat apt to obtain but scant professional attention. Though the common saying teaches us that "A sprain is worse than a break," the unfortunate subject of a sprain is usually contented with doing the best that he can for himself with arnica, cold water, or oil, as chance, experience, or advice may suggest, seeking the surgeon's aid only for the remote and often intractable complications. In unhealthy subjects, and especially in children, want of treatment often entails articular troubles which run a lingering course and may end disastrously; and even with the strong a severe sprain is apt to involve a long continued enfeeblement of the part.

Immediately after a sprain there is a want of pliability in the joint, due in part to the pain and tenderness caused by the violence, in part to the tension of the sensory nerve filaments from the sudden effusion, and in part also to the mere mechanical effect of the presence of blood and other fluids in and around the joint. In certain situations a serious wrench of an articulation may give no visible sign upon the surface of the body; especially is this the case with the hip, the shoulder and the spinal articulations, all of which are thickly covered; stiffness will then be only the objective sign indicative of the lesion.

If a joint in the lower extremity be seriously sprained, temporary but absolute rest should be secured by, if practicable, putting the patient at once to bed; by raising the limb on a pillow or in a swing cradle, until the heel is above the level of the chin, so as to hinder capillary and venous congestion, and by applying firm and even com-

pression. I am convinced that judiciously applied compression not only checks effusion, but also promotes the absorption of fluid which has already been poured out, and as a rule the patient experiences immediate comfort from it. At times, however, it is possible that from tenderness of the skin or from mere apprehension, the patient will not submit to the compression immediately after the injury. Then one must be content to apply either the ice bag or an evaporating lotion. Cold plays a double part: by stimulating the vaso-motor nerves it causes a contraction of the small arteries, with the effect of checking further hemorrhage and inflammation and limiting the effusion, and by numbing the sensory nerves it diminishes pain. The lotion should not be used, however, as is often done, as a water dressing under oil silk. It must be applied on a single fold of lint, with the fluffy side outwards, so that evaporation may proceed with energy. The lint should never be allowed to get dry, nor should the limb be covered with the bed clothes.

If a man sprains his ankle while out in the fields, it should as quickly as possible be put into running water, and then be firmly bandaged with strips of wetted handkerchiefs; the boot should be worn, if he can get it on again, for the sake of the compression it affords, but it is better not to remove the boot at all until the joint can be bandaged.

Nothing short of absolute rest in bed suffices when a child sprains a joint in the lower extremity; he must not be trusted to lie on a sofa, for he would soon be off it. Where the hip-joint is sprained, the limb should be raised and rest insured in the extended position by the application of the weight and pulley, so that if matters do not clear up there will be no need for further change of position. A sprain is often the beginning of an attack of hip-joint disease.

In the case of the knee being sprained, the leg would be extended; in case of the ankle being sprained, the foot would be put up at a right angle. But in each instance the limb should be carefully bandaged upwards before the compression is applied, or œdema may follow; complete rest would be still further insured by adjusting a splint to the back or side of the limb. Compression may be applied by means of a roller of domette, or by the additional aid of plastic splinting moulded on. With children a well padded, flexible metal splint is of great service, but a casing of plaster-of-Paris and house flannel answers even better.

I have at present two men under my care, each with a severely sprained ankle, the part being swollen and discolored and the foot stiff and useless. The foot and leg have been immobilized in well-lined plaster-of-Paris casings, and thus the patients are quickly enabled to get out of bed and go about with crutches, without risk or discomfort. In neither of these men was a fracture to be detected.

When an ankle is greatly swollen from a recent