

the time of operation these can generally be guarded against by carefully searching for all nerve-ends and cutting them as short as possible.

Muirhead Little says: "The acute tenderness of a painful bulbous nerve is probably due to septic neuritis, for some bulbous nerve-ends in amputation stumps are not painful and give no trouble. As a rule, removal of the bulb, when followed by aseptic healing, does away with the symptoms, but in some cases the newly-formed bulb, in its turn, becomes hypersensitive. In these cases it is probable that active neuritis is still present. Prolonged physiological rest, without the aid of any appliance, will often cure these recurrent cases. In a few, however, the trouble is of central origin. Not only the main nerve trunks, but also the branches of cutaneous nerves may be involved."

Painful nerve-ends are not always evident to the patient until the artificial limb is worn, when the pressure of the bucket may give rise to intolerable pain. They should, therefore, be sought for by the surgeon, and, if present, removed before the artificial limb is fitted.

(b) *Diffuse tenderness* (except in recent stumps) is usually due to periostitis or necrosis. The latter condition, of course, requires operation.

(c) *Pain*, either localized or diffuse, is sometimes due to the presence of sharp bony spicules projecting from the end of the bone. These osteophytic outgrowths are commonest in stumps about the middle of the thigh, and they may need to be removed before an artificial limb can be worn.

#### Unsound Scars.

Unsound scars, other than those associated with sinuses, are seen more especially in cases in which large areas have been allowed to heal by granulation. A large scar adherent to the end of the bone, though undesirable, does not as a rule prevent the wearing of an artificial limb, but sometimes there

In Amputations—especially of thigh—the bulbous nerve end can be to a great extent avoided by cutting the sheath at least one-half inch longer than fibrils and ligaturing it over end of nerve stump.