

# medical sciences

Gathered from the annual meeting of the American Academy of Orthopedic Surgeons in Chicago last week

## GANGRENE

### Oxygen in limb salvage

Gas gangrene infections are seen following a number of accidents. The infection is caused by *Clostridium*, a spore-bearing bacterium that enters an open fracture where it produces toxins and can live without oxygen.

According to surgeons at the University of Minnesota, treatment with high-pressure oxygen helps destroy these organisms, thus salvaging limbs in many instances.

Dr. Glen D. Nelson and associates tried high-pressure oxygen, along with supportive therapy that included antibiotics, wound cleansing and blood transfusions in 25 cases, with some degree of success in all. Eight cases involved the arms and legs.

The surgeon urges that antibiotics be used immediately in cases of compound fractures. Of 707 cases referred to him from 1955 to 1968, he says, none had been adequately washed; nor had the patients been given adequate doses of antibiotics.

## TRAUMA

### Surgery indicated for dislocations

Two ligaments, the anterior and posterior cruciates, stabilize the knee in an anterior-posterior plane; when the knee becomes dislocated usually both ligaments are damaged. When the cruciate ligaments are repaired surgically, say two Los Angeles surgeons, the knee achieves good stability, but if repair is not undertaken an unstable knee results.

Drs. Marvin H. Meyers and J. Paul Harvey Jr. of the University of Southern California treated 18 traumatic dislocations of the knee at Los Angeles County Hospital and found that both cruciate ligaments were torn in all but one case. The ligaments were repositioned in all patients; in 11, surgery was also performed.

According to the surgeons, in the patients not treated surgically, the knee remained unstable and the patients were not able to walk on tiptoe, manage stairs or dance. In patients whose ligaments were repaired the joints proved stable.

The physicians warn, however, that X-rays should be performed before surgery because in cases of insufficient arteries, gangrene could develop.

## OSTEOPOROSIS

### Growth hormone investigated

A substance capable of stimulating the formation of new bone has been used successfully in dogs. Although it has not been tried in humans, an orthopedic surgeon claims it may be useful in preventing and treating osteoporosis, a condition in which the bony substance is destroyed, producing brittleness, softness and fractures.

Growth hormone from the pituitary gland was tried in dogs over a six-week period and, according to Dr. William H. Harris of Harvard Medical School in Boston, a "striking increase" in new bone formation was produced. Furthermore, the hormone did not cause

acromegaly—an overgrowth of bone in the hands, face and other areas. Rather, says Dr. Harris, it promoted the resorption of bone, but achieves a net effect in which more bone is formed than destroyed.

The Boston physician observes that the result is an increase in the total skeleton, which is the most important factor for skeletal strength. In osteoporosis it is the decrease in the total skeleton that causes fractures.

## ARTHRITIS

### Silicone joints restore function

Silicone rubber implants have relieved pain and restored function in crippled extremity joints of patients with arthritis or injuries, reports Dr. Alfred B. Swanson, a Grand Rapids, Mich., surgeon.

The new prostheses, which will be released some time during 1970, are designed for replacing joints and bones to restore function. Dr. Swanson asserts that they can be flexed at least 90 million times without breaking, do not affect the surrounding tissue and absorb shock.

Thus far, the silicone joints have been implanted in some 2,000 hands in clinics both here and abroad. The procedure consists of removing the old deformed joint, digging a channel between the two connecting bones for the silicone joint, positioning the implant, repairing any tendons and closing the incision. Healthy tissue then forms around the implant to strengthen the joint.

## CEREBRAL PALSY

### Spastic paralysis and surgery

Spastic paralysis of the hip in cerebral palsied children often disturbs their walking patterns. But in 22 cases, a surgical procedure that transfers the iliopsoas muscle from below the hip joint to the front of the joint, improved the gait.

Reporting on the study, Dr. Eugene E. Bleck of San Mateo, Calif., says that the operation produced an average correction of 20 percent in the hip-bending deformity. All patients walked independently after five to six weeks, and the function improved in 19 of the 22.

## NEUROLOGY

### L-dopa as relaxant

Patients with Parkinson's disease frequently display a rigidity of muscles and tendons because of years of inactivity. On the other hand, say Drs. Paul R. Meyer Jr. and E. Richard Blonsky of Northwestern University Medical School in Chicago, many patients with such rigidity think they have Parkinson's disease when actually they frequently have other neurologic problems such as tremors or brain tumors.

However, the drug L-dopa (SN: 1/17, p. 70), used in Parkinsonism, reduces rigidity and loosens joints, thereby opening up new avenues of treatment for certain other neurologic disorders.