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## Sir Reginald Criticizes Fracture Treatment

An attack on internal fixation and contact compression in the treatment of fractures was made last night by Sir Reginald Watson-Jones in the annual fracture oration presented at the American College of Surgeons' Clinical Congress.

Said Sir Reginald, who is director of orthopedic service at London Hospital Medical College and director of the Orthopedic Department of London Hospital:

"The general tendency of fracture treatment today is to believe in the merits of compression and impaction—forcible compression of fragments into each other and impaction by early weight bearing. Some surgeons even suggest that fractures of the shin cannot unite except with influence of weight bearing but even they do not make patients with fractures of the upper limb walk on all fours. If a fracture of the arm can unite without weight bearing, why not a fracture of the limb?"

### Skeptical of Claims

"For fractures of the hip we are urged to use lag screws rather than nails. For fractures of the long bones of the limbs we are told to use slotted plates to allow continued impaction of the fragments. Albert Key uses positive pressure with a turnbuckle clamping the bones together. George Eggers of Texas claims that contact compression is fundamental and with its aid fractures unite in 17 days. Charnley, of Manchester, claims even more by applying a force of 80 pounds to the square inch, with which he says he can make fractures unite in 12 days.

"I don't believe a word of it.

"Forcible compression of bone is pathological, not physiological. Fractures unite despite it only because compression promotes immobility. We have of course known for years that bone reaction to pressure of metal causes resorption.

### Plates Become Loose

"Plates and screws which are left unprotected by external fixation quickly become loose because the bone disappears wherever it is compressed by metal. Increasing the number of screws does not solve the problem; even intramedullary nails which are not protected from stress of early movement and weight bear-

ing may cause resorption of bone and nonunion of fractures.

"Let us be cautious in replacing the upper end of the femur with metallic or acrylic prostheses because there can never be union between bone and metal, and, if there is any compressing force, the metal will become loose.

"But it may be said that metal is a foreign body and that contact compression of fractures is different because it is compression within physiological tolerance.

### Blood Pressure Is Enough

"Let us consider physiological force. An aortic aneurysm has no more than the pressure of the blood and yet it resorbs the bone of the vertebrae. A cystic meniscus or ganglion near the ankle resorbs the underlying bone. Even the spinal cord, if pulled laterally against the vertebrae by retraction of an adherent nerve root will make the bone disappear before the spinal cord suffers. The orthodontist can move a tooth in any direction by the simple application of pressure.

"If compression of bone is so harmful, why does not the skeleton disappear under the simple pressure of body weight and gravity?"

"As Winston Churchill wrote, 'When I have to stand on parade or even, I regret to say, in church for half an hour at a time, I have always felt that the erect position is not natural to man, has only been painfully acquired, and is only with fatigue and difficulty maintained.' There is more than an element of physical truth in his humor.

### Protected by Disks

"Where bones are not in weight-bearing contact they are protected from harmful effects of compression by disks of fibrocartilage or articular cartilage which are relatively avascular and, therefore, relatively immune.

"It is immobility that matters, not compression. Even wide gaps can be bridged. Two cases are shown of impacted fractures of the femur, one with a gap of four inches which was completely filled by new bone without any compression but with continued uninterrupted and prolonged immobility.

"When nonunion of a fracture is established, freshening of the ends with complete immobility is needed and formerly this was achieved

by whole-thickness on-lay grafts secured with screws. We try to make the graft fulfill two functions: (1) promoting osteogenesis by its vitality and (2) promoting immobility by its strength.

### Bone Bank Unnecessary

"We now recognize that these two functions can and should be distinguished. Better osteogenesis can be achieved by cancellous chip grafts from ilium; and better fixation can be secured by an intramedullary nail. This represents the whole modern trend of grafting operations for nonunion and for myself I believe firmly that it will make the bone bank unnecessary.

"Despite the great enthusiasm shown in the United States for bone preserved in deep freeze there is no clear evidence that such bone preserves alive the surface cells that matter. There is no clear evidence that banked bone has in itself osteogenic properties. I believe that it is a passing phase and that soon we will go back to the use of cancellous grafts under the protection of intramedullary nails.

### Must Treat Whole Man

"I have spoken of some of the fallacies of fracture treatment but there is one more I would mention, namely, that all these problems of technic are the fundamentals of fracture treatment. In fact, they represent only the technic, and the restoration of function of the limb and treatment of body and mind of the patient are far more important.

"A number of cases of multiple injuries sustained by pilots of the Royal Air Force are quoted to show the tremendous severity of injury; many sustained 18 or 20 fractures of all 4 limbs and spine; and yet 93 per cent went back to full duty. This was not because of the advance of the technic of surgery; this was because of the principles of rehabilitation by which the patient was taught to understand his disability, to regain confidence, to dispel his fears and misgivings, and to be reassured, encouraged and inspired.

"In our training of doctors there has been far too much emphasis on the science and far too little on the art of medicine. In a welter of laboratory reports we forget to consider whether the patient is worried and what



Sir Reginald Watson-Jones, who last night delivered the Annual Fracture Oration and tomorrow night will be inducted as an honorary Fellow of the American College of Surgeons, amiably poses (left) at Board of Regents' reception with (l. to r.) Dr. Robert P. Osborne of Liverpool, England, representative of British Association of Plastic Surgeons, and Dr. Henri DeBayle of Managua, Nicaragua, dean and professor of surgery of University of Central Nicaragua.

he is worried about. Every word we use either helps or hinders his progress.

"Far too often when puzzled by symptoms we cannot explain, or distressed when the result of treatment is not as good as it should have been, we blame the patient and, in charging him with neurosis, functional disorders and malingering, we destroy his confidence, increase his doubt, and promote his anxiety.

#### Confidence Better Than Physique

"I have referred to this as a recent development but the principles were known 2,000 years ago. Galen, that very distinguished doctor, wrote, 'Confidence and hope do more

good than physic. He cures most in whom most are confident.'

"There is one other quotation, from Plato: 'This is the fault in the treatment of sickness, that there are physicians for the body and physicians for the soul and yet the two are one and indivisible.' Insofar as we treat the patient's fracture, treat his muscles, joints and limbs, and treat his mind, restoring him to the full joys and recreations and the full responsibilities of citizenship, no matter what branch of medicine we practice we are physicians of the body and the soul."