



Surgery in Rheumatoid Arthritis: General Indications and Philosophic Considerations*

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An orthopedic surgeon once referred to general surgeons as "residual surgeons"; and in rheumatoid arthritis, orthopedic surgeons might be referred to as surgeons of the residuum because we are called only after all of the medical treatments. We would like to be called earlier because we do have something to offer many patients.

One of the dramatic developments of recent years in rheumatoid arthritis is the rehabilitation potential that is realized in total joint replacement. It is miraculous when a patient who has become bedfast despite good medical management is rendered ambulatory within six weeks by the replacement of two or three lower extremity joints. This is not possible, however, in every patient; and the abyss of total disaster and even death lurks behind every improperly chosen and orchestrated surgical sequence.

Successful results of surgery in the arthritic depend as much on a wise choice of patient and operation as on the skillful performance of the surgery. The most important consideration in choosing the patient is that he or she is willing to have the operation. Operating on unwilling patients often leads to lawsuits and generally gives rise to discomfort for both patient and surgeon. Willing, however, means not only that the patient is willing to have surgery, but also that the patient understands realistically what you are attempting to achieve

and is willing to cooperate fully in order to attain the desired result.

Motivation is slightly different but is ancillary; the *patient* must want to have the operation, not the relatives. If the relatives push the patient into the room and say, "Mother wants to have her knees operated on," beware. That patient may be perfectly happy to sit in a wheelchair and may be bitterly resentful after surgery. I mistakenly operated on such a patient, replacing both knee joints and stretching out contractures of 60 degrees. After she went home, she took off her braces and allowed the contractures to recur because "it was too much bother to wear them." I achieved nothing because I chose the wrong patient for surgery.

The second facet of motivation is the willingness to continue good medical management. One of my patients had been taking the "Mexican pill" and was Cushingoid with destroyed knee joints and osteoporotic bones. We replaced both knee joints and reduced her steroid doses to a reasonable level. She returned after one year with her knees doing well but had resumed large doses of steroids because the other joints limited her activities. We achieved nothing in that patient since our treatment merely permitted her to abuse other joints, and we were unable to make her understand and accept her disease and its proper management.

There must exist in the properly chosen patient a need for surgery. If there is a mechanical method that will suffice by means other than surgery, such as injection, splinting, or physical therapy, that method should be chosen.

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Fig. 1—This is a 55-year-old man with rheumatoid arthritis. Note the destruction of bone from the arthritis.

There are also certain basic requirements in the form of muscles, ligaments, and bone structure that pertain to each surgical procedure and vary from joint to joint. In a Walldius total knee arthroplasty, for example, you must have a good quadriceps but do not need ligaments, while in other types



Fig. 2—Photograph taken at surgery showing the prostheses in place. The high density polyethylene bushing is seen separating the metal portions of the hinge.

of knee replacement, ligament stability is more important.

In rheumatoid arthritis, initially, synovitis occurs with little mechanical damage to the joints; but as the disease progresses, structural changes



Fig. 3 A, B—The x-rays show that the axis of the hinge is in line with the anterior surface of the humerus in the correct position.



Fig. 4 A, B—These two photographs show the range of motion achieved at three weeks after surgery.

occur that would cause progressive deterioration, even if the arthritis were miraculously cured. Synovectomy at that late stage accomplishes little. The difficulty is in knowing when the mechanical damage is severe enough to preclude synovectomy. Certainly, when erosion and surface irregularities appear, it is more reasonable to suggest arthroplasty. When still more destruction has occurred and gross instability ensues, the choice evolves to a hinged or unhinged total knee arthroplasty or arthrodesis. At each stage in the disease—just as in the medical management, the least lethal medication possible is used—in surgery, the least lethal operation is chosen.

One of the bold new experiments involves the replacement of the elbow joint. Figure 1 shows a roentgenogram of a rheumatoid elbow with severe

destruction, somewhat resembling the old fascial arthroplasties. Figures 2 and 3 show the Coonrad hinge. This has a polyethylene bushing through which the cross pin connects the two parts of the hinge. The stems are cemented to the bone in the humerus and ulna. The pin rotates and so do the bushings, giving a wide weight bearing area. Figure 4 shows the patient three weeks after surgery demonstrating his range of motion.

In summary, orthopedic surgery has much to offer the rheumatoid patient, particularly if the proper patient is chosen at the proper time. The advent of the total joint replacements, now in its infancy, gives renewed hope for the salvage of many derelicts and for the prevention of the severe disabilities and deformities which were all too frequent in the past.