

Patients Satisfied After Total Wrist Replacement

The wrist with its double layer of bones and ability to turn and twist in all directions is a challenge to replace. For many years, anyone with severe wrist pain, deformity, loss of motion, and loss of hand function were offered only one treatment option: arthrodesis (fusion). But today, thanks to modern technology and improved surgical techniques, a total wrist replacement is possible.

In this study, the results are reported for 21 patients who received the Universal 2 Total Wrist Implant System. Two-thirds of the patients had joint destruction from rheumatoid arthritis. The remaining one-third had loss of motion and deformity from other causes such as lupus, Kienböck disease, and psoriatic arthritis.

Any age was accepted and patients ranged from 32 to 75 years old. They had to have good enough bone stock to support the implant and they had to be able to follow the surgeon's advice. For example, there was to be no carrying or lifting of anything heavier than 15 pounds for at least six weeks. After that there were some other restrictions on heavy work like lifting or moving heavy objects, gardening, or bowling.

As more and more studies are done involving wrist replacements, surgeons are getting a better idea of what works best. The implant is cemented in with a thin layer of cement. The cement is also used to fill in any holes or areas where the implant and bone don't match exactly.

Results are better if the distal row of wrist bones (closest to the fingers) are fused together. Sometimes the surgeon uses bone to fill in and fuse the area around the base of the thumb where it meets the wrist.

Outcomes were measured using several different tools. X-rays, of course, showed the status of the healing bone. The surgeon can use X-rays to look for any bone fractures around the implant, fractures of the implant itself, subsidence (implant sinking down into the bone), union of any fusion, and overall integrity of the joint. X-rays also show signs of osteolysis (resorption of the bone around any part of the implant) with any loosening of the implant itself.

Pain, motion, strength, function, and any complications were recorded. Any pain or discomfort reported was usually from other joints affected by arthritis or the other diseases. Complications were very minimal with one wound infection and one hematoma (pocket of blood inside the body). There were no dislocations!

Motion and function were improved such that patients rated their results as satisfactory or completely satisfactory. Patients reported that it is possible to get used to doing things without full wrist motion but much better to have a wrist replacement that allows motion and function once again. They say the happiness of being able to fasten buttons, pick up loose change, and even walk the dog can't be measured!

Some changes made in the shape of the implant have improved the fit, contact surface (between implant and bone), and joint stability. A tighter fit has also eliminated the need for prolonged postoperative immobilization in a cast. The wrist is still held immobilized for 10 days up to two weeks.

Patients should be prepared for a few "less than perfect" results. For example, the implant does not allow enough wrist extension to push up from a chair with that hand. The wrist may be improved, but the fingers remain the same and that might be with pain and deformities. Grip strength might not return to normal either when other fingers are involved.

In summary, wrist joint replacement has improved greatly since it was first introduced over 20 years ago. There are fewer problems after surgery and implants are lasting longer. A wider range of potential patients

is now possible, too. This means more people qualify for this type of surgery.

Reference: Angel Ferreres, MD, PhD, et al. Universal Total Wrist Arthroplasty: Midterm Follow-Up Study. In The Journal of Hand Surgery. June 2011. Vol. 36A. No. 6. Pp. 967-973.