

arthroplasty are previous sepsis and absence of appropriate motors to control the wrist. There are prosthesis which is constrained, semi-constrained, and unconstrained with various types' metal on plastic and ceramic on ceramic (fig 4).



Fig 4a shows Ceramic on Ceramic unconstrained total wrist arthroplasty

Fig 4b&c shows radiograph of same patient

Constrained prosthesis are the one in which the forces are transmitted directly to the prosthesis therefore long term surface is present less because of aseptic loosening, but this indicative only in cases of soft tissue loosening. Surgical exposure for total wrist arthroplasty is basically the same regardless of the device used. Success of the procedure lies with good soft tissue rebalancing, post operative alignment and splinting for strenuous activities with 40-50 degrees of motion. Post operative care with regular dressings and along arm plaster splint which is applied to maintain the position. After two weeks the splint and the sutures need to be removed. The goals of the procedure are to relieve pain and provide wrist movements through a 60-degree flexion and extension arc. Dynamic splinting is used only if increased tightness or deformity is present<sup>26</sup>. Rate of complication and failure is at 25% in wrist arthroplasty which if occurs, and then option of wrist fusion is left which is reliable.

## TENDON RECONSTRUCTION

The best treatment for tendon rupture is prevention by early aggressive treatment of the DRUJ and accompanying tenosynovitis. End to end repairs of ruptured tendon in RA, patient is almost never feasible. Tendon transfers might be performed as end to site transfers or end to end reconstructions. EDC, extensor digitorum communis; EDM, extensor digiti minimi; EIP, extensor indicis proprius

Before surgery and possible tendon reconstruction, the following points should be clarified the ones mentioned below:

- How much of functional loss does the patient have with the ruptures?
- What is the general condition of the wrist and finger joints?
- Is the patient suitable for what might be a long rehabilitation process with an unpredictable result?

As an alternative to tendon reconstruction, interphalangeal joint fusion, especially in arthritic joints may be indicated as there are far fewer rehabilitation difficulties. If there is an indication for flexor tendon reconstruction, the following principles are important<sup>2,6,8</sup>.

- Isolated FPL ruptures are reconstructed with a transfer of a Superficials tendon preferably the ring finger.
- Rupture of profundus tendon and Superficials tendon in one finger, a tendon transfer from an intact Superficials is performed.
- Ruptures of profundus tendon are best treated by end-to-side anastomosis with an intact adjacent profundus tendon.
- Some investigators have recommended bridge grafts<sup>2,6</sup>, others prefer tendon transfers<sup>8</sup>.

- Isolated Superficials tendon ruptures, which are rare, need no reconstruction

Table below gives an overview of possible transfers<sup>27</sup>

RUPTURED TENDON	TRANSFER	ALTERNATIVES
ED	EDM to EDCV	No treatment
EDM, EDC V	EDV V to EDC IV	EDC V to EDC IV EIP to EDM
EDM, EDC V, EDC IV	EIP to EDC IV V	Flexor digitorum
EDC III	EDC III to EDC II	Superficials IV EDC IV & V EIP to EDC III

## CONCLUSION

Wrist joint is one of the commonest joint which gets affected in upper extremity. Wrist arthropathy due to rheumatoid is staged and various deformities are examined functionally and in different stages are treated differently to provide a good outcome. Initial stages of rheumatoid wrist would do with synovectomy, soft tissue balancing, ulnar head surgery, radioscapholunate fusion and late end stages have success with procedures like capitates head replacement, panarthrodesis and total wrist replacement.

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## NOBEL PRIZE IN MEDICINE

Two American and a German scientist share this year's Nobel prize for medicine for their groundbreaking research on the human body's complex transport system that makes cells deliver life-saving proteins and other molecules. The discoveries by American scientists **James Rothman** (62) and **Randy Schekman** (64) and German **Thomas Sudhof** (58) have given insight into diseases ranging from diabetes to the immune system, the Nobel Committee said on Monday while announcing the award worth \$1.2 million, to be shared equally by the three. The winners, all professors at American universities, have explained how molecules packaged in tiny bubbles called vesicles are taken around through an internal freight system. Any cellular malfunction can have deleterious effects and lead to several pathological conditions. The panel said the three have been honoured for their discoveries of machinery regulating vesicle traffic, a major transport system in our cells a discovery that will help explain the release of insulin into the blood, communication between nerve cells and the way viruses like tetanus infect cells and kill thousands of children every year. Each cell is a factory that produces and exports molecules. For instance, insulin is manufactured and released into the blood and chemical signals called neurotransmitters are sent from one nerve cell to another. These molecules are transported around the cell through vesicles. Through their discoveries, Rothman, Schekman and Sudhof have revealed the precise control system for the transport and delivery of cellular cargo, it said. Schekman found a set of genes that were required for vesicle traffic. Rothman unravelled protein machinery that allows vesicles to fuse with their targets to permit transfer of cargo. Sudhof explained how signals instruct vesicles to release their cargo with precision.