

## What's new in Hand Surgery?

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Hand Surgery continues to be dominated by brilliance of individuals and prospective observational studies owing to paucity of randomized controlled trials. From the meta analyses of various published work we get a glimpse of what is in and what is out of Hand Surgery in the past decade.

### Nerve Surgery

Distal nerve transfers have caused paradigm shift in the way surgeons across the globe treat Brachial Plexus [1,2] Injuries and peripheral nerve lesions. The popularity of transfer of Ulnar nerve to Musculocutaneous branch to Biceps (Oberlin) and Median nerve to Brachialis (MacKinnon), Triceps Branch to Axillary (Somsak), Spinal Accessory nerve to Suprascapular nerve (Alnot) – is due to a predictable and early recovery of targeted motors. The incidence of exploration and repair of Upper Trunk lesions has reduced in preference to these nerve transfers, though doing both gives superior results (Bertelli). For more distal lesions transfer of AIN branch to PQ to Motor branch of ulnar nerve in case of injury to ulnar nerve proximal to the elbow (Battiston), has shown promising results where once the recovery of intrinsic muscles of the hand was summarily ruled out. This will perhaps lead to nerve transfers replacing tendon transfers in the treatment of muscle

dysfunction due to nerve paralysis, if referred in time. Management of global brachial plexus palsy no longer is seen as a losing battle with single, double and now triple functioning free muscle transfers (Doi, Tu) to restore elbow flexion, finger flexion and finger extension [3].

### Tendon Surgery

Flexor tendon repair has moved from monofilament 2 strand modified Kessler's core suture to a braided suture, 4 to 6 strand core suture with epitendinous repair [4]. From the days of Kleinertrubber band traction to early active & passive movements, the protocol of rehabilitation of flexor tendons has become more simplified and moving towards early active motion. With advent and popularity of WALANT (Wide Awake Local Anesthesia No Tourniquet) – (Donald Lalonde), the tendon repairs can undergo functional testing intra operative and any readjustments donot have to wait for a second surgery [5,6].

### IP joint arthrodesis

IP joint injuries are on the rise with more people taking hobby sports as a way of physical fitness. Hemi Hamate replacement (Hastings) has made it possible to restore significantly damaged P2 bases thereby offering hopefully long lasting PIP joint with little deformities. While the need to restore injured PIP joints to a painless mobile unit continues the need to arthrodesis non reconstructible joints also arises specially in the DIP joints. The use of mobile phones necessitates that we fuse the IP joint of the thumb in

more flexion than was recommended earlier, to enable the tip of the thumb to precisely touch the small buttons of QWERTY key board on a small screen [7].

### Wrist Surgery

The debate about fixation of distal radius fractures seems to be reaching no end. Corrective osteotomies of distal radius with volar locking plates without the use of bonegrafts may be considered as a significant change from the trapezoidal grafts used earlier with cumbersome fixations. The DRUJ has gained its due significance in the world dominated by DER & Scaphoids. DRUJ hemireplacement and Total replacement have arrived and will continue to pose serious challenge to the readiness with which we knocked off the distal end of the ulna only to shift the focus of pain from DRUJ to an inch proximal [8]. Wrist arthroscopy is now allowing us to identify treatable pathologies specially on the ulnar side of the wrist. It is now considered as a standard diagnostic procedure in the work up of ulnar sided wrist pain [9]. While we are doing more operative procedures on the carpus than ever before, the role of conservative management of carpal instabilities by modulating the Supinators and Pronators of the distal carpal row, is being recognized [10]. The understanding of anti supination helical ligaments and anti pronation helical ligaments is the new baby in understanding of carpal kinematics. (Marc Garcia Elias)

### Hand Transplant

After Hand and Face were classified as

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VCA (Vascularized Composite Allotransplants) and were given the status of an organ in the Transplant Law, the enthusiasm about their transplants was palpable. There have been successful bilateral hand transplants already in India (Amrita Institute Kochi). The debate however continues about use of high end prosthesis with no effect on life expectancy versus cadaveric Hand Transplants with a certain effect on life expectancy [11,12].

### Microvascular Surgery

Better understanding of angiosomes and vascular anatomy has permitted us to choose newer and better flaps with minimal donor site morbidity. The advent of supermicrosurgery has taken reconstructive surgery to the next level. Complex reconstructions are now possible using perforators alone as donor and recipient vessels, sparing the main vascular axis. Supermicrosurgery has enabled us to perform lympho-

venous anastomosis, as well as free lymph node transfers. The complex problem of lymphoedema now has a reliable surgical treatment option, significantly improving the quality of life of these patients [13].

### Acknowledgments:

- Dr Mukund Thatte for reviewing the draft
- Dr Nilesh Satbhai for contribution about Microvascular Surgery

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Conflict of Interest: NIL  
Source of Support: NIL

### How to Cite this Article

Ahire P. What's new in Hand Surgery? *Journal of Clinical Orthopaedics* July-Dec 2017; 2(2): 55-56