



**DWIJAN**  
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## Microsurgery Research & Training



## RECONSTRUCTIVE MICRO SURGERY COMPREHENSIVE TRAINING PROGRAM

# F5, "White Fields", Victoria Fields Extn., Alex Nagar, Madhavaram, Chennai - 51. Tamilnadu, India.

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**DWIJAN Microsurgery program-** Intensive training for reconstruction of Maxillofacial defects using Free flaps

**Program agenda:** Training the Maxillofacial pg trainee to perform dissection of free flaps and anastomosis of blood vessels

**Duration of the program:** 10 days ( inclusive of theoretical discussion)

**Flap harvesting in the anatomy lab :** 4 days

**Performing anastomosis:** 6 days

1. Introduction to Reconstructive Microsurgery
  2. Classification of Maxillofacial defects with clinical relevance (theory 1 hr per flap)
  3. Selection of flaps based on the clinical requirements ( free grafts vs free flaps)
  4. Problem based solutions in benign and cancer patients
  5. Pre operative Investigations for harvesting the flaps
  6. Pros and cons of donor site during post operative period
  7. Identification of complications in early period and management
- (Basic Armamentarium and applications are demonstrated)

## Phase 1:

**Flap harvest (cadaver or simulated maniquine):** Anatomical perspectives of each and every flap. Discussion with simultaneous practical performance under the supervision of the faculty. Flap crafting and inseting in the recipient site  
Flap physiology , anesthetic considerations, hemodynamics of free flaps (theory)

2. Enabling the Surgeon to perform flap harvesting procedures with help of simulated mannequin and Audio Visuals

## Phase 2: Anastomosis

i. Dry lab :



Students to perform microsuturing in the tempered gloves .

1. Obtain Hand-Eye coordination in the operating Microscope and Surgical Loupes
2. Suturing techniques, suturing materials, principles of suturing
3. Theoretical discussion on various phamacotherapeutical agents in relevance to microsurgery



## ii. Wet Lab :



1. Students are trained to perform anastomosis on radial vessel of the pig specimen or in the neck vessels of the chicken specimen, using 8-0,9-0 ultra thin needles and suturing materials
2. Overall outlook on Basic armamentarium including ergonomics of operating microscopes, loupes etc.
3. Detailed principles and applications about microscopes, hand,eye & foot coordination, focal length, adjustments of the microscopes etc.
4. Live animal models like rats / Guinea pigs are anaesthetised with thiopental sodium . Femoral arteries and veins are dissected and anastomosis is done under microscopes with basic magnification of 12.5X or Surgical loupes with 4.5X magnification
5. Various techniques in anastomosis - end to end, end to side, interpositional vein grafts,
6. Coaptation of nerves using 11-0 suturing materials done in live rat femoral nerve
7. Advanced methods of anastomosis using couplers, staplers, lasers,fibrin glue for blood vessels and conduits for nerve coaptation ( video )

**Flap assessment methods :** Theory with video presentation

\*\*Students are allowed to observe, assist and perform the surgery under the supervision of eminent faculties

During the initial period of training in Microsurgery, students are taught neuromuscular breathing exercises to prevent tremors. Also insisted to avoid smoking and caffeine which will enhance the performance of a surgeon

Preexisting tremors are treated with cognitive behavioural therapy before the training is initiated

