

TENDON TRANSFERS FOR MEDIAN NERVE PALSY

Normal thumb pinch	Positioning Compression	AbdP Opponens FPB AP Extrinsic
Evaluation	Bone and joint Choice of motor Duration of paralysis Pattern of paralysis Other	
Bone and joint	Functional CMC Contracture Unstable MCPJ/IPJ	
Motor	FDSIV ECU FDSIII EIP EPB ADM PL	Most often used Good excursion Superficialis minus deformity Second best Needs graft to reach thumb Grip strength loss in ulnar palsy Superficialis minus deformity Reduced hand power Weak May be too short May lose interdigital squeeze Needed for precision handling Not applicable with ulnar palsy Muscle prone to infarction May be absent Weak
Technique	Pulley position Bend angle Route of tendon Insertion Tension	
Requirements	Tendon tunnelling forceps Tendon braiding forceps	
Technique (FDS)	GA/RA & tourniquet 3 incisions	Base of ring finger. Ulnar volar aspect of wrist Dorsoradial aspect of 1 st MCPJ Harvest FDS tendon between A1 & A2 pulleys. Pull out FDS tendon at wrist, and either fashion pulley from proximally split FCU or loop FDS around FCU.

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Create a subcutaneous tunnel over OPB, connecting wrist and thumb incisions. Set tendon tension with thumb facing ring finger. Insert tendon into APB tendon.

Layered closure

Rehabilitation

Splint thumb in opposition
Wound inspection 1-2 weeks ROS
Cast POP/Scotchcast® 3 weeks
Monitor ROM ring finger
Thermoplastic splint + AROM Exercises

Complications

Infection
Tension
Sensory nerve damage
Swan neck deformity

Reference

Bunnell S: Opposition of the thumb. J.Bone Joint Surgery 20:269-284, 1938