

USE OF A TENSION EQUALISER IN THE MANY TAILED OPERATION FOR CLAW HANDS

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Sublimis transplantation is almost given up now in the repair of claw hands and is replaced by the "many tailed" operation devised by Brand at Vellore. This operation, in which the extensor carpi radialis brevis is used as the motor tendon, does not produce the plus deformity which is so common in the sublimis transplantation. Every care should be taken to equalise the tensions in all the fingers otherwise the action of the motor tendon on the fingers will be unequal and a re-operation is necessary to correct it. A splint which I have called the "Thangaraj Tension Equaliser" is quite useful in this matter. The author has performed over two hundred operations on the claw hands over this splint and the assessment of these cases showed very good results. Brand and Fritschi have a metal variation of the same and they also found it very useful.

Description of the splint

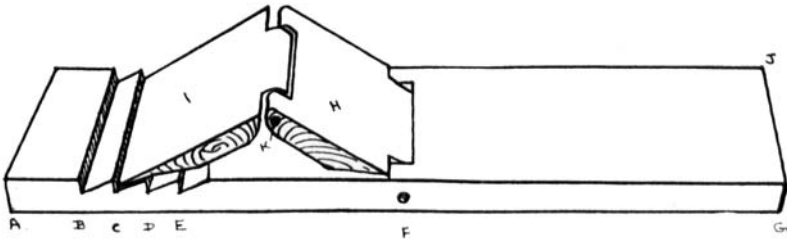


FIG. A

The splint as shown in the Fig. A consists of (1) forearm piece A—G which has four grooves B, C, D and E but only the first three are used; (2) the palmar piece H is attached to the forearm piece by a hinge; (3) the finger piece I is attached to the palmar piece in a similar way and the angle between the forearm and palmar pieces can be varied by placing the finger piece in the different grooves. When low tension is desired the finger piece is placed in the groove B and for higher tension in the groove D. The splint is made of good wood which can stand sterilization. We sterilize it by putting the splint in boiling water for ten minutes. If good wood is not available this can be made with aluminium.

Measurements

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|-----------------------------|--------------------|--------------------|-------------------------|
| 1. A—G | 15 in. (35.10 cm.) | 2. B—E | 2 in. (5.08 cm.) |
| 3. B—F | 6 in. (15.24 cm.) | 4. F—G | 7½ in. (19.05 cm.) |
| 5. G—J | 3 in. (7.62 cm.) | 6. H | measured from the hinge |
| 7 I—measured from the hinge | | F—3 in. (7.62 cm.) | |
| K—3 in. (7.62 cm.) | | | |

Application of the splint

Brand's many tailed operation consists of three main incisions. (1) Midlateral incisions over the proximal phalanges of the fingers to expose the dorsal expansions. (2) A one and half inch (3.8 cm.) transverse incision over the base of the third metacarpal on the dorsum to cut the extensor brevis tendon from its insertion. (3) Another one and half inch (3.81 cm.) transverse incision, over the dorsum on the radial side 2 in. (5.08 cm.) proximal to the wrist crease, to withdraw the tendon cut in the second incision. The graft, either the palmaris or plantaris or both, is sutured to the motor tendon and this is then passed to the second incision. Here the graft is divided longitudinally into two or four slips according to the number of fingers involved.



FIG. B

These slips are passed to their respective finger incisions and at this stage the splint is applied as shown in the Figure B. A tape may be tied around the forearm and the splint, just proximal to the 3rd incision, in order to keep the splint in position. The author varied the tensions according to the intelligence of the patients thus using higher tensions in persons with low intelligence and lower tensions in intelligent patients. Dr. Brand in his personal communication also felt that higher tension makes for easier re-education. The slips of the graft are sutured to their respective dorsal expansions with "O" tension.

I wish to thank Mr. A. D. Askew for his excellent diagrams of the splint.

References

- BRAND, P. W.; Personal communication.
 BRAND, P. W.; Leprosy in Theory and Practice 1959, edited by R. G. Cochrane.