

MICROVASCULAR CLAMP

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Clinical microvascular surgery is possible with the background of extensive practice on animal models to assure near 100% patency rates. Home made devices are frequently found useful because their design can be altered to suit individual requirements. Minimal cost and flexibility of the design commends its use in the experimental laboratory.

The following is a description of a design of micro-vascular clamp using denture acrylic (Methyl Methacrylate) and round 0.61 mm. 25 gauge hard tempered Ash stainless steel wire. The wire is bent in the Acland or Scoville design with a slight modification (Fig.). This is embedded in wax to made the model. The wax is replaced with denture acrylic in the Plaster of Paris mould after dewaxing. This is heat cured to avoid the release of free monomers and give smooth

finish. The space between the limbs is maintained by a 0.1 mm. blade. Final finish is given to the acrylic part of the clamp to get the desired length, width, shape and angle of the clamp. Application of the clamp is by a straight artery forceps. The clamp can be sterilized in cold sterilizing solutions.

The clamps have been found to have opening pressures less than 150 mms. of mercury when tested by the T tube method of Rosenbaum and Sundt (1978) on 2 mm. placental arteries. Applying the Law of La Place the pressure exerted on the vessel wall is less than 20 gm. It has been found that endothelial damage occurs at pressures more than 131 mm. of Hg on 1 mm. vessels. (Yanese, Ueba, Sudo Yamamuro 1980).

Key words—Microvascular-Clamp-Acrylic-wire

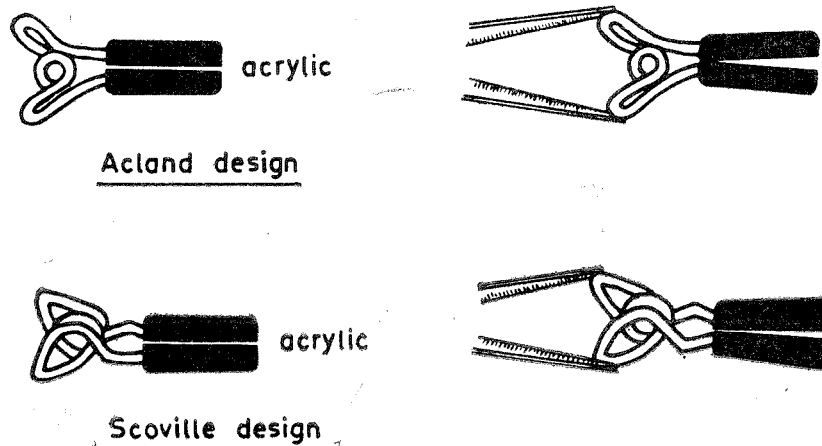


Diagram 1 : Shows the line diagram of the Microvascular Clamps.

References

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