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Cuff for Use with Endpoint Devices for Estimation of Arterial Blood Pressure of the Rat.* (23486)

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Over the last several years a number of endpoint devices have been described, employing diverse principles, for estimation of the systolic or mean arterial blood pressure of the rat. Each of these has been designed to be used with an occlusive cuff by means of which the applied pressure may be varied. In our experience, most of the available cuffs have been unsatisfactory and have limited the confidence which one may place in data so obtained. After some experience with a commercially available inflatable cuff[†] designed to occlude circulation in the hind limb of the rat, it became apparent that, to avoid error introduced by the manner of placement, tightness of wrapping, etc., a cuff of fixed circumference is essential. Fig. 1 describes the preparation of such a cuff from the commercially available model, adhesive tape and a pair of snap fasteners.

In using the cuff, a few cautions should be observed. The width of the tape is critical;

it should be just wide enough to reach from the foot to the thigh, thus accurately repositioning the inflatable portion of the cuff in subsequent measurements. Rats of different sizes require cuffs of proportionate size, *i.e.*, of different distances between the snap fasteners. A graded series, marked for identification, should be kept in stock and care taken that the same cuff is used for successive measurements with the same animal. When used on the tail, rather than on a limb, care should be taken that the cuff is replaced each time in the same position.

With these precautions, much of the subjective error of such measurements is reduced. Thus in a series of normal and renal hypertensive rats with systolic blood pressures ranging from 87-160 mm the following results were obtained: In 204 instances in which the blood pressure of a single animal was determined by more than one operator the mean deviation from the mean was within 6 mm, in 432 determinations in which a single operator performed repeated determinations on a single rat the mean deviation from the mean was

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† Metro Industries, Long Island City, N. Y.

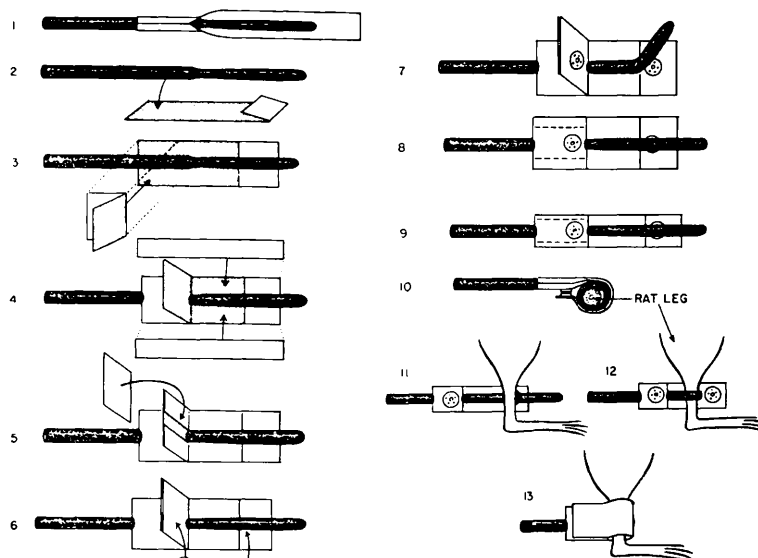


FIG. 1.

1. Commercial animal cuff for use with tensometer. Strip off the ribbon.
2. Place the bare rubber onto a piece of adhesive tape. Dots indicate sticky side of adhesive tape.
3. Cover part of non-inflatable end of the cuff with another strip of tape. For 150 g rats about 2.5 cm of inflatable cuff should be stuck to tape.
4. Cover exposed adhesive sections with 2 strips of tape.
5. Cover flap with a strip of adhesive tape.
6. Sew on a pair of small size snap fasteners. For 150 g rats, the snaps should be about 3.0 cm apart.
- 7-8. Fold down flap and sew.
9. Trim to size.
10. Top view of cuff in position.
11. Hold cuff so that free inflatable part is behind rat's leg.
12. Wrap free inflatable part of cuff around rat's ankle.
13. Snap the cuff shut, and rotate the entire cuff around rat's leg to insure even wrapping of inflatable portion.

within 3 mm.

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Factors Influencing the Plate Method for Determining Abundance of Bacteria in Sea Water.*† (23487)

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Total number of bacteria in sea water as determined by plate counts is influenced by

numerous factors(1). In this report some effects of medium composition and plating procedure are described.

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Materials and methods. Sea water was collected at Long Branch, N. J., approximately 600 feet off shore in an area subject to neither pollution nor dilution. All samples were taken at high tide, packed in ice, and transported