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A Method for Continuous Intravenous Infusion in Rats

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Many animal experiments call for a continuous intravascular infusion of one or other drug. If this has to be given for more than a short time and with the animal conscious, it is often difficult to keep the catheters functioning. The animal might bite them off, knots could occur, and so on. For the i.v. administration of drugs to rats over a number of days, we have used a method we thought might interest others.

An Intramedic® polyethylene tubing (No. PE 60) is wound round a glass staff for the required distance. Both ends are fixed by tape. The staff is then put into boiling water for about 10 sec. When the tubing is released from the staff, it has the form and property of a coil-spring (fig-1).

The jugular vein or the carotid artery is laid bare in the neck. A subcutaneous tunnel is made to the back of the neck where the skin is incised. One of the straight ends of the coil-spring is brought through this incision and through the tunnel and is then inserted into the vein. The beginning of the coil-spring is fixed with a stitch to the skin at the back of the neck. The rat is placed in a small cage, and the other end of the coil-spring is fixed in the middle of the roof of the cage. The infusion is then given either by some form of drip arrangement or by an infusion pump. The coil-spring allows the rat to move freely in the cage. To avoid twisting, the coil-spring must be neither too long nor too short.

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