normal saline at 37° C. versus 160 ohm cm. for normal human blood at 37° C. However, since a moving stream of blood is known to be more conductive than a stationary one,[6] the *in vitro* values for blood resistance may not hold. We intend to perform further experiments to determine the effects of various commonly used intravenous solutions on body impedance.

The sensitivity and linearity of this instrument offer great promise as a means of quantitation and instantaneous measurement of surgical blood loss. The problems of drift and artifact are not great, and can probably be minimized by good electrical shielding and secure electrode placement. We are now building a solid state model which we hope will enable us to carry our experimental work into the operating room.

Summary

An electronic instrument has been described which can detect blood volume changes as small as 3 per cent of the total blood volume in animals ranging in size from 2.0 to 30.0 kg. The principle of the instrument is based on the detection of a change in body impedance when conductive material enters or leaves the body confines. Infusion of normal saline produces a 50 per cent greater change in body impedance than infusion or removal of whole blood. Electrocardiographic potentials and changes in body impedance resulting from respiration may also be detected and recorded apart from the blood volume changes. Stability, linearity, and freedom from artifacts are satisfactory and the instrument would seem to offer a potential method for instantaneous detection of surgical blood loss.

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Anesthesia

UTERINE VASOCONSTRICTION Phenylephrine (0.05 mg.) was injected into dog fetuses *in utero* under conditions of maternal hypovolemia or normovolemia. In both cases fetal hypertension was observed with no change in fetal heart rate, fetal P_{O_2}, maternal blood pressure, heart rate or P_{O_2}. A previous study has shown that phenylephrine was injected into the hypovolemic mother will cause a fall in fetal heart rate and fetal P_{O_2}, and if injected into the normovolemic mother fails to change fetal P_{O_2} or heart rate. From these two studies it is concluded that fetal hypoxia following maternal phenylephrine injections during hypovolemia is secondary to the constrictive effects of the drug on the material side of the circulation. (*Linkie, D. M., and others: Fetal Effects of Phenylephrine Injection, Amer. J. Med. Sci. 252: 277 (Sept.) 1966.*)