

27 (1774)

On the relation of blood-volume to the nutrition of the tissues.

II. The effects of hemorrhage and subsequent injections of gum-saline upon the volume-flow of blood through the striated muscle of the dog.

By ROBERT GESELL.

[From the Department of Physiology, University of California, Berkeley, California.]

The effects of blood-volume upon the volume-flow of blood were studied by means of the drop method. While in some animals hemorrhage amounting to 1 per cent. of the body weight had a relatively small effect, in many animals the same or smaller hemorrhage markedly decreased the volume-flow of blood. Subsequent injections of a 6 per cent. suspension of gum in a 0.9 per cent. sodium chloride solution augmented the flow out of all proportion to the dilution entailed.

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III. The effects of hemorrhage and subsequent injection of gum-saline upon the response of the sartorius muscle of the dog to rapid electrical stimulation.

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By comparing fatigue curves elicited by equal periods of stimulation of the sartorius muscle, we found that hemorrhage had a detrimental effect upon the endurance of the muscle, that hemorrhage amounting to 1 per cent. of the body weight or less may decrease the response of the muscle to stimulation. Subsequent injection of gum-saline decidedly improved the response of the muscle to further stimulation.