

TABLE II.

No. of Determinations A	Position of Detector Costal Space	Venous Circ. Time Sec. A	R. Act. Dep. M. C. Injected	No. of Determinations B	Position of Detector Costal Space	Venous Circ. Time Sec. B	R. Act. Dep. M. C. Injected	Diagnosis
125	4 Left	12.0	4.1	128	4 Left	10.5	3.1	Cerebr. Hemor.
129	4 Left	9.5	4.8	124	4 Left	5.5	5.2	Normal
130	2 Right	7.0	3.1	131	2 Right	7.5	2.3	Normal
136	3 Sternum	14.0	3.4	146	5 Left	12.0	4.5	Art. Scl.
147	3 Sternum	7.5	3.5	153	3 Sternum	6.5	3.2	Rheum. Fever
149	3 Sternum	9.5	3.5	154	3 Sternum	10.0	2.4	Rheum. Fever
152	3 Sternum	19.0	3.6	155	3 Sternum	15.5	3.1	Malignancy
151	3 Sternum	4.5	3.4	156	3 Sternum	6.0	3.2	Deep jaundice
139	3 Sternum	15.0	3.4	158	3 Sternum	8.0	3.6	Thromboangitis Obliterans A. Aur. Fibr. B. Regular

Knowing the time of arrival of the active deposit in the right heart, and knowing the time of the arrival of the active deposit in the large arteries near the heart, we possess a definite means of gauging the pulmonary circulation time in man.

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The effects of loss of skin and of muscle on the development of spinal ganglia.

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In previous experiments on embryonic limb transplantation in amblystoma,¹ it was shown that when the fore limb is removed, the sensory ganglia of the brachial nerves (third, fourth and fifth) undergo a decrease in the number of cells of approximately

¹ Detwiler, S. R., *Proc. Nat. Acad.*, 1920, vi, 96.

fifty per cent. Conversely, when a limb is grafted to a strange region, the ganglia of the spinal nerves supplying the heterotopic limb undergo an increased cellular development of twenty-five to forty per cent.

Since it is known that spinal ganglia contain the cell bodies of sensory fibers to skin, as well as to body musculature, and since cellular hypoplasias result when the peripheral field is diminished, the supposition is that both skin loss and muscle loss play a rôle in the resulting hypoplasias.

In an attempt to determine quantitatively the part played by skin and by muscle in the development of spinal ganglia, two embryos were fused together laterally, and in such a way as to reduce greatly the area of skin on the fused sides of the two component embryos. By comparing the area of skin belonging to the fused sides of the components with that covering the free sides, the percentage reduction of skin resulting from the fusion has been obtained for homologous regions of two pairs of "parabiotic twins."² By comparing the weight of the musculature belonging to the fused body walls of the two components with that of the two free body walls, the percentage reduction in the volume of muscle was likewise obtained. The cellular reductions in the spinal ganglia, which supply the fused body walls, were also calculated for those nerves concerned with the homologous regions under comparison.

Designating the fraction of cells in the ganglia related to skin by a , and the fraction related to muscle by b , the data obtained from the quantitative study of skin loss, muscle loss, and cellular loss in the homologous regions of the laterally fused animals, have been utilized to obtain values for a and b , which indicate that approximately sixty per cent of the cellular losses in the spinal ganglia, after fusion, is due to skin loss, and that approximately forty per cent is due to muscle loss. These values are based upon limited data and further experiments will be made to test their correctness.*

² Burns, R. K., *J. Exp. Zool.*, 1925, xlii, 31.

* A more complete account of the work will appear in the *J. Exp. Zool.*