

apparent in the control series as in the experimental series, so that this result does not appear to be due to irradiation.

In view of the frequently reported effects of various types of irradiation on general metabolism, the failure to find any constant changes in CO₂-combining power in these experiments is disappointing. But so far as our results are concerned, it can be said that irradiation of blood *in vivo*, by our technic, does not produce any constant effect on this factor, at least within relatively short periods.

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⁴ Reed, C. I., and Tweedy, W. R., *Ibid.*, 1926, lxxvi, 54.

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⁸ Holló, J., Patai, J. A., and Kolta, E., *Arch. exp. Path. and Pharmacol.*, 1925, cvii, 162-70.

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Accessory Etiologic Factors of Pneumonia in Rabbits. I: Effect of Putting Brilliant Green into Nasal Passages.

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A weak solution (from 0.1 to 0.3 per cent) of brilliant green dropped into the nostrils of rabbits carrying *B. lepi-septicum* incites severe snuffles and pneumonia. In rabbits not carrying the organism naturally, the same effect can be obtained by putting a small amount of culture into the nostrils before the dye is given or 1 or 2 days afterwards. The dye alone has little or no visible effect.

Thirty-two rabbits having very slight serous discharges from the nose, and, a positive lepi-septicum culture, were given 0.2 cc. of the solution (0.3 per cent) in each nostril. All of the rabbits developed very profuse nasal discharges, which often caused such obstruction of the nasal passages, that they were forced to breathe through the mouth. To all intents and purposes the rabbits had a very severe

and active form of snuffles. Twenty-one of them developed pulmonary infections and died from the 3d to the 15th day after treatment, the average length of life after treatment being 8 days. The others gradually improved after a prolonged siege of snuffles.

The more acutely fatal cases had typical lobar pneumonia, one or more lobes being in the state of complete red hepatization. The other lobes had either a normal appearance or showed some injection, edema or emphysema. Those living longer usually had a general fibrino-purulent pleurisy and pericarditis, and less extensive solidification of the lungs but more pronounced edema and emphysema.

Six rabbits having negative cultures, *i. e.*, negative for *B. lepi-septicum*, were given nasal inoculations. Five days later 4 of them had a light form of snuffles with serous discharges and 2 had rather profuse mucous discharges. All gave positive lepi-septicum cultures. Brilliant green (0.1 per cent) was dropped into the nostrils of each rabbit. All of them developed severe snuffles and 2 died of pneumonia, 1 on the 3d day and 1 on the 13th day.

In another experiment a litter of 6 rabbits was used. They were free of *B. lepi-septicum*. Brilliant green (0.1 per cent) was dropped into the nostrils of 4 of them. On the following day there was no effect of the brilliant green to be seen. All 6 of the rabbits were now inoculated intranasally with *B. lepi-septicum*. The 4 having had the brilliant green developed severe snuffles and 3 died of pneumonia, on the 4th, 8th, and 9th days respectively. The 2 not having had brilliant green had a light form of snuffles and had "clean noses" at the end of 2 weeks but were still carrying the organisms.

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A Low Resistance Air Valve.

CAMERON V. BAILEY.

From the Respiration Laboratory, The New York Post-Graduate Medical School and Hospital, New York City.

The valve is particularly adapted for respiratory work. It consists of a vertical 9 cm. length of 22 mm. glass tubing; the tube projects 1.5 cm. through the center of an inverted No. 13 rubber stopper. The upper surface of the stopper has a layer of canton flannel. A light celluloid cup, in cross section a parabola, and 4.5 cm.