was set to maintain the air at 1°C. above the temperature optimum for that foot in water (to allow for the cooling effect of evaporation from the skin). In 2 cases relief of pain promptly followed. The third patient was much more comfortable but attacks of pain persisted; therefore the air temperature was changed from 35° to 37°, then back to 35°, and finally to 33.5°. This last temperature was accompanied by almost complete relief. In all these cases the gangrene cleared up without amputation.

Conclusions. The optimum temperature for the feet of my patients proved to be considerably below their mouth temperature. It corresponded closely with the skin temperature of the feet of normal persons. When this temperature was rigidly maintained comfort was at a maximum and the color of the feet most closely approached the normal. Slight deviations from it were accompanied by pain and cyanosis.

It appears reasonable to believe that strict maintenance of the optimum temperature would increase the chances of recovery in many cases of gangrene secondary to peripheral vascular disease.

5780

Closed Loop Fluid.*

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In the course of work previously reported[1] on closed loops of small intestine, observations were made upon the nature of the fluid aspirated from the distended loop after complete recovery of the animal. While a closed loop may not show any accumulated fluid for weeks at a time it may at intervals become filled with fluid, which must be aspirated to prevent distension and necrosis of the loop. This fluid is gray in color and has a specific gravity of 1.012 (average of 108 specimens).

The reaction, determined by the quinhydron electrode, varied within relatively wide limits: 47 jejunal loop specimens gave an average pH of 7.5 with extremes of 9.0 and 6.3; 51 ileal loop specimens gave an average of 7.7 with extremes of 9.0 and 6.2. All

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[1] Burget, Martzloff, Thornton and Suckow, *Arch. Int. Med.*, 1931, **47**, 593.

determinations were made immediately after withdrawing the fluid.

In testing for enzymes the following substrates were used: 1% sucrase solution, 5% peptone and olive oil. The sucrase activity was estimated by determining the amount of reducing sugars by the Schaffer-Hartman method. Peptone hydrolysis was estimated by the formol titration and lipase activity measured by titrating the fatty acids liberated with alcoholic KOH. Seventy-four ileal specimens were tested and 104 jejunal specimens. Sucrase and erepsin activity were demonstrated in 50% of the ileal specimens and in 75% of the jejunal specimens. Lipase was only occasionally present.

These results show that the fluid accumulated in a distended loop is not pure *Succus entericus*. Some factor has brought about abnormal secretion together with some filtration into the loop. Normal loops absorb all fluid leaving a slowly accumulating pastelike debris.

5781

Neutralization of Virus of Poliomyelitis with Serum of Healthy Porto Ricans.

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The geographic and seasonal incidence and variations of poliomyelitis have been among the most interesting problems in the study of the epidemiology of this disease. Further, the preponderance of cases in children under the age of puberty with also a tendency towards a larger proportion of cases in males than in females is striking. Friedberger, Bock and Furstenheim[1] have called attention to antibody rise in relation to age and one may logically inquire what, if any, may be the physiological factors involved which may modify the susceptibility or resistance to infection with the virus of poliomyelitis. The work of Aycock[2] and of Shaughnessy, Har-

[1] Friedberger, E., Bock, G., and Furstenheim, A., *Z. f. Immun. Forschung.*, 1929, **64**, 294.

[2] Aycock, W. Lloyd, *J. Prev. Med.*, 1929, **3**, 245; *Am. J. Hyg.*, 1928, **8**, 35; and Kramer, S. D., *J. Exp. Med.*, 1930, **4**, 457.