

area, and principally the spots which are difficult to reach, is essential. Subsequently, an equal distribution of the remedy may be effected by means of a gauze or cotton tampon. After the first application, in the majority of the cases, a prompt recession of the symptoms is noted. The temperature drops to normal, occasionally even less, while the subjective disturbances often vanish as if by magic; an extension of the redness distal to the brown margin of the iodine application is not discernible. He states that such favorable results cannot, of course, be expected, especially not upon the temperature curve, when other morbid processes complicate or are secondary causes of the disease. But even here, the cutaneous process itself is influenced in a like favorable manner. He lays stress on the fact that even where the erysipelatous skin is covered with vesicles, it tolerates well the iodine applications, and in this regard does not differ from the normal skin. Only occasionally does a slight burning sensation manifest itself. In his experience, no remedy compared in the slightest degree with the success of the iodine (10 per cent.).

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#### MIXED VACCINES IN INFLUENZA

A. J. Minaker, and R. S. Irvine, San Francisco *Journal A. M. A.*, March 22, 1919) describe the use of mixed vaccines and their results at the Naval Training Station in San Francisco, during the late pandemic of influenza. A culture of *B. influenzae* was obtained from the Rockefeller Institute, but difficulties were encountered in reproducing good growths in ordinary human blood agar, or sufficient quantity for the needs. From the findings, it was concluded that human blood contained natural immune bodies in varying amount. "Following a suggestion of Professor Hall of the University of California, the human blood agar when cooled was cooked in a Freas dry oven at a temperature of from 100 to 115 C. or until it changed to a rich chocolate brown; in fact, it was found that even when this agar was apparently overcooked, luxurious growths were secured. Whether this result was due to the destruction of the natural immune bodies, or to a liberation of the hematin from the blood, or to both, remains to be settled. Suffice it to state that with this medium not only could subcultures be easily grown, but also primary cultures from lungs, sputum and postnares demonstrate the presence of *B. influenzae* in easily recognizable colonies. To obtain pure cultures of the pneumococci, human blood agar gave best results, while for vaccine, 2 per cent. glucose bouillon gave ample growths. The streptococci were grown and gathered from blood agar, 15 per cent. human blood, centrifuged and washed (both washed and unwashed were tried with very little difference noted) and diluted in a 0.5 per cent.