

ed as in the first experiment) against nearly one-hundredth cubic centimetre of antitoxine. In contradistinction to this, the two guinea-pigs which were treated with the blood taken five and nine hours respectively after the antitoxine administration died from the simple toxine dose after thirty and thirty-four hours.

With Mr. H., a student of our college, I conducted the same line of experiments; blood was drawn four times: before, six hours after, eleven hours after, and twenty-four hours after swallowing the same dose of antitoxine. The outcome was that samples Nos. 1, 2 and 3 gave absolute negative results, while with the fourth sample it was easy to protect the animals against the fatal dose of poison.

It has therefore been established that while after twenty-four or thirty-six hours nearly the whole amount of antitoxine can be recovered from the blood, when the antitoxine has been taken by mouth, after five, six, nine, and eleven hours nothing or very little of it can be found. My experiments, of course, would not exclude the possibility that at these hours some antitoxine was present; on the contrary, that is very probable; but its amount certainly was small and not sufficient to protect animals against even very small doses of the specific poison.

I need not state *in extenso* the conclusions it will be allowed to draw from these remarks. It seems, in the first place, that they tend to corroborate the theory of the chemical nature of antitoxine, and in the second place they show that with perfect safety immunization against diphtheria may be produced by oral administration of the antitoxic serum or the antitoxic milk. In the case of children the latter seems preferable. On the other hand, they emphasize the fact that curative effects must not be attempted by this way of administration on account of the slowness of absorption, or at least of diffusion

through the system; even for prophylactic purposes (in families where one member is infected, for instance) it must be employed only with careful discrimination of the conditions.

For speculative minds it would be a promising task to find out why it takes so long for this substance to be diffused through the body, while almost all other absorbable chemical bodies, when in contact with the intestinal mucous membrane, assert their presence in the circulation much earlier.—*N. Y. Med. Jour.*

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### HOW TO TREAT SICK-HEADACHE.

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Analgesine, says Dr. Hirtz in the *Journal des Praticiens* of December 11th, 1897, is unquestionably a medicament of the first order. Huchard experimented with it as an antipyretic; but it is especially an analgetic, and Germain Sée used it commonly to combat pain. The dose is, so to speak, individual. Some subjects are relieved by a dose of 4 grains; others require 15 grains; and sometimes 30 or 45 grains are necessary to obtain recovery.

Patients should be warned against the abuse of this drug, which has become public property, and is frequently taken without the advice of a physician, as it gives rise occasionally to symptoms of veritable poisoning. Analgesine is more easily tolerated when combined with 8 grains of sodium bicarbonate. It may also be administered hypodermically when the condition of nausea, dependent upon the headache is too painful and too pronounced to allow of the ingestion of any liquid. It may be given in enemata, from 30 to 45 grains of analgesine with 6 drops of laudanum being sufficient for four injections.

Before the employment of analgesine, says the author, caffeine was frequently prescribed, either in potion