similar reaction to pollen and to histamine in the 1-1,000 dilution, thus suggesting that histamine may actually measure reaction capacity. The "non-sensitive" individual reacts to histamine as readily as does the sensitive one.

Twelve different patients were used in these studies, some of them being used for two different phases of the work, and in each case the tests were checked 2 or 3 times, often with an interval of a week between tests.

4423

Effect of Epinephrin Upon Skin Reactions to Pollen and to Histamine.

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Most "Allergists" assume that injection of epinephrin within an hour or two of the time of testing will cause false negative skin reactions. This drug is frequently given in an attempt to alleviate the symptoms of urticaria and to hasten the involution of the lesions.

Skin sensitive patients were tested as before described[1] to pollen or to histamine or to both, and non-sensitive individuals tested to the latter only. As a control the normal disappearance time of pollen or histamine wheals was determined. This factor was found to vary considerably from patient to patient but to be fairly consistent for the individual, and seemed unrelated to the test substance or type of skin.

A series of intracutaneous injections was made, measurements were taken 15 minutes later and epinephrin solution (1-1,000), 0.3 cc. (M.V.) per 150 pounds of body weight was given subcutaneously. This amount is sufficient to give a definite systemic response in most patients within 10 to 15 minutes, and to alleviate the symptoms of asthma or hay fever. Fifteen minutes after the epinephrin injection a second set of welts was made parallel to and about 1½ inches from the first set in the antecubital space and at the wrist. It was thus possible to observe the effect of this drug upon the involution of wheals already formed and the genesis of them when the test substance was injected 15 minutes after the epinephrin. The

* With the technical assistance of Maurine Cannon, R. N.

[1] Lamson, R. W., PROC. SOC. EXP. BIOL. AND MED., 1929, xxvi, 611.

rate of involution of wheals of pollen or histamine was little influenced by epinephrine when compared with the control rate for that individual but itching was often much less after epinephrin. This drug in the above amount did not prevent the formation of definite positive skin reactions, in fact a few patients gave as large or larger reactions after epinephrin as before. In the majority the reaction for one dilution was similar to that produced by the next higher dilution before the injection of epinephrin, thus the drug decreased the reaction about as much as would result from a 1-10 dilution of the test substance. The secondary erythema was markedly decreased by the drug in most cases.

A few tests have been made with twice the dose of epinephrin indicated above. By the use of the larger dose more marked interference with the genesis of a positive wheal was evident.

4424

The Effect of Alkalis Upon the Solubility of Quinine Salts.

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The present study was suggested by the paper by Eggleston[1] pointing out the need for further experimental data concerning factors influencing the absorption of drugs from the gastro-intestinal tract. The literature reveals a surprising dearth of material, particularly as relating to the rôle of hydrogen ion concentration as a factor in absorption.

The immediate problem was the determination of the solubility of soluble quinine salts (hydrochloride, dihydrochloride and bisulphate) in solutions of various alkaline salts at various concentrations and pH, when equal parts of 2% quinine salt and alkaline salt were mixed. The alkaline salts employed were K_2HPO_4, Na acetate, Na citrate, $NaHCO_3$ and Na_2CO_3. The effect of OH ion was learned through the use of NaOH. An end concentration of 1% quinine salt was thought to approximate the expected concentration in the stomach and duodenum after a full therapeutic dose of quinine. The pH determinations were made colorimetrically, using the

[1] Eggleston, C., *J. Am. Med. Assn.*, 1923, lxxxi, 431.