

Epinephrin has been chosen for study because of the readily measurable changes it induces in the diameter of the frog's pupil. The time from injection of the drug to beginning dilatation has been designated as the latent period and has been made the basis of comparison of the rates of absorption by the two methods. As the tables and curves (Figures I and II) show the latent period after intramuscular injection is always shorter. It is felt that this finding further substantiates the above results.

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Some effects of morphine upon respiratory reflexes.

By M. S. DOOLEY and GEORGE B. ANDREWS.

[*From the College of Medicine of Syracuse University, Syracuse, New York.*]

In some unpublished experiments it was found that morphine not only does not diminish the Hering-Breuer reflex, but, on the other hand, actually renders it more prominent, especially the inhibitory phase of it. This appears to be directly opposite to its effect upon other respiratory reflexes such, for instance, as the cough reflex and certain dyspnoeas of reflex origin which are caused to disappear under morphine action. But, for reasons which can not be stated here, we believe that the cough reflex, especially, belongs to a different category and is not to be regarded as a simple reflex and, hence, responds differently. The experiments here reported were devised in an attempt to shed further light on this question.

It was stated above that especially the inhibitory phase of the Hering-Breuer reflex is exaggerated by the action of morphine. This has led us to examine another purely inhibitory respiratory reflex as to its behavior under the influence of the drug. To do this we have taken advantage of the fact, discovered by Myer, that the active expiration in the fowl is always inhibited by any effective electrical stimulation of the central end of the vagus nerve. For a given strength of stimulus morphine greatly prolongs this inhibitory reflex rather than diminishing or abolishing it. It is thus seen that this reflex reacts toward morphine as does the Hering-Breuer and not as does the cough reflex.