

## A STUDY OF THE ABSORPTION OF FATS IN INFANTS.

BY

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Recently the fat content of the infant's food has been attracting more attention than heretofore, and some of the questions that have arisen are:

What is the normal proportion between the intake of fat and the fat appearing in the faeces?

Is the fat appearing in the faeces fat that has escaped digestion, or is it fat formed in the intestine as a result of metabolism?

In what form do the fatty compounds exist in the faeces?

With these questions before us we undertook a series of experiments, hoping, by observing closely the intake of fat and the output in the faeces of infants, to gain some knowledge that would help us in solving these problems. The investigations extended over a period of about one year, during which time we have conducted seven experiments on infants varying from 17 days to 108 days of age.

## PHYSIOLOGY OF FAT DIGESTION.

Fat has an inhibitory action upon the stomach; it remains longer in the stomach than either the proteids or carbohydrates, and the amount of gastric juice secreted is weaker and less than with a proteid diet. The gastric juice possesses a certain degree of fat-splitting power, but how much is due to the enzyme lipase and how much due to bacterial action is a question that is still under investigation.

In the duodenum, through the action of lipase which is present in the pancreatic secretion the fats are hydrolized with the formation of glycerine and the corresponding fatty acids. The oleic action dissolves the solid fatty acids like palmitic and stearic and renders them soluble in bile. They are in part converted into soaps. The soaps and fatty acids are synthesized during the process of absorption by the epithelial cells of the intestinal wall. Fat is found principally in the adipose tissue and bone marrow, but every tissue of the body contains a certain amount. The fat in the different parts of the body is not of the same composition. Muscle