

Our first object was to establish, if possible, the normal relation between the intake and output of fat—first in the healthy suckling and second in the artificially-fed infant.

Our first experiment was conducted on a male infant 17 days old in the Montreal Maternity Hospital. Two nurses were allotted the task of watching the child night and day during the time of the experiment. They were instructed not to use soap in the cleansing of the child's buttocks, nor to employ ointments nor administer drugs. The nourishment for the baby was drawn from the mother's breast with a breast pump and placed in a graduated bottle (graduated in cubic centimetres). The nipple was fitted directly to the neck of the bottle and the infant fed with the desired quantity. The difference between the reading taken before and the reading taken after the feeding gave the exact amount of food taken by the infant. With a pipette the nurse removed a proportional amount from each feeding for analysis. The baby was fed every two hours in the daytime and every four hours at night.

All breast pumps, bottles, nipples, pipettes, and other utensils used in the collection of the milk were thoroughly washed in cold water, scrubbed with a brush, rinsed with warm water, and boiled. While not in use they were kept in a solution of boracic acid. Before being used the feeding bottle and breast pump were warmed by placing them in water at 40°C.

The faecal discharges were collected upon pieces of washed gauze (fat and soap free) about one yard square folded in the usual way. In the triangular piece, which comes up between the legs, a hole was cut to allow the penis to pass through. Over the gauze was placed a piece of gutta-percha tissue, a little larger than the piece of gauze. In this also a hole was cut for the passage of the penis. Over all was pinned the diaper. In this way the faeces were obtained uncontaminated by urine. The gauze received the faeces, the diaper the urine, and the rubber tissue between kept them separated. The baby was weighed at the same hour each morning before feeding.

With the artificially-fed children the same rules were observed, except that the food was prepared each morning by the nurse in charge according to the formula prescribed. The quantity and number of feedings in twenty-four hours were regulated according to the age of the child.

A sample of the food prepared was sent to the laboratory each day for analysis. Male children used, and the stools collected in the same manner as in the breast-fed infant.