3 per cent., so that this would account altogether for 6 grams absorbed via the lymph out of a total fat absorption of 226 grams. Furthermore, even this small amount of fat was not absorbed by the lymphocytes. The lymphocytes of the thoracic duct are practically all (98 per cent.) small, with the faintest suggestion of a cytoplasmic rim. Presumably fat would be carried by the cytoplasm of the cell and not by the nucleus. No fat, however, could be demonstrated in the lymphocytes by histo-

chemical methods. These preliminary results are so striking that they are being subjected to more detailed investigation.

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TREATMENT OF CHOREA BY BATHS*

BY

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A series of cases of chorea in children under 15, numbering forty-four in all, has been treated in the wards of the Cheyne Hospital for Children, Chelsea, since August, 1929, by means of reclining baths at skin temperature for considerable periods of immersion. The cases were graded on admission as follows:

Very bad, 9; bad, 15;
bad + mitral stenosis,
3; moderate, 13; mild, 4.

All these children, most of whom had been transferred from other hospitals, had a long previous history of the disease, the average length being three months—in one case it was one year. Three of the cases were relapses—in one instance a third relapse—of previous attacks.

TECHNIQUE

The patients were placed in the ward baths for a period of one to one and a half hours, in the morning and again in the afternoon. The bath was filled with tap water at skin (neutral) temperature, and kept at this point throughout by partial refilling at intervals. The ward possessed only two baths, and as several cases were always under this treatment baths were given in rotation; any child whose treatment coincided with meal-time was fed in the bath. Each child had an air-ring placed round his neck (Fig. 1), which enabled him to lie back in the bath and relax without fear of his head becoming submerged. In bad cases, when this danger would still be present, a canvas cover was fitted over the bath, and the head emerged through a hole. (Fig. 2.)

Subsequent to the bath the child was put to bed for an hour, after which light skin massage (sedative) was given to the limbs and back for twenty minutes. Children with heart disease were also treated in this way, but were conveyed on a trolley, and lifted in and out of the bath.

PHYSIOLOGICAL EFFECTS

The sedative effect, which it is the object of this method of treatment to produce, was generally manifest after about a week of treatment. The effect of individual baths on the pulse rate was somewhat variable. If the pulse rate was initially over 100 a slowing effect of eight to ten beats per minute was practically invariable by the end of the bath. With lower rates the most usual effect was a decrease in frequency of 4 to 8 beats. Occasionally

this was only manifest after one of the two daily baths in which case it was always after the afternoon bath. It was noticed in several of the original cases that the pulse rate increased after baths. This was investigated more fully, and it appeared likely that it was due (a) to the child playing while not observed, or (b) turning on the hot tap while unobserved; an increase in the pulse rate was only noticed on very few occasions after closer observation was instituted.

In practically every case the child became very fond of the treatment. During the first four or five days slight cyanosis, shivering, or looseness of the bowels was observed after the bath in a few cases, but this passed off and did not recur except in one case, when looseness of the bowels persisted for three weeks. The cyanosis occurred chiefly in the cardiac cases. All these patients were kept on treatment, however, and ultimately did well.

CLINICAL RESULTS

All the cases responded well after periods of treatment varying from eight to twelve weeks in the milder ones, and up to five months or more in the severe cases. A certain number of additional unselected cases were treated in the same ward on more usual lines with various drugs, including "nirvanol," during this period. It was noticed that these responded more quickly, but relapses were more common. The notes of fifty unselected cases treated on orthodox lines were examined, and the incidence of relapses was compared with those occurring over four years in the present series. In the former group (treated with drugs) there were found to be eight relapses (1:6), while in the present series there have been three (1:13). Of these three relapses one occurred in a boy whom we had been treating for his third attack of chorea, while another "relapse" only amounted to an undue "nerviness."

SUMMARY

Forty-four cases of chorea of long standing, referred mostly from general hospitals, were treated without drugs but by means of somewhat prolonged immersion in baths at "neutral" temperatures, and general (light) massage. A small control series was treated on orthodox lines. It was found that the same result was ultimately achieved in both groups. The bath group took longer, but the ultimate incidence of relapses proved lower than in the orthodox group. It is probable that a combination of the method described with ordinary drug therapy would prove a more successful measure than either separately. This could easily be adopted in hospital, since no special apparatus—other than an ordinary air-ring or a canvas bath-top cover to fit the ward bath—is necessary.

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FIG. 1

FIG. 2