Chart showing relation of birth weight to weight at 1 year to 1 year 9 months.

Similar differences were found in older children, aged 2 to 3 years. In this age group, for instance, 23.7% of the 118 children in Group A were 10% or more below the average weight, as compared with 1.4% in Group D. In Group A 4.2% were correspondingly overweight, as compared with 23.6% in Group D. Put in another way, of the 70 children in the birth-weight groups studied who were 10% or more above the average weight 7.1% were children from Group A (in which there were 118 children) and 84.3% from Groups C and D (total number of children 272).

Discussion

The investigation shows the great importance of taking the birth weight into account in the assessment of the physical growth of a child. Though some babies who are born prematurely do catch up to the "normal" and sometimes weigh more than the normal for the age, the average weight of a child born prematurely is considerably less than that of a child who was above the average birth weight. That these differences persist throughout childhood has already been shown (Illingworth and co-workers, 1949). The fact that a child is said to be "under weight" is very often a source of great worry to the mother. When due allowance is made for the birth weight it will be found that a considerable number of those so-called under-weight children are of average weight for children of that age, sex, and birth weight.

Summary

The growth in weight up to the age of 3 years of 1,343 children of different birth weights was investigated.

The average male child who at birth weighed $5\frac{1}{2}$ lb. (2.5 kg.) or less weighed consistently less than the average child of a larger birth weight. At the age of 1 the mean weight of the child who at birth weighed $5\frac{1}{2}$ lb. or less was 20 lb. 12 oz. (9.41 kg.) (male) and 19 lb. 11 oz. (8.93 kg.) (female). The mean weight of the child who weighed 7 lb. 2 oz. to 7 lb. 6 oz. (3.23 to 3.35 kg.) at birth was 22 lb. 5 oz. (10.12 kg.) (male) and 21 lb. 13 oz. (9.89 kg.) (female). The corresponding figures for the child who weighed $9\frac{1}{2}$ lb. (4.31 kg.) or more at birth were 24 lb. 7 oz. (11.08 kg.) (male) and 23 lb. 3 oz. (10.52 kg.) (female). The same gradation of weight in relation to birth weight was shown in all the age groups studied.

The average male child who at birth weighed $9\frac{1}{2}$ lb. or more weighed more at 1 year than the child whose birth weight was $5\frac{1}{2}$ lb. or less at 2 years. The average male or female child

In contrast, of the 377 children in the groups studied who were 10% or more above the average weight 6.3% were of Group A (in which the total number of children was 202) and 76.9% of Groups C and D (total number of children 526).

who weighed $9\frac{1}{2}$ lb. or more at birth weighed more at 2 than the child whose birth weight was $5\frac{1}{2}$ lb. or less did at 3 years.

Mothers are occasioned a great deal of worry by being told that their child is under weight for its age. A considerable proportion of so-called under-weight children are found to be of average weight when due attention is paid to age, sex, and weight at birth.

My thanks are due to Dr. A. Black, principal maternity and child-welfare officer, City of Sheffield, for her great help and co-operation in making her records available for study; to Dr. Gin for her painstaking study of the records; and to the medical officer of health for Sheffield, Dr. Llewellyn Roberts, for permission to publish the results.

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COMPARISON AND ESTIMATE OF GROUP AND INDIVIDUAL METHODS OF TREATMENT

BY

A. S. THORLEY, M.D., D.P.M.

AND

N. CRASKE, M.B., Ch.B., B.Sc.

(From the Belmont Hospital, Sutton, Surrey)

The Belmont Hospital practice of allotting cases on admission by a rota system enabled us separately to treat similar clinical material between August, 1946, and December, 1948. It seems a reasonable assumption that the rota system ensures a high degree of similarity in the material allocated. Since group therapy was used by one of us (A.S.T.) and an individual approach by the other (N.C.) we considered a comparison of the results of treatment would prove instructive.

In establishing a diagnosis we took the presenting feature—for instance, anxiety, hysteria, or depression—and applied that as the label for our purpose. Although it was recognized that patients often presented more than one of these syndromes, it was thought that this procedure would facilitate appraisal of the results. The term "schizophrenia" includes paranoid states; mental defect has been used as a diagnosis only when it constituted the most important aspect of the case. The organic cases included epilepsy, post-encephalitis, secondary dementia, toxic confusional state, causalgia, carcinoma of the stomach, and severe head injury. Both physical and psychological methods of treatment are compared.

The clinical results have been assessed by means of a questionnaire sent three months after the patient left hospital. We are indebted to Dr. Louis Minski, who is conducting a follow-up of Belmont patients, for use of the replies. The questionnaire is as follows:

1. Has your general health been good since leaving hospital?
2. What symptoms, if any, still persist?
3. Have you had further treatment since leaving? If so, state whether from your own doctor or as an out-patient or in-patient of any hospital.
- 4a. Are you in regular work? b. If not, is this due to your health?

For the purpose of estimating the results we expressed the replies as "yes" or "no," and have interpreted "yes" to both questions 1 and 4a as being a favourable result.

Regardless of the answers to 2 and 3, a "no" in reply to either question 1 or 4a implied an unfavourable result. In other words, a general improvement in health in conjunction with capacity to work regularly is considered a satisfactory finding. It could be argued that this method of interpretation does not allow for the occurrence of a healthy man's being out of work: this did not happen in our experience.

The relative proportions of psychiatric states and the findings of the follow-up in our two series are shown in Tables I and II. With the exception of anxiety states and hysteria the similarity of the figures suggests that we have used the same criteria in arriving at a diagnosis. All cases considered in the comparison are male.

TABLE I.—A.S.T.'s Cases (Group Therapy)

Diagnosis	Favourable Result	Unfavourable Result	Not Followed-up	No Reply	Total
Anxiety states ..	28	29	5	9	71 (39.01%)
Hysteria ..	8	6	1	4	19 (10.44%)
Depression ..	17	6	3	1	27 (14.84%)
Psychopathic personality ..	7	10	1	6	24 (13.18%)
Schizophrenia ..	4	9	2	7	22 (12.09%)
Obsessional neurosis ..	3	1	2	—	6 (3.30%)
Mental defect ..	—	2	1	—	3 (1.65%)
Organic disease ..	2	7	1	—	10 (5.49%)
	69	70	16	27	182 (100%)

TABLE II.—N.C.'s Cases (Individual Therapy)

Diagnosis	Favourable Result	Unfavourable Result	Not Followed-up	No Reply	Total
Anxiety states ..	12	12	3	3	30 (27.52%)
Hysteria ..	8	8	3	2	21 (19.27%)
Depression ..	11	3	1	2	17 (15.60%)
Psychopathic personality ..	2	3	6	2	13 (11.92%)
Schizophrenia ..	3	5	1	6	15 (13.76%)
Obsessional neurosis ..	1	—	1	—	2 (1.84%)
Mental defect ..	2	1	—	1	4 (3.67%)
Organic disease ..	—	6	—	1	7 (6.42%)
	39	38	15	17	109 (100%)
Combined totals .. (Tables I and II)	108 37.11%	108 37.11%	31 10.65%	44 15.13%	291 100%

Taking twice the standard error of the difference (Bradford Hill, 1949— $\sqrt{\frac{p_1 \times q_1}{n_1} + \frac{p_2 \times q_2}{n_2}}$) as the test of significance, the observed differences are at the limits of probability. Anxiety states differed by 11.49% (twice the standard error = 11.21) and hysteria by 8.83% (twice the standard error = 8.81). This suggests that anxiety/hysteria represents the two ends of a scale on which there was considerable subjectivity in choice of one or other term.

Forms were not sent to 31 cases (10.6%) of the 291 patients under consideration either because they were Service patients or because it was considered administratively inexpedient. A total of 216 (74.22%) replied, and the average length of time from leaving hospital to their last replies was 10.77 ± 7.01 months (arithmetical mean and standard deviation). In 88 cases (30.24%) more than one reply was received, and the average length of time before their final reply was 13.71 ± 6.34 months. Of these, 76 remained consistently favourable or unfavourable. Of the 108 men who replied favourably 36 were symptom-free and not in receipt of further treatment; 15 had been diagnosed as depressives, nine as anxiety states, and five as hysterics. This finding supports the well-known clinical observation that depression, both quantitatively and qualitatively, yields the best results. The patients who did not reply to the questionnaire were of interest: we found an

undue proportion of psychopathic personalities and schizophrenics—21 out of 44—and suggest they tend to be a prognostically unfavourable group. Considered separately, our results are similar and correspond to those given above for the total group.

Against this background we have tried to compare the use of group and individual therapy. Neither of us invariably used a specific psychiatric treatment for a particular clinical syndrome—for example, not all patients treated by electric convulsion therapy were depressives and not all depressives received E.C.T. It was therefore thought reasonable to give analyses of treatment (Tables III and IV).

TABLE III.—Treatment of A.S.T.'s Cases

Type of Treatment	Favourable Results	Unfavourable Results	Not Investigated	No Reply	Total
In hospital 20 days or less ..	5	10	4	8	27 (14.84%)
Group therapy ..	29	22	6	5	62 (34.08%)
Group therapy and modified insulin ..	20	13	2	5	40 (21.98%)
Modified insulin ..	4	8	1	3	16 (8.79%)
Electric convulsion therapy ..	5	6	—	—	11 (6.04%)
Insulin comas ..	4	3	—	4	11 (6.04%)
Deep narcosis ..	—	2	—	1	3 (1.64%)
Routine procedure ..	2	6	3	1	12 (6.59%)
Total ..	69	70	16	27	182 (100%)

Average duration of stay in hospital, 83.9 ± 63.3 days.

TABLE IV.—Treatment of N.C.'s Cases

Type of Treatment	Favourable Results	Unfavourable Results	Not Investigated	No Reply	Total	Difference in Percentages (Tables III and IV)
In hospital 20 days or less ..	3	2	2	2	9 (8.26%)	6.58
Individual therapy ..	10	6	—	1	17 (15.64%)	16.64
Individual therapy with modified insulin ..	6	6	—	1	13 (11.92%)	10.06
Modified insulin ..	2	1	1	2	6 (5.52%)	3.29
Electric convulsion therapy ..	10	2	1	1	14 (12.84%)	6.80
Insulin comas ..	3	3	1	3	10 (9.17%)	3.13
Deep narcosis ..	—	4	—	—	5 (4.58%)	2.95
Leucotomy ..	1	—	1	—	2 (1.84%)	0.92
Routine procedure ..	4	14	7	7	32 (29.36%)	22.77
Total ..	39	38	15	17	109 (100%)	

Average duration of stay in hospital, 100.15 ± 73.95 days.

It was not thought that results could be attributed to in-patient treatment of a few days' duration, so an arbitrary minimum of 21 days has been chosen in compiling the above tables. The tables suggest a much greater subjectivity in choice of treatment than in establishing a diagnosis. Modified insulin is of the type described by Sargent and Craske (1941), and the chief indication for its use was loss of weight. A significantly greater number of patients in Table III were treated in this way than in Table IV: observed difference 13.35% (twice the standard error = 9.98). So far as we can see, it has had no effect upon the results. Taking the specific physical treatments (E.C.T., insulin comas, deep narcosis, and leucotomy) as a whole, the observed difference shown by the tables was 13.8% (twice the standard error = 9.96). N.C. used E.C.T. in depression and deep insulin comas in schizophrenia to a much greater extent than A.S.T.—particularly the former. The chief differences lie in the proportion of patients treated by group and individual therapy (without or with modified insulin) compared with that subjected to routine procedure. The corresponding figures, 16.64%, 10.06%, and 22.77%, are all significant: the respective standard errors are 10.11, 8.73, and 9.47.

Patients treated by group and individual therapy occupied separate wards, and their contacts were of only a

superficial kind. They were subjected to the same routine and had access to the occupational, recreational, and educational facilities offered by the hospital. In addition to seeing medical or surgical specialists they had the opportunity of interviewing a psychiatric social worker and the disablement resettlement officer. The expression "routine procedure" implies the above measures, but indicates that no specific psychiatric technique was used.

The group was an "open" one—that is, new patients were joining as old ones left the hospital. It met for an hour each day and varied in size from eight to twelve members. Originally reference was made to Thomas's (1943) review of the literature, and treatment began with the repressive-inspirational type of therapy. Such books as *Straight and Crooked Thinking* by Thouless (1930), *The Common Neuroses* by Ross (1923), and *How the Mind Works* by Burt and others (1945) were used as a basis for discussion. Lectures were given by the psychologist, the social worker, the disablement resettlement officer, the occupational therapist, and the physical training instructor. Debates on the value of physical training and occupational therapy led to an increased attendance at these activities.

Personalities comprising the group markedly influenced the subject-matter, and papers were read on a wide range of subjects—for example, architecture, radio propaganda, film art, aeronautics, radar, and Zionism. Animated conversations took place on the colour bar, emigration, euthanasia, and sterilization. "Twenty questions" was a favourite activity with one particular group. Psychological subjects—inferiority complex, will power, masturbation, interpretation of dreams, and the needs of the well-balanced life—were popular themes. Group psychotherapy itself came in for criticism. Its advantages were thought to be the opportunity for abreaction, the daily contact with the therapist, increased objectivity, broadening of outlook, and stimulation of ideas, which were argued outside the formal group hours. On the other hand, there was an initial difficulty in persuading patients to give confidences to others whom they distrusted or disliked. As time progressed attempts were made to persuade the group to take an active part in deciding its own activities.

During the period under review the therapist increased the emphasis on psychological treatment. In addition, he has tended, not always successfully, to be more selective in choosing members and to keep the numbers small. Both drug abreaction with intravenous sodium amylal and inhaled ether with a free-association technique have been used—the material provided forming the subject-matter for group discussions. Fenichel's (1946) *Psychoanalytical Theory of Neurosis* was used as a guide at this stage of the group's development. During the two years there has been a shift from an educational to a more strictly therapeutic approach, giving, so far as is practicable, the initiative to the patients themselves.

None of N.C.'s patients had group methods in any form. The psychotherapy given was of a non-analytical and superficial kind. The patients who had this type of treatment were seen on an average twice a week. The basis of the treatment was the establishment of good rapport with the patient—encouraging him to give as complete an anamnesis as possible and using his life story as the basis for reassurance—the expression of painful and unacceptable emotion, and the discussion of unadmitted fears, conflicts, and worries.

As with anxiety/hysteria, so "psychotherapy/routine procedure" comprises another scale along which we have ranged ourselves. A comparative analysis of results is shown in Table V.

TABLE V.—Analysis of Results

	A.S.T.'s Cases				N.C.'s Cases			
	Group Therapy		Routine		Individual Therapy		Routine	
	+	—	+	—	+	—	+	—
Anxiety states ..	24	16	—	3	9	6	1	2
Hysteria ..	7	5	—	—	4	3	2	4
Depression ..	10	2	—	—	1	—	—	1
Psychopathic personality ..	5	4	1	1	1	1	1	1
Schizophrenia ..	1	3	—	—	—	1	—	—
Obsessional neurosis ..	1	—	—	—	—	—	—	—
Mental defect ..	—	—	—	1	1	—	—	1
Organic disease ..	1	5	1	1	—	1	—	5
Total ..	49	35	2	6	16	12	4	14

+ = Favourable result. — = Unfavourable result.

With the physical methods of treatment (E.C.T., insulin comas, and deep narcosis) N.C.'s 14 favourable and 9 unfavourable cases show to advantage against A.S.T.'s 9 favourable and 11 unfavourable cases: this is chiefly due to her treatment of depressives by E.C.T. (Tables III and IV). In Table V the figures for psychotherapy/routine procedure give the opposite result owing to the inclusion of depressives in the group-treated material. It will be noticed that both our figures for psychotherapy are better than those for routine procedure, and that we fared slightly better with those having anxiety states than cases of hysteria. Excluding the depressives there is no difference between the results of group and individual treatment.

A small number of group and individually treated cases had E.C.T., insulin comas, or deep narcosis. They have been included under the heading of the appropriate physical method, but are too few to provoke comment. The greater proportion of patients receiving group treatment is due to the nature of the group. Attendance ranged from a casual appearance at an educational or diversional class to a conscious attempt at treatment. Of course, one merges into the other, and it seems that in turning the group into a debating society or a playground was itself a therapeutic process for a few patients. The best results have apparently been achieved by discussion of personal problems and case histories (see Table VI).

TABLE VI.—Results of Group Therapy

	Discussion of Personal History		Educational or Recreational		Casual		Total
	+	—	+	—	+	—	
Anxiety states ..	10	2	9	7	5	7	40
Hysteria ..	1	—	4	3	2	2	12
Depression ..	2	—	5	1	3	1	12
Psychopathic personality ..	2	2	3	2	—	—	9
Schizophrenia ..	1	1	—	1	—	1	4
Obsessional neurosis ..	1	—	—	—	—	—	1
Organic disease ..	—	—	—	3	1	2	6
	17	5	21	17	11	13	84

+ = Favourable result. — = Unfavourable result.

The inclusion of organic disease—epilepsy, post-encephalitis, or secondary dementia—may require explanation. These patients, although told the procedure could have no therapeutic value, insisted on attendance, and while they were in hospital it seemed to lessen their sense of isolation. The same consideration also applies to the poorer psychiatric material. Patients with anxiety states and hysteria derived most benefit from group therapy and those with anxiety states in particular derived benefit from the discussion of personal case histories.

In addition to the effects of therapy the influence of age, length of illness, intelligence, and the presence of

associated physical disease has been considered in our joint group of patients with anxiety states and hysteria. An analysis of these factors in our material is given in Table VII.

TABLE VII

	Favourable Results	Unfavourable Results	Observed Difference Two Previous Groups	Twice Standard Error
Average age	30.14 $\pm$ 7.82	38.45 $\pm$ 11.53	8.31	3.74
Average length of illness	3.43 $\pm$ 4.61	6.05 $\pm$ 7.48	2.62	2.30
Incidence associated physical disease	14.29%	34.54%	20.25%	15.88
Incidence Selection Groups 1 and 2	30.61%	16.07%	14.54%	17.20
Incidence Selection Groups 4 and 5	10.21% cases	34.09% cases	23.88%	16.68

Increasing age, length of illness, and associated physical disease—for example, bronchitis, rheumatism, duodenal ulcer, asthma, and colitis—were adverse factors in our experience. Intelligence below the average (Selection Groups 4 and 5) occurred significantly in the unfavourable replies. Although superior intelligence (Selection Groups 1 and 2) is seen more often in the favourable results, this did not happen to a significant extent. Intelligence has been assessed by Dr. Desai, using the matrix test, and graded in terms of “selection groups”—the average being taken as S.G. 3+ and 3−. That older and less intelligent patients do not respond to psychotherapy is a well-known clinical observation.

There are other constitutional factors which may have affected the results, but we did not study them adequately. The neurotic constitution described by Slater (1943) is clearly of the greatest importance. Unstable personalities are often unable to take an interest or co-operate in therapeutic attempts. We would suggest that an active interest in group or individual therapy is itself a favourable prognostic sign.

Summary and Conclusions

Similar clinical material has been separately treated by two methods—in groups (69 cases) by A.S.T., and individually (38 cases) by N.C.—the results of which are compared.

The incidence of psychiatric syndromes corresponds closely in the two groups, with the exception of anxiety states and hysteria, the proportions of which are significantly different. It is argued that this difference is partly due to a subjective emphasis upon one or other term.

The results of treatment, as judged by means of a questionnaire, were found to be similar for both groups.

Comparing and analysing treatments, we found significant differences in the use of physical and of psychotherapeutic methods by both therapists. Such differences were due to personal preference.

Comparing the use of physical treatment, A.S.T. was found to use more modified insulin, but obtained no better results. E.C.T., insulin coma, and deep narcosis were preferred by N.C., who obtained better results from them, this being due to a greater use of E.C.T. in depression.

The difference in psychotherapy lies in the exclusive use of either group or individual methods. The results of treatment by either technique are the same. A.S.T.'s rather better figures are attributable to his preference for group therapy in depression. Psychotherapy of either type yields better results than routine treatment. Within the group, discussion of personal case histories produces better results than educational methods, but the numbers are too small for final conclusions to be drawn.

Apart from treatment, such constitutional factors as age, low intelligence, length of illness, and the presence of associated physical illness significantly affect prognosis. It is tempting to suggest that interest in either group or individual therapy is itself a good prognostic sign.

Our thanks are due to Dr. Louis Minski not only for permission to publish this paper but for freedom of choice in methods of treatment. We are also indebted to Dr. Desai for helpful criticism in writing the paper.

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PRIMARY TORSION OF THE OMENTUM IN CHILDREN

BY

A. BRUCE MacLEAN, M.B., F.R.C.S.Ed., F.R.F.P.S.
 (From the Royal Hospital for Sick Children, Glasgow)

Torsion of the great omentum in its long axis is recognized in the adult as a cause of acute abdominal symptoms, and there are numerous references to it in the literature (Draper and Johnson, 1931; Lipsett, 1941). In the child the omentum is poorly developed and is usually short, filmy, and relatively free from fat; therefore, from its nature, any twist will return immediately to normal. For this reason torsion of the omentum is rare in childhood.

Two types of torsion are recognized: primary or unilateral, where no obvious cause can be found within the abdominal cavity; and secondary or bipolar, where some additional point of attachment is present, such as a focus of inflammation, a hernial sac, or the adhesions of a previous laparotomy. Three cases of primary omental torsion causing acute abdominal symptoms are reported.

Case 1

A previously healthy girl aged 6 was admitted to hospital on October 27, 1947, with the complaint of sudden abdominal pain. This began in the lower abdomen 24 hours before admission and was followed by vomiting on two occasions. About eight hours after the onset the pain settled in the right side of the abdomen and remained there. The appetite was not particularly affected; the bowels had moved four hours before admission. There were no other relevant points in the history.

On examination she was seen to be robust though not obese; the tongue was clean and there was no pyrexia; the pulse was quickened, but the respiratory rate was within normal limits. The whole of the right side of the abdomen was tender to palpation and there was muscle-guarding in the right hypochondrium and to a less degree in the right iliac fossa. Rectal examination was inconclusive. No abnormality was detected in the heart, lungs, or urine. A diagnosis of acute appendicitis was made, and laparotomy was carried out through a grid-iron incision in the right iliac fossa.

At operation some clear free fluid was found in the peritoneal cavity. The caecum, appendix, and small bowel showed some superficial injection. Exploration of the upper abdomen with a finger disclosed a mass in the region of the gall-bladder. It was freely mobile and was delivered without difficulty into the wound. It was then obvious that this was an omental torsion involving most of the greater omentum, and it was ligated at its pedicle and removed. Appendicectomy was then performed and the abdomen closed. Convalescence was uneventful apart from a temporary collapse of the right upper lobe following the anaesthetic.

Pathology.—The specimen was pyriform in shape and measured 7 by 5 cm. It was firm in consistency and plum-coloured, and at the neck the normal omentum was present.