

A. SPENCER PATERSON

ELECTRICAL  
AND  
DRUG  
TREATMENTS  
IN  
PSYCHIATRY

ELSEVIER

# *Electrical and Drug Treatments in Psychiatry*

by

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ELECTRICAL AND DRUG TREATMENTS  
IN PSYCHIATRY

## *Preface*

When a book on a psychiatric subject was required for this series, I suggested that one on electrical and drug treatments would be suitable. These are the two physical therapies which are most widely employed at the present time in psychiatry and yet there is remarkably little information given about them in the textbooks. In other branches of medicine the clinician does not treat the patient until he understands the pathology of the disease and the pharmacological action of his remedy. In psychiatry however the exact mode of action of these compounds is more obscure and the writers of some textbooks have simply referred to both therapies as empirical, thus implying that nothing is really known about them. This however is very far from being the case. In this book an attempt is made to give the requisite information that is lacking in most textbooks.

There has in fact been a renewed interest in electrical treatment in the last two years. Its value in schizophrenia, which was put in doubt by some authorities, has now been accepted. While in the past junior doctors in mental hospitals have been advised to use the simplest possible machine and avoid premedication with muscular relaxants, nowadays they are officially advised to work with an anaesthetist. The latter is apt to take a different view of electrocerebral treatment from that held by the psychiatrist of ten years ago. The psychiatrist and anaesthetist now question whether an epileptic fit with a crude machine is the last word in electrocerebral treatment. The fit represents a maximum excitation of the nervous system but one wants to know about the possibilities of electrical inhibition, electric coma, electrically induced mental dissociation and abreaction, electrical anaesthesia and electrical sleep. Such treatments have certain advantages over the administration of pharmaceuticals. Electrical treatments are quick in obtaining results. They often make psychotherapy and rehabilitation possible early in the illness. They are humane and they have almost no side-effects. When the main course of treatment

is completed it is seldom necessary to continue with maintenance therapy.

Part I of this book consists of an account of electrocerebral treatment.

As in the case of electric treatment, textbooks have not kept pace with the development of psychotropic drugs. These have been very successful in certain types of illness. They have been used either alone or in combination with electrical treatment.

Part II gives some account of the more important psychotropic drugs employed in the treatment of schizophrenia, the manic-depressive psychoses, and in the neuroses. In addition to the information given in the main text there is an appendix which can be pulled out and unfolded. In this way it is possible to see at a glance the main items such as generic and trade names, chemical structure, dosage, indications etc. and to refer them to the material in the main text. One can also easily compare the effects of one drug with those of another. At the present time there is no book to our knowledge which includes such a chart.

This book is based on work carried out at the Psychiatric Department of the West London Hospital during the past seventeen years. During the 1940's we realised that the stress treatments applied to patients suffering from early functional psychoses was the most important development in psychiatry since the advent of systematic psychotherapy in the neuroses. In 1947 we formed a team consisting of an anaesthetist, a physicist, a neurophysiologist and psychiatrist to study these problems.

Since 1950 we have had a neurophysiological laboratory with a full-time physiologist and have studied the different types of electrocerebral treatment mentioned above. Since 1959 we have also had a conditioned reflex set-up in which we have studied among other subjects the pharmacology of some psychotropic drugs.

The department has a dozen psychiatrists on the staff so that our clinical material has been extensive.

This book is intended both for psychiatrists and for general practitioners. Nowadays practitioners have been deprived of much of the work which was carried out by their predecessors, such as surgery, midwifery or the treatment of infectious diseases. However the community is relying on them to carry out a considerable amount of psychiatric treatment. They see psychiatric emergencies and they have patients who have been discharged from a mental hospital entrusted to them for supervision and drug treatment. They are also learning the best drugs with

which to treat neurotic patients. In addition, practitioners in other specialties, especially neurology and public health, are acquiring a new interest in psychiatric treatment.

I am particularly indebted to the Dan Mason Foundation for repeated grants which have enabled our investigations to be continued.

I am indebted to Professor T. Gualtierotti, who is now head of the Istituto di fisiologia umana, University of Milan, for his collaboration with me for three years at the West London Hospital and for recommending three of his pupils, Drs. Spinelli, Passerini and Bracchi to succeed him there.

On the clinical side I have received a great deal of help from my colleagues Drs. Felix Brown, Glyn Davies, Denis King, J. Runes, L. Field, B. Cwynar, and J. T. Robinson. The last-named has given me the benefit of his experiences with "LSD" treatment at Roffey Park which is described in Part II.

I am grateful to the following for help in preparing the book: Dr. J. Runes for reading the text, and Dr. J. Frisch for advice regarding pharmacology.

Finally, I am grateful to Mr. A. G. Stevens of the Malven Electrical Co., 284 London Road, St. Albans, for constructing instruments to meet some of our particular needs.

*London, July 1962*

*A. Spencer Paterson*

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PART I

*Electrical Treatment*



## *Introduction*

The discoveries in the 1930's, of the administration of insulin comas (Sakel, 1936), of convulsive therapy with cardiazol (Meduna, 1937), and of electroshock (Cerletti and Bini, 1938), for the treatment of the functional psychoses, together marked the beginning of a new era in psychiatry. During the subsequent 20 years the success of these therapies caused a revolution in the mental health services of countries all over the world. In the 1950's several reports appeared in which treatment in the early 1930's was compared with that in mental hospitals 20 years later. Cook in his Presidential Address to the Royal Medico-Psychological Association (1958) described the state of affairs at Bexley Hospital near London in June 1935, when he took over charge of the female side. Most of the hospital was occupied by chronic patients. Out of 18 wards only 2 had open doors. There were 2 wards of some 70 patients, each composed mainly of chronic melancholics who had been in hospital from 2 to over 20 years. Although they had lost the acute edge of their depression they were preoccupied with delusions of unworthiness, hopelessness and bodily illness. Even larger numbers of chronic schizophrenics with far less prospect of remission occupied the other wards. These could be divided into 3 roughly equal groups: (i) Those whose psychosis was, so to speak, "burnt-out", and who were occupied more or less in automatic routine work; (ii) those who had sunk into a state of apathy and emotional dilapidation, and (iii) those who showed phases of excitement and violence, with noisy, turbulent and destructive behaviour. In the refractory wards there was a sustained atmosphere of tension; struggles and minor casualties were numerous. The chief medication consisted of giving paraldehyde and chloral hydrate, and 1,430 lbs of the former and 273 lbs of the latter were doled out annually (= 648.5 and 124 kg respectively).

Cook comments: "In general I do not think that it is an overstatement

to say that physical treatments have provided our most effective means of rendering the bulk of chronic patients more accessible to social rehabilitation or that the change of atmosphere of the chronic wards, which I have just described, must be attributed primarily to such procedures as convulsion therapy, leucotomy, and more recently tranquillizing drugs."

He then described the effects produced by the administration of ECT. "First of all it has proved a great boon in the case of endogenous depressions and in other such states as severe mania, acute puerperal psychoses, severe toxic confusional states and some fulminating schizophrenic reactions, occasionally preventing death from suicide or exhaustion. Secondly it has exerted a considerable influence on the morale of prospective patients and of their relatives and in fact upon the general public. It has not only proved time and again to be dramatically successful in severe and most alarming mental illnesses, but has altered the apparently hopeless course of thousands of long-standing psychoses, both schizophrenic and depressive. Without convulsion treatment the bed problem in mental hospitals might well by now have become insuperable." The writer goes on to state that convulsive treatment has been a basic factor in making possible the subsequent sweeping administrative changes in local mental health services throughout the country.

An article emanating from the same mental hospital (Norton, 1961) describes the female side in the year 1960. By that year the number of female beds had fallen from 1284 (in 1954) to 1165, that is, a decrease of 119. This was parallel to what had been happening elsewhere, for in England between 1956 and 1959 there had been a drop in the number of beds to the extent of 15,000, a peak having been reached in 1954 of 148,600. Despite this fall in the number of beds, in the country as a whole there has been an increase in the number of new patients of about 125 per cent since 1946 (Paterson, 1959).

Norton had had the clinical impression that far fewer patients were becoming chronic and he therefore carried out an exhaustive investigation from April 1957 until January 1960. He compared the progress of patients during this period with that of patients who were admitted at intervals during the previous 30 years. In his hospital ECT was the treatment most used for schizophrenia until 1957. Only then did the administration of chlorpromazine become important. Insulin coma treatment was not very much used. The average age of the schizophrenics on



admission was higher in the later period and this is probably explained by the fact that the younger schizophrenics were being treated at clinics on an ambulatory basis or in general hospitals, where there was a psychiatric service. The median stay in hospital for a schizophrenic was only 9 weeks instead of the 7 months during an earlier period 1928-30. Only 19 per cent of schizophrenics were still in hospital after 2 years instead of an average of 40 per cent in 1928-30. In 1957, 86.7 per cent of the patients admitted with schizophrenia were out of hospital within a year compared to 26.5 per cent 30 years previously. The duration of stay for a schizophrenic nowadays is not much greater than that of patients with an affective psychosis. By the end of two years only 10 per cent of schizophrenic admissions were still in hospital compared to 59 per cent 30 years previously. The proportion of schizophrenics in hospital 6 years after their admission in 1953 was only 12 per cent but at the end of 5 years beginning in 1928, 35 per cent were still in hospital.

Norton considers that a variety of factors has contributed to this remarkable outcome. First may be put the efficacy of the physical treatments, secondly the changed atmosphere of the hospital and thirdly a readiness on the part of relatives and the community to accept improved patients at home without too much apprehension. He remarks that those improved patients who leave hospital may have to return if circumstances become difficult at home, but these readmissions are merely episodes in the long term management of a patient who, had he become ill 30 years ago, would have had only 2 chances in 5 of ever being discharged. With regard to the manic-depressive psychosis the length of stay in hospital has fallen from 6 months to 7 weeks and the proportion of those who leave hospital within a year has improved from 50 per cent to 90 per cent. The major part of this change occurred before 1949, that is to say before there were any administrative changes in the hospitals. Hence the most probable explanation of the improved outlook and shortened stay is the success of ECT. By 1949-50, 55 per cent of admissions for manic-depressive insanity were recovering with ECT and in 1957, 81 per cent were responding well to ECT, but of these 24 per cent needed more than a single course.

Such has been the success of ECT in schizophrenia according to Norton that recently organic dementia has taken the place of the latter as the commonest cause of stay in Bexley Hospital for more than 2 years. In

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