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KING EDWARD VII SANATORIUM
MIDHURST

Sixteenth Annual Report

JULY 1921 to JULY 1922

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KING EDWARD VII SANATORIUM
MIDHURST

Sixteenth Annual Report

JULY 1921 to JULY 1922

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KING EDWARD VII SANATORIUM MIDHURST

Sixteenth Annual Report

JULY 1921 to JULY 1922

During the twelve months ending the 30th June, 1922, 301 patients were admitted to the Sanatorium, including 33 re-admissions and 34 who remained in residence too short a time to be considered in the records.

During the same period 275 patients were discharged, of whom 76 were placed in Group I., 77 in Group II., and 118 in Group III.* In 4 cases no definite evidence of pulmonary tuberculosis was obtained.

There has been a steady demand for beds, the average number of applicants on the waiting list per week having been :—for Men 5·2, for Women 4·5.

The number of patients examined by the Medical Superintendent before admission was 167. Of these 124 or 74·2 per cent. were accepted as suitable; 43 or 25·7 per cent. were rejected.

The system of treatment adopted at Midhurst is now common to most modern sanatoria. It consists in a completely open-air life, a regular and ordered daily routine, a diet sufficient and nourishing without being excessive, and a system of carefully graduated rest and exercise, which provides at the same time interesting occupation, all-important in tuberculosis. The several grades of exercise which have been adopted during the year differ only in minor details from those given in the Fourteenth Annual Report (1919-1920), p. 6. They are six in number: Patients who for a week have done a daily walk of six miles without rise of temperature start on Grade I.; and they are gradually promoted through the intermediate stages to Grade VI.

* For classification, see p. 12.

Artificial pneumothorax is employed, with co-operation of the Honorary Radiologist, either in cases of severe or repeated Hæmoptysis, or when there has been lack of response to the usual sanatorium methods. When the treatment has been useful, the patients return to the Sanatorium to be "refilled," stay the night, and leave next day. The results of this method in the past twelve months are shown in Table II., p. 7.

As will be seen from the report, the Dental Department has done much useful work during the year. The value of dental hygiene and the removal of septic teeth in improving the general condition of tuberculous patients cannot be over-estimated.

The Social side of Sanatorium life is carefully arranged, and the necessary variety of entertainment has been well maintained in the past twelve months. The General Purposes Committee consists of patients. They elect a President, who also acts as Secretary. Under their management a series of concerts and other entertainments, such as whist-drives, etc., were given, and the outdoor sports—golf, croquet and bowls—were enjoyed throughout the summer.

The General Results of Treatment are set forth in the following table :—

TABLE I.—GENERAL RESULTS OF TREATMENT AS SHOWN BY THE CONDITION OF THE PATIENTS ON DISCHARGE FROM THE SANATORIUM DURING THE YEAR 1921-1922

Group	Number of Cases	Arrested	Much Improved	Improved	Stationary or Worse	Died in Sanatorium
I.	76	60	13	3	0	0
II.	77	30	35	10	1	1
III.	118	17	65	30	5	1
All Cases	271	107	113	43	6	2
IV.	Patients in whom no definite evidence of Pulmonary Tuberculosis was found		Number of Cases			
			4	1	3	—

TABLE II.—CASES TREATED BY THE INDUCTION OF ARTIFICIAL PNEUMO-THORAX
1st July, 1921—30th June, 1922

Case	Group	Indications for Artificial Pneumothorax	Date of 1st Operation	Result	Remarks
10/89	III.	Severe and prolonged hæmoptysis. Total, 71 ozs. in 12 days. Patient was in a collapsed condition.	22nd October, 1921	Good. Hæmoptysis controlled.	Patient now attends for re-fills at six weeks intervals. Last injection 700 cc.
11/254	III.	Persistent pyrexia up to 101° not yielding to absolute rest. Troublesome cough, and expectoration 1 oz.	30th November 1921	Good. Temperature controlled.	Patient now in good health. Attends the Brompton Hospital for re-fills.
11/30	III.	Previous treatment at King Edward VII. Sanatorium from 21.1.21 to 15.7.21. Left much improved. Subsequently had repeated small hæmoptyses, and returned for artificial pneumothorax treatment.	16th March, 1922	Good at first. Temp. steady, sputum decreased. Later unsatisfactory.	In June there was a hæmorrhage and rise of temperature controlled by two re-fills. Dyspnoea increased until November, when a re-fill was followed by marked dyspnoea and raised temperature, and the treatment was discontinued. Patient has subsequently improved in a nursing home.
11/298	III.	Extensive disease right side. Very slight signs left apex. Marked pyrexia up to 102°·6° not yielding to absolute rest.	2nd June, 1922	Unsatisfactory.	Introduction of 400 cc. on four occasions after much difficulty with adherent pleura. Patient was highly nervous, and as there was no marked improvement treatment was discontinued.

The smallness in number of these cases during the year is due to two facts:—(1) that ordinary Sanatorium treatment proved successful in the great majority of cases; and (2) that of the patients who did not respond to it some presented contra-indications to the induction of artificial pneumothorax—such as signs of bilateral disease, rapid pulse or unsuitable temperament, others lived too far from the Sanatorium or other available centre to render “refills” practicable.

REPORTS OF SPECIAL DEPARTMENTS

REPORT OF THE THROAT DEPARTMENT

Of the 275 patients discharged during the year ending 30th June, 1922, 229 patients were examined laryngoscopically by Sir St. Clair Thomson. Of these in 195 the larynx was found to be normal; in 34 diseased. The results of treatment are shown in Tables III., IV. and V.

TABLE III.—SHOWING THE RESULT OF TREATMENT IN PATIENTS SUFFERING FROM TUBERCULOSIS OF THE LARYNX IN WHOSE SPUTUM TUBERCLE BACILLI WERE DEMONSTRATED IN THE SANATORIUM

	Number of Cases	Cured	Improved	Stationary or Worse	Died in Sanatorium	Remarks
Group I.	2	1	1	—	—	For cases treated with Galvano-Cautery see Table V.
Group II.	3	2	1	—	—	
Group III.	25	3	19	2	1	
All cases	30	6	21	2	1	

TABLE IV.—SHOWING THE RESULT OF TREATMENT IN PATIENTS SUFFERING FROM TUBERCULOSIS OF THE LARYNX IN WHOSE SPUTUM TUBERCLE BACILLI WERE NOT DEMONSTRATED IN THE SANATORIUM

Group I.	—	—	—	—	—	For cases treated with Galvano-Cautery see Table V.
Group II.	1	1	—	—	—	
Group III.	3	1	2	—	—	
All cases	4	2	2	—	—	

TABLE V.—SHOWING THE RESULT OF TREATMENT WITH THE GALVANO-CAUTERY IN PATIENTS SUFFERING FROM TUBERCULOSIS OF THE LARYNX

	Number of Cases	Cured	Improved	Stationary or Worse	Died in Sanatorium	Remarks
Group I.	1	1	—	—	—	
Group II.	—	—	—	—	—	
Group III.	3	—	3	—	—	
All cases	4	1	3	—	—	

REPORT OF THE X-RAY DEPARTMENT

During the past year the cases dealt with were of four classes :—

(1) Cases in which there was no ordinary clinical evidence of Tuberculosis to be found.

(2) Cases of pulmonary disease in which a radioscopic diagnosis was called-for because the ordinary clinical signs were very slight or indefinite, and (in most of them) the sputum after repeated examinations was T.B. negative.

(3) More advanced cases of pulmonary tuberculosis in which improvement under treatment was not taking place, and in which, therefore, the question of inducing an artificial pneumothorax had to be considered.

(4) Cases in which tuberculosis was suspected in other parts than the lungs.

In the first class there were only four cases, two men and two women; and, although none of them gave any clinical signs of tuberculosis, X-rays showed definite disease in one. The other three cases were doubtful.

The majority of the cases radioscopically examined came under the second class. In 21 of them the sputum was T.B. negative after repeated examinations. In the remainder the T.B. result was positive, or it was later found to be positive, although at the date of the radioscopy it was negative. While radioscopy showed evidence of pulmonary tuberculosis the physical signs were indefinite and only became definite later on.

In the third class (more advanced cases) the X-ray report was very helpful to a decision as to whether artificial pneumothorax should be induced or not. Of the cases in which it was done, a series of plates were taken showing the first pocket of air in the pleural cavity up to complete collapse of the lung.

In the fourth class there were only two cases, both of suspected spinal disease. In neither was anything abnormal found.

For the purpose of ascertaining whether any changes in the lungs could be detected by radioscopy during the usual time a patient was under treatment, a series of plates were taken in eleven cases on admission, and at intervals of a month until they were discharged. These cases were not selected, but were simply taken in the order of their admission. Eight were in Group I., two in Group II. and one in Group III. In no case was any difference observed between the successive plates taken: the last plate of each series seemed to be identical with the first. The conclusion drawn was that in the short time—4 to 6 months—during which a patient is under treatment, no change can as a rule be detected in the diseased lung by X-ray examination. Changes were, however, detected in two cases examined at longer intervals. In the first a skiagram was taken in April, 1920, and a second in June, 1922—an interval of two years. The second plate showed more calcification than the first. The other case was examined in December, 1920, and again in March, 1922—an interval of 16 months. The second plate showed spread of the disease with a slight development of bronchiectasis, which was in agreement with the clinical evidence.

The results of the year's work show the great importance of Radiology in the correct estimation of the extent of pulmonary tubercle, since, though the activity of the disease cannot be determined, the extent is often found to be greater than it was supposed to be from the clinical examination alone; whilst in the production of artificial pneumothorax Radiology is essential, if proper control of the procedure is to be exercised.

Number of plates taken—69 Men, 62 Women; total 131.

REPORT OF THE DENTAL DEPARTMENT

The following work was carried out from July, 1921 to June, 1922 :—

Fillings, 102; Root treatments, 10; Scalings, 37; Extractions, 227; Dentures, 10; Repairs, 7.

REPORT OF THE DEPARTMENT OF PATHOLOGY

The work during the year 1921–1922 has comprised :—

- (1) Routine examinations of sputa.
- (2) Complement fixation tests for tuberculosis.
- (3) Occasional blood counts or other examinations.

(1) *Routine Examinations of Sputa*.—A total of 1,095 samples of sputum were examined, the procedure being that described in the Fourteenth Annual Report, page 8.

Out of 438 patients, 363 had their sputa examined for tubercle bacilli; the remaining 75 patients had no sputum.

Of the 363 patients whose sputum was examined, 271 or 75 per cent. proved to be T.B.-positive at one time or other during their stay in the Sanatorium. In the remaining 25 per cent. the sputum was persistently negative.

A note was made of the type of sputum in each case and there was found to be a definite correlation between the naked-eye appearance of the samples and the presence of tubercle bacilli.

	Cases Positive.	Cases Negative.	Positive. %
Typical purulent sputum ...	213	13	93·5%
Sputum containing a little pus	52	38	58%
Watery poor samples ...	6	41	17%
Total cases ...	271	92	

Among the 271 positive cases tubercle bacilli were found on the first examination in 227, on the second in 26, on the third in 8, and on subsequent examinations up to the 12th in 10. If these figures are added to those reported last year, there is a total of 666 positive cases. In 86 per cent. of these the bacilli were found on the first examination, in 7·7 per cent. they were discovered on the second examination, in 2·7 per cent. on the third examination; and in 3·6 per cent. it required more than three examinations, and in some cases as many as twelve, before bacilli were detected. If it is permissible to generalise from these figures, it may be said that if, in a suspicious case of tuberculosis, three examinations of the sputum for tubercle bacilli yield negative results, there still remains roughly a 1-27 chance that the bacilli may be discovered on subsequent examinations extending over the following few months.

(2) Complement fixation tests for tuberculosis were carried out on all the patients as a routine. The percentage figures obtained remain approximately the same as in the Fifteenth Annual Report, page 11. The results of the work will be published in detail elsewhere.

(3) Occasional blood-counts or other examinations yielded nothing of special interest.

REPORT OF THE STATISTICAL DEPARTMENT

The work of the Statistical Department has been continued on the same lines as in previous years (*see* ANNUAL REPORTS V., XI. and XII.). The total number of patients discharged from the Sanatorium up to date is 3,663. Those of whom information could not be obtained number 117, or 3.19 per cent. The statistics of the ultimate results of the enquiry are given in the Tables, pp. 14-25.

As in previous Annual Reports, the Turban-Gerhardt classification has been used to indicate the clinical condition of patients on admission. This classification is as follows:—

Group I.—Disease of slight severity, limited to small areas of one lobe on either side, which, in the case of infection of both apices, does not extend beyond the spine of the scapula or the clavicle, or in the case of affection of the apex of one lung does not extend below the second rib in front.

Group II.—Disease of slight severity, more extensive than Group I., but affecting, at most, the whole of one lobe; or severe disease extending, at most, to the half of one lobe.

Group III.—All cases of greater severity than Group II., and all those with considerable cavities.

By disease of slight severity is to be understood: disseminated foci characterised by slight dullness, indefinite, rough or weak vesicular, vesico-bronchial, or broncho-vesicular breathing, and fine and medium crepitations.

By severe disease: massive infiltration recognised by definite dullness, broncho-vesicular or bronchial breathing, with or without crepitations.

Cases with signs of considerable excavation, giving rise to tympanitic percussion with amphoric or cavernous breathing and numerous coarse consonating crepitations, come under Group III.

Pleuritic dullness, if only of slight extent, is to be left out of account; if it is considerable, pleuritis should be specially mentioned under tuberculous complications.

The following terms are used to describe the condition of patients on discharge from the Sanatorium:—

“DISEASE ARRESTED.”—General health completely restored in every respect, without any sign of disease of the lungs except such as is compatible with a completely healed lesion. Sputum, if still present, free from tubercle bacilli.

"MUCH IMPROVED."—General health good. Physical signs of disease in the lungs, though much diminished, not entirely cleared up, *e.g.*, limited to a few crepitations on cough only. Tubercle bacilli still to be detected in the sputum.

"IMPROVED."—General health improved, but not restored. Physical signs of disease in the lungs, though less marked than on admission, still present.

"STATIONARY."—No appreciable improvement in the condition of the lungs or in the general health.

"WORSE."—General or local condition worse.

TABLE BI.—STATISTICS OF ULTIMATE RESULTS

Cases in the Sputum of which T.B. were demonstrated in the Sanatorium

Condition on Admission		Discharged during the Year															Condition in 1922
		1906/07	1907/08	1908/09	1909/10	1910/11	1911/12	1912/13	1913/14	1914/15	1915/16	1916/17	1917/18	1918/19	1919/20	1920/21	
Group I.	Disease Arrested	10 6 —	13 10 —	12 2 —	9 4 —	7 3 1	6 6 2	5 3 —	4 3 —	4 5 —	7 1 —	12 — —	— 2 1	3 — —	10 1 —	24 — —	Alive Dead Lost sight of
	Much Improved	5 8 —	10 6 1	2 9 —	14 9 —	14 13 1	6 10 1	3 3 —	5 3 1	7 2 —	2 4 —	9 — —	9 — —	6 — —	14 1 —	18 1 —	Alive Dead Lost sight of
	Improved	— — —	2 1 —	— 1 —	1 3 —	— 1 1	— — —	— — —	— 1 —	— 1 —	— — —	1 1 —	1 — —	1 — —	3 — —	— 1 —	Alive Dead Lost sight of
	Stationary or Worse	— 1 —	— 2 —	— 2 —	1 2 —	1 3 —	1 1 —	— 1 —	1 1 —	1 — —	2 — —	— 1 —	— 1 —	— — —	— — —	— — —	— 1 —
Group II.	Disease Arrested	4 2 —	— 2 1	8 4 1	9 4 2	10 4 3	12 7 2	12 11 —	10 5 —	10 4 —	4 3 —	8 2 —	4 1 —	8 — —	9 — —	11 1 —	Alive Dead Lost sight of
	Much Improved	10 21 1	23 23 2	18 18 1	10 33 1	9 40 2	11 33 1	16 21 —	26 24 —	26 27 1	11 25 —	41 24 —	36 17 2	50 12 3	38 9 1	40 3 —	Alive Dead Lost sight of

Group III.	Improved	3 9	— 14 1	5 21	6 19	1 12	5 13	4 15	4 7 1	2 7	7 7	3 8	8 6 1	8 8 1	7 3	4 1	Alive Dead Lost sight of
	Stationary or Worse	— 6 1	1 18	— 18	— 16	2 17	1 20	3 18	2 16	8 14	2 12	4 9	2 7 2	3 5	1 1	1 1	Alive Dead Lost sight of
	Disease Arrested	— — —	— — —	— 2	— — —	— — —	2 — —	— 1	— 1	— — —	— 1	— 1	— — —	— — —	3	6	Alive Dead Lost sight of
	Much Improved	3 7	3 16 1	3 7	3 8	2 9	— 6 1	1 5	3 6	6 14	13 9 2	12 22	14 19 3	29 15 5	27 11	29 8	Alive Dead Lost sight of
	Improved	1 10	2 20 1	3 26	— 17	— 17	2 13	1 9 1	2 8	3 16	2 12	4 22	3 17 1	11 10 1	23 14 1	20 19	Alive Dead Lost sight of
	Stationary or Worse	— 17	— 33	1 41	— 21	1 23	1 31	3 23	2 40 1	4 31	1 27	5 23	4 21 1	2 16 1	5 14	4 4	Alive Dead Lost sight of
	Summary	36 87 2	54 145 7	52 151 2	53 136 3	47 142 8	47 140 11	48 110 2	59 115 3	71 121 1	51 101 2	99 113 0	82 91 11	121 66 11	140 54 2	157 40 0	Alive Dead Lost sight of
Total -		125	206	205	192	197	198	160	177	193	154	212	184	198	196	197	

TABLE B2.—STATISTICS OF ULTIMATE RESULTS

Cases in the Sputum of which T.B. were not demonstrated in the Sanatorium

Condition on Admission		Discharged during the Year															Condition in 1922
		1906/07	1907/08	1908/09	1909/10	1910/11	1911/12	1912/13	1913/14	1914/15	1915/16	1916/17	1917/18	1918/19	1919/20	1920/21	
Group I.	Disease Arrested	11 1 2	19 4 2	22 7 4	29 5 4	24 10 1	17 7 1	12 1 1	6 — —	6 1 —	27 2 1	17 1 2	34 3 4	24 — 2	37 2 —	45 — —	Alive Dead Lost sight of
	Much Improved	2 — —	4 1 —	2 1 —	2 — —	— — 1	— — —	— 2 —	16 1 2	3 4 1	1 1 —	14 — —	7 — 1	8 — —	6 — —	1 — —	Alive Dead Lost sight of
	Improved	— — —	— 1 —	2 — —	— 1 —	— — —	1 — —	— — —	2 — 1	2 — —	— — —	— — —	1 — 1	— — —	4 — —	2 — —	Alive Dead Lost sight of
	Stationary or Worse	— — —	— — —	1 — —	1 — —	— — 1	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	1 — —	1 — —	— — —
Group II.	Disease Arrested	3 1 1	6 2 —	6 2 —	4 2 —	4 2 —	3 3 3	2 1 1	1 1 —	1 — —	8 3 1	8 1 —	13 3 3	27 — —	12 — —	11 — —	Alive Dead Lost sight of
	Much Improved	2 — —	5 2 1	3 6 —	4 4 —	2 1 —	4 5 —	1 1 —	2 2 —	7 3 1	3 2 —	7 2 2	27 1 —	31 1 1	3 — —	1 — —	Alive Dead Lost sight of

Group III.	Improved	—	—	1	4	—	—	—	—	—	—	—	—	3	—	—	—	6	5	1	Alive Dead Lost sight of
	Stationary or Worse	—	—	—	1	2	—	—	—	—	—	—	—	—	—	—	—	4	—	—	Alive Dead Lost sight of
	Disease Arrested	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	Alive Dead Lost sight of
	Much Improved	—	1	1	1	1	—	—	—	—	—	—	—	—	—	—	—	4	4	1	Alive Dead Lost sight of
	Improved	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Alive Dead Lost sight of
	Stationary or Worse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	Alive Dead Lost sight of
	Summary	18	3	36	42	42	31	26	24	32	20	45	50	95	109	74	66	66	0	0	Alive Dead Lost sight of
	Total -	24	51	66	59	48	48	48	31	41	35	59	58	117	119	78	66	66	0	0	Alive Dead Lost sight of

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