

GRADUATED LABOR IN PULMONARY TUBERCULOSIS.

By JOSEPH WALSH, M.D.,

Assistant Medical Director of the Henry Phipps' Institute.

PHILADELPHIA.

THOUGH we are obliged to give credit to Europe for many of the theoretical ideas and much of the practical work in connection with medicine, occasionally we do something on this side of the water worthy of notice. When this is done and Europe takes the credit for it, we naturally feel a little chagrined.

In the *Lancet* of January 25, 1908, Dr. Marcus S. Paterson, of Frimley Sanatorium, writes an article describing how patients work at the sanatorium and the effect of this work on the pulmonary condition. Frimley Sanatorium has been established only three and a half years, and the idea of working the patients began some time after the establishment. White Haven Sanatorium has been established seven years, and the patients have been working since its opening. In the White Haven Sanatorium patients were originally put on work, partly, at least, to keep down the cost of maintenance; but the good results to the patients themselves were seen within the first two years, and since then work has been insisted on more for the patient's own good than for the saving of expense to the sanatorium. Since the two objects can be accomplished at the same time, however, we still have the patients do the ordinary sanatorium work, and have the work graded to suit their ability. Our grades are as follows:—

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| Making paste board sputum cups. | A | Peeling potatoes, apples, etc. |
| Polishing brass and silver. | | Picking up paper on lawn. |
| Mending linen (hand sewing). | | Shelling peas and beans. |
| Carrying dinners to cottages (distance, about 300 feet). | B | Cleaning electric light globes. |
| Sweeping porches and kiosks. | | Cleaning beds. |
| Clerical work in office. | | Wiping off window sills, etc. |
| Keeping fire in cottages. | | Attending to Superintendent's cottage. |
| Helping serve lunches and washing lunch dishes. | | Gathering fruit and vegetables. |
| | | Making beds. |
| | | Mending linen (machine work). |
| Assisting driver on wagon. | C | Chopping kindling wood. |
| Assisting receiving clerk with milk and freight. | | Running steam pump. |
| Mowing and raking lawn. | | Carrying dinners to pavilion (distance, about 600 feet). |
| Carrying blankets and dress suit cases from fumigating room to infirmary. | | Cleaning windows. |
| | | Mopping cottage rooms. |

The principal benefit derived from this plan is that it makes the patient capable of carrying out his ordinary avocation immediately on returning home. The White Haven Sanatorium is intended for poor people, and unless they were in condition to work when they left the sanatorium, the aim of the sanatorium would be only half accomplished. Moreover we have found that by thus showing the patients how to work and carry out their regime at the sanatorium, they are prepared to do the same at home, and so remain in a working condition a longer time.

This plan of work has not only been carried out, but has been commented on several times. Flick, to whom the credit is due for the scheme, commented on it in the Fifth and Seventh Annual Reports of the White Haven Sanatorium; Landis described it in the *Journal of the Outdoor Life*, May, 1908, eight months before Dr. Paterson's article; again, in an address before the Pennsylvania Tuberculosis Exhibition in November, 1907 (published in the *Medical Record*, February, 1908); and I wrote as follows in the MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE, vol. x, page 53, 1907 (three months before Dr. Paterson's article):—

"On admission to the White Haven Sanatorium the patient is sent to the infirmary for two weeks in order to determine exactly his condition by frequent estimation of the temperature, etc., and in order to avoid infection of others in the sanatorium in case he has brought an acute infection with him. If at the end of two weeks the patient still manifests a temperature over 100° F., or a very rapid pulse, he is kept there until these symptoms subside. As soon as he leaves the infirmary and enters the general sanatorium, he is put on one hour's work a day. He does not leave the infirmary, therefore, until it definitely appears that he is capable of doing this hour's work without harm to himself. The work is usually increased five minutes a day and rarely ten minutes a day, until he reaches eight hours' work. He is kept at eight hours' work for one month, and then sent home with the idea that with proper care he can do eight hours' work a day at home.

"With signs of acute cold or any acute condition he is put on absolute rest, and if the period of rest is protracted his work is gradually increased again. Practically all the work about the sanatorium is done by the patients working in this fashion. It usually requires about six months to bring the patient to a point where he works eight hours a day for one month.

"In other words, we believe that absolute rest is a prime necessity when the patient shows acute symptoms or is badly run down; but since these patients are poor and must work when they leave the sanatorium, we believe it advisable to show them how to do it properly without injury to themselves.

"In the private sanatoria about White Haven, where the visiting physicians to the White Haven Sanatorium send cases, the same ideas are carried out, though instead of work the patients are put on walking exercise.

"I do not know of any other sanatorium in the world in which the patients are put on such systematic exercise, except Brehmer's, in Görbersdorf.¹

¹It is since this time that I visited Walther's Sanatorium at Nordrach and realized the amount of exercise he prescribed.

Here they are put on graduated mountain-climbing from the day of admission. If the case is very acute, showing high temperature, or rapid pulse, or extreme debility, of course it is put to bed even in Brehmer's Sanatorium; but it is probable that exercise is started much earlier than in any other sanatorium in the world.

"In the majority of other sanatoria in the world which I have personally visited, comparatively little insistence is placed on exercise. In Rompler's Sanatorium at Görbersdorf, in Falkenstein, and in many others, patients remain on rest during their entire stay, even though they remain a year. It appears to me that practically the same theoretical ideas relative to rest and exercise prevail everywhere, but in the majority of cases it is only the rest that is insisted on.

"In Frimley Sanatorium, which is practically the country branch of Brompton Hospital, London, and which receives the same class of patients as the White Haven Sanatorium, they endeavor to have the patients do a certain amount of light work, like gardening, etc., but I understood without great success. They claim that the class of patients coming there, many of them clerks in London counting-houses, think it *infra dig.* to work in a sanatorium, and would rather leave than work. This seemed to be the view in the public sanatoria throughout Europe generally, like, for instance, in Bourne-mouth and Beelitz. I think the same is true also of the majority of the public sanatoria in the United States.²

"In the private sanatoria in Europe, like Falkenstein, Hohenhonnef, and Rompler's, patients are sometimes found playing light games like croquet, but scarcely anything more violent than this.

"In other words, in sanatoria generally, rest is not only believed to be an essential, but exercise is, as a rule, so relegated to the background that it is scarcely in evidence."

It is true, however, that the graduated labor at Frimley has been gauged more scientifically (even if not more practically) because gauged by the opsonic index. Moreover at Frimley it is claimed that the work helps to promote arrest. All we claim at White Haven is that the patient is put in better physical condition to stand labor and to hold his arrested condition. From what I have seen clinically, I would not be willing to say that arrest was hastened by work, but only that the arrested condition was made more stable.

In addition I believe that too much insistence can be placed on exercise. On account of the general misunderstanding among the members of the profession in regard to the indications for rest and exercise, considerable injury has been done to patients by insistence on exercise when positive contraindications were present. Though, therefore, exercise properly regulated, when not contraindicated, "hardens" the patient, under any other circumstances it does harm, and the dictum still remains true that rest is the most important feature in the cure of tuberculous cases.

² I visited Frimley and talked with Dr. Paterson about work at White Haven Sanatorium and work at Frimley in September, 1905.