Fibroids of the ovary are composed almost entirely of fibrous tissues, and unstriped muscle-fibre is rarely and sparingly found, while our tumor is composed almost, if not entirely, of plain muscle-fibres.

Fibroids of the ovary have been shown by Leopold (28) to be connected with the ligament by a long, simple pedicle, which does not include the tube. One tumor lay deep and sessile in the pelvis.

It is not significant that a diagnosis of an ovarian tumor was made before the operation, as this has been repeatedly done by other operators in the case of solid tumors and cysts of the ligaments.

Neither does it matter that the right ovary was not recognized, as it is frequently melted down on the surface of large cysts, and becomes almost unrecognizable through pressure atrophy.

I conclude after all these considerations that this is a true primary leiomyoma of the broad ligament.

A table is appended to this article giving a synopsis of the eleven cases collected by Snger (1 and 2) to which I have added six other cases. Three of these are from Freund (28), one is from Bantock, and one is from an unpublished case of Fenger, and the other is the case I have just described.

In only six cases was the true position of the tumor recognized before the operation, namely, Schmid's, Miculicz's, Freund's three cases, and Fenger's.

Cystic, cavernous, and sarcomatous myomas, as well as simple myomas, are represented.

The average age of the patients is about 32 years, the extreme being 19 and 42.

It is probable that these tumors are not so rare as this limited number would indicate, but that in the advanced stage of growth in which they come to operation, the ovary becomes drawn out and lost on the wall of the tumor, which then seems to have arisen from the lost ovary. An earlier examination would perhaps have revealed their true position.

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THE TREATMENT OF NERVOUS AND MENTAL DISEASE BY SYSTEMATIZED ACTIVE EXERCISE.

BY CHARLES K. MILLS, M.D.,

OF PHILADELPHIA, PA.

(Concluded from page 167.)

Systematized active exercises serve a good purpose in some of the various disorders designated as asthma. One case of this kind, a young lady, despondent, weak, dyspeptic, hysterical, with feeble heart, and subject to attacks of asthmatic breathing, improved with great strides in a few weeks under general active exercises. She began treatment with half-pound dumb-bells, and at first could only stand five minutes' work. The exercises were increased, until half an hour was reached, and dumb-bells weighing four pounds were used.

In the treatment of chorea, or rather choreas, systematized active exercises are valuable. Special forms of gymnastics have been employed for this affection to some extent, particularly in France and Germany. Napoleon Laisn, a French professor of gymnastics, and evidently an earnest and enthusiastic worker in his chosen field, under the directions of Dr. Blache and other physicians of Paris, has used gymnastics largely both for chorea and other convulsive disorders. In 1865 he published a book in which his methods are set forth. Both Schreiber and Dujardin-Beaumetz refer to his labors and successes. His method in mild cases, as described by Schreiber, is to place the child before him, steadying it between his knees, and then take its hands in his, and perform rhythmic movements with each arm, keeping time by counting, or, better still, singing, out loudly—"one," "two," "three," etc. The child, at the same time, is also urged to try and keep time with the movements, and not to make them irregularly.

"Care must be taken in the beginning to prevent, as much as possible, the coincidence of involuntary movements with the rhythmic ones. When the arms have been exercised, similar movements are undertaken with the legs. From time to time, a pause for rest is made, during which the limb must be held firmly enough to prevent the occurrence of involun-

¹ Applications de la Gymnastique  la gurison de quelques Maladies. Paris, 1865.

tary motions. The child is then laid on its back upon an inclined ladder, the feet being held by an assistant; then grasping a rung above its head, it holds on in that position as long as it is able. This is to be repeated several times, and to be followed by a short rest. Afterward, the shoulders, back, and legs are rubbed and gently kneaded."

Lengthy details of treatment will be found in Schreiber's Manual.

Two cases of minor chorea improved under medicinal treatment up to a certain point, and then would advance no further. General exercises with light dumb-bells were ordered, and in both cases the progress to complete recovery was rapid.

In the treatment of habit chorea, these exercises have a peculiar value. This, whether in children or adults, is an annoying and distressing disorder, and commonly intractable. By habit chorea is meant an abnormal movement or series of movements, voluntary or partially involuntary, and repeated at frequent intervals. Mitchell² records two interesting cases, and recommends for treatment careful and good diet, light gymnastics, no school, gentle aperients, and full doses of arsenic, particularly the hypodermic injection of arsenic in the form of Fowler's solution. I refer to this treatment, as he includes light gymnastics among the measures recommended.

Among my nervous patients I have had a goodly number of cases of habit chorea. Nearly thirteen years ago I reported the case of a girl, fifteen years old, who had peculiar movements of her right ear, after a time associated with twitchings of her nostrils and upper lip, and the limbs of the right side. Another patient, under excitement, made a movement of extension and semi-rotation with one arm, sometimes accompanying it with twitching of the facial muscles. Facial grimaces constitute, as is well known, one of the most common forms of habit chorea. I have now under my charge a case of habit chorea which is being treated successfully by systematized active exercises. The patient, a young lady eighteen years old, began to be troubled with spasmodic movements nine years ago. These lasted at first from one to two years, then disappeared for a year to return again, and have since gone and come several times. For the last two years, however, she has been troubled almost continuously with the movements, and has tried various modes of treatment, chiefly medicinal, but without any decided benefit. The chorea consists of a sudden jerking of the head downward and to one side, which may be performed once or several times in succession. Either with or without this twitch or jerk, she frequently also has a snapping movement of both eyes. The chorea was not started by imitation, but it is much influenced by any cause of nervous excitement, as fright.

Systematized gymnastics, either general or local, constitute a rational treatment for cases of this kind, because by means of such exercises not only is the general nutrition of the patient improved, but the nerve centres are given tone and strength, and good habits of movement are made to substitute bad.

Such eccentric and abnormal movements are the result of eccentric functioning by nerve centres, or of irregularities in the conveyance of impulses through nerve channels. By again and again causing normal impulses to be conveyed in a normal manner to muscles, in time the choreic habit will be overcome. Such treatment, however, needs to be persisted in for months.

The advantage of any treatment which involves specific direction and the adroit calling out of the volition of a patient must be evident to everyone who has had experience with hysteria in its manifold forms. In hysterical paralysis much can be done by laying out a careful plan of treatment by exercises, and gradually leading up to their full performance. In referring later to ataxias and palsies, functional and organic, methods to this end will be considered. For the improvement of nutrition, and of what may be termed the general nervous and mental tone of hysterical patients, systematized active exercises fill an important place. Properly used and controlled, they may also prove most beneficial for cases of general nervousness, and also for neurasthenia. Whatever view may be taken of the much mooted question of neurasthenia, without doubt both respiratory and muscular power, either primary or secondary, are often deficient, and the nerve centres themselves can be strengthened and improved by exercising these two powers. Care should be taken not to force individuals suffering in this way to excessive effort at first.

Great are the advantages which result from the sojourn by sea or mountain, from the cure of camp and ship; but the improvement of health obtained by such holiday treatment is often soon lost in whole or in part by the individual going back too completely to old habits of living and working. A resort to systematized active exercises for a few minutes daily will do much toward keeping the good that has been obtained.

"A man," says Maclaren, "cannot, in a week or two, eat sufficient food to supply the demands of the appetite for a whole year, neither can he take sufficient exercise to keep his body in health throughout the four seasons in a summer's ramble. These mountain excursions or sea-side sojourns must be *in addition to*, and involving no curtailment of, the daily walk to and from business, the daily ride to and from somewhere, or the daily employment with or at something; a something which will in its doing, quicken the pulse and augment the breathing, and, if possible, bring the perspiration to the forehead."

For those forms of nervous palpitation which are dependent upon a neurasthenic condition associated or not with digestive disorder, systematized active exercises are of great value. The exercise should at first be light, but should be carefully and somewhat rapidly increased. Besides the indoor exercises, after the method of Blaikie, or with the pulley-weight apparatus, the patient should use deep breathing while walking out of doors. A case reported by Dr. Theodore Clemens³, of Frankfort-on-the-Main, is interesting in this connection. The patient was a man forty-

² Lecture on Diseases of the Nervous System, Especially in Women, by S. Weir Mitchell, M.D., Philadelphia Medical Times, March 28, 1875.

³ Medical and Surgical Reporter, October 22, 1887.

six years old, who applied for treatment on account of distress and irregularity of the heart. Clemens decided to make him do the thing he most dreaded, viz., climb up several flights of stairs. The effect was most happy. The patient's pulse, which had intermitted at every tenth or twelfth beat, wavered only twice, and but slightly, in a hundred beats after he had mounted three flights of stairs twice. He now decided to make similar efforts regularly every day, and in three months he was a well man.

For the group of diseases which fall to the lot of both the neurologist and orthopædist—cases of curvature, deformity, atrophy, etc.—systematized active exercises have long been used by the best authorities. I can only refer in this general way to this branch of the subject in the present paper. My more particular object is to call attention to the value of systematized respiratory exercises in setting up or straightening the feeble and stooped, who also frequently are sufferers, in some degree from nervous or mental weakness. If, at the same time, appropriate general hygiene is used, the improvement in such cases is sometimes simply wonderful. I have notes of a number of cases treated by Mr. Dodge and myself to bear witness to the truth of this statement, but time will not permit me to refer to these in detail. A gentleman, whose son had been using systematized active exercises, wrote to Mr. Dodge as follows:

"I have pleasure in assuring you that I think my son has wonderfully improved in health and appearance during the past month, while under your care. Even in two weeks we saw a marked change in him for the better—his stooping shoulders (made so by outgrowth of strength) straightening marvellously."

For gout and lithæmia, to promote excretion and nutrition; for anæmia and spanæmia, to assist assimilation and further oxidation; for headache, sleeplessness, and nervous irritability, to soothe and calm the nervous system; to aid elimination in cases of lead, arsenic, mercurial, and other metallic or toxic diseases; for diabetes, to favor the skin and increase combustion, systematized active exercises have a value which cannot be too highly extolled, and one which I have had an opportunity to demonstrate in my own practice.

In curable ataxias, as in those which follow diphtheritic or exanthematous diseases, and in the hysterical varieties, systematized active movements, the patient at first lying down or sitting, and subsequently standing, have proved of great service in my hands.

In Dr. Mitchell's lectures,⁴ some valuable advice and interesting details are given with reference to the best method of slowly training by what are really systematized active movements, although not so called by him. The weak and inapt muscles are cautiously brought into use. The patient is first convinced, after she has made an effort which seems extreme, that another forth-putting of will must add to the previous results. The nurse begins to train the patient while in bed, to move the legs one at a time very slowly, but in larger and larger move-

ments, with intervals between of a minute or more.

"An order is given to lift the leg; if it be too weak, a finger beneath the ankle aids it, but no attempt must be let to fail utterly; as she gets on the orders are to be obeyed more quickly. It is easy to sketch out for one's self what such a system should be in its details. After it has gone far enough the patient is seated in bed with some support to her spine, and is trained to move the head freely. The next step used with me to be a lesson in walking, but of late I find it better to teach the girl to creep, which is an easy and natural mode of training for the walk. The patient has pads tied over her knees, and, lying flat on her face on the floor, without skirts, has around her a folded sheet. At an order she tries to rise, helped by a lift of the sheet-belt by the nurse. When she is able to do this, and gather her legs and arms so as to make herself a quadruped, she is taught to balance herself, every effort being assisted, when needing help, by the nurse standing above her. The progress to creeping is easy; then comes the lesson of kneeling and pushing a chair; and last, that of standing in a corner or by a chair.

In the treatment of ataxic affections, even sometimes when dependent upon organic disease of the cerebro-spinal axis, the use of what may be called balancing or acrobatic gymnastics is of some value. Dr. Mortimer Granville, in the *Practitioner* for 1881, and subsequently in his monograph on "Nerve Vibration and Excitation," discusses a method for the regeneration of the nerve elements by exercise on the basis of the law of development through function, holding that the ataxic subject is reduced by dissolution to the position of a child just learning to stand or walk. His plan is to direct the patient to stand with his eyes closed in his bath, after pouring a small can of water down his spine, or applying a mustard poultice over the full length of the spine for ten minutes or a quarter of an hour, to persevere in an attempt to stand for, at first, a quarter of an hour, and, as his state improves, for half an hour every morning. He is to be furnished with a chair or rail at hand, to which he can cling in case of need, but is instructed to avoid using it except when in danger of falling. The exercise must be continued diligently for weeks before success can be obtained.

In patients suffering from multiple neuritis, or some curable forms of myelitis, advantage should be taken of the first signs of motor improvement to begin with active exercises, while the use of electricity and massage is continued. The particular point upon which I desire to insist is, that the attempt to join the will of the patient to the long unused muscles shall not be deferred a moment longer than is necessary. Simple attention to this truth, which ought to be self evident, would, I think, in many cases have saved patients from weeks or months of uselessness.

In the treatment of various forms of paralysis that systematized active movements may be employed with advantage has long been known. Even in paralysis from organic brain disease, a clear

⁴ Op. cit.

method of using gymnastic treatment will be found to serve an excellent purpose. Such paralysis is usually the result of hemorrhage, embolism, thrombosis, tumor, abscess, or depressed fracture; less frequently of meningitis or cerebritis, of atrophy or arrested development, and still more rarely of uræmia. Sometimes in cases of sudden lesion, as hemorrhage or embolism, the assault upon the nervous system is so violent, or the destruction is so great that death results quickly, or the patient is reduced to a state of utter helplessness, for which, practically, nothing can be done. In many cases, however, soon after the attack, or even at a later period, the amount of palsy is disproportionate to the cerebral lesion by which it has been initiated. Many cases of monoplegia and hemiplegia illustrates this truth. Little by little some of these patients regain muscular power to such an extent as almost to induce the belief that they will get entirely well; indeed, in some cases of hæmorrhage, tumor, traumatism, syphilitic meningitis, and uræmia, complete or almost complete recovery does occur. We should, therefore not disregard entirely the treatment of such patients.

The course of treatment usually pursued in these cases, in the main wise, is, at first, to do little more than protect the patient from disturbing influences; and after the shock of the attack, and the acute inflammation which sometimes accompanies or follows it, have subsided—that is in a few weeks or months—to give absorbents and alteratives, and to apply electricity, and possibly massage, allowing the patient to use the affected limb as he sees fit. More than this, however, should be done; and it is just here that single active exercises, after some thorough system, may play a useful part. Every effort consistent with safety, should be made to unite again the paralyzed limb with the volitional centres. Such patients often need to be incited to effort.

Two methods of systematized active exercises may be tried for these hemiplegias and monoplegias. One is the method partly of duplicated active, and partly of single active movements, used and described by some of the writers on Swedish movements; as, for instance, by the Taylors. The patient is placed in a recumbent or half-reclining posture, so that he may be able to direct all the cerebral energy at his command toward the paralyzed member, and is then urged to make some simple movement. If he succeeds to ever so slight a degree, he should simply be encouraged to repeat the movement, but he should be carefully guarded against undue or too long prolonged effort. Other simple movements are added from time to time. If he can do absolutely nothing, the operator should perform on the patient the desired movement, while the latter fixes his attention upon the performance and tries to assist. When a little headway has been made, systematized active movements should be used in conjunction with electricity, massage, and duplicated active movements in an orderly and thoroughly regulated manner. With light dumb-bells and with the pulley-weight apparatus, all possible movements, and particularly those which are

most wanting, should be cautiously encouraged. From a cautious pursuance of such methods I have seen a surprising result in a number of cases supposed to have reached the limit of improvement.

Such treatment does good, not only because the original lesion may have been partially removed, but also because, by such efforts portions of the brain adjoining the centres destroyed may be made to take on new function; or possibly in some instances, the other hemisphere of the brain may be called into new activity. To central spinal palsies, as well as to paralysis from brain disease, in a large measure the same truths apply.

Another method of gymnastic treatment which I have often employed with benefit in cases of monoplegia and hemiplegia, is to cause the patient, first, to make a movement upon the unaffected side, and then instantly to perform the same movement with the paralyzed member, following this quickly with an attempt to do the same thing with both limbs. It is surprising the curious results that will be sometimes obtained in this way, if the leg is but little affected, and the patient can stand while these movements are performed by the upper extremities. To exercise the legs, the patient, of course, should be placed in an easy position, and one that will allow the movements to be performed with the greatest convenience. Exercises of this kind probably have some effect in bringing the paralysed side of the body under control of the uninjured side of the brain through commissural channels in the spinal cord.

For some of the arthritic neuroses, and for rheumatic neuritis, or muscular rheumatism, these exercises are of undoubted value. I have seen three cases of a form of rheumatic neuritis affecting the deltoid and adjoining muscles, in which the progress to complete recovery was much assisted by an early resort to dumb-bell exercises and pulley-weights. Cases of this kind are best treated by using large doses of oil of gaultheria, or sodium salicylate, with hypodermic injections of morphia in the most acute stage; a little later resorting to massage, electricity, or both; and then to exercise with light dumb-bells or pulley-weights. Here, again, the point I wish to impress is, that such active exercises should not be deferred too long.

Hysterical aphonia or aphyria (loss of the power of whispering) can sometimes be treated successfully by a species of respiratory gymnastics, or a combination of respiratory with vocal and muscular gymnastics. Dr. Mitchell has described a method of bringing back the voice, which is really a form of respiratory gymnastics, a method which I have used several times with success, and less frequently with failure. Speaking of a woman who had good power over the laryngeal muscles, but could neither speak nor whisper, he concluded that if he could teach her to speak only with a very full chest, he might secure an involuntary success. Asking her to fill her lungs several times, and when very full to keep her mouth wide open, he then had her try to sound the broad A, at the same time breathing out violently. She made a clear, audible sound, and was at once on the

high road to cure. Some years ago, with this simple method, I obtained a brilliant success with a young lady who had not spoken even in a whisper for many months. I now combine light dumb-bell and pulley-weight chest exercises with this method.

In certain cases the treatment by rest, seclusion, etc., can be successfully combined with that by systematized exercises. After the nervous or broken-down patients suitable for the treatment have progressed to a certain point; after their nutrition has been placed upon a firm basis, respiratory exercises without apparatus, or with very light dumb-bells, can be carefully begun. Five minutes, or perhaps only three minutes, should be taken at first, and the time should be increased with the utmost caution. In a recent neurasthenic case with hystero-epileptic seizures, after the patient had improved under the rest treatment, systematized active exercises were resorted to with the greatest benefit. In those cases of hystero-epilepsy in which the seizures are partially voluntary, or of the induced voluntary kind, the use of such exercises assist the patient in obtaining the control of herself, and the movements which enables her to resist the beginning of the attacks.

Dr. C. F. Taylor, in the book to which I have already referred, has hit the secret of the combination of rest and exercise in certain cases.

"The true remedy," he says, "is rest and exercise. Let the rest be complete relaxation of all muscular effort—not the entertaining of company, sitting bolt upright, so that the spinal muscles must be constantly acting, or reclining in a 'graceful' attitude on a lounge, with book in hand, but a completely sustained position, when all the muscles must cease to act. Then the exercises to follow should be short, varied, and taken with some vigor."

The now generally accepted views with reference to cerebral localization throw some light upon the manner in which systematized active exercises, or other forms of gymnastic treatment, improve or repair the nervous system, and especially the brain. This fact has not been overlooked by authorities in neurology and gymnastics, as by Emil Du Bois-Reymond, Schreiber, Crichton-Brown, and others. In the brain are represented both a differentiation and an integration or solidarity of function. Centres for speech, for vocalization, for particular movements, for the special senses, for the muscular sense for organic sensations, for some of the higher faculties, as of attention and inhibition, are now, with reason, claimed to have been isolated. For the localization of some of these, as of speech, motor, and some of the sensory centres, the facts and arguments are practically incontrovertible. In the plainest of terms, if brain centres which determine certain movements exist, the performance of these movements must develop and train not only the muscles concerned in these actions, but the cerebral centres with which they are connected.

DR. AUVARD has been made Editor of the *Archives de Tocologie*, the well-known obstetrical and gynecological journal, published by Delahaye and Lecrosnier, of Paris.

ICHTHYOL IN SURGERY.

*Read before the Philadelphia County Medical Society,
January 25, 1888.*

BY EDWARD MARTIN, M.D.,
OF PHILADELPHIA.

Ichthyol was first described by Schrötter, and used in the treatment of skin diseases by Unna. It is obtained as a clear yellow-brown oil by distilling a certain bituminous matter found in Tyrol, and containing the fossilized remains of fishes and marine animals. By the action of sulphuric acid on this distillate, and subsequent neutralization with soda or ammonia, either the sodium or ammonium sulph-ichthyolate is produced. The latter compound is preferred by Unna.

The ammonium sulphichthyolate is reddish-brown, clear, syrup-like liquid of burning taste and odor, soluble in water, making a clear, red-brown solution; also soluble in equal parts of alcohol and ether.

The ichthyol preparations are characterized chemically by their richness in sulphur (10 per cent.), so intimately united that it can only be extracted by complete decomposition (Lartigueau); they easily take up oxygen, acting as powerful reducing agents (Baumann).

Clinically, the ichthyolates are described by Unna as being powerful antiphlogistics, causing anæmia and rapid subsidence of swelling in all tissues. This antiphlogistic effect is ascribed to the drug's action on the endothelium of the bloodvessels depriving it of oxygen in virtue of its reducing properties, and contracting the lumen of the vessels. This explanation is not, perhaps, entirely satisfactory, but physiological studies have not yet given us a better one. The cornifying effect of the drug on the epithelium of the rete is undoubted.

Surgically, what are the indications of the drug? Lartigueau states that it is indicated in all subcutaneous and inflammatory tumefactions, oedemas, vascular dilatations, incipient furuncles, and local manifestations of rheumatism.

Elliot praises it highly in burns of the first and second degree (5 per cent. solutions in water) as producing rapid subsidence of pain and inflammatory symptoms. He finds its application to obstinate varicose ulcers associated with eczema rubrum (sodium compounds, 3 to 5 per cent.) at times productive of marvellous results. In his hands it is also useful in cicatrices, and in a few cases of rheumatism and neuralgia has given immediate and marked relief from pain.

Schweninger states that in rheumatism, lumbago, ischias, tic, gout, and migraine, local applications of ichthyol act more powerfully in allaying the pain than any known medication.

Lorenz is astonished at the fabulous efficacy of the drug. In acute and chronic joint rheumatism, acute muscular rheumatism, mastitis, panaritis, and contusions, a few rubbings with pure or 50 per cent. ichthyol compounds are peculiarly successful in allaying pain and hastening healing. In chronic and acute joint rheumatism relief often follows a single rubbing, while this is the rule in acute muscular rheumatism.