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358

JULY, 1924

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**If put to the pinch,
an ounce of loyalty
is worth a pound of
cleverness.**

Fischer's Magazine

*Devoted to the advancement of the Science of Electro-Physio-
Therapy and to the interests of those earnest and enlightened
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Vol. II

JULY, 1924

No. 9

The Precision of Physical Therapy

One of the specific reasons why surgery superseded therapeutics and almost elbowed it out of the arena was the superior accuracy of method and clean-cut results of the one as compared with the relatively uncertain, hit-or-miss character of the other. Medicine fired grape-shot from a blunderbuss; surgery performed accurate target-practice with a carefully-sighted rifle. Small wonder that profession and public turned impatiently from the vagueness of the one to the precision of the other.

This specific quality of precision and constancy, both in method and in result, has now passed again into the hands of medicine with the development of physical therapy. The electro-therapist knows, to the fraction of a degree, the strength of his current, and the path it will take; he can gauge its volume to the thousandth of an ampere; he can generate heat to or beyond the physiological limit; and in most instances he can know exactly what his treatment is accomplishing. Where, in other phases of medicine, or in surgery either for that matter, is such calculation possible? Compare the exactness of electro-therapeutic or radio-therapeutic applications to the uncertainty attending the average application of drugs.

This is but one of the qualities which gives to physical therapy the promise of a far-reaching usefulness in the medicine of the future. But it is a most important quality, and one which at once commends physical therapy to the modern

scientific physician, who, above all, demands accuracy and precision in the weapons that he employs.

While it is true that physical therapy, in its various modalities, constitutes, in a sense, a special form of treatment, and its technical development is necessarily in the hands of a specialized group of men, yet it is not, and must not be regarded as, a specialty of medicine in the sense that ophthalmology, or urology, or neurology, or similar branches of practice, are specialties. It is a mode of therapy for use in **every** department of medical practice in which, and to the extent to which, it is applicable. And from all appearances it promises to be applicable more widely and to a larger degree than almost any other mode of therapy.

There is not a physician in the entire profession from the general practitioner to the most exclusive specialist in the most specialized branch of medicine or surgery, but is interested in physical therapy, and will find it an invaluable (and ultimately an indispensable) aid in the cure and relief of his patients. This is, in fact, being universally recognized.

Amer. Journal of Physical Therapy

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Suggestions for the Treatment of Pulmonary Tuberculosis by the Ultra-Violet Ray

W. B. CHAPMAN, M. D., Carthage, Missouri

During the past few months I have been receiving an increasing number of inquiries relative to the use of the actinic or ultra-violet ray in the treatment of pulmonary tuberculosis. Most of these are from physicians who merely want to know how long and intensive the treatments should be, how often repeated, and how long continued. A few even ask what fee to charge. Many of these inquiries seem foolish, but I always answer them to the best of my ability.

During the past fourteen months I have treated some hundred cases of pulmonary tuberculosis in all stages, and must truthfully say that there is no procedure that will apply in all cases. Some of these patients absorb huge quantities of the ray almost from the beginning, while others burn quite readily and must be built up gradually. Brunettes, as a rule, have a greater tolerance for the ray than blondes. Our rule is to expose the patient about ten minutes, front and back, to the deep therapy lamp before turning on the ultra-violet ray. This dilates the capillaries of the skin, causes the patient to perspire profusely, and, we believe, places the skin in a more receptive condition to receive the ultra-violet treatment. In the summer, when the patient is very warm already, this part of the treatment may be omitted. After using the deep therapy lamp, we dry the skin by a somewhat vigorous rub with a Turkish towel before using the ultra-violet. We believe this also helps by bringing still more blood to the surface.

In using the ultra-violet or actinic ray, we begin by raying the trunk and limbs at a thirty-inch distance, giving one minute for blondes and two for brunettes the first day, and increasing a minute each day until we reach ten minutes. We then decrease the distance of the arc from the patient about two inches each day until we reach fifteen inches. Sampson contends that the treatments should be extended to thirty minutes or more, but, where it is necessary to handle a large number of patients each day this is not practical. Furthermore, I have failed to secure better results from giving the long treatments. I have also read where it was considered an advantage to begin by raying, first the feet, then the legs below the knee, etc., gradually working over the entire body. I consider this technic impractical and without scientific foundation. It merely delays the results that one should hope to obtain. Whenever possible, these treatments should be given daily except in the presence of a marked skin reaction, when the treatments should be discontinued until the erythema subsides. Patients that are

able to carry on their daily work, usually prefer to come about three times a week, and improve nicely when they come regularly. I have found from one to three months the average time necessary to arrest a case of pulmonary tuberculosis depending on the severity of the case.

Occasionally I receive a communication from some physician who does not feel that he is obtaining the results that he should expect. And on inquiry, I usually find that he is either careless in his technic or neglectful of his patients. These machines are constructed for one purpose only and that is to produce ultra-violet energy, and, beneficial as the ray has proved to be when used properly, it requires more than an inexperienced office girl to treat these patients and obtain satisfactory results. I am sorry to say that I have met a few physicians who think the only use of the machine is to extract a few dollars each day from some poor unfortunate, and turn the treatments over to the office girl with instructions to give them five or ten minutes under the actinic lamp and tell them to come back tomorrow for another treatment. I consider such a procedure criminal on the part of the physician. These patients should be examined daily, the proper medicines prescribed, the diet regulated, and minute instructions given relative to hours of rest, bathing, exercise, clothing, and everything that will tend to a successful issue.

Patients with advanced tuberculosis often become sick and cough and expectorate freely during the treatments. They also emit a disagreeable odor which is diagnostic of the condition and quite pronounced when the patient perspires freely. This odor is kept down only by scrupulous cleanliness on the part of the patient. It is undoubtedly caused by the throwing off of toxic material by the skin.

While I consider the ultra-violet lamp as nearly fool-proof as any modality that we employ in the laboratory, it requires more than merely turning it on for a few minutes and then turning it off to secure satisfactory results. Even where our instructions are explicit, I find that the improvement of the

patient is influenced quite markedly by the training and experience of the technician giving the treatments. Frequently patients drive the eighteen miles that separate our laboratories on days that I am at one or the other because they claim that they improve more rapidly when I give them my personal attention. I also notice that the old patients invariably request the services of the more experienced technicians. As stated above, it requires more than exposing the patients to the ultra-violet ray to obtain satisfactory results, and it is only where the physician studies his cases individually and checks his results carefully that the maximum of success will be acquired. (This same rule will apply to all other branches of medicine.) Ultra-violet energy is not a specific for tuberculosis, but is merely another asset to our armamentarium for carrying on the war against this dread disease. However, I consider it the most valuable contribution of late years, and hope to see it used universally within the near future.

This splendid article will be continued in the September issue.

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Massage and Indirect Diathermy in Fractures

We notice four very splendid paragraphs in the "P. T. Review" on the above, which we take pleasure in reprinting for you, herewith.

"When a bone is broken the surrounding structures are injured also. Rigid fixation by splints or plaster without physiotherapy withholds from these structures the treatment by which repair can be accomplished, and thus we have added to the original injury, adhesions and atrophy of disuse.

"Massage and indirect Diathermy in the first stage of a fracture hastens the absorption of the hematoma and injured tissue cells, and improves the metabolism of the injured parts. Thus it diminishes the pain and

lessens the muscle contraction and consequently aids in the reduction and retention of the fragments. Fixation and rest diminish the blood supply, hence do not aid in the above.

"Joint motion in a limb where there is a fracture prevents joint stiffness and muscle atrophy. This mobilization does not tend to disturb the alignment of the fragments, unless the conditions are such that an open operation is necessary to restore the fragments to proper position.

"With massage, electrical muscle stimulation and joint motion, muscle atrophy and joint stiffness are prevented and the limb is ready for use when there is union. With complete immobilization there is marked muscle atrophy and joint stiffness and we get the result of a good union but a marked permanent disability from stiff joints."

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Treatment of Hypertrophy of the Prostate by X-Ray and Physiotherapy

By ORREN W. WYATT, M. D.
Manning, Iowa

The author describes symptoms, histories, examination and treatment very clearly, and says in part that the conditions found are so variable that it is difficult to describe the many types that may be found.

Where the involvement extends beyond the prostate, malignancy should be suspected. The differential diagnosis between benign and malignant prostatic disease is usually very easy in the latter stages in which the seminal vesicles, glands, perirectal and other pelvic structures are extensively involved. The early stages are more difficult to diagnose. Marked induration should always make one think of the possibility of cancer, and if this is of stony hardness, a positive diagnosis can usually be made.

In cases where a positive diagnosis cannot be made a roentgen ray cancer dose should be advised, and operative measures considered if it does not respond to the X-ray in a few weeks.

Cases of benign hypertrophy associated with marked chronic prostatitis, and especially with concretions and small calculi, are sometimes difficult to differentiate from cancer, and in such cases the method described above should be followed. The fact that about 20 percent of the cases of prostatic obstruction in elderly men are due to malignant disease, shows the great importance of early diagnosis, which is now seldom made. The presence of vague pains in the pelvis or lower extremities should always lead to an examination of the prostate, and if this were always done, many early cases of carcinoma would be recognized. Sarcoma of the prostate is extremely rare and has been characterized by a very large soft, smooth tumor, which occupied a large part of the pelvis. This should be treated by massive doses of roentgen ray.

Prostatic hypertrophy is nearly always due to the result of chronic infections causing chronic inflammatory changes. In this class of cases apply diathermia to the prostate, either direct or indirect, dose from five hundred to nine hundred milliamperes, time from 10 to 30 minutes, gradually increasing the dose. The prostatic electrode is placed in the rectum against the prostate, the other over the pubis. This is followed by an ionizing dose of Roentgen ray, and massage by the Morse sine wave, or slow sinusoidal, to squeeze out the debris from the prostate and establish better circulation in this organ. The prostatic electrode is placed in the rectum against the prostate, the other over the lumbo-sacral region. Also use the ultra violet ray, both local and general, for its antiseptic and general systemic tonic effect. The rapidity with which the acute symptoms subside often surprises even an experienced user of physical remedies.

Ext. from The Ur. & Cu. Review.

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By MEL R. WAGGONER, M. D.
Cedar Rapids, Iowa

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Leather Binders for Fischer's Magazines

As a result of our announcement, in the May issue of this paper, we have had calls for something over a hundred binders for Fischer's Magazine, but will repeat our suggestion for those who missed the first notice.

Doctor, how would you like to have a nice leather or leatherette cover for your collection of "Fischer's Magazines" ?

Just supposing we could have a nice cover made up that would not cost over a dollar and a half; would you want one, or not?

Please drop us a line—NOW—Don't procrastinate! Whether you want one of these covers, or not, let us have your opinion, anyway. Thanks.

A Physiotherapy Treatment for Anemia and Amenorrhea in Young Women

By LEO C. DONNELLY, M. D.
Detroit, Michigan

This paper is based upon the assumption that anemia and amenorrhea are present in young women because growth and development has been too rapid and that the production of blood and tissue has been insufficient to meet the demands of puberty. Such young women may be well supplied with adipose tissue but the underlying tissues are often of poor tone so that they are unfit to compete favorably in school or business.

The treatment consists of; (1) general ultraviolet irradiations with the air cooled lamp and ultraviolet to any point of focal infection directly accessible to the water cooled lamp; (2) diathermia through the epiphyses of both femurs; (3) the use of a slow mechanical wave current over the nerve centers to stimulate the flow of blood and lymph through the uterus, ovaries, and fallopian tubes; (4) hygienic and (5) dietetic and other supportive measures.

The growing girl needs a large supply of calcium phosphorus and iron to produce new bone, connective tissue, blood, etc. It is empirically advisable to administer 0.1 grain thyroid extract plus 0.1 grain parathyroid extract daily, 0.5 gram of calcium carbonate daily, 20 drops of 100 per cent cod liver oil three times weekly and large quantities of milk and leafy vegetables. However, one is not sure that this is absorbed and stabilized by the system unless general ultraviolet irradiations of 2804 to 3022 Angstrom units are used. These stimulate the parathyroid glands which directly or indirectly act in conserving the availability of blood calcium in an ionizable as well as a combined condition thus influencing muscle nerve and other organ metabolism. Increase in blood calcium is demonstrable by blood chemistry examinations; it leads to an in-

creased deposit of calcium in the bone which is demonstrable by the x-ray. An increase in the inorganic phosphate in the blood is shown by laboratory methods. Increased calcium, phosphorus and iron can be demonstrated clinically.

Following a series of ultraviolet irradiations the blood calcium index is raised, which would lead one to deduce that general ultraviolet irradiations would benefit the following diseased conditions in which the blood calcium index is below normal; tuberculosis, precancerous conditions, varicose, gastric, duodenal or any slow healing ulcer, tetany, puerperal eclampsia, chronic rheumatism, hay fever, asthma, hyperesthetic rhinitis, mucous colitis and eczema. Thirteen of the above conditions have been treated by the author. Other clinicians report favorable results from ultraviolet treatment in these conditions.

The spectral band of 2967 Angstrom units is the specific line of greatest value in calcium metabolism, according to Pacini.

First degree ultraviolet erythema doses are given over the front, back and sides of the patient, and are repeated as soon as the resulting erythema begins to fade. A series of these treatments besides increasing the ionizable blood calcium, also increases the amount of hemoglobin and the number of red blood cells, and produces a physiologic skin which is efficient in protecting the patient against quick changes in temperature and exposure to dampness, making it practically impossible for skin infection to exist or occur. This physiologic skin is of great aid in eliminating toxic material from the blood.

Following the general irradiations the patient lies on her face under a therapeutic lamp which is placed at a height that sheds a comfortable warmth. Twenty-two B. & S. gauge sheet lead electrodes are applied over the lower outer portion of both thighs so as to cover the epiphyses of the femurs. A similar electrode connects the inner portion of the thighs. The d'Arsonval high frequency current is al-

lowed to pass through the epiphyses for thirty minutes or more. The intensity is gauged by the toleration of the patient, a comfortable heat is optimum. This diathermy current should not be compared to the current of a small so-called violet ray apparatus. The red and yellow marrow of the long bones produce the red blood cells. Diathermy produces a greatly increased flow of blood and lymph through the epiphysis of the long bone and their temperature is raised. This rise of temperature plus the increased blood supply increases the efficiency of the metabolism of the red and yellow marrow of the long bones and more red blood cells are thrown into the circulation. The results compare favorably with the transfusion of whole blood, thus obviating a surgical operation.

The body of the uterus is supplied by the tenth, eleventh, and twelfth dorsal segments, the cervix by the third and fourth lumbar and sometimes by the first and second sacral segments, the ovary by the tenth, and the fallopian tube by the eleventh, and twelfth dorsal and first lumbar segments (Behan). These nerves come off at the levels of the seventh dorsal to the twelfth dorsal spinous process (Cunningham). Two moist electrodes covered with chamois skin are so placed as to stimulate these nerves and a slow mechanical wave current is given for twenty minutes which causes the uterus and tubes to alternately contract and relax, this greatly increases the flow of blood through them. It has been shown many, many times that this method of treatment can develop an infantile uterus to a normal sized uterus. This is especially valuable in overcoming sterility.

The results obtained from this treatment are gratifying both to the patient and the physician and much superior to the results formerly obtained.

Report of a case of anemia, amenorrhea and dysmenorrhea apparently cured by the above methods.

A doctor's daughter, age twenty-two, since the beginning of menstruation at the age of fourteen years would go

without menstruating for periods of three to eleven months. When the periods came they were associated with severe pain, cramps, passing of clots and mental depression. Although she was of good weight, her flesh was soft, she was anemic, easily tired and did not feel as well as she thought she should feel. Two of the treatments outlined above brought about a normal painless menstruation one week following the second treatment, and a second normal period occurred on time the following month; So far she has had four normal menstrual periods, and indications are that they will continue normal. Her general health and mental outlook have shown a corresponding great improvement.

Summary: 1. Stimulation of calcium, phosphorus, iron and endocrine metabolism are induced by ultraviolet rays.

2. Stimulation of red and yellow bone marrow metabolism is effected by diathermy.

3. Stimulation of the uterus, ovaries and tubes is produced by the sinusoidal current.

Those interested in calcium metabolism in relation to glands of internal secretions and ultraviolet would do well to read articles by Halverson, Mohler, Bergeim, Kramer, Tisdall, Brasch, Bach, Hess, Casharis, Howland, Huld-schinsky, Pacini, Novak, Hollinder and many others.

While the author is not certain if any one else is using the same combination in treating this type of cases, he is certain that he did not originate any part of the treatment.

Am. Jour. Elect. and Radio.

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High Frequency Treatment of Internal Cicatricial Strictures

Klinische Wochenschrift, September 24, 1923, vol. 2, p. 1796

While surgical intervention in cicatricial strictures of the esophagus, the ileum, the rectum, or the urethra is often brilliantly successful, there are many instances in which it is

inapplicable or is ineffective because of cicatricial formation following the operation. In its stead the author has used the method of applying heat by means of high frequency in esophageal stricture with such satisfactory results that he regards it now as the method of choice in all cases because of its freedom from danger, its bloodlessness, and its ideal result.

The basis of the method is the fact that cicatricial tissue can be vitalized by diathermia. This almost bloodless, hard, unelastic substance can be brought by high frequency to such a condition as to have a free circulation, and consequently to be soft and elastic, a condition not obtainable by any other physical means of applying internal heat. The internal electrode consists of a flexible metal bougie and the indifferent electrode may be so placed externally as to direct the current to the thickest part of the stricture.

Sometimes the result is brilliant. In a child receiving nourishment through a Witzel fistula after twelve days the esophagus becomes so soft and flexible as to permit of swallowing all kinds of food. Results in the author's cases are permanent.

H. PICARD

Laughs of Other Days

(From Benjamin P. Shillaber's "Partingtonian Patchwork.")

"Diseases is very various," said Mrs. Partington, as she returned from a street-door conversation with Dr. Bolus.

"The doctor tells me that poor old Mrs. Haze has got two buckles on her lungs! It is dreadful to think of, I declare. The diseases is so various! One way we hear of people's dying of hermitage of the lungs; another way, of the brown creatures; here they tell us of the elementary canal being out of order, and there about tonsors of the throat; here we hear of neurology in the head, there of an embargo; one side of us we hear of men being killed by getting a pound of tough beef in the sarcofagus, and there another kills himself by discovering his jocular vein. Things change so that I declare I don't know how to subscribe for any diseases nowadays. New names and new nostrils takes the place of the old, and I might as well throw my old herb-bag away."

Fifteen minutes afterward Isaac had that herb-bag for a target, and broke three panes of glass in the cellar window trying to hit it before the old lady knew what he was about. She hadn't meant exactly what she said.

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Special Program for Our Monthly Physiotherapeutic Meeting

Monday, August 11, 1924

We will have with us:

MEL R. WAGGONER, M. D.,
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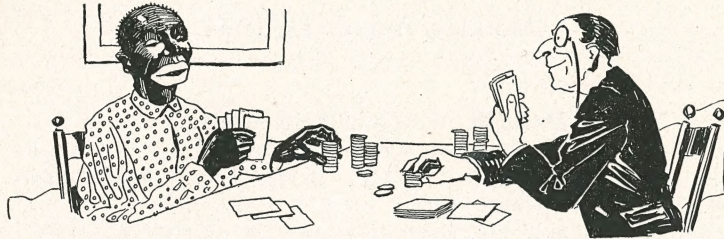
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A PAGE OF FUN



Englishman (in poker game)—“Well, I’ll wager a bally pound on this.”
 American Ducky (holding four aces)—“Ah dunno too much ’bout yo’
 ol’ English money, but I’ll bump yo’ a couple of tons.”

□ □ □

First She: “Your husband has a clever-looking head. I suppose he knows practically everything.”

Second She: “Sh-h—he doesn’t even suspect anything!”

□ □ □

(From a story)—“She held out her hand and the young man took it and departed.”

□ □ □

“Congressman, I want you to find a Government post for my boy.”

“Is he intelligent?”

“If he were I shouldn’t be worrying you for a Government job. I could use him in my own business.”

□ □ □

“Why did you fire young Jones?”

“Spent too much time reading success stories.”

□ □ □

Big Bill Says:—

I recently read a book on Insanity but stopped in the middle of it because it became entirely too personal.

“Look, papa, Abie’s cold is cured and we still got left a box of cough-drops.”

“Oo, vot extravagance. Tell Herman to go out and get his feet wet.”

□ □ □

She: “I wonder if you remember me? Years ago you asked me to marry you.”

The Absent-Minded Professor: “Ah, yes, and did you?”

□ □ □

Englishman (watching an inter-collegiate dance): “I say, they get married afterwards, don’t they?”

□ □ □

Salesman: “How many cigars do you smoke a day?”

Purchasing Agent: “Oh, any given number.”

A man should never be ashamed to say he has been in the wrong, which is but saying in other words that he is wiser today than he was yesterday.

—Pope