Program for Our

Monthly Physiotherapeutic Meeting

Monday, June 8th, 1925

R. F. ELMER, M. D., Chicago, Illinois
"Tonsils"—Clinic - - - - - - - - - - - 10:00 to 11:00 A. M.

W. B. CHAPMAN, M. D., Carthage, Missouri
"Diathermy in Gynecology" - - - - - - - 11:00 to 12:00 A. M.

W. B. CHAPMAN, M. D., Carthage, Missouri
"Electro-surgical Removal of Neoplasms" - - 1:30 to 3:30 P. M.

How to Get Here:

DRIVING—Follow Washington Blvd. west to Oakley Blvd., north on Oakley to Wabansia Ave. and one block west, or

BY ELEVATED — Take the Humboldt Park "L" to Western Avenue Station, walk one block north to Wabansia Avenue and a short block east to Claremont, or

BY SURFACE CAR—Western Avenue to Wabansia Avenue, and one block east to Claremont.

Dr. Elmer has already performed over 400 tonsillectomies by the electro-coagulation process, and will demonstrate his actual technic on patients who have been secured for the occasion.

Dr. Chapman has been doing a great deal of G. U. work with both medical and surgical diathermy, and has a number of original and very interesting slides to introduce along with his two appearances on this program. This feature should prove very interesting, and we are making ample preparations for an overflow crowd. A hall has been arranged for, which will insure a seat to every physician attending.

H. G. FISCHER & CO., Inc., Phone Armitage 0323
2335 Wabansia Avenue, Chicago

FISCHER'S MAGAZINE

MAY, 1925

"GOOD WILL IS THE DISPOSITION OF THE PLEASED CUSTOMER TO RETURN TO THE PLACE WHERE HE HAS BEEN WELL TREATED."

—U. S. SUPREME COURT.

Fischer's Magazine

Devoted to the advancement of the Science of Electro-Physio-Therapy and to the interests of those earnest and enlightened medical men who are practicing it.

H. G. FISCHER & Co., INC., 2333-43 Wabansia Ave., Chicago, Ill.

Vol. IV. MAY, 1925 No. 5

Physiotherapy Now an Established Part of the Hospital

It is an axiom that the modern hospital moulds public medical opinion, but it is true also that the public opinion at times demands that hospitals equip themselves with methods for treatment that, by practical experience, have proved to be of value in the relief of pain and in the treatment of disease.

The treatment of disease by physical measures is as old as medicine itself and we have all used some of these measures from the earliest days of our practice in a half-hearted way, but we have hesitated to adopt physical therapeutics as a part of our therapeutic armamentarium and have left its exploitation to the quack and irregular practitioner. Who is there among us that has not at one time or another lost patients to those irregulars and experienced the chagrin of being told that the method of these practitioners has achieved a cure where we have failed?

It is the history of all military hospitals with physiotherapy departments, that the return of men to the service was 30 per cent greater than from hospitals where physical methods were not employed. Modern physiotherapy was not developed as a specific for any one type of disease or surgical condition, but for its capability of affording the means for benefitting a very wide range of conditions. It takes cases in association with the internist and surgeon on the basis of a fully established clinical diagnosis and with full understanding of underlying pathology as a therapeutic adjunct only.

Electro-Coagulation

Its Place in Surgery

By T. HOWARD PLANK, M. D.
Chicago, Illinois

Electro-coagulation has a very distinct place in the surgery of today. While it does not take the place of the knife or scissors in the careful dissection of benign growths from among important nerves and blood vessels, it does do so for malignant growths that can be reached within cavities or on the surface of the body.

Control of the heat applied to a given area is accomplished by the size of the indifferent electrode and its distance from the active electrode. This indifferent or inactive electrode should be large enough to distribute any needed amperage over a sufficiently large area to eliminate any possibility of even reddening the surface of the skin. An eight by ten-inch block tin electrode is sufficient for all strengths of current needed and an electrode of this size is practical for small as well as for large amounts of current, which avoids the necessity of changing the indifferent electrode when one changes to a different milliamperage. The inactive electrode should be far enough from the active electrode to distribute the current equally throughout the surrounding tissues, thus eliminating all possibility of the destruction of normal tissues.

The current should be absolutely under the control of the surgeon, and this is accomplished by means of a foot switch. By this means only can he have the current instantly when he desires it and just as instantly can he shut it off. This is essential, otherwise a movement of the patient may cause him to burn healthy tissue, which will give needless pain if not do actual damage.

The active pole should be made as small as possible, consistent with the area being treated. Usually this will be an aluminum needle of sufficient length to reach the diseased area without inconvenience to the operator. A piece of rubber

tubing, which fits the needle snugly, will insulate it. There should not be over one-half inch of the needle exposed for use. This needle should be fitted into a handle with as few metal parts as possible and this handle fastened to a flexible cord of sufficient length to enable the operator to move freely to any desired position.

Electro-coagulation is ideal for warts, moles, keratosis, some nevi, fissures, hemorrhoids, tonsils, fistulous tracts, ingrowing nails, the rolled margin of lupus vulgaris and all surface malignancies. In these cases there is less tissue loss than with cutting. There is no bleeding, no stitches, no drainage, no infection, and there is a minimum of scarring or deformity. Most of the work is done under a one per cent solution of any of the local anesthetics used sub or inter-dermally.

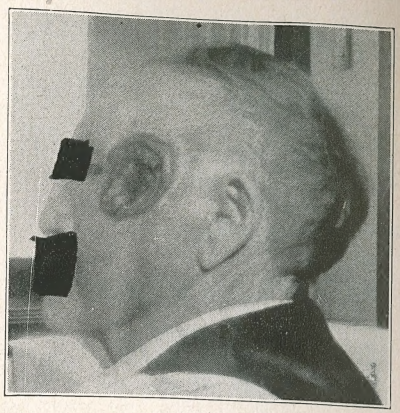


Fig. 1. Epithelioma before operation.

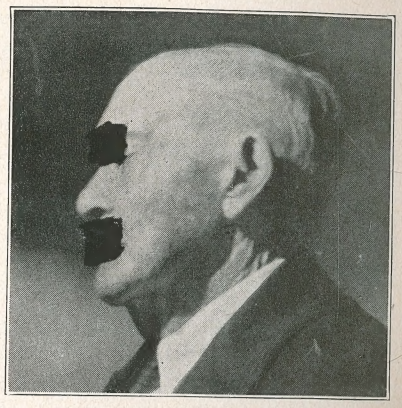


Fig. 2. Entirely healed after operation.

The following cases will illustrate the results obtained from electro-coagulation:

Case No. 758. Came to us in 1919. The growth had started eighteen months previous and had been operated ten days

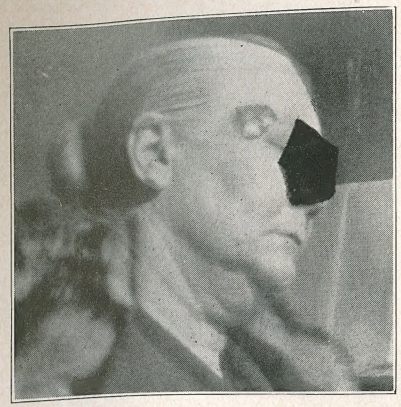


Fig. 3. Lupus Vulgaris before operation.

Fig. 4. Two months after operation.

before with immediate and rapid recurrence as shown in Fig. 1.

He was given a hypodermic of hyoscin, gr. 1-100, and morphine, gr. 1-4; three-quarters of an hour later he was given hyoscin, gr. 1-200, morphine, gr. 1-8, which was sufficient to keep him sound asleep while the work was being done. The Diathermy current was used throughout the operation. The meter registered 700 milliamperes.

The indifferent electrode was placed on the back, the active electrode was a needle. The time required was fifteen minutes. All soft tissues were destroyed down to and including the periosteum, which was also malignant, so the bone beneath it was destroyed by placing the needle on it and heating it white hot which destroyed the outer table of the skull. This piece of dead bone was removed three months later. At that time the soft tissue had healed up to the bone slough, in fact granulations had spread over its edges. Three weeks after the removal of the sequestrum the wound was entirely healed as is shown in Fig. 2. There was very little scarring and the patient has remained well. Miroscopic diagnosis: Epithelioma.

Case No. 144. Came to us in 1923 with a lesion, as shown in Fig. 3. This was a classical lupus vulgaris having the characteristic rolled edge. It had started eight years before, was not painful, did not involve the periosteum, and did not bleed when handled.

As the lesion was superficial, the monopolar current was used through a needle electrode, after having anesthetized the tissues locally as in the malignant cases. The tissue was destroyed until firm, healthy tissue was reached. Healing began at once and the after-treatment, actinic rays from the water-cooled lamp for one minute daily, was discontinued after twelve days. Two months later healing was complete and Fig. 4 was taken. This case has remained well.

Diathermy Treatment of Paralysis from Epidemic Poliomyelitis

Hugo Picard (*Monatsschrift fur Kinderheilkunde,* June, 1924) states that the diathermy treatment of epidemic poliomyelitis, if instituted immediately after the cessation of the febrile stage of the early part of the disease, resulted partly in complete cures and partly in marked improvement. Inasmuch as most of the symptoms of the paralysis are due to the pressure of the inflammatory edema upon the nervous muscle elements, a reduction of the edema and with it the cessation of the pressure is obtained through the diathermy. In addition, a destruction of the bacterial agent is brought about as a result of the high temperature induced. For localized paralyses (arm or leg) a transverse penetration of heat of the corresponding spinal segment and for complete paraplegias of both extremities the longitudinal, or possibly, a combined application is recommended. In addition, a peripheral diathermy treatment may be given to paralyzed extremities with marked hypothermia.

(From Med. Jour. and Rec., April 1, 1925)

The Treatment of Peripheral Nerve Paralysis With Diathermy

A. LUX, M. D.
New York

A patient with a paralysis of the musculospiral nerve secondary to pressure will show, after the application of a constant galvanic current, an increased irritability of this nerve and the muscles supplied by it. The value of this observation has been greatly misunderstood. It is absolutely erroneous to expect a curative result upon a paralyzed nerve by means of electricity. Experiments made on rabbits and observations of cases of all types have led us to the following conclusion: We do not believe that the electric current has a specific curative influence upon the paralyzed nerve. We are nevertheless convinced that the constant current greatly increases the irritability of muscles and that according to a more recent theory the interrupted current in both forms, galvanic and faradic, prevents an atrophy of nerves.

I have for a long time known these facts and, somewhat discouraged by the limited usefulness of electricity, some years ago tried to use diathermy in the treatment of nerve paralysis.

Diathermy is a high frequency current of high voltage and low amperage, which produces a resistant heat in the body without any electric sensation. It makes it possible as a result to administer heat upon deep organs and thereby produce hyperemia in any deep seated part of the body.

Some years ago a girl of twenty was referred to me with a contusion of the arm, with paralysis of the musculospiral nerve by trauma. I decided to treat this contusion with diathermy and strangely enough the paralysis subsided long before the ecchymosis, swelling, pain, and other features disappeared. I then treated a series of cases of nerve paralysis with a combination of diathermy followed by electric stimulation with the idea of hastening the process of nerve recovery by diathermy and also to take advantage of the influence of the interrupted

current as pointed out before. The difference in the outcome of cases treated by this combined method compared with cases treated by electricity alone has been striking.

In the course of the last three years I have treated over one hundred cases of nerve paralysis, peripheral in origin, with excellent results.

Due to the fact that electrotherapy is still in its infancy, cases are mostly referred to us as a last resort and after all other forms of treatment usually have been attempted. And as a result, *ultimo ratio* an electrotherapist is given a rather unfair chance.

In September, 1924, a young gentleman was referred to me with the following history: Sixteen years ago a mastoid operation was performed on the patient. The facial nerve was injured in the course of the operation, which resulted in a complete peripheral facial paralysis of the left side. Electricity in all forms was tried in various institutions without any result and when the patient was examined at the Montefiore Hospital, the status was as follows:

"Face is drawn to the left side, no nasolabial folds visible on paralyzed side. By attempt to whistle or show teeth, typical picture of facial paralysis. Patient cannot close lid at all and the cornea shows signs of superficial inflammation due to exposure. Sensory of skin normal. Patient states that his face has been the same for the last sixteen years. The electrical reaction reveals partial degeneration of left facial nerve." Our impression of this case was typical facial palsy due to injury.

Diathermy was applied according to the usual routine. After five treatments patient reported that he felt as though his face was more pliable. After ten treatments the patient made the first attempt to close his eyes spontaneously.

Status made after twenty-four treatments shows: "Face appears equal on both sides. Nasolabial fold is distinct on both sides. Attempt to whistle, showing teeth shows no abnormality. Patient closes eyelid spontaneously. The electrical reaction of facial nerve reveals no difference as compared to the other side of the face."

The question now arises what explanation can be offered for such results in the treatment of nerve paralysis with diathermy especially in the case presented. It is rather unusual for us to obtain results after sixteen years' duration. Possibly there was a scar left on the facial nerve of the patient due to the injury he received. By localizing the site of this scar we were able to concentrate the entire diathermy current on this very spot and propagated the absorption of scar tissue. The hyperemia set in the entire course of the facial nerve has undoubtedly helped the regeneration of the nerve fibers which have been atrophied by the years of disuse.

As you will notice, I am constantly referring to the effect of hyperemia caused by the diathermy current and you will undoubtedly ask why should not baking or other forms of treatment, which also produce hyperemia, be of the same value. The fact is that the hyperemia produced by diathermy is entirely different from hyperemia caused by other forms of treatment. Baking and similar methods primarily warm the skin or mucous membranes and attempt to penetrate the deep organ subject to treatment. The current of diathermy produces heat directly in the organ itself, no matter how deep seated it might be. Not only this penetrating effect of diathermy is what makes it so effective, but another important factor should be kept in mind. The warmth produced by diathermy is originated by a free energy which is introduced into the body by the means of electricity. The warmth produced by the baking on the other hand is heat obtained by the energy of the organism itself and not as in the case of diathermy by an energy which is brought into the body. The principle of baking is to encourage the chemical interchange by increasing the local metabolism through the reaction set forth by the baking of the skin. In other words, the hyperemia of the organ to be treated is due to the biological reaction of the body upon the sensation of heat.

As you will see, there is a fundamental difference between the two methods. While diathermy brings a surplus of energy into the diseased tissues, baking and all other heretofore known forms of treatment cause an increased use of the body's own energy.

(From Med. Jour. and Rec., April 1. 1925)

Diathermy Treatment of Arthritis

MILES J. BREUER, M. D.
Lincoln, Nebraska

(From a letter written in answer to an inquiry by a physician as to method employed in treating arthritis by diathermy.)

"I suppose you referred to chronic arthritis. A careful examination and history are first necessary. Causative factors must first be determined. Find and clean up all foci of infection. Do not promise the patient that if he has his tonsils out and teeth pulled that his rheumatism will get well; often it does not; but the infection must be cleaned up before the patient can ever hope to get well.

"I give these cases 15½ gr. each of sodium salicylate and sodium iodide intravenously daily; and foreign protein (milk) intramuscularly every third or fourth day. Actinic light may or may not be indicated, depending on the state of nutrition of the patient; the thin, weak, anemic ones should certainly get it.

"Treat the patient as well as the arthritis; clean up and correct every fault and defect, and try to get them into good physical health.

"Then, treat the joints with diathermy, daily or twice a day. On large joints, a mesh electrode on opposite sides; on smaller joints a cuff above and below; on fingers and toes, a cuff above, and the hand or foot in saline solution. Put in as heavy a current as the skin will stand; for thirty minutes or more at a time. The deep radiant lamp may be used in conjunction."

New Series of Monthly Meetings in Various Cities

Beginning very shortly, monthly meetings and clinics will be held in various cities throughout the country. These meettings will be patterned on those which have proved so successful and popular at our Chicago office.

Watch For Further Announcements

Diathermy and Autocondensation in Medicine

LEO C. DONNELLY, M. D.
Detroit, Mich.

The resistance to the passage of the D'Arsonval current, with its measurable low amperage and high controllable voltage, through tissue, produces heat within the tissue. The patient feels no electrical sensation when the apparatus is working properly and the electrodes are making good contact. The location and amount of heat generated within the tissues is controlled by the amount of current used and by the size, shape and position of the electrodes. Tissues vary slightly in their electrical resistance. Fat and bone heat up more rapidly than tissue with a good blood supply. The blood supply carries away heat from the local point of application and warms the entire body. The toleration of the patient is the usual guide, provided that the parts treated are not anesthetic. A pull switch attached to the machine allows the patient to turn off the current at will. The patient, realizing that he can instantly stop the treatment, relaxes.

Medical diathermy allows the physician to heat any organ to physiological limits. The heat is generated within the tissue. For this reason medical diathermy is best among the good methods of applying heat, such as infra red, radiant lamps, hot water bags, ovens, poultices, etc. Nature uses heat to facilitate chemical reactions. Medical diathermy is the best controlled method at present available to the medical profession for the application of heat.

Auto-condensation is a form of medical diathermy. The patient lies on an auto-condensation pad which is a dielectric. One of the diathermy outlets is attached to the auto-condensation pad and the other outlet usually to a handle held by the patient. Instead of the patient holding the handle, an electrode may be placed over the seat of disease, such as the gall bladder, or in the cervix, etc. This is sometimes called indirect auto-con-

densation. Auto-condensation is different from "through and through" medical diathermy in that the auto-condensation pad (a dielectric) forms an electrosphere in which the patient lies. This electrosphere may be demonstrated in a dark room by holding a glass vacuum electrode close to the patient, which causes the electrode to glow with a violet light. Sometimes it will light up at a distance of three feet from the patient. The electrosphere may also be demonstrated by touching the patient, on contact a spark will jump from the patient. Auto-condensation heats the entire blood stream more rapidly than diathermy, causes the patient to perspire more profusely, draws more toxins out of the body and into the intestinal tract. An alkaline cathartic should be given following heavy auto-condensation treatments to aid elimination of toxins, preventing re-abortion.

It is now usually accepted that the effects of diathermy and auto-condensation are due to heat and heat only. The older writers wrote of an electric effect upon the tissue cells. If the effects are due to heat and heat only, then the medical profession must change its views as to the beneficial effects of heat, because diathermy and auto-condensation will bring about better results than can now be obtained from any other form of heat.

Diathermy is advantageously used to heat the temperature of a part sufficiently high to directly destroy germs as in the treatment of acute cervical or urethral gonorrhoea. In these cases the parts must be heated to a degree uncomfortable to the patient and this heat must be continued for a period of twenty minutes.

German silver mesh electrodes mold themselves well to irregular surfaces. Twenty-two gauge block tin electrodes are valuable for flat surfaces. Felt, cotton wadding, spongiopiline or rubber bath sponge, saturated in a five per cent saline or five per cent sodium bicarbonate solution make good moist electrodes. Moist electrodes should be covered with a square of rubber tissue so that the moisture cannot escape. If all electrodes could be continually kept moist with a five per cent saline or five per cent sodium bicarbonate solution the skin resistance would be markedly reduced and the patient would feel less surface heat and obtain more internal heat. Applying electrodes comfortably warm is agreeable to the patient.

An equal amount of electric current passes through each electrode. If one electrode is small the current will be concentrated and that part will be much hotter than the large electrode. The large electrode is often called the indifferent electrode; the small electrode, the active. If both are of equal size the terms indifferent and active are not used. When electrodes of equal size are used the intervening parts are heated practically evenly. When the electrodes are of unequal size the point of maximum heat is near the smaller electrode. The physician must figure where he wants his greatest heat and then arrange his electrodes according to position and size to bring this about. All of the tissues between the electrodes are heated. The blood circulating between the electrodes is heated. In time the entire blood stream becomes heated and the patient perspires.

Diathermy and auto-condensation produce increased heat in the tissues. Increased heat in the tissues is followed by increased arterial blood supply. Increased arterial blood supply brings about increased nutrition. Increased nutrition means increased health of the part. Increased health of a part brings about changes according to the function of the part. The following instances may be cited. Increased health of the liver means an increased activity of all the functions of the liver and a decrease in the disease or disfunction of the liver. Increased activity of the organs of elimination such as the kidneys, skin, and intestinal tract means increased elimination of the body's waste matter. Ridding the body of waste matter aids the body. Increased health of voluntary muscles means development and growth of these muscles, also diminution of pain and disability due to injury of muscles. Increased health of involuntary muscles such as the muscles of the heart and vascular system, the intestinal system, of the uterus and tubes, means increased function and decreased disability of these muscles. Increased health of bone, joint, and ligament tissue means decreased time in

restoring these parts to normal following injury. Increased health of the nervous system results in benefit to the patient. Auto-condensation and diathermy tend to produce these results.

Concerning the Course for Nurses

Some time ago, this Company announced a Course for Nurses and Office Assistants, designed to give them an intensive training in the handling of Diathermy apparatus which would make them more efficient helpers for the physicians who employ them.

Since then, we have received so many suggestions and counter-suggestions, inquiries and comments, that we are frankly a bit puzzled as to how to handle the situation! So, we are asking for advice and help.

If you are interested, or if you have a suggestion as to such a course, will you please drop us a letter or a card outlining your suggestion? Your comment will be greatly appreciated, and from the reaction of many physicians thus expressed, we shall be able to work out some constructive program that will be for the good of all.

Remember, this is not a Nurse's Course; it is intended purely as supplementary training, in the use of diathermy apparatus.

Diathermotherapy in Peripheral Facial Paralysis

A. Bordier, in *Paris Medical,* 1923, no. 50, says the peripheral origin of a facial paralysis may be tested by injecting pilocarpin at two symmetrical points into the fascia, when an intense perspiration will arise on the well side and none on the paralyzed side; also by the rotation of the eye on the paralyzed side when the patient closes his eyes slowly, fixing them on the observer's finger held a yard in front of him. The author shows that a cold muscle, however completely normal, behaves in response to electrical stimulation like a muscle affected with a partial reaction of degeneration: this reaction disappears when the muscle is warmed by a current of diathermy. In

correspondence with this, the effect of the galvanic current is much greater on a paralyzed muscle submitted to diathermy than when chilled.

(From Amer. Jour. Electrother. and Radiol., Jan., 1925)

Germ Killing Effect of Ultra-Violet Measured

A study of germ killing action of ultra-violet rays has been made by the Bureau of Standards, Department of Commerce, covering the range of wave lengths from just beyond the limit of the visible spectrum down to the shortest wave lengths emitted y a mercury vapor arc in a quartz lamp.

The shortest waves were found to have the most pronounced and vigorous action, being capable, when sufficiently intense, of producing death with an exposure of only one second. Longer wave lengths required a greater intensity and acted much more slowly, but a killing action was found to result even from waves as long as 335 millionths of a millimeter, which is almost as long as the shortest waves visible to the human eye. Prior to this experiment doubt had been expressed regarding the ability of these longer waves to kill bacteria.

Common Sewage Germ Used

Bacterium Coli Communis was the victim of the tests. This germ is always found in human sewage or in waters that are polluted and likely at some time to contain typhoid. The germs were turned loose in a large volume of water and some of this water was sprayed onto petri dishes containing a solidified jelly, specially prepared to suit their tastes. Those germs not killed by the rays increased and multiplied and in a few days formed colonies visible to the eye. A quartz mercury vapor lamp was used as the source of ultra-violet rays, screens being interposed to cut off successive spectral ranges of the wave lengths which cause germicidal action.

When the intensity was very low the killing action was greatly retarded. In some experiments an exposure of 75 to 80 seconds was required. On still lower intensities there was some

indication that the bacteria were stimulated instead of being killed.

Other tests were made to compare the relative value of continuous and intermittent exposures. It was found that the killing effect was proportional to the total exposure, whether this was given all at once or was divided into several short exposures with periods of rest between.

Can Kill in Less Than a Second

Rays of sufficient intensity, it was found, could kill bacteria with an exposure of less than one second duration. A certain minimum intensity was required for this, and when using a 320 watt mercury lamp this intensity was obtained at a distance of six inches from the lamp.

(From Amer. Jour. Phys. Ther. April, 1925)

Deep Roentgen Therapy and Diathermy in Treating Sciatica

F. KRAUS. Zeitschrift fur die Gesamte Physikalische Therapie 1924, 28: 80.

The author employs irradiation of the roots almost entirely, raying peripheral pressure points only when the pain is localized exclusively at one particular point. The locality treated is the cauda equina with the tube directed obliquely in order to completely embrace the spinal roots. The focal skin distance is twenty-five centimeters, five Holzknecht units are used, four millimeters of aluminum filter for patients who are particularly nervous, with the object of moderating symptoms often of great severity. Subjective relief follows promptly, and after two or three days a reaction with considerable pain and distinctly perceptible swelling of the nerve fibers. To alleviate these symptoms the author combines the x-ray with diathermy, so as to warm up the nerve roots and trunks, and continues the procedure until the pain is decidedly relieved. Raying is repeated in three, four, and six weeks. The author has succeeded, not only in bringing about a cure in a large number of cases, but also in producing results frequently brilliant in the severest forms of neuralgia and even in postneurotic sciatic paralysis.

(From Med. Jour. and Rec. April 1, 1925)

Treatment Records Wanted

We have had a number of requests for information as to the correct form for treatment records for electro-physiotherapists.

Needless to say, such records are of the utmost importance to the physician. In a science as new as this one, it is essential to keep the most careful record of the treatment of every case, the modalities employed, how used, and results obtained.

Perhaps some of our readers can help us answer these inquiries. If you have a good system of records of physiotherapeutic cases and treatments, doctor, let us have the details. Send us some specimen case records for publication. Not only will the editor appreciate your courtesy, but many of your fellow physicians will be truly grateful for your help in solving one of their problems.

Diathermy in Pharyngeal Cancer

D. McKenzie, in the Brit. Journ. Radiol., advocates diathermy in the treatment of both eradicable and ineradicable pharyngeal cancer. Its value lies in its double action of cauterizing and coagulating the diseased tissues, with a sterilizing effect upon the surrounding tissues. In dealing with a limited cancer the primary deposit should be removed by diathermy and the lymphatic glands by combined dissection and diathermy, the intervening tissues being treated by diathermy puncture. While this can be done at one sitting McKenzie thinks it is better to divide it into two separate operations. In ineradicable conditions bold and wide diathermy of tissue will prolong life, and the glands after diathermy puncture may shrivel and disappear. Although it must be admitted that diathermy may encourage malignant growth, yet the fact that its action is both destructive and actively germicidal renders such a result less likely than after treatment by other methods. In postcricoid carcinoma diathermy may be applied by means of a blunt terminal.

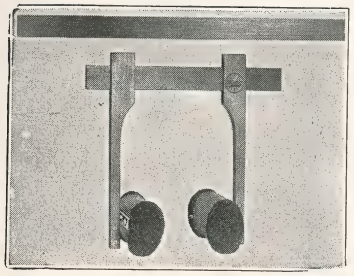
"Yours Received and Contents Noted"

That reply card, in a recent issue of Fischer's Magazine, asking our readers to name the subjects they would like to see discussed in this publication, brought a regular flood of answers!

So, in this issue we are taking up several of the subjects requested. From issue to issue we shall do the same, until we have covered the field. If your particular request seems long withheld from attention, remember, please, that there were a great many others in the same mail!

Meantime, let us suggest again, that physicians are welcome to write us, at any time, for advice on any technical question of operation of our apparatus; and that any requests for information as to the use of diathermy in any class of cases will gladly be handled by us. We will either publish the answer in this magazine, send you a reprint of a previous article covering the case, or refer your letter to competent medical authorities for reply.

New Fischer Diathermy Clamp



Made Entirely of Wood-
No Short Circuits Possible

A polished wood bar supports two sliding arms which hold the electrodes firmly in place. Instantly adjusted by sliding the arms on the bar. Supplied complete with mesh covered sponge electrodes.

No. 930 with mesh sponge electrodes complete, code UCLAMP $12.00

Ultraviolet Therapy in Peritoneal and Glandular Tuberculosis of Children

By HENRY J. GERSTENBERGER, M. D., Cleveland O.

In discussing this condition before the Seventy-Fifth Annual Session of the American Medical Association at Chicago, June, 1924, Dr. Gerstenberger said, in closing: "The results that we get by using an artificial source of ultraviolet light are so marked that sometimes we wonder whether we are seeing straight or not.

"One of our patients, a colored girl, aged 7 years, came only to the dispensary for treatment. She refused to go to the hospital. She had a terribly distended abdomen, filled with gas and fluid. She was emaciated and looked very ill and tired. Ultraviolet ray therapy was started, and twelve days later the abdomen was reduced in size and we could then feel for the first time, in the right lower side, a large mass of matted together glands and intestine or omentum. Inside of six weeks the whole trouble was gone, although the child had remained at home in a poor environment and had come to the dispensary for treatment.

"It would seem to us from the experience we have had that the effect of the ultraviolet rays is to aid the body in fighting the disease and winning its own battle. It does not seem to be a specific effect. The actinic ray is unquestionably of decided value in this type of tuberculosis. Of how much actual value it is in other types it is more difficult to state, because the improvement is not so outstanding. It seems especially and preeminently effective in tuberculosis of the mesenteric glands. They seem to have a peculiar advantage over other glands. What this is, I do not know. Possibly their large number or their anatomic location play a role. The bronchial glands are next in order of response, and last the peripheral glands.

"Whether another combination of rays than that produced by the quartz mercury vapor arc lamp is more or less effective is a question that we cannot answer, because in this work our experience was limited to the use of the quartz lamp."

(*From Jour. A. M. A., Nov. 22, 1924*)

Conservative Electrothermic Treatments of Tonsils

A. I. ARNESON, M. D.
Austin, Minn.

The writer believes that it is in the field of conservative management of diseased tonsils by electrothermic methods that the great future development is to take place; that in electrothermic methods we have great therapeutic possibilities and that before so very long we may find that the instances of real need for radical removal of tonsils, by surgery or coagulation, will become less and less frequent.

The physician in charge of a given case must decide first whether or not an emergency exists, demanding immediate removal of the tonsil. If no such emergency exists, he must next decide whether or not in his judgment there is a possibility that too much destruction has not taken place and other factors are favorable for a possible restitution to normal or to a safe condition. If it is decided that the tonsils might possibly be saved *by any method of treatment,* it is assumed that the majority of readers will agree that it is desirable to do so. Until the advent of modern high frequency machines and the ultra-violet ray apparatus, we had no means of treating diseased tonsils, which seemed to be of even a little value. The following brief outlines of technics are presented in the hope that others will try them or modifications thereof, report their results, and so in time make it possible to determine their true value.

The writer is convinced that the problem of conserving tonsils involves the management of infections of the nose and post-nasal space as intimately as it does the tonsils themselves. It appears impossible to conceive of any management being devised for eliminating infection from the tonsils successfully and yet leaving the cesspools of infection in the nose, accessory sinuses and post-nasal space to drain their infections continually to the tonsils. Before any method can succeed with tonsils, these infections higher up must be attended to. These infections should receive scrupulous attention in cases where radical removal of tonsils is practiced also. The future welfare of the patient demands it.

The object of the treatment of the tonsils, both by ultra-violet and high frequency means, is to try to produce a non-specific inflammation. When an acute infection occurs anywhere in the body, nature sends her policemen, the leucocytes, to the field of action. If the leucocytes win, the bacteria are destroyed and the inflammation subsides and the parts involved return to normal, barring any physical or mechanical damage done while the battle raged. If, however, the bacteria are triumphant, they take up permanent abode in the conquered land and the army of leucocytes withdraws, and we have a chronic infection established. Now if we can by some means bring about a great concentration of leucocytes in this infected area without at the same time increasing the number or virulence of the bacteria, and maintain this concentration for a sufficient length of time, it may reasonably be expected that the result will be an annihilation of the infection and a return of the parts to as near normal as possible, barring permanent structural changes such as fibrosis, etc. This is the principle upon which we apply the Oudin current and the ultra-violet rays in the attempt to conserve tonsils.

Ultra-Violet Rays

These are not electrothermic in nature but are included inasmuch as they seem to fill a certain field in this work. They are applied by means of the water-cooled apparatus, through an all-quartz rod applicator. Two different technics may be tried, viz; exposing each area of the tonsil with a little less than a blistering dose, or, exposing each area with say twice the blistering dose of rays and keeping records of the results and later on comparing them. These methods are of chief use in young children and infants and then only in the soft, succulent, actively congested stage. They are not of much value in later stages which have developed definite infected crypts, fibrosis, etc. Treatments are repeated as soon as the reaction of one treatment subsides and so continued for several months if necessary. A great many of these child patients need the general body radiation with ultra-violet rays also.

Monopolar Current

The needle electrode, after bending to desired shape, is insulated by means of melted sealing wax flowed over it, covering all exposed portions of it excepting about 1-32 of an inch at the extreme point. This wax is not sufficient insulation against the spark except when the naked point is kept in close application to the tissue. Having determined the intensity of spark you wish to use, we proceed; no anesthetic whatsoever is used. In case of excessive gagging, try spraying the mouth and pharynx with camphor water, and have your tongue depressor and pillar retractor *very cold,* keeping them in ice water except when actually using them. The first step of the treatment is to insert the needle electrode into one of the crypts of the tonsil, turn on the current with the foot switch, hold the electrode in place while counting, say five seconds, and then draw it slowly out of the crypt, with the current flowing. A slight amount of steam may be noted issuing from the mouth of the crypt. The current is turned off at the foot switch before the extreme end of the electrode emerges from the crypt. This procedure is repeated for each crypt that can be found. As a final step, the point of the electrode is *laid* against the surface of the tonsil, the current turned on, and the point rapidly passed over the entire surface of the tonsil, turning it white. The only sensation to the patient should be one of moderately distinct heat in the treated area. Do not allow a long spark to fly from point to tonsil at any time as this is fulguration and of little value and unnecessarily disturbing to the patient. These treatments are repeated as soon as the reaction from one treatment subsides, and repeated as many times as the physician thinks necessary. As an adjunct to this may be tried radiant light to the throat, followed by gentle effleurage to promote lymphatic drainage along the cervical channels. This monopolar treatment is not applicable to the very young as a rule, but the ultra-violet rays probably do as well in the very young as the monopolar current could, so that is of small consequence.

Nasal Treatment

Having given the tonsils a treatment, attention should now be turned to the nasal passages and accessory sinuses and the post-nasal space. In case of well developed adenoids, the common surgical removal should be done before any other treatment is attempted. If not marked, wait a while and see if the other treatments do not have a salutary effect on the adenoids also.

The first treatment usually given is to tampon the nasal passages with cotton pledgets saturated with Argyrol, 40 grains per ounce, according to Dowling's procedure. The patient lies dorsal or even in Trendelenberg position on a table while this treatment is given. The pledgets remain in place one hour. At the same time, the monopolar current is used to activate a non-vacuum electrode of the "body" type, which is held against one cheek for the first half hour and against the other for the second half hour. A moist electrode plate is applied to nape of neck and grounded and current is turned on to limit of patient's tolerance.

On the following day and alternating days thereafter, we give the following treatment if the patient will permit, by reason of age, tolerance, patency of nasal passages, etc.: A special intra-nasal non-vacuum electrode is introduced into one nasal passage, connected to monopolar pole and current turned on to limit of patient's tolerance and applied for twenty minutes and repeated in similar manner in other nasal passage. Immediately following these treatments, the ultra-violet rays are applied to the nasal mucosa, each nostril, by means of special quartz rod applicator. About three-fourths of a blistering dose is applied as far back as the applicator will reach. This is then withdrawn about one-half inch and similar dose repeated. This is continued until entire nasal mucosa in both nostrils has been so rayed.

These treatments are continued in alternation with each other until it is estimated that the desired result has been obtained. Young children and some adults can not be treated by the Intra-nasal Monopolar and Ultra-violet method but in these cases the extra-nasal monopolar and the Dowling tamponade is used daily at first and then extended to every second and third day as may seem indicated.

(*From Amer. Jour. Phys. Ther., March, 1925*)

Diathermy in Myocarditis

By BARUCH LAST, M. D.

New York, N. Y.

Cases of myocarditis of not long standing, accompanied by a feeling of oppression, painful sensations around the cardiac region, and occasional attacks of angina pectoris, are benefited by this form of treatment. It may not be successful in one hundred per cent of the cases, but in each and every case included in this category diathermy should be given a trial, especially when about five treatments will undoubtedly tell whether a course of treatments will be beneficial or not.

There are certain symptoms and physical signs which, after five treatments, will be a positive indication of the advisability of continuing the treatment. If there is a partial cessation of painful sensations and of oppressions; if there is a lowering of the pathologically increased blood pressure, not only after each treatment, but if it is also less at each consecutive treatment, so that there is a steady lowering of the blood pressure value without exaggerated fluctuations, we may be sure that we are dealing with a case that is going to respond. If these things do not occur nothing should be expected of the treatment and it should be discontinued.

The following is the technic of the procedure. Two metal plates of nearly equal size should be used. The slightly smaller one, four by six inches, is placed in front over the precardium, and the larger one, five by eight inches, in the back exactly opposite the first one, the patient being in the prone position. The current applied should not exceed 1000 milliamperes even if the patient does not feel the heat, as the maximum dose is unnecessary and might even be harmful. The duration of the treatment should be from ten to fifteen minutes, never longer. The patient should be allowed to rest one half to one hour after the treatment. The pulse should be counted and the blood pressure taken before and after treatment. The pulse rate increases in some cases after the application and the blood pressure is lowered in all cases. The treatment should be given every other day and the entire course of treatments in the responsive cases should number twelve to twenty until the symptoms subside.

(From Med. Jour. and Rec., Feb., 18, 1925)

Diathermy In Neuritis

By MILES J. BREUER, M. D.

Lincoln, Nebraska

Answering an inquiry, Dr. Breuer says:

"I would advise that diathermy be used in the early stages of the neuritis, before degeneration of the nerve-fiber has taken place; this with the hope of saving the fiber from degenerating, if possible.

"Supposing that degeneration takes place anyway. Then our problem is different. If the nerve-cell body is intact, the fiber will regenerate, and will do so just as well without diathermy as with it. If the nerve-cell body has been destroyed, nothing in the world will bring back the fiber. Therefore, diathermy is not indicated any further. In such a case, our job is to preserve the nutrition of the muscles until the new nerve fiber again takes up it duties; otherwise, by the time the nerve-fiber regenerates, the muscles may be too far atrophied to recover function again.

"The nutrition can best be preserved by the use of the galvanic current. Stimulate individual muscles with one pole at each end. Use a stimulus about a third or a fourth as strong as the minimum required to produce contraction in the corresponding muscle on the healthy side; and gradually increase the strength, to the minimum that will produce a contraction. Give one, two to five contractions of each muscle at a sitting, once or twice daily; about one per second.

"When regeneration is complete, the muscle will again respond to motor-point stimulation; this may be used, to lead up to passive, and finally active motion."

A General Index to Fischer's Magazine

Prepared by P. H. FLEMING, M. D.

St. Martinsville, La.

We are indebted to Dr. Fleming for this general index, which is a duplicate of one the Doctor compiled for his own use. The index covers all issues of Fischer's Magazine from October, 1922, to December, 1924, inclusive.

The first number denotes the month the magazine was issued, the second number the year, and the third, the page. For instance: Adhesions, Visceral—10-23-11, will be found in the October number, 1923, page 11.

A General Index to Fischer's Magazine—Continued

A General Index to Fischer's Magazine—Continued

A General Index to Fischer's Magazine—Concluded

Diathermy Treatment of Leucorrhea Due to Endocervicitis

Lindsay Peters, in the Cal. State Jour. of Medicine, remarks that endocervicitis has puzzled the profession who have reacted with a legion of sure cures as a result of which this class of cases is constantly on the rounds of the doctors' offices for an infinite variety of douches and topical applications, some of which as lunar caustic often produced a subsequent cicatricial stenosis of the os with all the train of pathological conditions and symptoms.

He believes that Guy L. Hunner in 1915 first used the actual cautery in endocervicitis and that the only improvement in Hunner's method is the use of the electrocautery instead of the benzine cautery. The author reports three cases so treated and refers to R. L. Dickinson of New York, who reports the use of this method in an extended list of cases.

The author says he is not acquainted with any other agent except perhaps radium, with which he has had no experience, which might be capable of producing results as satisfactory as the cautery.

Since we have in this condition an infection plus a congestion which may be aggravated by a stricture the indications are perfectly plain; viz., by enlarging the stricture with negative galvanism, for its germicidal effect. The further use of the vacuum electrode and the static wave current will decongest and a speculum may also be tried if other methods be not available.

(*From Am. Jour. of Phys. Ther., Nov., 1924*)

New Schedule of Waggoner Physiotherapeutic Clinics and Lecture Courses

By Mel R. Waggoner, M. D.
Cedar Rapids, Iowa

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(Wolverine Hotel)

Pittsburgh, Pennsylvania - - - - - - - - **May 25th to 30th**
(Wm. Penn Hotel)

Newark, New Jersey - - - - - - - - - **June 15th to 20th**
(Robert Treat Hotel)

Quebec, P. Q., Canada - - - - - - - - **June 22nd to 27th**
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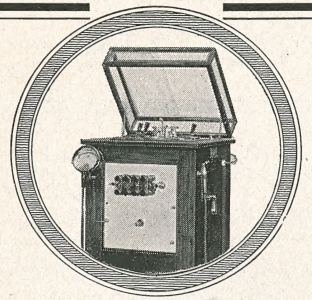

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A PAGE OF FUN

"A fellow just told me I looked like you."

"Where is he? I'd like to knock his block off."

"I killed him."

□ □ □

Alma: And did you visit Rochester on your wedding trip?

Mae: I really don't know. You see, Jack always bought the tickets.

□ □ □

Lawyer: "The cross-examination did not seem to worry you. Have you had any previous experience?"

Smiling Witness: "It was easy. I am used to getting home late and answering my wife's questions."

□ □ □

Son: What is a periphrasis?

Father: It is simply a circumlocutory and pleonastic cycle of oratorical soronosity, circumscribing an atom of ideality lost in verbal profundity.

A doctor brought a dyspeptic farmer a big, brown pill.

"I want you to try this pill at bedtime," he said. "It's a new treatment and if you can keep it on your stomach it ought to cure you."

The next day the doctor called again. "Did you manage to keep the pill on your stomach?" he asked eagerly.

"Well, the pill was all right so long as I kept awake," said the farmer, "but every time I fell asleep it rolled off."

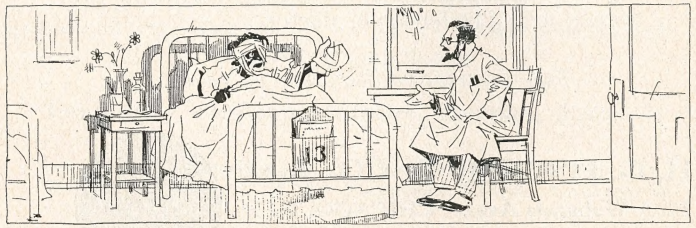
□ □ □

A scion of a prominent New York family of German extraction recently gave this example of how English was spoken in his grandfather's home:

"Johnnie, come in once already."

"What should I?"

"Because dinner. Father and mother's on the table and Charlie's half et!"



Surgeon (after patching up Mandy, who was struck by an auto): "Well, Mandy, you ought to get some damages out of this."

Mandy: "Lawsy, I'se got all de damages I wants; what I needs is repairs!"