Last Call for the 4th Annual Physiotherapeutic Convention

At the Drake Hotel, Chicago, October 12th to 16th, 1925—the greatest gathering of its kind ever held! Lectures, Clinics, Discussions. Further details of the program given inside this magazine.

Conducted by Physicians, for Physicians. The program, sponsored by the Fischer Company, will be wholly in charge of well known physicians and surgeons. An A. M. A. card or its equivalent will ensure admission. No charges, no obligation. All physicians and surgeons interested in Physiotherapy are cordially invited.

Reduced railroad fares at the rate of one and one-half fares for the round trip have been granted. Apply for "certificates" when buying tickets to Chicago; secretary at the Convention will give further information.

Reservations at the Drake or other hotels will be attended to for visitors to the Convention, on request, by the

Educational Department

H. G. FISCHER & COMPANY, Inc.

Physiotherapy Headquarters

2335 Wabansia Avenue CHICAGO, ILL.

FISCHER'S MAGAZINE

OCTOBER, 1925

CONVENTION RESERVATION CARD

The undersigned will attend the Fourth Annual Physiotherapeutic Convention at The Drake Hotel, October 12th to 16th, 1925. It is understood that I incur no obligation whatsoever by so doing.

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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.

Vol. IV. OCTOBER, 1925 No. 10

All Aboard for the Convention!

As this issue of Fischer's Magazine goes to press, final arrangements and last-minute details for the fourth big Annual Physiotherapeutic Convention are being taken care of. Many reservations have been arranged for at the Drake and other hotels; more are coming in hourly, and the Educational Department here at Fischer's is busy with these and other details of the Meeting.

The Program of Lectures shows no changes from that published in the September issue of this magazine. The schedule of Clinics and Discussions, now tentatively completed, is printed elsewhere in the current issue, and will be of great interest to every reader who is using the various physiotherapy modalities in his work. There will be a really impressive amount of practical work at this Convention, in addition to lectures covering all the various subjects.

As mentioned last month, the program has been so divided that the specialist may study his own subject; there are sections on Eye, Ear, Nose and Throat; Gynecology and Urology; Surgery; Dermatology and Malignancies; Internal Medicine; Industrial Physiotherapy; Miscellaneous Practice; and General Diathermy.

This is the last call, doctor! If you have not yet made arrangements to be at the Convention—and if you are interested in keeping abreast of the latest developments in Physiotherapy—right now is the time to notify your people, wire for reservations, pack your grip and—

A-l-l a-b-o-a-r-d for the Convention!

Clinics and Discussions Scheduled for the Convention

The following Clinics and Discussions have been definitely scheduled for the Fourth Annual Physiotherapeutic Convention. These meetings will be held either in special rooms set aside for the purpose at the Drake Hotel, or at various Chicago hospitals.

In the light of past experience, it has been decided that attendance at each clinic be limited strictly to the number of visitors who can see every detail of the work. To this end, each physician will be asked to register for the clinics and discussions he desires to attend, and wherever necessary the work will be repeated, more than once if need be, and each registrant will be assigned to a meeting of suitably restricted size.

Here is the list of Clinics and Discussions thus far scheduled:

Monday, October 12th, 1925

10:00 to 10:30 A. M.—"Diagnosis of Intestinal Toxemia and Treatment by Physical Means."
By Frederick H. Morse, M. D.

10:30 to 11:00 A. M.—"Tonsil Coagulation."
By Raymond F. Elmer, M. D.

11:30 A. M. to 12:00 Noon—"Physiotherapy in Industrial Surgery." *By Clarence M. Westerman, M. D.*

2:00 to 2:30 P. M.—"Diathermy Technic."
By D. Frank Knotts, M. D.

Tuesday, October 13th, 1925

9:30 to 10:00 A. M.—"The Actinic Ray." (At American Hospital.)
By T. Howard Plank, M. D., and Wm. E. Howell, M. D.

10:00 to 10:30 A. M.—"The General Use of Diathermy Current." *By Arthur E. Joslyn, M. D.*

10:30 to 11:30 A. M.—"Physiotherapy in General Practice—Applications." *By D. Frank Knotts, M. D.*

11:00 to 11:30 A. M.—"Coagulation of Tonsils."
By Raymond F. Elmer, M. D.

Tuesday, Contd.

11:30 A. M. to 12:00 Noon—"The Application of Diathermy (Technic)." *By Emile C. Duval, M. D.*

2:00 to 2:30 P. M.—"Malignancies."
By A. L. Yocom, Jr., M. D.

2:30 to 3:00 P. M.—"Diathermy."
By W. B. Chapman, M. D.

3:30 to 4:00 P. M.—"Surgical Diathermy."
By Elkin P. Cumberbatch, M. D.

Wednesday, October 14th, 1925

9:30 to 10:00 A. M.—"Electrocoagulation."
By Wm. E. Howell, M. D.

10:00 to 10:30 A. M.—"Cardiac Disease."
By Curran Pope, M. D.

10:30 to 11:00 A. M.—"How I Use Ultra-violet Energy."
By Leo C. Donnelly, M. D.

11:30 A. M. to 12:00 Noon—"Surgical Diathermy in Malignancies." *By Disraeli W. Kobak, M. D.*

2:00 to 2:30 P. M.—"Electrodesiccation of Tonsils."
By Harry M. Thometz, M. D.

2:30 to 3:00 P. M.—"Prostatitis." *By Curran Pope, M. D.*

3:00 to 3:30 P. M.—"Physiotherapy in Eye, Ear, Nose and Throat Treatment."
By A. R. Hollender, M. D., and M. H. Cottle, M. D.

3:30 to 4:00 P. M.—"Physiotherapy in Industrial Surgery."
By Frank H. Walke, M. D.

Thursday, October 15th, 1925

9:30 to 10:00 A. M.—"The Physiotherapeutic Treatment of Gastric and Duodenal Ulcer." *By Curran Pope, M. D.*

10:00 to 10:30 A. M.—"Direct Current Therapy."
By Frederick H. Morse, M. D.

10:30 to 11:00 A. M.—"Hay Fever and Asthma."
By A. R. Hollender, M. D.

11:00 to 11:30 A. M.—"Diathermy in Tuberculosis."
By Dean W. Harman, M. D.

Program Continued on Next Page

Thursday, Contd.

2:00 to 2:30 P. M.—"Tonsils."
By Harry M. Thometz, M. D.

3:00 to 3:30 P. M.—"The Mouth—Its Possibilities as a Field for Physiotherapeutic Treatment."
By William A. Lurie, M. D.

3:30 to 4:00 P. M.—"Galvanism." *By J. U. Giesy, M. D.*

Friday, October 16th, 1925

9:30 to 10:00 A. M.—"Sciatica."
By Miles J. Breuer, M. D.

10:30 to 11:00 A. M.—"Industrial Physiotherapy."
By Emile C. Duval, M. D.

11:00 to 11:30 A. M.—"Ultra-violet in Infection."
By Dean W. Harman, M. D.

11:30 A. M. to 12:00 Noon—"Treatment of Defective Hearing."
By M. H. Cottle, M. D.

2:00 to 2:30 P. M.—"The Treatment of Genitourinary Diseases with Diathermy." *By George W. Funck, M. D.*

A complete program of all Lectures, Clinics and Discussions, which is now in course of preparation, will be given to each visitor to the Convention, at the time of registration. Attendants from the Educational Department of the Fischer Company will be at hand to help you plan your week to best advantage, and no pains will be spared in the effort to make your visit a most satisfactory investment of your time.

Send Your Reservations to

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PHYSIOTHERAPY HEADQUARTERS

2335 Wabansia Ave. CHICAGO, ILL.

Ionization in the Treatment of Chronic Suppurative Otitis Media

By H. W. BAU, M. D.

Practically all cases of chronic otorrhoea follow an acute suppurative otitis media which has been improperly treated, or in which there is pathology in the naso-pharynx, or in which the infection is of a virulent character. The infecting organisms, according to Phillips, are found in the following order of frequency: streptococcus, pneumococcus, staphylococcus, Friedlander's bacillus, tubercle bacillus, diphtheria bacillus, influenza bacillus, diplococcus intra-cellularis meningitidis, typhoid bacillus, bacillus coli-communis, gonococcus, Vincent's spirillum and fusiform bacillus, and the smegma bacillus. In the majority of cases of chronic otorrhoea secondary infection has occurred, and, therefore, several organisms are found, but according to Wright, the streptococcus predominates.

I am not going to discuss the pathology of this condition, as it is fully discussed in the text books, and no doubt is well known to all physicians. The diagnosis likewise will not be discussed as it is so evident.

From the standpoint of treatment, chronic otorrhoea is classified into the surgical and the non-surgical. The surgical variety we will pass over as being amenable to no other treatment outside of radical operation. We cannot expect to cure any case of chronic otorrhoea without first removing all pathological tissues in the nose and throat.

The treatment of the non-surgical cases may be classified as follows:

1. The *antiseptic* treatment embraces the use of such drugs as alcohol, phenol, boric acid, mercurochrome, acriflavine, zinc and copper sulphate, etc.

2. The *suction* treatment is advocated by Kirkendall and others who have demonstrated its value in certain cases.

3. *Pulverization* or the dry powder method has been used for a long time in certain cases where there is a large perforation

and a small amount of discharge. The results, however, with this line of treatment have been variable.

4. The *electrotherapeutic* treatment is divided into two groups: (a) ultra-violet therapy and (b) zinc ionization.

The ultra-violet treatment is advocated by Middleton, Novak, Hollender, Cottle and others. Although I have not used this method, I believe there is a good deal of virtue in it. However, the apparatus for its application is rather costly.

I now come to the method I am going to discuss, namely, zinc ionization. This method is not new, but one that has been sadly neglected by otologists. A. R. Friel in his article on "The Theatment of Chronic Otorrhoea in School Children," published in the "Hospital and Health Review" of January, 1924, reports remarkable results from zinc ionization. Likewise, reports by Joseph B. Kanter in the "New York Medical Journal," and by J. M. Barajas de Vilches in the "El Siglo Medico" are very enthusiastic for this form of treatment. Friel reports the case of a boy, age 12 years, with a cholesteatoma which cleared up by zinc ionization combined with electrolysis. John H. Harter in the "Eye, Ear, Nose and Throat Monthly" of April, 1925, concludes his paper with the following: "Zinc ionization should be universally used as a therapeutic adjunct in all cases of chronic or sub-acute suppurative otitis media which have resisted the usual time-tried methods of treatment. Contra-indications are signs of general sepsis or meningeal involvement." He tabulates his cases, which show seventy-five per cent as cured. This percentage coincides with the percentage found in the writer's cases.

The advantages of this method are that the treatments are painless, and no expensive apparatus is necessary; there is, in the hands of an intelligent person, no danger connected with it, so that treatments can be given easily by office attendants.

The theory upon which this method of treatment is based, is that the zinc sulphate is broken up by the electric current into zinc and the sulphuric radical. The latter, being electro-negative, is attracted to the zinc wire, which is electro-positive, with the formation of zinc sulphate. The zinc ions, being electro-positive, pass into the tissues, which we have made electro-negative. Zinc is known to be one of the most antiseptic metals we have, and is known to produce a hard, firm scar. It is these two actions of zinc which produce beneficial effect in chronic otorrhoea. If we compare the antiseptic action of zinc through ionization with other antiseptics, we find that no cell can escape the action of the zinc as long as the current is turned on.

The technique I am using is as follows: the patient is placed on a table with the affected ear uppermost. The canal is dried with cotton, and then swabbed with alcohol to remove any grease that might interfere with the passage of the current or zinc ions into the cells. The canal is then filled with a one or two per cent zinc sulphate solution. (I am using a two per cent solution.) A hard rubber ear speculum, large enough to fill the circumference of the canal is inserted and zinc sulphate solution added until the speculum is filled. A zinc wire is now placed in the zinc sulphate, and attached to the positive pole of a galvanic outfit. Another large metal electrode is attached nearby on the body of the patient, and then connected with the negative pole of the machine. The current is now turned on and gradually increased to about two or three milliamperes. Sometimes the ear will be so sensitive that not more than one-half of one milliampere can be given. This is usually the case in children and a few adults. When you get from about one and one-half to two and one-half, the patient will complain of pain, in which case you reduce the milliamperage somewhat. In other words, make it absolutely painless.

You allow the current to run for about fifteen minutes, and then gradually reduce the volume. Under no circumstances, step up your current or step down your current rapidly, because if you step it up, you are going to develop pain; if you step it down rapidly, your patient is going to complain of marked vertigo. After fifteen minutes step down the current gradually until finally you are at zero, and then shut off the current. You then remove the zinc wire, remove the solution from the dropper or ear speculum, and, if you want to, insufflate a little boric acid in the ear to dry the canal.

Treatments are repeated at weekly intervals except with those who cannot stand the maximum amount of current, who are given treatments twice a week. At the beginning of the treatment, the patient usually will complain of a metallic taste in the throat, due to the escape of zinc ions through the eustachian tube. After one or two treatments, the discharge becomes thinner, and the odor disappears. As many as ten treatments may be required before the discharge ceases. If ten treatments do not help, I abandon this line of treatment.

I have tabulated here three case reports which are rather interesting. The first one is a girl, E. K., seventeen years of age, discharge from left ear for many years; had a radical mastoid operation August, 1924, but discharge persisted. Gave two ionization treatments, resulting in cessation of discharge, and improvement in hearing. I had a letter from this girl in which she says I have actually done wonders for her. She says she realizes what it means now to walk around without a running ear and to be able to hear for the first time in a number of years with that bad ear.

The second case is S. K., seventeen years of age. Had running ear for the past fourteen years, following scarlet fever. Was advised to have a radical mastoid by otologists, when treatment was of no avail. One ionization treatment on February 8, 1925, resulted in the cessation of the discharge. Patient told to return if any pus should appear, but as yet has not returned.

The third case is a child, six years old; running left ear for the past four years, following influenza. Had tonsils and adenoids removed, with various treatments, but discharge persisted. Eight treatments at weekly intervals have cleared up the discharge.

These are only examples of the results that have been obtained. When I took up this work a little over a year ago, I was rather skeptical about it, the same as we all were and still are about electro-therapeutic treatment. Today, I would like to have every one of you try the treatment, and I am sure you will get the splendid results that I have obtained. I have cleared

up seventy-five to eighty-five per cent of cases of chronic otorrhoea when all other treatments have failed.

You will find with the first treatment in children you will have a little difficulty. They are scared. They will hear the noise of the machine; they jump, but after one or two treatments, you will find they will lie quietly and take the treatment without any trouble.

Contra-indications to ionization are general sepsis and meningeal involvement. Zinc ionization can only be used in those cases where you find very little pathology in the mastoid or in the antrum. In my cases, I usually try to have an x-ray of the mastoid before I treat them with zinc ionization.

Diathermy in the Orchitis of Mumps

H. L. Fougerousse, in the Journal of the American Medical Association, during a recent outbreak of mumps among recruits for the United States navy, tested the efficacy of diathermy for metastatic orchitis. Out of 100 of these patients admitted to hospital twenty developed orchitis and were immediately treated by diathermy according to the method employed in gonococcic epididymitis and allied disorders. A Corbus clamp was used with the diathermy machine. Treatment lasted half an hour each day, and the results were invariably satisfactory. Practically all pain subsided during the first treatment, and resolution was much hastened in all cases. Fourgerousse thinks that with suitable apparatus treatment of the parotids or primary focus should cut short the disease before metastases can occur.

Office and Practice for Sale

An elderly physician, ill and unable to continue work, desires to sell his office equipment, lease and practice at a very low figure. Has a long-established practise in Oklahoma community of 50,000. Is now averaging $900 a month, all cash business, equipment includes Diathermy and Morse Wave apparatus which alone cost $1,200. Price, complete, $1,800 cash. For full details, write the editor, Fischer's Magazine, 2333 Wabansia Ave., Chicago, Ill.

Diathermy in Pelvic Infections

By THOMAS H. CHERRY, M. D., F. A. C. S.
New York

Diathermy can be defined as the penetration of tissue with an electrical current of high frequency that results in heat production. This thermic result develops within the tissues and at any depth when the D'Arsonval current traverses between two electrodes.

By the use of this electric agent any degree of heat can be manufactured in the human tissues from 37.5° C. to 60° C. When heat is generated from 37.5° C. to 52° C. for therapeutic purposes it is called medical diathermy; when a greater degree of heat is produced tissue destruction begins and at 60° c. is completed. The latter procedure is named surgical diathermy, or electrocoagulation.

Medical diathermy can be applied to any tissue and at any depth, provided the part treated lies between two electrodes. The current of electricity travels the shortest distance between the two electrodes, thus generating heat. When the electrodes are of the same size the heat produced in the tissues is greatest at a point midway between them. When electrodes of different sizes are used the greatest point of heat generated is nearer the small one. These principles are readily utilized in applying the maximum point of heat to different pathological sites by varying the size of the electrodes.

In surgical diathermy, or electrocoagulation, when destruction of tissue is desirable, one large surface electrode and a small active electrode are always used. This gives a maximum amount of heat at the point of contact of the smaller electrode, which, with sufficient amount of current, produces a temperature up to 60° C. with consequent destruction.

The action of heat upon diseased structures is well known. An active hyperemia is brought about, the intensity of which depends upon the degree of heat and the length of time administered. As a part of the hyperemic process a quickening of the circulation occurs and accompanying this there is a dilatation of the capillaries that allows the fluid elements of the blood

to transude into the tissue spaces. When this action takes place in the presence of inflammation there is a reduction of the stasis in the engorged bloodvessels and relief of pressure upon the nerve filaments, thereby decreasing pain. There is also a greater and quicker absorption of the exudate, for by the increased flow of blood to the pathological site more units of Nature's defense against invasion are mobilized.

The bactericidal action of heat is an important feature to be considered in diathermic applications. Heat destroys different bacteria at different degrees of temperature. Some are killed at lower degrees than others. The gonococcus is destroyed by an exposure to 41° to 43° C. for ten minutes. It is for this reason that the application of diathermy has met with the success it has in pelvic infections.

TABLE I

Degree of Temperature Destroying Different Pyogenic Bacteria

Bacteria	Temperature
Gonococcus	41°-42° C.
Streptococcus	54°-60°
Staphylococcus	56°-58°
Pneumococcus	52°
Tubercle bacilli	60°
Colon bacillus	60°

In the gynecological service of Harlem Hospital we consider eighty-eight per cent of the patients suffering from adnexal inflammation to have the gonococcus as the inciting factor of their disability. During the last three months fifty-two patients having pelvic infections were treated with diathermy. Thirty-six patients had definite masses in one or both adnexa. All were admitted seeking relief from abdominopelvic pain and everyone had an endocervicitis; some had a urethritis.

TABLE II

Pathological Conditions Treated With Diathermy
Total Number of Cases—Fifty-two

Pathological Condition	Number
Adnexal disease, with masses	36
Adnexal disease, without masses	14
Puerperal infection	2
Endocervicitis	48
Urethritis	26
Skene's glands	6

Adnexal Disease With Masses

Eighty-eight diathermy treatments were given to this group. The lowest number of treatments given was one and the highest number was nine, to a single individual. The masses in twelve patients disappeared; in ten patients the masses were perceptibly reduced in size; in fourteen patients there was no reduction of the masses. The pain for which they sought relief was practically relieved in all cases by the first application. Two patients had recurrence of pain but were relieved by subsequent treatments. No other treatment was instituted, nor were there any analgesics administered for the control of pain. The best results in this group were obtained among those patients who had the highest number of treatments for longer periods of time (twenty-five to thirty minutes), and when the vaginal temperature was maintained at 43° to 47° C. From this group six patients were operated upon who continued to have pelvic masses and discomfort.

TABLE III

Adnexal Diseases With Masses
Total Thirty-six Cases—Diathermy Treatments, Eighty-eight

Application	Number of Treatments	MA.	Minutes
Sacroabdominal	33	1500-4000	15-30
Abdominovaginal	55	1500-2500	15-25

Raising of vaginal temperature 43°-45° C.

Results

	Number of Patients	Per Cent
Relief of pain	36	100
Recurrence of pain	2	-----
Disappearance of masses	12	61
Reduction of masses	10	

Adnexal Disease Without Masses

A group of fourteen patients had no masses but the adnexa were thickened and tender and they had the usual endocervictis; some had urethritis and Skene's gland involvment, which stamped them as gonorrheal in origin. Of this group twelve patients were relieved of their pain; one patient did not get relief. In all, only fifteen treatments were administered averaging one to each patient.

TABLE IV

Adnexal Diseases Without Masses
Total Fourteen Cases
Diathermy Treatments—Fifteen

Application	Number of Treatments	MA.
Sacroabdominal	9	1500-4000
Abdominovaginal	6	1500-2500

Raising Vaginal Temperature 43°-45° C.

Results

	Number P.
Relief of pain occurred in	13
No relief of pain occurred in	1

Endocervicitis Group

Forty-eight patients had endocervicitis with an accompanying thick, heavy, tenacious, mucopurulent secretion. Thirty-nine endocervical treatments were made with the thermophore; however, there were fifty-five applications made with the vaginal electrode for the accompanying adnexal infection that no doubt produced a rise of temperature in the cervical tissues. In this group twenty-four were cured or showed a marked diminution of the amount and character of the discharge which had changed to a thinner and less purulent material. Twenty-four patients showed no improvement.

TABLE V

Endocervicitis Group
Occurring With Adnexal Disease of Gonorrheal Origin
Total Forty-eight Cases

Application	Diathermy Treatments	MA.	Minutes
Abdominocervical	39	500-800	15-30

Temperature of cervical canal maintained 43°-47° C.

Results I

	Number
Patients receiving two or more treatments	9
Patients cured or markedly improved	6

Results II

	Number
Patients receiving one treatment each	18
Patients cured	2
Patients improved	10
Patients unimproved	6

fying bacteria that are dormant, thus bringing about a more suitable cultural environment, thereby inciting a fresh infection.

Conclusions

From observations based upon the patients treated for pelvic infections at Harlem Hospital with diathermy the following conclusions have been reached:

1. In pelvic infections of gonorrheal origin it is the treatment of choice.
2. It relieves abdominopelvic pain almost instantly.
3. It causes the disappearance or reduction of the pelvic masses in sixty-one per cent of instances.
4. It cures or diminishes the endocervicitis in ninety per cent of cases, thus preventing a reinfection of the adnexa from the cervical canal.
5. As a preliminary treatment to operation among patients whose pelvic masses persist, it is the best agent we possess, for if sufficient treatments are administered the pus contents of the tubes are rendered sterile and innocuous. In consequence a more rapid and successful convalescence ensues.
6. In urethritis and Skene's gland infections it is the treatment of choice.
7. The employment of diathermy in postpartum or postabortion infections cannot be recommended, as the degree of heat generated in the pelvis is insufficient to devitalize the type of bacteria producing the infection.

(From Med. Jour. & Rec., July 15, 1925)

Diathermy in Vascular Circulatory Disturbances and Arthritis

Albert E. Flagstad, in Minnesota Medicine, says diathermy has a definite place in therapeutic medicine and is our most valuable method of using heat. It is easily applied. It is constant and can be measured.

Diathermy has a wide application. It is contraindicated in: (1) undrained pus areas; (2) when there is a danger of hemorrhage.

A great commercial enterprise has come into being. There are those who will almost persuade one to believe that diathermy is a new panacea. We have all heard startling statements; many are true, some are propaganda.

The author used it almost a year, and during this period he has given nine hundred treatments to approximately fifty patients. Most of these treatments have been given by one individual in an attempt to ascertain the true status of conversive heat, thus the conclusions in this paper are drawn from personal observation and treatment. Most important is the selection of cases—knowledge of the apparatus and its proper application. The same rule is applied here as in prescribing any drug. Time is an important factor; it is rarely a single application, but rather repeated applications that benefit. The number and duration of applications vary as to conditions encountered.

In this paper he is concerned especially with the use of diathermy in vascular circulatory disturbances and arthritis.

He has used diathermy in several different vascular circulatory disturbances.

Arteriosclerosis.—A fair number of middle-aged individuals are seen who complain of painful feet and calves made definitely worse by activity. A few of these patients present the syndrome of intermittent claudication. Examination of the extremities is negative except for varying degrees of sclerosis and cyanosis. Roentgen-ray pictures in the majority of these cases show sclerosis of the posterior and anterior tibial vessels. Several cases are briefly cited.

Arthritis.—An extensive survey of conversive heat in arthritis is impossible at this time. To facilitate discussion he divides the arthritides into two general groups, traumatic arthritis and infectious arthritis.

Traumatic Arthritis.—His results in this group have been quite satisfactory.

He has had several traumatic cases that responded to diathermy after other therapeutic measures had been ineffective. Diathermy followed by manipulation and massage is of real value in the treatment of fibrous ankylosis, subsequent to trauma or infection.

Infectious Arthritis.—In eighteen of the twenty cases treated, conversive heat has relieved the soreness, stiffness and pain, but in no case has its use resulted in cure. All of these cases have been of long standing; many therapeutic measures had been tried with indifferent results. All of these patients preferred this type of heat to hot packs or therapeutic lamp. Infectious arthritis of one or two similar joints is easily treated by direct diathermy; the extensive polyarthritides are a bigger problem. He has tried sedative therapy in several of these cases, but the time is too long and often the patient is exhausted before the treatment is completed. He had several cases of gonorrheal arthritis which have been benefited by diathermy. In chronic infectious arthritis he feels that diathermy is a palliative measure. It will in most cases temporarily relieve soreness, stiffness and pain, and facilitate the absorption of adhesion and increase motion. It is of primal importance to seek the focus of infection and to use all possible means to rid the patient of the infecting organism. It should be used in conjunction with other therapeutic measures. Treatment as a rule is over a considerable period of time.

He concludes as follows:

1. Painful feet and calves in the presence of sclerotic vessels are benefited and probably cured by diathermy.

2. Conversive heat should be used in endarteritis obliterans before extensive surgical procedure is attempted or defeat acknowledged.

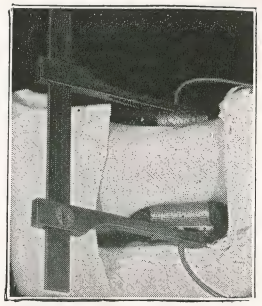
3. Diathermy has a definite place in the treatment of traumatic arthritis. It diminishes the period of disability and aids the prognosis.

4. Conversive heat is a palliative measure in the treatment of infectious arthritis. It is an important adjunct in dealing with this condition.

5. Like all therapeutic measures in medicine, results in diathermy are commensurate to its application. It must be observed with the same respect that is given any drug, and prescribed in the same careful manner. Indifferently or wrongly applied it can do no good.

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

Cellulitis



Application of Mesh Sponge Electrode by means of Diathermy Clamp.

Diathermy is very valuable in this condition, i. e., it relieves pain, combats the infective agent, stimulates phagocytic activity, and hastens absorption. In pelvic cellulitis, the operator should give very mild treatments for fear of breaking down the devitalized tissue too rapidly and producing a rapidly spreading peritonitis; however, this is seldom more to be feared than the original condition. The Diathermy Clamp may be used, with very large mesh sponge electrodes front and back; or large block tin electrode may be employed. In all except pelvic cellulitis, where the physician must use his own discretion as to how rapidly and intensively he should treat the condition, the rule is to raise the milliamperage to the patient's skin tolerance and treat continuously until the condition is under control. This is usually attained in a few hours. Cellulitis, as a rule, means a very virulent and dangerous infection, and the physician is justified in giving very intensive treatments.

(Reprinted from "Diathermy Therapy," Published by H. G. Fischer & Company, Inc.)

Value of Heliotherapy

Myers does not believe that heliotherapy is in itself sufficient in the treatment of any case of tuberculosis. However, when administered with other therapeutic procedures he has found it of tremendous value. It acts as a tonic. It induces the patient to rest quietly while the exposure is being made. In addition to the sun bath, the patient gets an air bath which is of unquestionable value. It is a tangible form of treatment—the patient sees the skin becoming pigmented and feels definitely improved from time to time. Not infrequently by the administration of heliotherapy it is possible to keep a tuberculous patient on dietetic and hygienic treatment for months after all treatment would otherwise be abandoned.

(From Journal A. M. A.)

Gonorrhoea

Heat is a specific for all gonorrhoeal infections; the only problem that confronts the physician is the effective application of diathermy to the infected area. This problem has been solved in the female; refer to the section on Diathermy in Gynecology, pp. 68 to 71. In the male, however, this problem assumes greater proportions. No procedure that will apply in all cases has been perfected as yet, but the methods mentioned below have met with more or less success in the hands of the originators.

Roucayrol uses a special urethal electrode which is inserted inside the penis with an indifferent electrode over the abdomen. This special electrode carries a thermometer and Roucayrol treats for twenty minutes daily with the thermometer registering 45 degrees Centigrade. He claims excellent results.

Corbus & O'Conor also use the special endo-urethral electrode and recommend temperatures in excess of 106-108 degrees Fahr., for thirty minutes. The indifferent electrode is placed over the abdomen or sacrum.

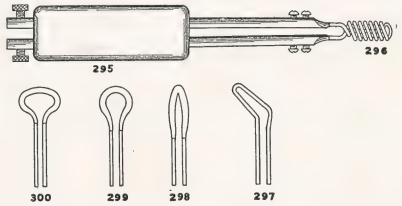
Chapman wraps the anterior third of the penis in silver-mesh cut from strips for the purpose. The penis is placed in a small saucer over the pubis to prevent short-circuiting the current through the abdomen. A large indifferent (block-tin) electrode is placed underneath the patient's hips to complete the circuit. He treats for sixty minutes daily at the patient's skin tolerance. Antiseptic liquid soap is applied freely to the active electrode to insure a good contact during the treatment.

Another method that has met with some success is to suspend the penis in a small jar containing salt solution which acts as the active electrode. In this treatment care must be exercised to prevent burns as the glans penis is almost devoid of heat fibres and unless a considerable portion of the penis is immersed in the solution, a scalding may result.

(Reprinted from "Diathermy Therapy," Published by H. G. Fischer & Company, Inc.)

Heavy Cautery Equipment

The Cautery Handle and Five Knives, as illustrated, are exceedingly sturdy and well made, and, while they are several times heavier than the cautery equipment usually furnished with combination apparatus, they are especially suited to the windings on the Fischer "LO" and "FO" Cabinets. They will be found very adaptable and satisfactory.



No.		Code	Price
295	Heavy Cautery Handle	Pacero	$6.50
296	Heavy Spiral Cautery Knife	Pachan	1.10
297	Heavy Angular Cautery Knife	Pacify	.95
298	Heavy Pointed Cautery Knife	Packor	.95
299	Heavy Plain Loop Cautery Knife	Pacton	.95
300	Heavy Flat Loop Cautery Knife	Paddle	.95

Diathermy in the Treatment of Disease

By F. J. STANSFIELD, M. R. C. S.
London, England

Diathermy or thermo-penetration is a comparatively recent addition to the armamentarium of the medical man and particularly of the physicist. Yet it is one which has already proved its usefulness beyond all doubt, and is therefore entitled to our serious and patient inquiry.

Allow me to call your attention to some of the conditions, medical and surgical, in which diathermy is most commonly used.

Many of the painful joint conditions are relieved by the heat which can be applied by diathermy, not only to the surface but to the internal parts of the joint. Where adhesions are of recent formation it is possible that the application of diathermy may assist in their absorption.

Patients with neuritis have been considerably benefited.

It has in recent times been used in cases of acute pneumonia with very satisfactory results, giving relief to the patient and hastening resolution of the consolidated lung. It has been applied to the heart in cases of angina with great benefit. According to Nagelschmidt after a course of diathermy treatment to the heart with the electrodes placed over the heart front and back the attacks are diminished greatly both in frequency and severity.

All these applications may be regarded as medical since the conditions mentioned would in themselves be considered medical.

The surgical conditions suitable for diathermy are almost too numerous to mention. One may say that wherever it is desirable to destroy new growth, whether it be simple or malignant in nature, diathermy is the ideal method, the only proviso being that it is accessible.

Malignant ulceration can be most successfully treated by diathermy which has many points to recommend it as the method

of selection. It is thoroughly efficient and at the same time more conservative than excision.

Personally I have had a fair amount of experience in the diathermy treatment of villous growth of the bladder and I can speak with enthusiasm of the results. Some of these applications have been made through the cystoscope, whilst others have been effected through an open wound in the bladder wall after suprapubic cystotomy. In all these cases my work has been done in cooperation with the surgeon.

Another class of case that I have treated by means of diathermy is malignant growth of the tongue. Usually these cases have been pronounced inoperable before coming my way and the experience I have had leads me to regard diathermy as the method of selection in these cases. Of course, where there is secondary glandular infection, the glands must be excised in the usual manner after the primary growth has been destroyed. In my opinion it is usually desirable to proceed as I have directed, namely deal first with the primary growth and at a subsequent date excise the glands.

I have recently had an interesting case of adenoma of the rectum which the pathologist reported as becoming malignant. The patient was sent to me by Dr. Giblin who considered the condition quite inoperable in the ordinary way. It certainly would have meant a most extensive and drastic operation as the whole of the lower part of the rectum was practically filled with the growth. The patient's condition was very bad as he was suffering from general septic poisoning. His condition and his advanced age were strong contraindications to a major surgical operation.

It was decided to try diathermy as a last resort. This was carried out successfully but with difficulty owing to the inaccessibility of part of the growth. The day following the operation the patient sat up in bed, smoked a cigarette and ate quite a respectable dinner. He showed absolutely no sign of shock, indeed his general condition was so much improved that doctors and nurses were astonished.

At a later date a further application had to be given as a small

nodule of growth high up the rectum had escaped the treatment. I had a special glass speculum made for the purpose of getting at this nodule, with a fenestrated opening cut in one side. After this second operation the patient made the same satisfactory recovery.

It remains to be seen whether we have finally destroyed the growth in this case; only time can show us that. However, I am satisfied that in this, which was thought to be a hopeless case from the start, we were fully justified in our treatment if only for the relief and comfort given. The result in this case has quite convinced me that where the growth is accessible diathermy should be the method of selection.

Malignant ulceration of the cervix is a condition admirably suited to diathermy even if it is thought advisable at a later date to do a hysterectomy. Personally, my feeling is that unless glandular involvement has taken place hysterectomy is not necessary.

I have treated hemorrhoids by diathermy in numerous instances with the most satisfactory results. By this means there is no fear of hemorrhage or secondary hemorrhage, no loss of sphincter action and practically no pain afterwards. The time in hospital also is reduced in most cases to two or three days instead of two or three weeks which is a consideration of some importance to most patients.

Naevi and vascular caruncle may be treated with perfect success and the resulting scar is not as bad as might be expected.

Another condition which I have recently treated with this method, was a large papilloma growing from the external auditory canal which almost completely blocked the meatus. The final result in this instance was perfect, the resulting scar being almost imperceptible.

In conclusion I wish to point out some of the virtues of diathermy treatment in surgical cases. In the first place there is remarkably little scarring. Secondly, there is no hemorrhage. Thirdly, as the process is one of coagulation the blood vessels and lymphatics are sealed instantly and thus no fresh channels for infection are opened, a consideration which is of the greatest importance when dealing with malignant conditions. Every operating surgeon has had the painful experience of seeing secondary deposits developing in the scar and this after every care has been taken to avoid it.

Lastly diathermy saves a great deal of suffering. The absence of pain after a diathermy operation is a feature which strikes every operator and onlooker.

(Abstracted from Australian Medical Journal)

Sunlight Promotes Health

Roll your stockings, girls, make your dresses shorter and lower in the neck; or even run around without socks and dresses, if you would be really healthy.

Dr. Leonard Hill, former member of the National Institute of Medical Research, so declared today when he advocated before the British Medical association that long trousers and collars for men be abolished. Dr. Hill wants humanity to wear fewer clothes in the interests of health, since the fewer clothes the more skin area that can be exposed to the sunlight.

Girls are healthier than men because they wear low neck dresses, short skirts and artificial silk stockings, thus absorbing more ultra-violet rays. Exposure of the legs to sunlight lessens the tendency to varicose veins, he said.

(U. N. Dispatch from Bath, England)

American Academy of Physiotherapy Meets in Boston, Oct. 15-17

The next meeting of the American Academy of Physiotherapy will be held in Boston, Mass., October 15th to 17th, 1925. For this meeting, the Academy announces a program which includes lectures on physiotherapeutic subjects of general interest, by many well-known physicians and surgeons. There will also be clinical demonstrations in physiotherapy technic, including electrosurgery, which will be given in the Boston City Hospital.

Quartz Light Therapy in Skin Diseases

By E. LAWRENCE OLIVER, M. D.
Boston

The term quartz light as generally used refers to a mercury vapor light in a fused quartz vacuum tube, the mercury making the arc. Such a lamp is very rich in ultra-violet light; and, as quartz to a large degree is transparent to ultra-violet rays, these rays emerge from the lamp and can be utilized for therapeutic purposes.

The ultra-violet rays which we are considering are sometimes called chemical rays, as they seem to have a chemical action. On the skin they produce what is commonly called sunburn. Now, naturally we would suppose that sunburn is caused by the hot waves of light; but the contrary is the truth. It is the cold, invisible ultra-violet light that produces sunburn. This is easily proved by laying a piece of ordinary glass on a portion of the skin exposed to sunlight and observing that the skin beneath the glass does not become sunburned. The glass is transparent to all the visible and heat waves of sunlight, but it blocks the ultra-violet rays. If, on the other hand, we substitute quartz glass, which is transparent to ultra-violet light, sunburn will occur.

The quartz lamps in use at present are of two types, air cooled and water cooled. With the air cooled lamps, large areas of skin may be treated with a single exposure; but, on account of the heat of these lamps, they must be used at a distance of 6 inches or more. For intensive effect on small areas, the water cooled lamps are more effective. In the water cooled lamps the quartz tube is surrounded with a water jacket of running water keeping the lamp constantly cool, so that the window of the lamp may be pressed directly against the skin, bringing the source of light only about an inch away from the skin. Not only does this have the advantage of close approximation of the light, but also the pressure of the quartz glass dehematizes the skin so that the rays have a deeper penetration.

It may well be asked whether they have any advantage over natural sunlight. One advantage of some importance is that

their light is always available. Another is that quartz light can be given in much larger dosage than is possible with sunlight; for example, a patch of eczema with leathery thickening of the skin might be so resistant that a day's exposure to natural sunlight might produce no effect, whereas with a water cooled quartz lamp an exposure of one or two minutes would very likely give the desired reaction.

The third advantage is the great saving in time. In a fraction of a minute it is often possible to produce on a localized lesion the same effect as would be produced by several hours of natural sunlight.

Conditions in Which Quartz Light Is of Value

Ulcers.—Quartz light is of value especially in those ulcers dependent on poor peripheral circulation. Of these, the most frequent to be encountered are varicose ulcers of the leg, and in many of these quartz light may be a great help by producing an active hyperemia, which seems to be a great stimulus to epithelial proliferation. A few exposures of from one to three minutes (at weekly intervals) at a distance of 10 inches from the source of light, an air cooled lamp being used, are often sufficient to clean up a foul ulcer and start proliferation of epithelium at the borders. In traumatic ulcers also, healing may be greatly hastened.

In my opinion, when skin grafts are indicated, and the local conditions are unfavorable, the use of quartz light for a few weeks previous to the operation will often greatly increase the likelihood of a successful result, by promoting the local circulation.

Birthmarks.—Birthmarks of the so-called port wine type often respond extremely well to the water cooled type of quartz lamp. The window should be pressed firmly against the area to be treated, protecting any sound skin exposed with paper or zinc oxide plaster. The exposure should depend on the case and on the strength of the lamp used. An average exposure in these cases is from five minutes to half an hour. There is no pain during the treatment other than a prickling sensation. In those cases in which before treatment the color fades readily on pressure, the results are often very good, though complete disappear-

ance is not to be expected. The desired reaction to treatment in these cases is a blistering burn, which results in tenderness but is not particularly painful. When small areas are treated, the pain following treatment rarely causes any loss of sleep. As it is usually two weeks or more before the reaction entirely subsides, it is best not to repeat the treatment to the same area in less than a month.

Alopecia Areata.—The course of this disease is so capricious that it is difficult to judge of the value of any treatment; but it is surely true that in many cases in which bald patches have existed for months or years the hair has grown in again after five or six treatments with quartz light. Certainly it seems to be good logic to assume that an active hyperemia will tend to start a new growth of hair in these cases. In alopecia of the ordinary type, premature or otherwise, the use of ultra-violet light is not advised, as permanent results have not been obtained.

Psoriasis.—This disease, as is well known, is rare on exposed parts of the body, and it is highly probable that the action of light is the principal cause of the comparative immunity of the exposed parts. It is therefore reasonable to expect improvement following exposure to sunlight or its artificial substitutes and such improvement usually results. Unfortunately, even in cases in which the disease entirely disappears, recurrences are very common.

Chronic Eczema.—In localized patches of this disease, when there is a marked thickening of the skin, the results from quartz light therapy are often remarkable; permanent cures are not uncommon. In such cases the best results are obtained from the use of the water cooled lamps, the window being pressed against the skin for from ten seconds to a minute or more. Blistering burns often give the best end-results. The reaction should be allowed to subside before the next treatment of the same area.

Acne Vulgaris.—Severe cases of this disease are sometimes benefited by the stimulation of quartz light treatments with the air cooled lamp, but the good results are usually only temporary. Roentgen-ray treatment in such cases is likely to be of greater value, as the results are often permanent.

Lupus Vulgaris.—In selected cases of this disease, quartz

light often proves of great value; in fact, in some cases it seems to be curative. The water cooled lamp should be used, and the window or quartz lens pressed against the skin for from ten minutes to half an hour, for in these cases a severe local reaction is desired. Blistering results, and it may be several weeks before the burn entirely subsides, when another treatment should be given. As with the Finsen light, results are slow; but patience is quite likely to be rewarded in cases of this intractable disease.

Lupus Erythematosus.—In this disease the production of blistering burns is sometimes followed by good results; but, on the whole, ultra-violet light treatment, in my opinion, is rarely the method of choice.

Conclusions

Quartz light is of great value in many ulcers, especially those due to poor circulation. It is of great value in the port wine type of vascular nevus and in alopecia areata. It is often a help in the treatment of psoriasis. In localized chronic eczema with infiltration of the skin, it may prove of great value. In acne vulgaris, though the light is beneficial, improvement is usually only temporary. In lupus vulgaris it is sometimes curative. In lupus erythematosus, it may cause temporary improvement.

(Extracted from Journal of American Medical Ass'n)

Evaluation of Therapeutic Appliances

At the Atlantic City meeting of the American Medical Association held in May of this year a resolution was unanimously passed by the House of Delegates requesting the Board of Trustees of the Association to appoint a "Council on Non-Medicinal Therapeutic Agents" similar to the "Council on Pharmacy and Chemistry" which has, during recent years, done most valuable work in the investigation of the nature and therapeutic action of drugs offered for sale to the profession. The resolution provides that the trustees shall appoint a council or commission of physicists, clinicians and pathologists who shall investigate non-medicinal therapeutic appliances offered for sale to the profession and shall report the results of their investigations in the Journal of the American Medical Association. The

average medical man has neither the time, technical skill nor laboratory facilities for correctly determining the value of the various kinds of lights, electrical appliances and mechanical contrivances which are from time to time offered for sale by salesmen who are in many instances none too honest in the claims made for their wares; consequently, the back rooms of doctors' offices or the attics of their barns are often found filled with discarded devices which were at one time or another much in vogue but have been discarded as worthless. To the physician this often means a considerable financial loss and to the patient, the waste of much valuable time because of the resort to some form of "treatment" before an accurate diagnosis has been made.

It is to be hoped that the trustees of the American Medical Association will wisely carry out the provisions of this resolution thereby affording the physicians the necessary knowledge as to the nature and action of these appliances which shall save them money invested in useless contrivances and their patients the expense of worthless and even harmful "treatment" as well as the loss of valuable time before the making of a correct working diagnosis. *(From Wisconsin Medical Journal)*

We're Off to Florida!

The editor of Fischer's Magazine has read so much about the wonders of Florida—has heard so many tales of southern splendor and sudden wealth from friends and acquaintances—that he has decided to go down there himself and look things over.

For example, a physician who has frequently contributed to Fischer's Magazine, recently made a trip to Florida on behalf of a syndicate of himself and his associates. He went to ——— well, we won't name the city! But he stayed ten days, and the trip netted the syndicate $10,000!

We don't expect to accomplish anything of that sort. In fact, ours is in the nature of a pleasure trip, with the possibility of a profitable investment adding zest to the pleasure. As you are reading this, doctor, probably we are basking under southern skies. Should the experience prove as interesting as we anticipate, we'll tell you all about it next month.

A PAGE OF FUN

Butcher—"My son, the one that used to help me in the shop here—he's gone in for boxing. Won a championship, too!"

Customer—"Ay, I remember him. I suppose he'll have won the light-weight championship."

□ □ □

Elsie—Shall I put on my mackintosh and run out and post these letters, mother?

Mother—No, dear, it's not fit for a dog to be out a night like this. Let your father post them.

□ □ □

A rustic young lady, who wanted to keep up with the latest styles, went into a dry goods store and called for a pair of rolled hose.

The clerk was equal to the occasion—with a little to spare.

"Have a seat, Miss," he said with alacrity. "We roll them free of charge."

Doctor—"You have appendicitis. I must operate."

She—"Oh, doctor, will the scar show?"

Doctor—"No; not unless you join the Follies."

□ □ □

Judge—"Do you wish to marry again if you receive a divorce?"

Rastus—"Ah should say not! Ah withdraws from circulation."

□ □ □

"Ethel is terribly dumb. She thinks Mussolini is a town in Austria."

"You don't say, and where is it?"

□ □ □

"After the wreck, when your husband was drowning, did all his past sins come up before him?"

"Good heavens, no! He wasn't in the water all that time."

Amateur Angler (to guide)—"Sa-ay, I thought you called that red thing on the line a float!"

Guide—"Sure, it's a float!"

Amateur Angler—"But the durn thing has sunk!"