Program for Our

Monthly Physiotherapeutic Meeting

Monday, September 14, 1925

EMILE C. DUVAL, M. D., Chicago, Ill.
"Indications for Diathermy" ..... 10:00 to 11:00 A. M.

A. R. HOLLENDER, M. D., Chicago, Ill.
"Light Therapy in Otitis Media" ..... 11:00 to 12:00 A. M.

EMILE C. DUVAL, M. D., Chicago, Ill.
"A Scientific Basis for Diathermy Technic" ..... 1:30 to 2:30 P. M.

M. H. COTTLE, M. D., Chicago, Ill.
"Indications for Diathermy in Eye, Ear, Nose and Throat Diseases" ..... 2:30 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.

Specializing in Industrial Physiotherapy, as he does, Dr. DuVal is in a position to speak with an authority based on a remarkably broad experience. Physicians and surgeons desiring information as to when and how to employ Diathermy will do well to attend his lectures. Drs. Hollender and Cottle likewise have specialized extensively in eye, ear, nose and throat work and their experience, over a period of years, with physiotherapy in such disorders, qualifies them to pass on to others much interesting and valuable data.

Ample lecture-hall facilities have been provided, and visiting physicians and surgeons are assured of proper facilities for getting the most out of this splendid program. There is, of course, no fee—just come to the main office and accommodations will be provided for you.

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

FISCHER'S MAGAZINE

AUGUST, 1925

PRICE

ALL WORKS OF QUALITY MUST BEAR A PRICE IN PROPORTION TO THE SKILL, TIME, EXPENSE AND RISK ATTENDING THEIR INVENTION AND MANUFACTURE-THOSE THINGS CALLED DEAR ARE, WHEN JUSTLY ESTIMATED, THE CHEAPEST.

—*RUSKIN*

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. AUGUST, 1925 No. 8

Physiotherapy in Renal Disease

By CURRAN POPE, M. D.

Medical Director The Pope Sanatorium and President American College of Radiology and Physiotherapy

Louisville, Ky.

A proper mental attitude on the part of the physician is of inestimable advantage to the patient suffering from nephritis, for it leads the practitioner to active interference, not alone to check the pathology present and save uninvolved tissue, but to make strenuous efforts to bring about a *restitutio ad integrum* of the tissue involved. Nor must one focus his attention on the kidney alone, for a general view taken of the patient as a whole will oftentimes change our outlook in such cases.

It is to be regretted that in this class of cases so few measures are employed to relieve the trouble. There is a tendency in the subacute and subchronic cases to put a patient to bed, strictly at rest upon a diet, and carefully limit and restrict the intake of food, especially protein. This can be easily overdone. In those who habitually overeat, and eat highly seasoned and overstimulating food, the change to plain, simple well cooked food, lessened in quantity, may be all that is necessary to check the progress of the disease. If a strict diet is essential it has always been my principle to just as rapidly as possible get the sufferer back upon the maximum tolerable diet of proper food stuffs.

Again it must be borne in mind that it is not necessary to "wash the kidneys out" by free water drinking. The influence of water upon the economy and upon a kidney struggling with

its own disease, becomes a problem that a physician only can and must try. The modern tests of the kidney by water ingestion will give much useful information that can be practically applied to a given case.

Rest is essential but this does not of necessity mean in bed. It can oftentimes be better accomplished by late rising, early retiring and lessened exertion in the interim. Rest should not be limited to the body alone but wherever possible a wholesome mental rest must be secured. This may be obtained in active and busy men and women by changing the kind of mental activity. Gentle exercise combined with a maximum of fresh air can be obtained from sensible motoring for a short time followed by a complete rest in bed or on a lounge for an hour or two.

Medication requires judgment and must be used to suit each case. My personal predilection is for as little medication as possible. I have seen alkalination help; also the use of some of the glandular products, especially nephritin. Watching the renal elimination, keeping a close eye on the cardiac apparatus and skin, will enable one to meet the needed requirements of chemical treatment. Any underlying infection such as syphilis must be noted and treatment instituted, but not in my opinion by the salvarsans. Careful tentative use of hydrargyrum and bismuth is better than arsenic. All focal infection must be removed and promptly treated, and it is not an unusual thing to see prompt betterment after a focus has been cleared. But I here protest again against the useless, wasteful and often needless sacrifices upon the altar of feticism, by the reckless removal of teeth and tonsils. Some should be removed; that is true. But remember that store teeth are poor substitutes for the ones grown by natural processes and that the removal of teeth may be the beginning of gastro-intestinal disorders that may in themselves produce such a disturbance as will not only aggravate but terminate a kidney case.

Renal cases as a rule are benefited by colon drainage or lavage, and by this I do not mean enemas, high or low, but real cleansing of the colon by many gallons of water followed by proper treatment or by the implantation of "friendly" bacteria. It is astonishing how some cases clear up under this form of

treatment. Like everything else in medicine it requires care and judgment in its use and an adaptation to the particular case in hand. That the colon is a cloaca from which come many poisons cannot be denied, and that it is the cause or basic factor in many others will be readily admitted by those who are really familiar with the subject.

It is really astonishing how few men employ other measures than those heretofore enumerated and yet in the domain of physical therapy there are many modalities that aid, not alone in restoring the diseased kidney, but in relieving underlying and contributing factors of a case. At the head of these modalities I place hydrotherapy and static electricity. The use of baths, except in sanatoria and at springs, is rarely employed. In the acute, subacute and chronic cases they have a powerful effect. In bedridden cases, use the *fomentation* (130-140° F.); should be applied over the kidney for twenty minutes every three hours. Diaphoresis may be obtained by the electric light bath prior to the use of the fomentation and followed by a blanket pack for one hour. There is an intimate reciprocal action between skin and kidney. and though diaphoresis stimulates the compensatory activity of the skin, it is not for its eliminant action alone that it is used, for its eliminant power is limited. It also stimulates other organs to act.

Another method is the *full hot bath* at 100-110° F. for twenty to forty minutes. This is especially valuable procedure with children, when followed by the full dry pack for three-quarters of an hour. To both of these measures should be added gentle friction of the skin, to maintain the skin circulation.

In ambulant cases *the hot air, incandescent electric light or superheated dry hot air baths* are valuable. The electric light bath is the most valuable. These methods divert the blood in the internal organs to the skin like a great suction pump, relieving intra-abdomino-renal pressure and congestion, thus enabling these organs to function better. Care must be exercised to prevent chilling. Cerebral complications are best met by *cold cephalic compress* or *ice cap*. In chronic cases a preliminary heating to moderate perspiration by the *incandescent electric*

light bath, followed by the full wet pack at 90° F. for 20 minutes, decreasing temperature 5° F. daily to 70° F. and increasing the time to one hour. Or, *the light bath* may be followed by the dripping sheet, rain, shower, spray or douche bath, graduating the temperature, pressure and duration to suit the case. The *Nauheim or* CO_2 bath is very valuable in these cases, helping both kidney and heart.

I have seen the *Static* clear up a kidney when everything else had failed. Commencing with light and short treatments it should be rapidly increased to as strong as can be borne, finally using heavy indirect sparks to the entire spine, over the kidney region and liver, followed by the *Wave Current,* using a condenser and applying the electrode over the kidney region. I have on a number of occasions examined the urine following these applications and found at the start an increase of casts and renal cells, rarely an increase in albumen, to be followed later by a cleaning urine and clinical betterment of the case.

Diathermy is a valuable method in these cases. In the acute case in bed we should use smaller amperage and shorter duration of treatment and if necessary give the treatment twice daily. In the convalescent or ambulant patient heavy doses are indicated. I prefer a dosage of 1000-1500 milliamperes for 10-15-20 minutes rather than a much longer time at a lower milliamperage.

Actinic Light, the air cooled lamp, may be used for its general vitalizing and "fixing" purposes. In fact every method that increases the general health is of value insofar as the local inflammation is concerned. It should be applied to the entire body surface, anterior and posterior.

Sinusoidalization, by means of the Morse Wave Generator, is most valuable in overcoming the constipation and intestinal stasis present. These are cases in which it is desirable to avoid, if possible, the use of cathartics and laxatives. Diet, exercises of the abdomen and the sine wave are the preferred measures. Place one electrode on the lower abdomen and the other crosswise of the spine just under the shoulder blades (7-10 dorsal) using cam 4, scale 6 (or 60) if possible for 10 to 20 minutes. The abdominal contractions must be gradual, firm, full and the relaxation slow, a rising holding and declining contraction. This develops muscular tonicity and increases intra-abdominal pressure and activity.

In conclusion the reader's attention may be called to the fact that any and all of these measures may be employed alone or in combination without there being the slightest contraindication for their use. The careful, scientific and intelligent combination of rest, diet, hygiene, chemical and physical measures will often bring results when ordinary drug and other medication fails.

Auto-Condensation

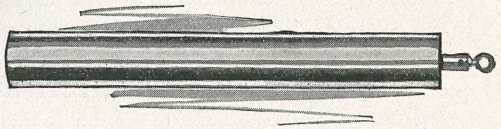
The D'Arsonval auto-condensation treatment is
Sedative,
Reduces high blood pressure,
Increases metabolism and body heat, and is most useful in:
Neurasthenia,
Arterio-sclerosis,
Dysmenorrhea,
Leukemia,
Menopause, and
Insomnia.
The bipolar current is employed.

The necessary appliances for administering this treatment consist of a folding chair pad or padded cushion, on which the patient either sits or reclines, and a metallic handle which is usually held in the patient's hands. The patient undergoing treatment really forms one section of a condenser.

The auto pad, as we will call it in the following, consists of a metallic plate covered with sufficient insulation to prevent the high voltage current jumping through, and this plate forms the opposite side of the condenser.

When administering an auto-condensation treatment it is well to remember, as in the giving of any electrical treatment, to employ only a moderate amount of current at the start regardless of the amount of milliamperage that may follow, and then to taper off each treatment by cutting the current down gradually before opening the switch.

The volume of milliamperage will depend on the nature of the case, although 600 to 850 M. A. are about average. Most operators agree that the milliamperage used for the first treatment should not exceed 300, that this current be increased at subsequent sittings to the desired maximum, and to taper off gradually to the end of the series of treatments. As an example: it has been proven that by breaking the series of treatments off too abruptly the effect will be lost in a short time, that the patient's blood pressure may have been reduced for the time being but that it soon returns almost to normal. On the other hand, tapering the milliamperage off gradually, the effect is lasting and usually completely satisfactory.



Do not touch your patient during a treatment, as the shock at the point of contact might be disagreeable.

Be sure that you use a wooden chair or wooden table. Never lay the auto pad out against metal.

You will find from experience that you will be able to pass a great deal more D'Arsonval current through a stout patient than through a thin one. This is just the opposite of the effect obtained in administering medical diathermy, as an obese person will take less milliamperage at a given setting of the controls on the outfit, than a thin one.

You should always recommend that your patient drink a great deal of water during a series of auto-condensation treatments.

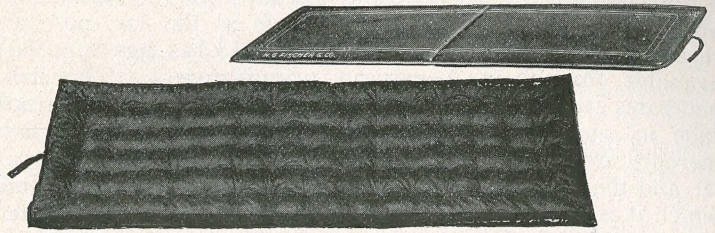
One of the most important features of an auto-condensation treatment is that your patient must be fully relaxed and made just as comfortable as possible.

Patients with exceedingly high blood pressure, and with a slow pulse, should be carefully watched during and after treatments.

The treatment of hardened arteries, walls lined with calcareous deposits, must be undertaken in a systematic way if lasting results are to be obtained.

During the menses it is inadvisable to use any high frequency treatments, but on the contrary, in cases of suppression, auto-condensation may be used as a stimulant.

It is well to place the patient's hands on a pillow or large book when using a metal handle, in this way keeping the hands away from the body proper so there will be no danger of sparking. Caution your patient not to drop this metal handle with the current on, or even relax the hold, as resulting sparks will be sufficient to cause a severe burn.



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

Ultra-Violet Ray in Eye, Ear, Nose and Throat Troubles

By IRA O. DENMAN, M. D.
Toledo, Ohio

Actinic-therapy has been available for many years for general body radiation, including skin diseases, by the use of the Alpine Sun Lamp—the large lamp. Not until the lamp devised by Kromayer, which bears his name, was it possible to make actinic applications to the closed cavities such as the ear, nose and throat specialist requires. Only since 1913 has this lamp been available through its American manufacturers. This lamp generates great quantities of ultra-violet rays in a quartz vacuum tube in which an electric current passes through a metallic mercury arc. A high temperature causes the mercury to vaporize and the ultra-violet rays pass through the quartz tube from which it is directed to the field to be treated by suitable extensions, also of quartz.

The attachments include a small quartz rod for treatment within the auditory canal, a small rod for the eye, a larger rod for intra-nasal and sinus treatment, a tube tipped with a quartz condensing lens for intensifying the radiation of the tonsils and pharynx; a similar one, only periscoped, to direct the rays at right angles; and a large condenser for intensive radiation of external surfaces such as cervical glands, etc.

To convey the idea of the potency of this agency permit me to state that one minute exposure with this lens of a sensitive skin will produce an artificial "sun burn" with all the stages that one gets at the bathing beach—redness, then tan, soreness and peeling in four or five days—and the lens itself remain cold all through the exposure, the patient experiencing absolutely no sensation.

Broadly, indication for actinic-therapy in our special field as elsewhere, is infections. It sterilizes corneal ulcers, traumatic injuries of the cornea or lids, all forms of conjunctivitis, especially the diplococcic infection, eczema of the external ear, canal furunculosis and canal infection as in the bather's ear, chronic

middle ear suppuration, hay fever (not curative but relieves the patient by destroying much of the accompanying infection), pharyngitis, Vincent's angina (almost a specific) and tonsillitis, especially the acute.

Donnelly, of Detroit, has carried out a series of experiments for the Detroit Health Department on sterilization of diphtheria carriers with success.

The Kromayer lamp has assisted me in relieving or curing all the above conditions with the exception of the last—diphtheria carriers. I have not had an opportunity to use it in such a case.

The conditions in which I was most interested when I installed the apparatus were foci of oral and naso-pharyngeal infection other than the tonsils and adenoids. These cases which have a red nodular throat long after a clean tonsillectomy and adenoidectomy has been done. Often such cases carry a little temperature and the cardiac condition, or the arthritis persists for some weeks or months after operation. I hoped by the use of the strong bactericidal action of the ultra-violet ray to hasten the convalescence in these cases. I am pleased to report that this I am now able to do.

It must be borne in mind that the lymph nodes in the tonsillar pillars, the infra-tonsillar nodule, the lingual tonsil and scattered about throughout the surfaces of the respiratory tract carries infection. Also the epithelium itself provides a lodgment for it, according to Rosenow. And, as these areas are not amenable to surgical extirpation, nor to medicinal measures, the actinic rays may well be depended upon to fill in the gap.

While treating some non-tonsillectomized throats in this manner, I discovered a slight shrinkage of the tonsils in the free non-submerged type. The shrinking was accompanied by a diminution in the congestion and the cryptic discharge. Were it possible to secure a deep penetration of this ray, I am of the opinion that such tonsils could be destroyed by it. However, as the penetration is limited to two millimeters, sterilization can extend only that far. This is not, however, the entire action which we get from the agent. The local stimulation and increased metabolism which results, no doubt, raises the resistance of the infected field.

The limited extent to which the ultra-violet ray will penetrate constitutes its limitation. This fact made me highly desirous of bringing about a shrinkage of tonsillar tissue so that these rays could extend deeper toward the capsule. This was especially necessary in the submerged variety of tonsils. My next interest lay in the x-ray shrinkage of tonsils and adenoids as proposed and carried out by Dr. Witherbee, late of the Rockefeller Institute for Medical Research.

At the present time I have a series of cases of all varieties of tonsils under alternate treatment with the two. In addition, in those whose resistance is low, I have thrown in an occasional body radiation with the Alpine Sun Lamp. A few cases are discharged, but under observation, not having had any trouble whatever this winter. I feel assured from the progress already made that I shall be able to make a favorable report on a series of cases later.

I do not wish to be understood as proposing a substitute for tonsillectomy, I am doing and expect to continue to do tonsillectomies, but in non-operative cases, and those who need, but refuse surgery, this may offer an alternative. One case I have now under treatment has a chronic mitral regurgitation and another is a hemophiliac, a sister having bled to death from a tonsillectomy. Another is a woman near seventy-five, an asthmatic, but who has a chronic tonsillitis with a severe arthritis, at times unable to walk. With such cases one should at least investigate thoroughly, without bias or prejudice, an alternative to surgery.

(*Abstracted From Eye, Ear, Nose & Throat Monthly*)

Diathermy in Joint Injuries

At the Annual Meeting of the A. M. A., F. H. Ewerhardt, of St. Louis, discussed first the more generally known forms of heat, conductive, convective, and conversive. Conduction, he said, was that form of heat which was conveyed to the body by virtue of direct contact with a superheated substance. Convective heat radiated from a source approximating, but not in contact with, the body. The numerous so-called bakers, whether heated by gas burners, or electrical resistance wires of electric light, were forms of convective heat. With respect to the latter a qualifying statement was essential. Light from the viewpoint of heat producing agency, operated in two distinct and definite ways, which placed it in two of the three groups. That part of the heat which was generated as a result of meeting resistance in its passage through the glass bulb and the air intervening between the source and the part to be radiated, was distinctly a form of convective heat, while the remaining rays, visible and invisible striking the skin penetrated it, and meeting increased resistance were in turn converted into heat, thus forming and belonging to a third type, namely, conversive heat. This form might be defined as one in which light or electric energy, in its passage through human tissue was converted into heat. By the term diathermy was meant the process of heating through the tissues as contrasted with convective and conductive heat. The source of diathermy was a high frequency current of high voltage and relatively low amperage. The strength of the current used might be any part from one hundred to three thousand milliamperes. The extreme high rate of alterations or oscillations might range from one half to two million a second and were so far removed beyond the point where human tissue responded either by muscular contraction or electrolysis, that the result was a conversion of the electric energy into heat energy. For these reasons it was not correct to speak of diathermy as being an electrical treatment *per se*.

The physiological effect of convective and conductive heat was a vasomotor dilatation followed by a venous stasis and fre-

quently by free perspiration. The heat, however, penetrated barely beyond the dermis for here the abundant vascular system dissipated it to other parts of the body. Wherever a relaxation of the superficial tissues was desired, this form of heat was indicated.

The action of radiant light and heat for localized purposes was much the same as that of conductive heat with the difference that the light rays possessed a definite power of penetration, some deeper than others, and were then converted instantly into heat, and though a considerable quantity of it was carried off by the blood stream, yet much of the total volume was carried deeper into the tissues. Diathermy, the author repeated, was a means of heating deep tissues by means of a high frequency current which passed from one electrode to the other in straight lines affecting whatever tissue intervened. He believed that the method should appeal to the surgeon who believed in the efficacy of the functional treatment of fractures and joint injuries.

Ewerhardt's conclusions, based on an experience of two years in the physiotherapeutic department of the School of Medicine, Washington University, were as follows:

"1. That diathermy is a safe heating procedure which can be localized in deep-seated tissues at will; the degree of intensity may be satisfactorily regulated by means of suitable electrodes of varying sizes, properly applied and augmented by the cooperation of the patient.

"2. That it is a valuable measure, at least a partial control of pain, spasm, and swelling in the earlier stages of fractures and joint injuries and contributes therefore, materially to a favorable functional end result.

"3. That patients take kindly to it, are favorably impressed with the procedure, and their cooperation is more easily secured where movements and massage are indicated.

"4. That unquestionably the period of convalescence in the treatment of fractures is materially reduced.

"5. That its application seems indicated in postoperative bone

and joint conditions, acute sprains, fractures, and bursitis; acute and chronic arthritis, and in treating contractures, fibrositis, and myositis ossificans.

"6. It is contraindicated in cases of pus sac without drainage, where there is danger of hemorrhage, and in tuberculous joints and suspected malignancy."

(*From Med. Jour. & Rec., June 3, 1925*)

Pacific Physiotherapy Association Reports Interesting Meetings

Pacific Coast physiotherapists have found recent monthly meetings of the Pacific Physiotherapy Association most interesting and profitable, it is reported by our Los Angeles correspondent.

At the May meeting. Dr. H. A. Rosenkranz, of Los Angeles, was the speaker of the evening, covering the subject of "Electrotherapy in Genito-Urinary Practise" in a very satisfactory manner. At the June meeting, D. D. Comstock, M. D., spoke on "General Hydro-Therapeutic Principles;" M. L. Mann, M. D., on the "Use of Hydro-Therapy in Mental and Nervous Diseases;" and Fred Moore, M. D., on "Light Therapy."

Both meetings were well attended and great interest was evidenced. *Fischer's Magazine* extends congratulations to the Association for the success of their worthy efforts.

W. B. Chapman, M. D., of Carthage, Mo., wishes us to call attention to an error in his article on "The Treatment of Tuberculosis By Physical Agents," published in Clinical Medicine for July. The preparation of Chloro-Calcium mentioned by Dr. Chapman is put up by Sharp & Dohme, instead of by another manufacturer as stated in the article.

Influence of Unusually Large Doses of Ultraviolet Light on Nasal Membranes

By A. R. HOLLENDER, M. D. and M. H. COTTLE, M. D.
Chicago, Illinois

Contrary to the advocated technique of minute doses of ultra-violet, as obtained from a water-cooled quartz lamp, we have found that in many instances, massive dosage is to be preferred when treating certain diseased conditions of the nasal membranes. We are fairly well convinced that the nasal membranes tolerate ultra-violet radiation far better than the pharyngeal membranes, and desire at once to emphasize, that, whereas large doses may be applied in the nose, the greatest caution must be exercised when raying the pharynx.

It should be noted further that tolerance must be worked up gradually. It is not unusual for us to give a nasal treatment of ten minutes (on each side) at the sixth visit of the patient to the office. This is building up tolerance much more quickly than formerly, but is decidedly more rational. The surface bactericidal effect may be obtained in the average lethal dose time for bacteria commonly found on the nasal membranes, but, it appears a more pronounced therapeutic effect is possible in some conditions by the increased dosage.

There are additional factors to consider in this connection. These are the use of certain physical agents and drugs preceding the application of the ultra-violet rays. Diathermy, employed in the nose up to a point of comfortable tolerance, definitely enhances the action of ultra-violet irradiation. The diathermy should be applied by means of a non-vacuum electrode and the average time is ten minutes in each nostril. The diathermizing of the nasal mucosa is in itself bactericidal and to a large extent desensitizing. Patients sneeze violently at the first treatment but cease completely after several applications. When diathermy precedes ultra-violet in the nose the time of the latter may be safely and adequately cut in two.

Mercurochrome, eosin and other sensitizing compounds undoubtedly increase the penetrating powers of local quartz ray therapy. This has been demonstrated repeatedly. One must guard against long exposures when these anilin dyes are first applied. We have had frequent occasion to employ them in post operative antra and sinuses preceding the local use of the water-cooled apparatus.

Of late we have been observing the action of ultra-violet on the nasal membranes, preceded by argyrol tamponage according to the Dowling method. While argyrol tamponage is in itself a very efficient procedure for a variety of indications, we are ready to state now that a far improved action is obtained when the ultra-violet is applied subsequent to it. There are many reasons for this which would lead into colloidal chemistry, and for obvious reasons must not be mentioned in this brief abstract. Suffice to say that the action is far superior to the use of the drug or the light alone.

In conclusion, it must be emphasized that fractional doses have their place in therapy. Massive dosage serves better in many indications. The fact to be regretted is that there has not been sufficient personal investigations along these lines. Everybody has been willing to accept the printed directions as fact. Caution must be exercised. It is far wiser for the novice to adhere to smaller dose limits, but his aim should be to determine the limitations.

Another important consideration is the age and condition of the burner. These factors have marked influences on the reaction, time limit of exposures, etc. Each operator must know his lamp, its blistering effects and its minimal dosage which may be applied with some anticipated reaction.

An Excellent Nasal Spray

For use with the nebulizer of the Fischer F-O Senior Diathermy Outfit, the Prophylacto Mfg. Co., of 227 W. Erie Street, Chicago, have developed a very satisfactory compound which is supplied by them, to physicians only, under the name of Pemco Menthol Eucalyptus Compound Nasal Spray. Free samples of this compound may be secured by writing the manufacturers direct.

Announcing the Fourth Annual

PHYSIOTHERAPEUTIC CONVENTION

ARRANGEMENTS have been perfected for the most elaborate Physiotherapeutic Convention ever held anywhere in the world, to meet at the

DRAKE HOTEL, CHICAGO

OCTOBER 12 TO 16, 1925

There will be lectures, clinics and demonstrations, all in charge of well-known physicians and surgeons. For purposes of demonstration, carefully prepared papier-mache or wax figures and models will be used, and in some instances live models will be employed for this purpose.

The Convention will be subdivided into the following sections:

Eye, Ear, Nose and Throat.
Gynecology and Urology.
Orthopedics and Surgery.
Dermatology, including Malignancies.
Neurology.
Internal Medicine and Pediatrics.
Industrial Physiotherapy.
Miscellaneous Practise.

Special rooms will be provided on the mezzanine floor for smaller groups attending clinics and round table discussions, and for demonstrations to follow up interesting talks delivered from the platform. There will also be clinics at Chicago hospitals.

Admission will be by card only. A. M. A. rules will apply throughout; either an A. M. A. fellowship card or its equivalent will ensure admission. Arrangements for accommodations, etc., will be attended to on request by the Educational Department of H. G. Fischer & Company.

A record attendance is anticipated. There were over seven hundred physicians and surgeons present at last year's Convention, and this year's record will be much higher. Those interested are advised to make plans now and

MAIL THE RESERVATION CARD

Partial List of Speakers

MILES J. BREUER, M. D.
Lincoln, Nebr.
W. B. CHAPMAN, M. D.
Carthage, Mo.
MAURICE H. COTTLE, M. D.
Chicago, Ill.
ELKIN P. CUMBERBATCH, M. A., M. B., M. R. C. P.
London, England
LEO C. DONNELLY, M. D.
Detroit, Mich.
EMILE C. DUVAL, M. D.
Chicago, Ill.
RAYMOND F. ELMER, M. D.
Chicago, Ill.
J. C. ELSOM, M. D.
Madison, Wis.
F. H. EWERHARDT, M. D.
St. Louis, Mo.
GEO. W. FUNCK, M. D.
Chicago, Ill.
J. U. GIESY, M. D.
Salt Lake City, Utah
E. C. HENRY, M. D.
Omaha, Nebr.
ABRAHAM R. HOLLENDER, M. D.
Chicago, Ill.
WM. E. HOWELL, M. D.
Chicago, Ill.
ARTHUR E. JOSLYN, M. D.
Lynn, Mass.
D. FRANK KNOTTS, M. D.
Chicago, Ill.

Partial List of Speakers

DISRAELI W. KOBAK, M. D.
Chicago, Ill.
GUSTAV KOLISCHER, M. D.
Chicago, Ill.
WM. A. LURIE, M. D.
New Orleans, La.
G. BETTON MASSEY, M. D.
Philadelphia, Pa.
FREDERICK H. MORSE, M. D.
Boston, Mass.
ROSWELL T. PETTIT, M. D.
Ottawa, Ill.
T. HOWARD PLANK, M. D.
Chicago, Ill.
CURRAN POPE, M. D.
Louisville, Ky.
ISRAEL L. SHERRY, M. D.
Chicago, Ill.
CHAS. E. STEWART, M. D.
Battle Creek, Mich.
HARRY M. THOMETZ, M. D.
Chicago, Ill.
ALBERT F. TYLER, M. D.
Omaha, Nebr.
FRANK H. WALKE, M. D.
Shreveport, La.
CLARENCE M. WESTERMAN, M. D
St. Louis, Mo.
A. L. YOCOM, JR., M. D.
Chariton, Ia.

Treatment of Pneumonia by Diathermy

By WILLIAM BENHAM SNOW, M. D.
New York City

The successful employment of diathermy in the treatment of pneumonia is based upon the effects of heat produced by that current in its passage through the tissues. That the current, in its passage, produces effects upon the metabolism of the cells other than the conceded effects of heat is probable; for, there are reflex effects from the administration which are attributable to heat applied at moderate temperature. The action of heat upon all tissues is to raise the local resistance together with depressing effects upon bacteria with degrees of heat not otherwise detrimental.

Diathermy

Diathermy, the bipolar method of administering the d'Arsonval current, produces the local and constitutional effects of heat; the effects depending upon the sizes of the two electrodes, the current strength of the administration, the duration and the method of application. In the treatment of pneumonia with two electrodes of equal size placed at opposing sites, the skin toleration determines a safe degree of heat for passage through the intervening parts. This is easily affected with perfect control with modern apparatus, the socalled thermal penetration producing the characteristic effects of heat.

Treatment

High frequency transformers of adequate efficiency are now made by many manufacturers and consist essentially of a closed circuit transformer to step up the voltage, which is properly placed in circuit with two condensers, a d'Arsonval coil, a spark gap, and a hot wire meter. The multiple spark gap is a crowning feature of any apparatus of this kind.

The electrodes may be made for use by the physician or his aides of sizes and shapes to meet the requirements of individual cases and conditions. They are made of soft composition metal or lead of thickness 22 B. and S. gauge.

We introduced the method of turning over the edges to give a rounded surface that would not discharge current from the margins as from a sharp edge of the metal, and so irritate or burn the skin. We leave a wide margin turned over at one end, to which we secure the clamp of the connecting cords that will securely hold it in place. This is important, as otherwise a dislodged terminal might cause a severe burn. The electrodes are thoroughly moistened and placed in close contact with the skin and must be firmly secured, so the patient can in no way remove them when the current is turned on, or a severe burn may be produced. The current should then be turned on slowly, taking from five to ten minutes to acquire the maximum temperature to be employed. During this time the patient should be instructed that the temperature over the whole surface should be he same. If there occurs a stinging sensation anywhere at the margin, or beneath the electrode, that pressure will not arrest, it will indicate that it is not in proper contact possibly from the presence of some object, as clothing or dressing beneath the metal, or that it is not properly moistened. It must then be removed and readjusted. Let the patient perfectly understand this, and if for any reason the surface is anesthetic, or the patient unconscious, observe the greater care.

These matters of technic are important, but require no more than ordinary foresight and attention to details with which all who employ diathermy should be familiar.

The following case will illustrate most of the pertinent points of technic, and the progress of a case under treatment:

Case Report

CASE.—Dr. H. B. K., dentist, a transient in the city, was taken suddenly ill at a hotel Sunday evening, March 18, 1923. He was seen Sunday afternoon by the house physician who pronounced it to be a case of grippe with malaise and pains in the lower back with a slight cough. Monday afternoon there developed in the patient a temperature of 104° F. with pain in the side when a diagnosis of pneumonia was made by the house physician. This was on March 19th.

The temperature, pulse and respiration from the 20th to the 23rd were continuously high, the temperature ranging from

103° to 106° F., the pulse from 112 to 140, and the respirations from 35 to 60.

On the morning of March 23d, I was called on by friends of the patient and requested to assist in the treatment of the case with diathermy. The patient's condition was otherwise considered to be hopeless. With the consent of the physician in charge we began the treatment. After some difficulty, we had the apparatus installed and on March 23rd the first treatment was instituted by my son whom I delegated to take charge of the case.

The patient was first seen in consultation with the hotel physician on the evening that treatment was instituted. At this time he was suffering from a case of type three pneumonia in the fifth day.

There was consolidation of the entire right lung and the lower lobe of the left lung. The patient was cyanotic, receiving inhalations of oxygen every half hour for ten minutes, and regularly digitalis and camphor in oil for stimulation. His temperature was then 104.2° F., pulse 120, and respiration 40.

The first treatment was given at 6 p. m. for twenty-five minutes 1500 m. a. with electrodes four and a half by seven inches, laterally through the posterior cardiac space. At 8 p. m. the temperature was 105.6, pulse 112, respiration 60. At 12 p. m. the temperature was 106, pulse 114, respiration 60.

March 24th, sixth day, the treatment was administered at 4 a. m. as on the previous evening.

After treatment temperature was 104, pulse 116, respiration 40. At 8 a. m., temperature was 104.8, pulse 116, respiration 48. At 12 m., temperature was 103.6, pulse 98, respiration 40.

Third treatment at 12 m. Same technic but prolonged to forty-five minutes. At 4 p. m., temperature was 102.6, pulse 100, respiration 36.

The patient was complaining of severe pleuritic pain, and instructions were given to get a therapeutic lamp and apply the reflected incandescent rays over the painful areas for at least one hour at a time or continuously, if necessary.

At 6 p. m. the fourth treatment was administered for forty-five minutes. At 8 p. m., temperature was 103.6, pulse 120, respiration 48. At 12 p. m., temperature was 103, pulse 98, respiration 40.

March 25th, seventh day.

At 4 a. m., temperature was 102.6, pulse 100, respiration 36. Pleuritic pains were greatly moderated and the quality of the pulse was greatly improved. Treatments from this time were given for one hour each. At 8 a. m., temperature was 101.1, pulse 90, respiration 30. At 12 m., temperature was 101, pulse 100, respiration 32. At 4 p. m., temperature was 101.4, pulse 101, respiration 30.

At 7 p. m. treatment was given anteroposteriorly through the base of the right lung for one hour. At 8 p. m., temperature was 102, pulse 98, respiration 32. At 12 p. m., temperature was 101.8, pulse 104, respiration 36.

March 26th, eighth day in bed.

At 4 a. m., temperature 101, pulse 90, respiration 40. From noon March 25th, or after the fourth treatment with diathermy, no cardiac stimulants were given. This was undoubtedly due in part to the administrations of reflected incandescent light, which has been demonstrated to produce remarkable reflex clinical effects upon the cardiac centres in pneumonia and other depressed cardiac conditions.

On March 29th at 8 a. m., the patient had fluid at both bases, which was completely dissipated by two diathermy treatments.

From this point on, the patient made an uneventful recovery, two diathermy treatments being given daily over different parts of the chest as indicated.

On April 2nd, the patient felt well, but complained of a husky voice. One diathermy treatment anteroposteriorly through the larynx cleared this up.

The patient was discharged on April 3rd. The temperature was 98.6°, pulse 80, respiration 24.

Conclusions

1. Diathermy when skillfully administered in pneumonia with due regard to existing conditions is devoid of all danger, always a synergist, and never an antagonist to other measures.

2. Heat employed as a therapeutic measure increases local tissue resistance because the normal reflexes respond with an increased influx of arterial blood into the part, increasing phagocytes and improving nutrition and local metabolism.

3. Diathermy is the only measure that will induce heat with safety and uniformity through the body between two equal surface contacts. When so applied, it renders an exceptional service in the treatment of infectious conditions. and is unlimited in its indications, except over walled in pus cavities.

4. In all acute pulmonary conditions and early phthisis, it plays an invaluable rôle, in accord with the recognized therapy of heat.

(*Abstracted from Med. Jour. and Rec., May 6, 1925*)

Arthritis

By D. FRANK KNOTTS, M. D.
Chicago, Illinois

Arthritis is an inflammation of a joint or joint tissue. We know that arthritis may come from various causes. It may result from direct injury to the joint, as traumatic arthritis, or may be of a toxic or infective origin, as syphilitic, gonorrheal, tubercular, or rheumatic, etc. It may be acute, sub-acute or chronic, and is usually characterized by pain, redness and swelling, either or all of which symptoms may be present.

A differential diagnosis is quite necessary before beginning treatment. We must be sure of what is causing the arthritis, and direct our treatment at the cause. We must search for, locate and eliminate all foci of infection before we can hope for permanent results with any treatment. I presume you all know how to conduct this search. Find and remove the source of infection wherever located.

Admitting that a focus or multiple foci of infection exist, whether in the tonsils, teeth, sinuses, bladder, intestinal tract—including the liver, gall-bladder, appendix, colon, broken down crypts of Morgagni, prostate and seminal vesicles, or ovaries and tubes—we may have a joint circulatory stasis developing into inflammation, with an inclination to deposit exudates.

This may be slight at first, not enough to cause any inconvenience, but if the patient be exposed, such as getting the feet wet, or in some other manner, the inflammation may become intensified and exudates are increased, causing swelling and pain. An exposure of this kind was all that was necessary to bring on this attack. Of course it is assumed by the patient that the exposure caused the arthritis, when in reality it was only a contributing factor. These infective sources must all be located and eliminated. After we have accomplished this, we then deal with the arthritis.

With diathermy we can produce an active hyperemia in the diseased joint, hyperemia being one of Nature's methods of overcoming a pathological condition, thus reducing congestion and having a tendency to absorb soft exudates.

Physiotherapy is no longer an experiment, its therapeutic value has been proven beyond a question of a doubt. It now ranks with medicine and surgery as a therapeutic agent. It is my opinion from my observation that the physicians who obtain the best results with physiotherapy are those who make a painstaking examination, are sure of an accurate diagnosis, carefully select the indicated modality, and apply it in just the proper manner for the correct length of time.

In syphilitic arthritis, as in other forms, we treat the underlying cause as well as the local manifestations. We naturally must treat the syphilis as well as the arthritis.

In tubercular arthritis, which is more common in children than in adult life, the foci are generally in the lungs, and must also be dealt with.

In gonorrheal arthritis, the foci are usually found in the prostate and seminal vesicles in the male; this we treat with a sedative diathermy—a prostatic electrode in the rectum and a 4x5 or 4x6 mesh or block-tin electrode above the symphysis pubis, having the electrodes well soaped before applying them. Use soap on the rectal electrode, as the jelly lubricants dry up from the heat and the electrode will stick to the mucous membrane.

The cords from the electrode are connected to the D'Arsonval binding post; the spark gap should be closed, and the control switch set at a point that will give sufficient current (500 to 700 milliamperes). On the Fischer F. O. Senior Cabinet this is eight.

The current is now turned on, and the spark gap very gradually opened until the milliammeter reads 100; after thirty seconds open up to 200. Continue thus until you reach 500 to 700 milliamperes. As the prostatic electrode is not wide enough to cover the entire diseased area thoroughly, it is necessary to swing the electrode to the opposite side about every five minutes in order to properly heat all diseased tissue throughout, using, as above stated, 500 to 700 milliamperes for a period of from thirty to forty-five minutes; then gradually turn off the current.

After completing this diathermy treatment, it is well to give a mild prostatic massage. This is done without removing the electrodes, but by attaching the cords to the Morse Wave Generator. Give a gentle massage for five minutes, with a very mild current, using precaution to avoid traumatizing the prostate by a too vigorous massage. This expresses the infectious material from the prostate and occluded seminal vesicles. Repeat this treatment daily, or every second day.

We always clean out the intestinal tract before starting our treatment. We have no set treatment for arthritis. We do not hesitate to use any therapeutic measures at our command that promise results.

As I have indicated, we locate and eliminate the underlying causes. We always employ diathermy with any other treatment we are giving, as I do not know of any form of arthritis where diathermy is not indicated. Diathermy stimulates subnormal metabolism around the joint, and as a rule the pain is controlled, the grating in the joint on movement is lessened, and there is a general improvement of tone. However, it is not uncommon, and sometimes desirable, especially in the more chronic cases, to get a marked reaction for two or three days when we start our treatment.

Of course the patient is going to feel worse for the time being. In the more stubborn cases, if the treatment is not pushed to the point where we get this reaction, the condition will often fail to clear up. But following this reaction, we can confidently expect improvement.

If fibrosis has taken place, we use diathermy and forcible manipulation.

In a traumatic arthritis that does not clear up under the sedative diathermy, look for the foci of infection.

I recall a case of a boy with a traumatic arthritis of the knee, that persisted for some time, becoming progressively worse until his physician suspected a tubercular joint. X-ray showed no pathology. He was referred to us.

On examination we found his tonsils badly diseased. After coagulating the tonsils and using sedative diathermy through the knee, there was a marked improvement within two weeks, and he went on to a rapid and complete recovery.

Another case was that of a man with arthritis of the ankle, which had failed to clear up under medical treatment. His dentist had X-rayed all suspicious looking teeth, and had found no pathology.

We went over this matter very thoroughly, and could find no reason why this arthritis should persist. We suggested that he have another X-ray of his teeth taken—this time of a full mouth. To this he naturally objected, as he had just gone to the expense of having the teeth X-rayed, but he finally agreed.

The full mouth X-ray showed a completely unerupted impacted wisdom tooth lying horizontally, imbedded in the jaw bone, and surrounded by an abscess.

The reason the dentist had failed to find this impacted tooth, was that there were no suspicious looking teeth adjacent to it, and he had only X-rayed the suspicious looking teeth, thinking it unnecessary to X-ray this area. In this way he completely overlooked the very object of his search. What was further misleading, was the fact that the patient thought he had had this tooth extracted several years previous. There had been no pain or discomfort in the region of this tooth, and nothing to cause us to suspect any trouble there. After the removal of this impacted tooth, the arthritis yielded to the usual treatment.

I wish to impress upon you the necessity of searching every nook and corner yourself, rather than accepting some one else's findings. Do not be misled by the patient telling you that his teeth are out; for it is not uncommon for the X-ray to show abscessed roots beneath apparently healthy gums.

Another case was that of a young man having arthritis in both knees and both ankles. It having come to the knowledge of his physician that arthritis is often caused by the teeth, he thereupon, without examination or X-ray of teeth, had all the patient's teeth extracted. Much to this physician's surprise, the arthritis did not improve after this. The patient, finally becoming discouraged, consulted us. Upon giving him a thorough examination, we found a prostate and seminal vesicles loaded with pus. Diathermy through the prostate and seminal vesicles, followed by a mild massage with the Morse Wave

Generator as described previously, and with sedative diathermy through the affected joints resulted in complete relief.

It is unreasonable to give diathermy and expect results that are lasting, if you do not eliminate all foci of infection, before starting diathermy.

The method of applying diathermy varies with the joint or joints affected. For knees or elbows we prefer the double cuff method, and we always include as much of the surrounding tissue as possible, the pathological condition usually extending beyond the joint.

We can treat all joints of hands or feet at the same time by the double cuff and salt water method. We can treat both wrists or both ankles at one time by four cuffs, or by two cuffs and two plates.

In treating an elbow, we select two electrodes two and a half to three inches wide that will reach around, or almost around, the arm and forearm, about four inches above and below the elbow. Soap the electrodes and arm thoroughly with a good soap lather, apply the electrodes and hold in place with an elastic bandage just tight enough to cause good coaptation of electrodes with skin to prevent sparking, but not tight enough to constrict when the arm starts to heat up. The arm should be kept as nearly straight as possible to prevent excessive heating of the inner bend of the elbow.

With the spark gap closed, set the control switch at twelve. Turn on the current, gradually open the spark gap to 100 milliamperes, wait thirty seconds, open to 200, gradually turn it on 100 at a time until the milliammeter reads 800 to 1000, according to the size of the arm, taking three to five minutes to bring current up to this point. Now we have not broken the current during this turning on process.

The Kolischer spark gap is the only one I know of on which you can run up the current gradually like this, without breaking it. The advantage is obvious, in the smooth flow of current.

Just a word about turning on the current to get the best results out of your machine; estimate the amount of current you

are going to use, set the control switch so you will secure this amount without having the spark gap opened too much when you have reached the maximum amount of current to be used.

If the spark gap is opened too far you do not get a smooth current—it is more of a rough or Faradic type. Rather, open the control switch wider and it will not be necessary to open the gap as far.

Starting with the gap entirely closed, and the control switch set at the desired point, run the current up very gradually 100 at a time by slowly opening the gap until you have reached the amount of current to be used. Do not change the control switch after starting your treatment. Increase the current by the spark gap only. This holds good in all sedative diathermy or auto-condensation treatments.

General ultra-violet exposures and auto-condensation are valuable additions in the treatment of arthritis cases.

Auto-condensation produces heat in all tissues of the body, energizes the cells, stimulates circulation, increases metabolism, hastens oxidation and elimination. It is readily seen, therefore, why auto-condensation is valuable as an adjuvant.

(Reprinted from "Physiotherapeutic Lectures, Third Edition")

Epilation With Diathermy

A Preliminary Report

By ADOLPH ROSTENBERG, M. D.
New York

One of the most trying problems in cosmetic dermatology is the successful management of hypertrichosis. The unfortunate sufferers of this disfiguring ailment fall an easy prey to the advertising quacks who promise a cure but usually fail.

So far we only know of two methods in the treatment of hypertrichosis: the x-ray and electrolysis. Unfortunately, the x-ray, while an excellent agent in so many dermatological conditions, fails here and should be thoroughly discouraged, as the dose, required to produce a permanent alopecia, must exceed an erythema dose and is therefore likely to produce skin atrophy and telangiectasias, which are much more disfiguring than the original condition.

The second method is epilation by electrolysis, which, if used properly, is safe but unfortunately not free from many drawbacks. The main objection, aside from the slow progress and considerable pain to the patient, is that in the hands of the average operator only fifty to sixty per cent and done by a skillful man, perhaps seventy-five per cent of all the hair treated is successfully removed in one sitting, the balance will reappear, as the needle, no matter how skillfully inserted into the hair follicle, does not always strike the hair papilla in order to destroy it. The time necessary for the treatment of one hair averages about a minute, so that hardly more than twenty to forty hairs can be treated in one sitting. This method is usually most discouraging. Any improvement on this method should thus be welcome.

For the last few months I have treated these cases with the bipolar current of a modern high frequency machine, using electrocoagulation. The needle is connected with one pole and another metal electrode is attached to the skin. The needle is then inserted in the hair follicle and the current turned on with a footswitch, after having set the machine, to give the smallest possible spark. A current of about 80 milliamperes is usually

sufficient. It takes about ten to twenty seconds for the successful removal of a hair, which is almost one hundred per cent perfect. The papilla is destroyed as the hair comes out without the slightest pull. The reason is that the coagulation spreads over a large enough area to destroy the papilla, even if the point of the needle does not touch it. By this method from seventy-five to one hundred hairs could be removed in one sitting and the percentage of recurrences is negligible. The pain is considerably less than caused by electrolysis. I have not noticed any scarring following the treatment.

Conclusion

While I have only used this method for a comparatively short time, I have been favorably impressed by its possibilities.

(*From Med. Record*)

His Largest Fee

W. B. Holden, M. D., addressing the graduating physicians, nurses and dietitians at the College of Medical Evangelists at Loma Linda, California, May 31, wanted to impress the graduates with the importance of doing other things in this world besides chasing the almighty dollar.

He cited a case which netted him his largest fee in practise. A call came to him from a certain mother who had a family of 17 children, the last of whom had reached the age where he noticed that he could not walk like the rest of his brothers and sisters, could not wear shoes and found that the soles of his feet were staring at him repeatedly. He was club footed. The mother told Dr. Holden that she had nothing in the world but the 17 children and wondered if something could be done.

After several operations. and after some time had elapsed, the mother was sent to a store for the little boy's first pair of shoes. She returned to the doctor's office, the little fellow wearing the shoes. He looked down at his shoes admiringly and then smiled up at the doctor—a smile of true gratitude.

Dr. Holden said that was his compensation. The largest he had ever received in his life!

A PAGE OF FUN

Teacher—"Why do you always add up wrongly?"
Scholar—"I don't know!"
Teacher—"Does any one help you?"
Scholar—"Yes, my father!"
Teacher—"What is he?"
Scholar—"A waiter!"—Vikingen, Oslo.

□ □ □

Butcher—"This pound of flaxseed you sent me is three ounces short."
Druggist—"Well, I mislaid the pound weight, so I weighed it by the pound of chops you sent me."

□ □ □

Wife—"There's a burglar at the silver and another in the pantry eating my pies. Call for help!"
Hubby (at window)—"Police! Doctor!"

Foreman—"Here, now, Murphy, what about carrying some more bricks?"
Murphy—"I ain't feeling well, guv'nor; I'm trembling all over."
Foreman—"Well, then lend a hand with the sieve."—The Continent.

□ □ □

Sam (watching the construction of a new filling station)—"Boy, white folks is shure intelligent."
Sambo—"How do you arrive at sech a reduction, Sam?"
Sam—"Dawgone if they don't know jest what lots to dig on fer to git gasoline."

□ □ □

"Good Heavens, man, what is the matter with your face? Were you in an auto accident?"
"No, I was being shaved by a lady barber when a mouse ran across the floor."

Little Willie: "Why, papa, this is roast beef."
Papa: "Yes. What of it?"
Little Willie: "But you told mama this morning that you were going to bring an old mutton head home for dinner!"