IMPORTANT!

Monthly Lecture Clinic Day Changed to *Tuesday*

The Following Lecture Clinic and Program Will Be Presented On

Tuesday, January 11th, 1927

C. M. WESTERMAN, M. D., *Saint Louis, Mo.*

"A New Physiotherapy Treatment for Arthritis and Neuritis" 10:00 to 11:00 A. M.

A. E. JONES, M. D., *Chicago, Ill.*

"Regional Anesthesia in Surgical Diathermy" 11:00 to 12:00 A. M.

E. C. DUVAL, M. D., *Chicago, Ill.*

"Practical Demonstration of Diathermy Technic" 1:30 to 2:30 P. M.

C. M. WESTERMAN, M. D., *Saint Louis, Mo.*

"A New Physiotherapy Treatment for Arthritis and Neuritis—demonstration of technic" 2:30 to 3:30 P. M.

CLARENCE M. WESTERMAN of St. Louis needs no introduction to those physicians who have attended the last two Annual Physiotheraupeutic Conventions held at the Drake Hotel in Chicago. The subjects covered in his lecture and demonstration are of wide interest.

Doctors Jones and Duval also are well known to physicians who have followed the developments in physiotherapy in recent years; their lecture-clinics will be found of keen interest and of real value.

In order that ample space may be provided for every visitor, this lecture clinic will be held at Northwest Hall, North and Western Avenues, Chicago. The meeting will be open to physicians and their assistants throughout the entire period of the lecture clinics.

H. G. FISCHER & CO., Inc.

Physiotherapy Headquarters

2333-43 Wabansia Avenue, Chicago

Phone Armitage 0323

FISCHER'S MAGAZINE

Sciatic Neuritis
Rus Poison
Acne

In This Issue

December, 1926

WISDOM *is knowing what to do next,* SKILL *is knowing how to do it and* VIRTUE *is doing it*

Fischer's Magazine

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

Vol. V. DECEMBER, 1926 No. 12

The Future *of* Physiotherapy

By F. H. EWERHARDT, M. D.
ST. LOUIS, MO.

ALTHOUGH the fact that the field of physiotherapy has been moving forward in leaps and bounds must be very gratifying to those who have been practicing this division of therapy for many years past, still there creeps into the minds of the thoughtful ones a feeling of apprehension lest this very fact prove to be a boomerang and smite them in their hour of jubilation.

Exorbitant claims are made not only by the manufacturers, but also by the occasional general practioners who have suddenly blossomed from obscurity to full-fledged specialists in the field of physical therapeutics. Many, too, and alas, are buying ultra-violet outfits and high frequency machines, though possessing not the remotest speck of scientific knowledge regarding its application, nor caring much about it.

The situation has a counterpart in the befuddled condition which existed in the field of drug therapy a quarter of a century or so ago. Then the strong hand of the A. M. A. smote this malignant growth by creating its Council of Pharmacy and Chemistry, the result of which has been so gratifying as to incite a thoughtful Fellow of that organization to apply this same remedy to the present day bewildered and confused state of physical therapeutics.

Those of us who see much good in physical therapy, but who are also keenly appreciative of its limitations, truly welcome the advent of this salutary influence. Would that the various state legislatures could be awakened to a just viewpoint, followed by proper legislation, on the matter of cults which have the educational advantages of the average barber and yet are allowed to treat the sick on a par with the medical man who needs to spend from four to eight years in higher education before he is allowed to prescribe sodium bicarbonate. This type of individual is making rapid strides in ingratiating himself in the good graces of a credulous public. He adds his full force in creating a barrier of distrust which the honest though conservative physician finds difficult to overcome.

The task of correcting these evils lies principally in the hands of those who practice physical measures with a full appreciation of their virtues as well as their limitations; whose enthusiasm is tempered with judgment. By their example and preachments will the skeptical though honest practitioner be led to partake of this new food.

600 S. Kingshighway.

(From Arch. Phys. Ther.)

Thrombo-Angitis Obliterans *of the* Hand

By L. HUSTEAD, M. D.
FALLS CITY, NEBR.

Mr. E. C. S.—Age, 36; Race, American; Sex, Male; Martial, Married; Occupation, Electrician.

Past History—In childhood had middle ear disease, which left the hearing in right ear impaired. No previous illnesses or injuries except a recurring headache since childhood; and in 1920 he froze the fingers of both hands and toes of both feet and the glans penis. As to habits, he uses no alcohol, but is a cigarette smoker.

Present History—During November, 1923, patient complained of indefinite pain in the palm and index finger of right hand, and the fingers became cold easily. In May, 1924, the fingers became sensitive and extremely painful, at first involving one-half of the palmer surface of the terminal phalanx of the index finger. In the course of three weeks the middle and ring fingers were involved with a callous, the pain increasing in severity. At this time no pulse could be felt in the index or middle fingers; however, the pulse was felt in the proximal phalanx of ring finger. The fingers beyond the middle and terminal phalanges were blanched, cold and calloused on the edge.

Physical Examination—Examination August, 1924, reveals nothing aside from the local findings, except a perforated tympanic membrane and a right direct inguinal hernia.

Laboratory Examination—Blood Pressure—130 over 85; Urine—negative; Wassermann—negative.

Local Findings—The index, middle and ring fingers of the right hand were as cold as those of a cadaver. On the ball of the index and ring fingers there was a callous covering the whole surface which had practically sloughed on the index finger leaving an indolent ulcer.

Progress and Treatment—Previous treatment with narcotics and heat gave but very little relief. Pain markedly worse upon elevation and considerably relieved when held in the dependent position. Pain required the patient to lie at night with the arm hanging over the edge of the bed in order to secure rest. The patient was referred at this time by Dr. Wm. Shepherd of Rulo, Nebraska, to the Falls City Hospital for treatment, where he was given diathermy with the following technique:

The tips of the four fingers of the right hand were immersed with the active electrode in a basin containing salt water, with the indifferent electrode placed just above the elbow. From 200 to 250 milliamperes of current were used for a period of twenty minutes, this being the maximum amount of current tolerated without increasing the pain. The hand received treatments at intervals of two days for three treatments, then intervals of three days for two treatments and again in one week.

First treatment relieved pain completely for a period of ten hours, at which time it gradually returned and became very severe and the patient continued to have pain during the course of his treatment. At the same time the trophic condition rapidly improved and the ulcer healed, the patient remarking that he could not understand why the pain would continue when his fingers looked so good. At the end of three weeks the callouses had separated and the ulcer had healed, leaving a very thin, delicate skin on the site of the old callouses which was exceedingly painful to the slightest touch. Two weeks later when the epidermis had thickened and toughened, the pain ceased. At the present time, three months after treatment, the patient had completely recovered from pain and is following his vocation as an electrician with no discomfort. The remaining evidence of the disease is noted by the atrophy of the balls of the fingers, leaving the terminal phalanges close beneath the skin.

Summary

Diathermy relieves pain by increasing the supply of fresh blood to the parts treated, at the same time dilating the veins and capillaries and producing an increased collateral circulation which relieves congestion and frees the tissues of waste products. It particularly increases the activity of the cell—the chemical workshop of our body thus restoring tissue to its normal condition.

(From Jour. Radiol., Oct., 1925.)

Diathermy *in* Cardiac Diseases

By CURRAN POPE, M. D.
LOUISVILLE, KY.

DIATHERMY is of wonderful value in heart lesions, and here the knowledge of just where to put your electrode is of the utmost value. If you are dealing with the saculated heart and a weak ventricle in that heart, you are going to have to put on an electrode to suit the size of that heart, and you are to put it over the exact spot on the chest where the left ventricle is, and you are to limit the size of your anterior electrode on the chest to the size of the heart.

You have turned your patient and viewed him fluoroscopically in the lateral position, and you know approximately the depth of the heart, so that you can, in a rough way, calculate by the size of your electrode where the focus of the heat will be greatest, or should be greatest, that is in the chambers of the heart. In other words, one should aim for the crossing of the oscillations to be in the center of the heart or in the chambers of the heart itself. The idea of simply putting an electrode just inside the left nipple will not do for the scientific physician, and it is just that kind of work that has brought this kind of treatment into disrepute, and it is just those things that doctors will not take the trouble to do. Then they wonder why A gets such marvelous results when he does something and B can't get them.

Pope Sanitarium.

(Extracted from Clin. Med., Apr., 1926)

Quartz Light Treatment *of* Intestinal Tuberculosis

By CHARLES E. ATKINSON, M. D.
BANNING, CALIFORNIA

This is the agency that has revolutionized our ideas as to the prognosis in intestinal tuberculosis. Natural sunlight and artificial rays of various kinds have been used for this purpose but, in the main, dependence has been placed upon either sunlight or rays from the mercury quartz burner (Alpine sun lamp.) Where the sun shines regularly, particularly at seasons where the heat is not too great, sunlight may be advantageously used.

In giving quartz lamp radiations it is ordinarily not necessary to confine the initial exposure to the lower limbs, but the same rule is followed as when giving the sun bath for determining whether or not the chest is to be exposed. The early exposures are made at a distance of thirty inches. At first the front and back of the body are exposed for from one to two minutes each, and increments of from one to three minutes are subsequently made, until a maximum of forty minutes, equally divided between the front and back, is reached. Thenceforward in suitable cases, the lamp is lowered an inch or two at a time, till the burner is twenty inches from the body. The lamp baths are usually given thrice weekly, although, in a few cases, they have been given daily.

Mrs. M. V. J., age 35, admitted to sanatorium April 15, 1923. History of dry pleurisy six years previously; easily fatigued; slight loss of weight; cough for four months; blood-spitting recently. Temperature 101 degrees F. Appetite fair; no abdominal symptoms or signs. Bilateral, fibro-ulcerative tuberculosis, relatively quiescent in right upper and middle lobes; active lesion of less extent on left.

During next few months fever subsided and on the whole a fairly satisfactory response was noted. At this time appetite and digestion began to fail, and patient compained of general uneasiness in the abdomen, with vague pains. Bowels, which had formerly moved regularly, now became constipated. Constipation became increasingly refractory. Temperature again became elevated. Several weeks later, mild diarrhea occurred without warning. Constipation again developed. During the following months a number of attacks of diarrhea, of greater severity, occurred. Diarrheal movements occurred with increasing frequency, and these, with pain, became a daily feature. Weight loss thirty pounds since abdominal symptoms began.

Barium enema now revealed spastic condition of ascending and transverse colon; total absence of barium shadow in cecal region. Second enema a week later showed same findings.

Quartz lamp radiations, excluding chest, instituted at once and continued thrice weekly with progressive increases. Injections of calcium chloride given every five days. Alberty food given, but did not agree. Placed on condensed milk and rice water mixture, which was fairly well tolerated, but patient took inadequate quantity and continued to lose weight, stools becoming slightly less frequent and consistency showing some improvement. Loss of weight continued during first part of second month and caused uneasiness. After about eight weeks, cream of wheat, milk toast, scraped raw meat sandwich, added to menus.

Symptoms continued to abate, permitting gradual extension of dietary to semi-normal menus by beginning of fourth month. Patient now slowly regaining weight. Lamp treatments continued for a total of seven months. Patient moved to private house in September, 1924, but continued to follow instructions carefully.

May, 1926, patient has had no return of bowel symptoms and has been doing housework for more than a year.

A. K. F., male, age 32, first seen in February, 1924. Pulmonary tuberculosis of eleven years' standing; history of partial arrest on several occasions, followed by renewed outbreaks. Last breakdown of eight months' duration. Expectoration four ounces daily, temperature 100.5 degrees. Dyspeptic symptoms and abdominal pains for last six months. Tendency to mushy and frequent evacuations first noted about eight weeks ago; looseness becoming more pronounced. Weight loss twenty-five pounds in six months. Had been confined to bed and on restricted diet for five months without result. Active, bilateral tuberculosis of lungs. Abdomen thin; decided tenderness and muscular spasm over central and lower zones. X-ray study showed hypermotility in jejunum and ileum, filling defect in cecum.

Diet of condensed milk and rice water instituted, adding other articles after third week. Calcium chloride intravenously. Parathyroid. Quartz radiations, excluding chest, given systematically. Improvement in consistency of stools noted shortly; within two months stools reduced to two or three daily, with lessened pain and general improvement. Front and back of body were now each receiving twenty minutes' exposure, with burner at thirty inches. Several attempts were made to bring the light nearer the body inch by inch, but each time an acute attack of pain came on, sometimes accompanied by nausea. On inspecting the abdomen during these attacks, rather violent peristaltic waves were evident to the eye. When lamp was again raised to thirty inches, the distressing attacks ceased.

With continued treatment, stools gradually assumed normal character, temperature subsided, and in October, 1924, lung condition had become quiescent. A short time later patient went home, and has not come under observation again, but at this date (May, 1926,) he is reported to be doing well.

(Extract from Clin. Med., June, 1926)

Electro-Desiccation *and* Electro-Coagulation *as a* Means *of* Destroying Benign *and* Malignant Skin Lesions

By ERNEST K. STRATTON
SAN FRANCISCO, CALIFORNIA

Electro-desiccation destroys skin lesions with comparatively slight trauma to the tissues; therefore, a minimum amount of scar formation results. This, as well as its use in the treatment of lesions of the tongue and mucous membrane of the buccal cavity, is of special importance to the dermatologist.

Electro-coagulation destroys malignant lesions in a rapid and effective manner with a minimum amount of harm to the surrounding tissue, sealing the blood and lymph channels, which lessens the likelihood of metastasis and makes the operation bloodless.

The heat effects vary in degree according to the amperage and voltage of current employed, if we wish to cause desiccation, that is, a dehydration with consequent shrinking of the cells, we use the unipolar, which is known as the Oudin current; when we desire coagulation effects, that is, an actual coagulation of the tissue proteins into a homogeneous mass we use the bipolar, which is known as the D'Arsonval current. However, heavy unipolar currents may also cause some coagulation, while mild bipolar currents may cause only desiccation.

The effects of desiccation and coagulation on the tissues are different, and will be considered separately.

Desiccation will thoroughly destroy local skin lesions with a minimum amount of resulting scar formation; the heat produced is moderate in degree, but of sufficient intensity to cause complete evaporation of the water content of the cells.

The comparatively slight trauma to the tissues, the more or less selective action it has on abnormal cells, or rather on cells of lower vitality than normal cells, and the mild secondary inflammation explain, from a histological point of view, the little scarring that follows this method of destruction. Its effects can be so perfectly controlled that it is possible to successfully remove a patch of chloasma without injuring the underlying tissues, or remove a basal cell epithelioma from the eyelid, for instance, without danger of producing an ectropion, or a large pigmented and verrucous nevus may be removed with good cosmetic results.

Very excellent results are also obtained in benign lesions of the tongue and mucous membrane of the buccal cavity; such lesions as papillomata, lupus erythematosis, glossitis rhombica mediana, can be destroyed rapidly and thoroughly. In two patients with the latter disease, whom I assisted in treating by this means, there was very little discomfort, and the end results were satisfactory.

In leucoplakia, it is the treatment par excellence. The patches are anesthetized by a topical application of a ten per cent solution of cocaine; then the application of a very fine current will completely destroy the lesion. The devitalized tissue can be separated and stripped off as a membrane with the aid of a pair of forceps. The after effects are not severe, and the patient never experiences the discomfort that usually follows radium applications in the buccal cavity.

A lesion of any size or depth can be removed with one application, but in the benign lesions that cover a large area it is better to destroy a portion at a time. The amperage, voltage, frequency, and time of exposure must vary according to the depth and density of the tissue treated. This can be gauged only by experience.

"Coagulation is perhaps the best means we have for removing the highly malignant melanocarcinomas of the skin."

When superficial dehydration is desired the metal point is not brought in close contact with the tissue, but an air space varying from 2 mm. to 2 cm. is interposed between them. The current is projected to the tissue in the form of sparks which follow one another with such rapidity that it appears as a luminous glow. A small growth may thus be desiccated through a sheet of white paper without charring or discoloring it.

A dry crust forms at once after the application, and the time required for separation depends on the character of the tissue. Desiccated mucous membrane tissue soon becomes macerated by the secretions and may separate in a few hours, but on the skin surface it takes a longer time. When the skin is soft and vascular there is a more rapid separation than where it is hard and with poor blood supply; thus a soft mole will slough more readily than a callus. Regeneration of the skin or scar tissue often takes place underneath the crust, and in benign lesions where a good cosmetic result is of paramount importance I have found that it is a better procedure to desiccate superficially and not remove the crust mechanically, but allow it to slough away naturally, repeating the treatment at a later date if all of the lesion has not been removed. However, in treating small rodent ulcers, nodules of lupus vulgaris, or a patch of lupus erythematosis where it is more important to completely remove the entire lesion at one time, a curette is used in conjunction with the desiccation, mechanically removing the tissue after it has been destroyed. The base of the lesion is then sealed by superficial desiccation.

Other skin conditions in which this method is applicable, the degree of success depending on the experience and skill of the operator, are plantar warts, xanthoma palpebrarum, keloids, rhinophyma, and tattoo marks.

Overteatment is the mistake most of us make at the beginning and must be continually guarded against, as destruction goes beyond its apparent limits.

Coagulation, on the other hand, causes a more penetrating and more intense heat than that of desiccation, so that, in addition to dehydrating the tissue, it causes coagulation of the cell protoplasm as well; histologically, there is a complete loss of cell outline, thrombosis of the

blood-vessels, and a hyalinized appearance of the tissue.

An indifferent electrode is necessary in this method, and a moistened asbestos pad must be placed in close contact with the patient's skin, the active electrode being of the same type as that used in desiccation, but both the active and indifferent electrodes are connected to either side of the winding. Since the effect of the high frequency current is entirely thermic, it does not matter to which side the active electrode is connected. A milliampere meter is attached in the circuit and the strength of current used varies from 200 to 2000 milliamperes, depending on the size of the growth to be treated.

This form of therapy is especially indicated in the localized basal and squamous cell epitheliomas of the skin. Its advantages are, that large areas of abnormal tissue can be destroyed rapidly and effectively and with a minimum amount of harm to the surrounding tissue. And in case of recurrence there is no contra-indication to repeating the treatment in a more radical manner. The blood and lymph channels are sealed, making the operation bloodless and thereby lessening the likelihood of metastasis.

Coagulation is perhaps the best means we have for removing the highly malignant melanocarcinomas of the skin. I had an opportunity of assisting in thus destroying these cancers in three patients in whom this method of treatment was used alone. None of the patients presented palpable glands, and in two no recurrence nor any detectable metastasis occurred during my observation of one and one-half years. The other patient, however, while presenting no recurrence at the site of the original lesion, did present constantly recurring pinhead-sized melanotic areas near the site of the original lesion, which were destroyed by desiccation as rapidly as they appeared.

The technique used in the removal of these tumors is applicable to all types of malignant skin lesions, and is as follows: The area is made anesthetic with a 1 or 2 per cent solution of novocain by injecting the skin surrounding the tumor at a distance of at least two inches from its outer margin, care being taken not to enter the needle near the tumor mass. The tissue corresponding to the injected area, as well as the tissue beneath the tumor, is then coagulated so as to cut off the lymph and blood drainage from the part. If desired, tissue can now be removed for microscopical study with safety. The entire tumor is then thoroughly coagulated and removed as a mass of dead debris.

Where small epitheliomas of the mucous membranes such as the tongue and lip are treated before metastasis has occurred, the results are as good as those obtained in localized skin cancers. However, we cannot be sure that the adjacent glands are not involved, even though they may not be palpable, and for that reason the gland areas should receive prophylactic exposures with radium or x-ray.

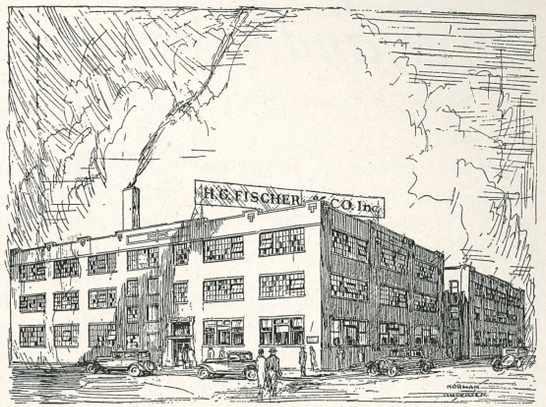
In patients with far advanced epithelioma of the tongue, lip or skin, where vital structures are involved, and gland metastasis has occurred, surgeons are reporting excellent palliative results from using the coagulation method to destroy the local lesion, making a preliminary ligation of the blood supply of the part, and treating the glands with imbedded radium needles.

(Extract from Cal. & West. Med., Aug., 1926.)

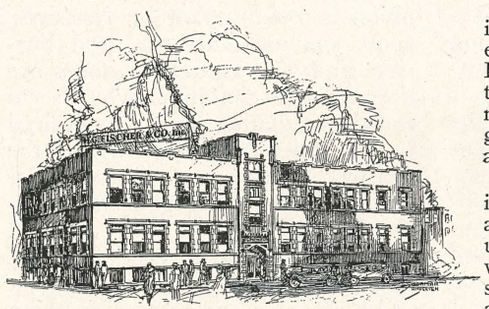
A New Building

WITHIN a few short weeks the new Fischer Administration Building at 2333-35 Wabansia Avenue, Chicago, will be completed and ready for occupancy.

Since its foundation fifteen years ago, H. G. Fischer & Company has grown from a small concern occupying rented space to one whose manufacturing needs now require four modern buildings, of which the best known to our readers is the one at 2341-43 Wabansia Avenue. Heretofore, administration, research, clinics and manufacturing have been housed in this building. For some time, however, it has been apparent to the Fischer Company management that the broadening of our field of service must necessitate the addition of a great deal of space for the various activities mentioned.



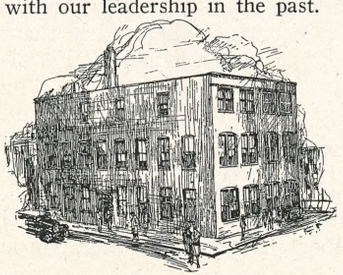
Main Manufacturing Building



New Administration Building

The New Administration Building is the outcome. Situated directly across the street from our main manufacturing building, this new edifice will house the general offices, demonstration rooms, research laboratory and office for clinical work. There will be one large central demonstrating room and several smaller adjoining rooms where the physician may see complete individual installations of physiotherapy equipment. The research laboratory will be thoroughly equipped with all manner of modern devices that each item manufactured by the Fischer Company may be tested and tried before it is placed on the market; also that suggestions regarding improvements may be given a fair chance, that Fischer apparatus and accessories may be constantly improved in the future to correspond with our leadership in the past.

Assembling—Shipping—Mailing



Cabinet Factory

The central feature of the building, however, is a large, perfectly appointed lecture hall in which the monthly lectures and clinics, and other similar meetings, will be held.

Immediately upon its completion we shall be pleased to have the members of the medical profession consider our new building their headquarters while in Chicago, and physicians interested in physiotherapy are cordially invited to make use of its facilities.

Therapeutic Value *of* Diathermy *and* Ultra-Violet Light

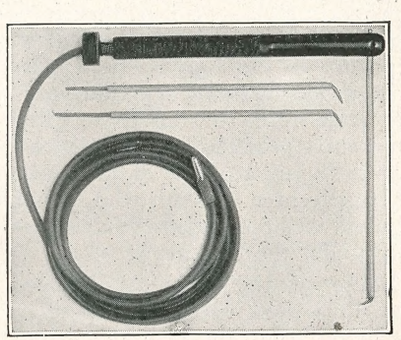
Extracted from an article by Wallace H. Cole, M. D., St. Paul, Minn.

In the course of a discussion of Physiotherapy in Group and Hospital Practice, in the September, 1926, issue of Minnesota Medicine, Dr. Cole says:

The first of the physical measures which it is desired to bring to your attention is the much maligned diathermy. This agent, owing to its being derived from a piece of rather awe-inspiring electrical apparatus, and to the activity of the manufacturers, has been and is still being terribly abused by various cults outside our profession, and also, it must be admitted, by some of the less scrupulous and more ignorant in the profession. This abuse cannot detract from its value in properly selected cases, and if the agent is looked upon as one for limited use, and not as a cure-all, it will be found to be a powerful aid in the treatment of certain injuries and diseased processes. Diathermy is merely the therapeutic application of a bi-polar, high-frequency current to the body, the result of which is the development of deep heat in the tissues between the two poles and a sedative action on the nerve endings in such tissues. A slight hyperemia of the skin under the electrodes always takes place and there is active dilatation of the smaller blood channels in the deeper tissues due to the heat generated. This means an increase in the blood supply to the part treated, and also a hastening of the venous return from it. The general body temperature is raised after local diathermy due to the dissemination of the generated heat by the blood stream. With these facts in mind the type of case in which diathermy is indicated can be readily picked out, and to list those which seem to react best is all that the scope of this paper permits. Sprains of all types, especially when marked effusion is present, acute fractures, after a sufficient time has elapsed for the bleeding to stop, delayed union and non-union of fractures, acute traumatic arthritis and bursitis, and acute muscle injuries are the traumatic conditions which seem to call for diathermy if it is desired to cut down the disability to the shortest possible time. Subacute infectious arthritis and acute infectious arthritis, if pus is not present, such as is seen in Neisserian infections, frequently improve rapidly and the pain in the acute Neisserian joints is usually relieved almost immediately. Cases of bursitis, myositis, and neuritis, due to chronic infectious conditions, are of course preeminently fitted for diathermy, and many of the chronic urological and gynecological lesions clear up quicker with this agent than with those commonly used. In infantile paralysis the nutrition of the paralyzed muscles is apparently greatly aided by the heat generated in them between the two electrodes. Fibrillation is also said to be arrested. The use of diathermy in pneumonia and pleurisy is favorably reported upon in the literature but I have made no personal observations in this field.

Ultra-violet light, on account of its importance in the therapeutic field, deserves much more space than is possible to give it here. As with diathermy we frequently find this indispensable agent in the treatment of disease greatly abused, but must not condemn it for that reason. The direct, unfiltered sunlight, the light from a quartz burner, and the rays from a carbon arc are the only satisfactory sources of supply. With proper technic for general exposures there is a definite tonic effect on the body functions resulting chiefly in an increase in the hemoglobin, red cells and platelets of the blood, and an increase in metabolism, especially that of calcium. The rays are apparently absorbed by the circulation and distributed to all the body by it. Rickets, medical and surgical tuberculosis, except active pulmonary cases, chronic infections and anemias are the main types of general conditions calling for this treatment. Sometimes an unaccountable effect on deep seated or superficial pain is noticed after exposures. Skin conditions, such as acne, respond so readily to ultra-violet light that its use is decidedly the treatment of choice. For early *x*-ray burns this agent is apparently the only effective one known. The water cooled quartz lamp gives off powerful bactericidal rays which are of the greatest value in the treatment of such conditions as pyorrhea, nose and throat infections, local ulcers and tuberculous sinuses. General radiation should, as a rule, be used in conjunction with this local treatment, especially if the lesion is a tuberculous one.

Knotts' Improved Tonsil Electrode



WITH this new tonsil electrode and handle tonsils can be coagulated without the aid of an assistant or the use of a tenaculum. Buried tonsils can be brought into view from behind the pillars with ease and held there while being coagulated.

The electrodes are made of tempered steel and sharpened so they are easily inserted into a fibrous or hard schlerotic tonsil to any desired depth, which is not possible with the aluminum electrodes now in general use.

Aluminum is a soft metal which bends easily when pressure is applied, and does not retain a sharp point. These new electrodes are curved at the point so they will easily slip down along the pillars and follow between the capsule and the tonsil; then slight traction brings the tonsil out in full view.

The electrodes can be adjusted in the handle to four different angles so that the operator can work entirely around the tonsil—from above downward, from below upward, or from either side to the center.

They fit into the handle at right angle so that the hand is not brought into the line of vision when operating. This handle can be used to advantage wherever desiccation or coagulation is employed.

Actinotherapy *in* Pediatrics

By R. N. Andrews, M. D.

J. H. Gettinger, M. D. (Arch. of Ped., April, 1926). The biological effects of ultra-violet light are strongly pronounced when the human skin is exposed to its ray. The blood in the capillaries absorbs actinic rays. These rays have their effect upon lymph and blood channels. There is a photo-chemical action between the ultra-violet rays and the hemoglobin of the blood. This charging of the blood with radiant energy enables its elements to convey an increased amount of oxygen to the cells and an increased quantity of toxic gases away from the cells. The glandular tissue is also affected and its phagocytic power increased. In short, it activates the formation of antibodies.

The most valuable result of these rays is the hyperemia produced by a properly regulated dose, manifesting itself six to eight hours after exposure to the light. The hyperemia will remain for a period varying from three to ten days. The hyperemia produced by ultra-violet rays is the main effect of therapeutic beneficence. Patients who do not pigment well do not benefit so markedly under the treatment.

Some of the chemical changes that ultra-violet rays bring about in the blood are to increase its calcium content and also to increase the concentration content of inorganic phosphorus. In infectious conditions where the blood platelets were found to be diminished, ultra-violet radiation brought about a restoration of the normal number.

In malnutrition, the results have been marvelously gratifying, as it increases the oxygen-carrying capacity of the blood and arranges the hematologic elements so that the maximum opsonic index is assured, and, acting upon the sympathetic nervous system, co-ordinates the inter-relationship of the endocrine. In rickets, where there is not only a deficient blood content of calcium and phosphorus, but also a disproportion between the two salts, ultra-violet rays offer a possible solution. In cases of surgical tuberculosis, the results are almost miraculous.

(From Minn. Med., June, 1926.)

Gonococcal Endocervicitis

Drs. W. E. Walther and C. L. Peacock (*Southern Med. Jour.*) say the treatment of gonococcal endocervicitis has been much simplified by the use of diathermy. The method is rational. It effectually destroys the gonococcus *in situ,* leaves no scar tissue, materially shortens the time usually required for treating such cases, is painless in its application and is clean.

A rigid technic, to be followed in minute details, is imperative if success is to be expected in using this valuable high frequency modality. The procedure is not complicated, however, and can be easily mastered after observing several demonstrations by one skilled in its application.

Thirty-eight cases of gonococcal endocervicitis cured by diathermy form the basis of this report. The communication is prompted by a feeling that, were the method better understood by the profession, many might be encouraged to submit it to clinical trial.

(From Am. Phys., May, 1926.)

Endothermy *in* Carcinoma *of the* Tongue

G. A. Wyeth *(Annals of Surgery, 83:5)* says:

Our confidence in endothermy as a treatment for the removal of malignant lesions of the oral cavity, and our belief that better results will be achieved in the treatment of all neoplasms when endothermy is employed in the beginning in all those cases to which it is applicable, are based upon the record made by the method over a period of five years, a record made upon cases referred for treatment in many instances after surgery and physical measures —one or both—had failed. It is after careful consideration of the admirable results achieved by proper endothermic procedure that we affirm that endothermy should be given the preference in treating malignant lesions of the oral cavity. We enumerate the following explicit reasons for our belief:

1. By endothermy the extent of the destructive process is definitely under the control of the operator.

2. The effect of endothermy's destruction is immediate. The operator is not obliged to wait many weeks to determine just what has been accomplished by the forces he has set in motion.

3. Treatment by endothermy is followed by immediate cessation of pain. Sensory nerves are severed and capped.

4. This capping of nerves tends to eliminate surgical shock.

5. There is no postoperative reaction, and the patient is able to return immediately to normal diet.

6. There is no hermorrhage. The operator is spared the need of working in a field obscured by blood.

7. No other method offers endothermy's protection against the danger of recurrence and the threat of metastasis. The technic which isolates the malignancy, before its removal as dead tissue, by a path of protective destruction drawn in healthy tissue, and which thereby seals lymphatics to and from the affected part, is peculiar to endothermy.

8. Endothermy can be used in repeated treatments without prejudice to the patient. This is because lesion treated is destroyed and removed in a single operation without injury to surrounding tissue. The appearance of subsequent nodule or induration can be met with destruction and removal on precisely the same terms as the first lesion, if endothermy is the remedial agent.

For any and all of these reasons endothermy should be given the precedence in the treatment of cases of malignancy of the buccal surfaces.

(From Med. Jour. & Rec.)

Ultra-Violet *in* Sciatic Neuritis *and in* Pruritis

Case Histories

By F. J. KERN, M. D.

CLEVELAND, OHIO

Case 1. Sciatic Neuritis. Mrs. V., 27 years, married. Suffering from left sciatic neuritis past two months. Stayed in bed one month. Treated by several physicians with routine treatment: hot applications, salicylates, liniments, etc. She was brought to my office in an automobile and helped up the stairway by her husband. The left sciatic nerve was tender along its whole course, especially under the knee and the sides of the calf muscles, and at the internal malleolus. Seven Alpine Sun Lamp treatments were given, beginning with 3 minute exposures, and increasing gradually to 20 minutes. In three weeks she reported herself well to the lodge to which she belonged. She could sleep well and walk without pain, although her leg was still weak from partial atrophy of the thigh muscles. A sacroiliac belt was applied to support the pelvic bones, and an elastic stocking to left leg.

With the necessary mechanical supports (iliosacral belt) where indicated, the Actinic Rays have helped all cases of sciatic neuritis that have come under my care and remained for a reasonable number of treatments.

Case 2. Pruritus Ani.—Mr. S., 38 years. Suffered from severe itching around the anus for past three months. Says he has not had a good night's rest during all that time. The skin is thickened and excoriated from scratching. Six treatments with the Alpine Sun Lamp, the rays directed against the affected region, at a distance of one and one-half feet, gave complete relief. Severe reactions necessary. I saw patient in October, 1921, one year following treatment and there had been no return of the pruritus. A moist pruritic eczema of the scrotum was cleared up with three exposures.

Case 3. Pruritis.—Mrs. G., 34 years, married, three healthy children. She shows a reddish patch, slightly elevated over the skin surface of the mons veneris, which is causing severe itching, preventing sleep at night. Five bi-weekly treatments with the Kromayer Lamp, distance 2 inches, five to ten minutes' duration, gave her complete relief and disappearance of the lesion except for slight pigmentation over the burned area.

(Extracted from the Ohio State Medical Journal.)

Monthly Lecture Clinics To Be Held on *Tuesdays*

At the suggestion of many of the visitors to our monthly Lecture Clinics, we have changed the date of these meetings from the second Monday of the month to the second Tuesday. This, because so many physicians find Monday a very busy day. Therefore, beginning with the January Lecture Clinic—program for which appears on the back cover of this magazine—these clinics will be held on Tuesdays.

Diathermic Treatment *of* Affections *of the* Stomach, Intestine *and* Bile Ducts

Abstract, page 83 of von Büben, Diathermy

THE fact that diathermy will stimulate the blood circulation and relieve pain may be utilized in the treatment of diseases of the stomach and intestine. The action of heat in alleviating pain in gastric neuroses; more particularly, in gastralgias and cardialgias, has long been known and applied. That the alleviation of pain by means of diathermy is vastly superior to all previous methods of applying heat is due to its intense thermopenetration. The examinations by Bordier and Nagelschmidt of the gastric secretion following diathermic treatment confirm unequivocally the subjective improvement. Diathermy is especially indicated in achylia gastrica, the painful symptoms disappearing, in many cases, after a few sittings.

Diathermy is not, however, indicated in gastric ulcer. Diathermic treatment will effect a slight alleviation of the pain, but the intense, direct hyperemia is liable to cause a hemorrhage. It is therefore dangerous to employ diathermy in this affection. The same is true of diathermic treatment in duodenal ulcer.

In diathermic treatment of affections of the bile ducts, not only the alleviation of pain but also the resorbent effect and the production of hyperemia are significant. In the chronic types of cholangeitis and cholecystitis diathermy will give good results.

The French authors Aimard and Rouzaud report the favorable results secured by them in the application of diathermic treatment to the bile ducts in a series of 100 cases.

Thermopenetration of the stomach is accomplished by applying to that organ, the patient being recumbent, a small plate electrode and placing a larger electrode at the back. A moderate current suits the purpose better than the application of intense heat. The treatment should not be continued for more than from twenty to thirty minutes.

In thermopenetration of the bile ducts, a small electrode is applied over the liver, while the larger plate electrode is placed under the back of the patient, who is in a recumbent position. Care must be taken not to apply even moderate currents for too long a period.

Hemiglossectomy by Endothermy

Wyeth's confidence in endothermy as a treatment for the removal of malignant lesions of the oral cavity, and his belief that better results will be achieved in the treatment of all neoplasms when endothermy is employed in the beginning in all those cases to which it is applicable are based on the record made by the method over a period of five years, a record made on patients referred for treatment in many instances after surgery and physical measures —one or both—had failed. Wyeth believes that endothermy should be given the preference in treating malignant lesions of the oral cavity.

(From J. A. M. A., July 10, 1926.)

Infection Following High Frequency Fulguration

By HARRY S. FIST, M. D.
LOS ANGELES, CALIFORNIA

DESICCATION or high-frequency fulguration, is a process of dehydration. It is indicated for the removal of small, accessible, localized lesions, where good cosmetic results are desired.

It may be employed to good advantage in the removal of nevi, verrucæ, papillomata, lupus vulgaris, keloid, leukoplakia, superficial epitheliomata, hemorrhoids, and many other lesions of skin and mucous membrances.

It acts by the generation of local heat, which causes the evaporation of moisture from the cells of the portion treated. After a few days the treated cells separate from the healthy subjacent cells and drop off.

A survey of the recent literature on the subject gives one the impression that the procedure is universally satisfactory, and that perfect, scarless, non-pigmented results are invariably to be expected.

In a certain number of cases, however, the results are far from satisfactory. Infection is a very common sequel, causing much discomfort, resulting very often in an unsightly scar. Many men have lost their enthusiasm for this valuable measure after a few such unfortunate occurrences.

The trouble has not been due to the method of removal, but has usually been the result of careless technique.

Every area of fulguration presents three zones: the outer, or desiccated, area; the inner, or healthy, cells; and a narrow zone between these two, formed of cells which, though not killed, have been injured sufficiently to lower their resistance to infection. These cells are easily attacked by any invading organism, such as the ever-present staphylococcus.

The proper procedure, therefore, is to prevent infection by the employment of aseptic precautions and the application of antiseptics, just as is practiced for all minor operations.

The point of attack, and the skin for a short distance surrounding it, should be cleansed thoroughly with tincture of green soap and water, dried, and fresh, full-strength tincture of iodine applied.

When fulguration is completed, almost all of the brown color of the tincture of iodine has disappeared. Possibly a part of the iodine has been driven into the treated area. At this time tincture of iodine should again be applied. The slight discoloration is more than offset by the increased safety. If it is objectionable, it may be washed off after a few minutes with a little alcohol on a cotton swab. No dressing is necessary, as the desiccated portion forms a protective covering.

The patient should return for inspection of the lesions at frequent intervals; if this cannot be done, he should be instructed to watch for pain, red areola, or pus, and to apply tincture of iodine twice daily if any or all develop.

We must realize that high-frequency fulguration is a minor surgical operation, and that its use without aseptic or antiseptic precautions will, sooner or later, result in infection, scarring, keloid, etc.

(From Ther. Gaz., Dec. 15, 1925)

Ultra-Violet Irradiation *in* Rhus Dermatitis

By RAYMOND G. TUCK, M. D.
BROWN CITY, MICHIGAN

Ivy poisoning presents a most annoying and painful situation to the patient and oftentimes a vexatious problem to the physician. Many times we find that a remedy which will alleviate the suffering in one will have no effect whatever upon another.

It has been quite generally understood for some time that this aggravating dermatitis was caused by the sap or juices contained in the roots, stalks and leaves of the poison ivy plant or vine. Many persons are so sensitive to this poisoning that they are affected by the smoke from a fire in which there are leaves and roots of this plant; the smoke carrying enough of the irritant to set up the dermatitis.

I had a patient under treatment last summer for another ailment which I had been treating with ultra-violet rays. He came one day for his treatment and informed me that he had been swimming in a small inland lake near by and had run through some poison ivy vines. His feet were swollen and presented a typical appearance of rhus dermatitis with the itching and burning which accompanies it.

I asked him to let me try the ultra-violet rays on his feet as an experiment and he readily consented. The result was immediate relief and, as it did not spread, I felt justified in the belief that the lamp had done the work.

With this case in mind I used the rays on the first patient who presented himself with this condition and my results were the same. I have treated five cases and in all of them have secured the same gratifying results, with no bad after effects.

One patient was suffering intense itching and pain and had lesions upon her feet, legs and arms, with considerable weeping. After one application of the ultra-violet rays this weeping surface dried up, but she returned for another treatment to be sure that she was free from it. She stated that the itching ceased before she had reached her home, which was about a half hour after the treatment. To say that these patients are gratified would be putting it mildly.

(From Clin. Med., Sept., 1926.)

Diathermy in Treatment of Stenosis

Alvarez Garcia expatiates on the advantages of combining diathermy with mechanical dilation of strictures. In three cases this conquered long rebellious stenosis of the rectum, of amebic or syphilitic origin, or sequelae of obliterating treatment of hemorrhoids. In other cases, stenosis of the urethra, uterine cervix or lacrimal duct yielded to this treatment. He applies the diathermy current directly to the Hegar bougie, from the first sitting, gaging the current by what the patient can bear (except with cervix stenosis). For this reason he refrains from using an anesthetic. The sittings average thirty minutes each, the intervals one to three days; three weeks generally complete the course.

(From J. A. M. A., Nov. 6, 1926.)

Diathermy *in* Pulmonary Tuberculosis

Abstract of a Paper

By MILES J. BREUER, M. D.
LINCOLN, NEB.

IN spite of the fact that much progress has been made, the treatment of tuberculosis is still far behind what it ought to be, and what it could be. This is chiefly because early cases, the ones most easily and effectually treated, often are unrecognized. Advanced tuberculosis is not treated as successfully.

An "early" case may have lasted a longer time than an "advanced" one; the words refer to the pathological progress that has been made.

Diagnosis is made on the basis of three groups of symptoms. 1. Toxic group, including fever, malaise, anorexia, etc., which are common to all bacterial toxemias; 2. Reflex group, due to reflexes through central nervous-system segments, including prominent clavicles, hypertrophied sterno-mastoids, intercostal atrophy; fixation of upper thorax and of diaphragm; 3. Local group, including rales, signs of consolidation, productive cough, etc.

Tuberculosis is a systemic disease, with localization in the lung; no matter into what part of the body tubercle bacilli are introduced, they will eventually localize in the lung.

The treatment of pulmonary tub erculosis is not a treatment of the lungs, and is not an effort to kill the tubercle bacillus.

The treatment of pulmonary tuberculosis consists in building up the physical resistance of the patient so that he may throw off the infection; and in relieving complications and sequelæ. The following considerations are listed:

1. Clean up all foci of infection in the body.
2. Diet, rest, fresh air.
3. Hydrotherapy: morning cold baths for stimulation; prolonged warm baths for relaxation to replace drugs used for this purpose.
4. Ultraviolet light—
   to build up resistance against infection.
   to improve calcium metabolism.
   to build up hemoglobin
   to stimulate nutrition
   to stimulate circulation
5. Local treatment: Diathermy through the lungs—
   increases local blood supply and nutrition
   promotes elimination
   increases local metabolism

Proceed cautiously, to avoid danger of hemorrhage. This danger has been largely exaggerated.

6. Treatment of complications—
   Constipation and abdominal symptoms by sine wave; this relieves the reflex abdominal fixation that is the cause of numerous symptoms.

Technic: Ultraviolet is applied over the entire surface of the body, beginning with short exposures, causing mild reactions, and increasing in length of exposures as skin tolerance increases; continue till patient is well tanned; then discontinue till pigment disappears, and repeat.

Diathermy: Tin plate on the back; mesh on the front, one on each side; bifurcated cord; first treatment 500 m. a., increase 500 m. a. daily up to 1500 or 2000 depending on area of electrodes, not to exceed 100 m. a. per square inch.

201 Security Mutual Bldg.

Diathermy *in the* Treatment *of* Prostatic Obstruction

T. E. Hammond reports that the application of diathermy is useful in certain cases of prostatic obstruction. It should not be employed in the adenomatous prostate where such good results follow enucleation. It should be reserved for the large and small fibrous prostates and the atrophied prostate. Its application in these cases leads to a better functional result and a lower mortality than after prostatectomy.

So far as the clinical selection of cases suitable for diathermy is concerned, little difficulty will be experienced in the small fibrous and the atrophied prostates. When a rectal examination is performed in the latter, the finger comes up against the posterior wall of the pubis, the hardness of which may lead to the impression that one is dealing with a malignant prostate. The examination carried out with a metal bougie in the urethra enables this error to be avoided. With the large fibrous prostate a careful cystoscopic and rectal examination is essential, and sometimes the differentiation between this and the adenomatous enlargement is by no means easy. The fibrous prostate is somewhat former, and on rectal examination there is not that projection backwards into the rectum, nor on cystoscopic examination into the bladder, which is found with the adenomatous prostate.

(Brit. Med. Jour., Jan. 16, 1926.)

Ultra-Violet *in* Chronic Bronchitis

Review of An Article

By H. HARRIS PERLMAN, M. D.

FIFTEEN cases of chronic bronchitis were treated by means of the artificial light by the writer. The patients treated were infants and children. Of this number, eight were due to lesions other than those caused by the Koch bacillus—seven were definitely tuberculous. All presented coughs of sufficient duration to term them as chronic. Prior to ultra-violet therapy all patients received medication of one nature which is usually prescribed for chronic bronchitis. As a result of these applications the author offers for consideration the following conclusions:

1. Ultra-violet medication as is produced by the quartz lamp is a useful adjunct in treating chronic bronchitis in children.

2. Improvement probably occurs by the destructive action of the rays upon the micro-organisms; the rays being absorbed by the blood stream through the capillaries. Indirectly the patient is restored to a state of health by the phagocytic action of the leukocytes and endothelial cells. The rays improve the general circulation and increase the oxygen-carrying power of the blood.

3. Artificial heliotherapy is not a panacea for all medical entities. It has a distinct place in the field of applied therapeutics for certain well defined ailments, not benefited by the usual means of treatment at command.

4. In the series of patients treated for chronic bronchitis by the light, it formed a complete method of treatment, and the results justify its further study and use.

(From Therap. Gazette, June, 1925)

Surgical Diathermy *in* Treatment *of* Chancroids

Buzagiu applied electrocoagulation in thirty-nine cases of chancroid. It is essential that the electrocoagulation be completed at one sitting and, in order to avoid reinoculation, that not only the whole of the chancroid but also the contiguous healthy tissue be destroyed and no sore, however small, overlooked. The method failed in three cases, from incomplete treatment. In the others, the coagulation transformed the chancroid into an aseptic wound, which healed in from seven to thirty-two days, depending on the strength of the current and the occurrence, or otherwise, of secondary infection. In phagedenic chancroids, electrocoagulation proved more effectual than all other methods. Pain yielded immediately; the cicatrization of the wound was rapid. Large painful glands became normal in two or three days. In purulent buboes the treatment caused resorption of pus. The scars are supple. The effect of the treatment was even more rapid in women. It is contraindicated in very large multiple chancroids on account of the extent of tissue destruction necessary.

(From J. A. M. A., Nov. 6, 1926.)

High Frequency Currents *in* Treatment *of* Cervical Metritis

Flandrin and Schil report the results of a year's work in this line. Surgical diathermy was applied in cases in which the cervix appeared enlarged, soft, the mucosa protruding and the process discharging. The active electrode was applied directly to the ulceration in the cervix. The sittings were brief, and were repeated at intervals of a week or two. After each sitting a picric acid dressing was applied for a day; then hot douches twice a day. After from three to six sittings, the outline of the external cervical orifice became normal, the ulcerations disappeared. The cervix was supple and permeable. Leukorrhea gradually improved. Electric sparking was employed in resisting and recurring ulcerations with slight eversion of the cervix and a profuse mucopurulent discharge. The electrode was applied at a short distance from the lesion, once or twice a day. Brush discharge was used as an adjuvant or alone in recent lesions. The high frequency currents did not cause any pain; anesthetics were never required. Cases in which amputation of the cervix seemed to be inevitable were cured by this method. Ten or eleven women were reexamined after a year. The clinical recovery had persisted in all. One of them became pregnant soon after the treatment, and delivery was perfectly normal.

(From J. A. M. A., June 12, 1926.)

Diathermy *in* Acute Gonorrheal Epididymitis

Greenberger reports thirteen cases of gonorrheal epididymitis treated by diathermy. Electrodes molded from malleable sheet metal are used. The smaller one is placed around the affected testicle to conform to its size and shape; the larger one is placed over the abdomen in the region of the internal abdominal ring. Green soap lather is applied to skin and electrodes. Adhesive straps may be utilized to obtain closer contact. The D'Arsonval current should be slowly advanced to the extent of slight discomfort and then immediately reduced, so that no unpleasant sensation accompanies the treatment. This point of tolerance will vary with the individual. It is preferable to utilize a smaller amount of current over a longer period than to give high amounts over a short space of time. In private practice the author prefers to have a treatment last for about one hour, but in the reported series the average length of time devoted to a treatment was twenty-five minutes. At the completion of the treatment it is advisable gradually to reduce the current over a period of three minutes.

Greenberger details thirteen cases. In most of them the relief from pain was immediate; in all of them the convalescence was rapid.

(From Urol. & Cut. Rev., Feb., 1926.)

Galvanocautery *in* Treatment *of* Laryngeal Tuberculosis

De Reynier reports, among others, three cases in which galvanocauterization was followed by excellent local results. Pronounced infiltration of the arytenoids and epiglottis as well as extensive ulcerations of the false cords and epiglottis disappeared in two or three months, after having persisted for months and years. In a case of tuberculosis of the tongue of over four years' standing the lesions disappeared within two months. In another, ulceration of the lip healed in two months, after two applications. Cicatrization of the tuberculous lesions of the larynx and elbow was manifest in the third case. He asserts that similar results were obtained in hundreds of cases during the last twenty years. The influence of the galvanocautery may be due partially to afflux of leukocytes and subsequent phagocytosis. Under the action of heat, the adjacent healthy cells may produce antitoxins or retain those of the blood, thus acting on the tuberculous tissues. The galvanocautery was beneficial likewise in treatment of syphilitic gumma of the larynx. A syphilitic infiltration of the arytenoids subsided almost entirely at one sitting of galvanocauterization. The healing of the larynx did not influence in any way the tuberculous process in the lungs.

(From J. A. M. A., May 8, 1926.)

Diathermy Has Tonic Effect

DeKraft asserts that diathermy, properly applied to the head in moderate dosage, has a general tonic and reconstructive effect on the entire system, in addition to its purely local effect. Because of its action on the sympathetic and the autonomous nervous system, certain definite clinical effects ensue in disorders of the circulatory apparatus and also in other states of disordered function resulting from pathologic changes of different degrees.

(From J. A. M. A., Sept. 11, 1926.)

Ultra-Violet Light Has Deep Penetration Quality

Recent investigations carried on at the laboratories of Johns Hopkins Hospital by D. I. Macht, F. K. Bell, and C. F. Elvers, indicate that the penetration of ultra-violet rays from powerful modern quartz lamps is much deeper than has hitherto been supposed. They describe in the *Proceedings* of the Society for Experimental Biology and Medicine experiments with animals in which spectro-photographs taken of waves which passed through the living skin showed that the longer ultra-violet rays penetrate not only through the skin but through the whole thickness of the abdominal wall.

Permeability of dead skin differed according to method of preservation of the specimens. Fresh specimens of human skin, not excessively thick, direct from the operating room, also allowed penetration of the longer ultra-violet waves. A marked difference in permeability was noted between white human skin and that of the negro. In the latter case absorption of the entire violet region was noted by the investigators.

(From Nation's Health, March, 1926.)

Effect of Ultra-Violet Rays on Lactation

In four balance experiments made by Henderson and Magee on lactating goats, irradiation by the carbon arc lamp reduced the fecal excretion of calcium. The effect on the excretion of phosphorus was less constant. It seems probable that irradiation increases the stimulus to calcium storage, pregnancy and diminishes the calcium loss during full lactation. A definite increase in the urinary excretion of calcium on irradiation was noted in only one experiment in which there was already retention of calcium. The influence of ultra-violet rays in minimizing the depletion of minerals in briefly considered with respect to certain pathologic conditions which may occur in heavy milking animals.

(From J. A. M. A., Sept. 4, 1926.)

Diathermy

For the local application of medical diathermy, that is, the heating within physiologic limits of well defined parts of the body, it is permissible to raise the temperature to from 40 to 45 C. (104 to 113 F.) with the proviso that the individual tolerance be taken into consideration. Temperatures beyond 45 C., while not necessarily leading to complete coagulation of albumin, produce injury in the tissues. In general diathermy, usually called autocondensation, the safety limit is the raising of the temperature up to 2 degrees C. (3.6 degrees F.) above the normal. Higher temperatures are apt to lead to severe disturbances. The desirable physiologic and therapeutic effect is brought about by moderate heating, causing an active hyeremia and subsequent amelioration of the local metabolism.

(From J. A. M. A., July 3, 1926.)

Blood and Ultra-Violet Rays

Schubert tested the amount of absorption of ultra-violet rays by comparing the reflected rays with the original radiation. A skin which had been rendered anemic absorbed much less than normal skin. This is due to the strong absorption of the rays (especially of wave lengths below 302) by the hemoglobin. It is probable that this is physiologically important. It ranks hemoglobin close to chlorophyll, for which the importance of light is fully established.

(From J. A. M. A., July 31, 1926.)

Surgical Diathermy Treatment of Chronic Tonsillitis

Hofvendahl recommends this method in subjects suffering from high blood pressure, anemias and tuberculosis, and for highly nervous patients who dread ordinary surgical procedures.

(From Arch. Otol., April, 1926.)

Ultra-Violet Light in Sinus Infections

H. F. MacBeth, M.D., of Seattle, Wash., in an address before the Pacific Coast Oto-Ophthalmological Society, gives it as his experience, extending over two years, that ultra-violet light is of special value in sinus infections. Operative interference is reduced to a minimum, and in children, in the great majority of cases, may be dispensed with altogether. After establishing reasonable drainage, local and general irradiations are instituted, and in much less time than was customary following radical treatment, these patients show marked improvement. Several case reports are given. (*Eye, Ear, Nose and Throat Monthly,* June 1926, p. 273.)

Endothermy and Roentgen Ray for Keloid

MacKee and Eller report a case of rapid cure of a large keloid by the combined use of the endotherm knife and small doses of roentgen rays, and a case of removal of a cavernous angioma from the occipital region of the scalp of a baby by the use of bipolar endothermy.

(From J. A. M. A., Sept. 11, 1926.)

X-Ray Injuries Mainly on Growing Tissues

IN injury caused by exposure to X-rays, it is chiefly the cells that take most active part in growth that suffer, if the results on lower organisms obtained by Prof. Winterton C. Curtis and Jane Hickman of the University of Missouri are indicative of conditions in the whole of the animal kingdom. Prof. Curtis described the experiments here today before the meeting of the National Academy of Sciences.

The work was performed on a lowly organism, known as a planarian or flatworm. When one of these creatures is cut into pieces it does not die, but each piece forms itself into a whole new worm, with head, tail and all the "works" of a complete animal. The new growth, Prof. Curtis discovered, is carried on by cells that have remained in an undifferentiated or youthful condition, and hence capable of dividing and forming new material.

When he exposed cut-up flatworms to brief X-ray treatments, these cells lost their power of growth, so that the pieces failed to develop into new individuals. When the exposure was given all at one time, the killing off of the formative cells was immediate and complete; when it was given as a series of short "shots" the pieces made half-hearted attempts to grow again, and then gave it up and died.

Prof. Curtis and his students intend to begin a comprehensive study of the effects of X-rays on similar cells in higher types of animals. "If the same principle holds for the cells of planarians as for those of the higher vertebrates," he said, "there is reason to believe that it may extend from one end of the animal kingdom to the other."

(Bulletin of the Wayne County Medical Society, May, 1926)

Effect of Ultra-Violet Rays on Tissues Grown in Vitro

It appears from Moppett's study that various normal and malignant tissues have different powers of resistance; the kidney is the most sensitive, the heart next, and the spleen cells, which may be regarded as comparatively undifferentiated, require a lethal dose approaching that for sarcoma. The malignant tissues, however, are definitely more resistant to ultra-violet rays than normal tissues when grown into vitro in this way.

(From J. A. M. A., June 12, 1926.)

Carcinoma of the Penis and Endothermy

H. A. Kelly and G. E. Ward *(Surgery, Gynecology and Obstetrics, 42:5)* find that with proper technic (coagulation) the local lesion in carcinoma of the penis can be cured with endothermy. It is possible to eliminate a metastatic gland by incising the skin and exposing it and treating it with the strong bipolar coagulating current destroying the whole interior of the gland. This is an exceedingly important principle capable of a wide application in the treatment of lesions occurring in the abdomen, neck, and elsewhere in the body. For example, in intraabdominal malignancy with glandular metastases, it will be easy to insert the needle carrying a high frequency current and almost literally explode diseased glands out of existence, leaving the dead tissue to be absorbed *in situ*. This method of actually removing diseased lymphatic glands without long and tedious dissection with consequent danger to the patient is a tremendous adjunct to our surgical technic.

(From Med. Jour. & Rec.)

Treatment of Rickets by Irradiated Milk

B. Kramer in the American Journal of Diseased Children reports a series of eight children suffering from active rickets in whom the administration of irradiated milk produced healing in every case. Improvement was manifest by the end of the third week of treatment, and was very marked a week later. The ages of the children ranged from 5 to 39 months, the majority being less than 2 years. The diet consisted of milk irradiated by the mercury vapor quartz lamp, orange juice, and a cereal. The quantity of milk required for twenty-four hours was poured into a large shallow dish, and was irradiated at a distance of two feet for not more than two hours. The milk acquired a peculiar taste, but little difficulty was experienced in persuading the children to drink it. With one exception, all the children gained weight during the period of treatment. In two cases investigated it was shown that there was a marked increase in the retention of calcium and phosphorus in the blood during the period when the milk was being irradiated.

(From Am. Jour. Phys. Ther., May, 1926.)

The Kromayer Lamp

According to experiments made by the manufacturer, Hanovia Manufacturing Co., the Kromayer lamp emits no radiation shorter than 2,000 Angstrom units or longer than 14,000 Angstrom units. Of the total radiation emitted, approximately 65 per cent falls in the ultra-violet field. The apparatus is dependable, but no assertion can be made as to the properties of the rays. The company has collected the reports of results of investigations with the lamp, and supplies the references.

(Jour. A. M. A., Mar. 27, 1926, p. 972)

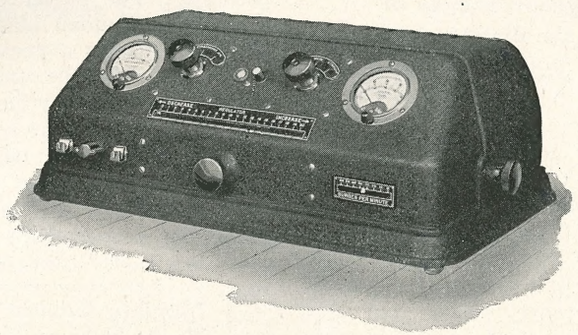
Treatment and Prognosis of Malignant Tumors of the Bladder

OF fifty patients with carcinoma of the bladder operated on in Simon's clinic from 1916 to 1923, twenty-four are alive, twenty-six have died. Of the latter, a radical operation was impossible in twelve. One half of those surviving have lived longer than five years. However, Simon has seen patients die of local recurrence seven, ten and twelve years after operation. In eighteen of those still living, one operation sufficed; in six repeated resections or electrocoagulations were necessary. The prognosis is much better for a papillomatous than for an infiltrating tumor. Every suspicious tumor should be treated as malignant. He employs electrocoagulation on all small, pedunculated, apparently benign tumors. For malignant tumors, he resects the bladder wall, resection of the mucosa alone is not sufficient. He operates extraperitoneally, if possible. The power of regeneration of the human bladder is very great. He cites a personal case in which all but the trigonum and ureteral openings with a margin 1 cm. wide was removed; in six months the capacity of the bladder was 200 cm.; at the end of two years 300 cm. Total excision should rarely be performed.

(J. A. M. A., Aug. 14, 1926)

Monthly Lecture Clinics To Be Held on *Tuesdays*

At the suggestion of many of the visitors to our monthly Lecture Clinics, we have changed the date of these meetings from the second Monday of the month to the second Tuesday. This, because so many physicians find Monday a very busy day. Therefore, beginning with the January Lecture Clinic—program for which appears on the back cover of this magazine—these clinics will be held on Tuesdays.



The Fischer Universal Low Voltage and Wave Generator

A highly perfected outfit embodying the fruits of several years' research and experimental work which have resulted in an apparatus sufficiently versatile to generate nine distinctly different types of currents:

Straight Galvanic
Dwell Wave Galvanic
Wave A. C.
Straight Combination
Wave Galvanic
Straight A. C.
Dwell Wave A. C.
Wave Combination
Dwell Wave Combination

Almost noiseless in operation, compact and solidly built for delivering low voltage currents of amazing smoothness from zero potential to more current than is required for any treatment purpose. A pamphlet has been prepared describing the construction and operation of this splendid new outfit. Physicians who are interested may have a copy upon application.

For Further Information Address

H. G. FISCHER & CO., Inc.

The New FISCHER Intermediate Model "V"

The Latest Word In *Diathermy Apparatus*

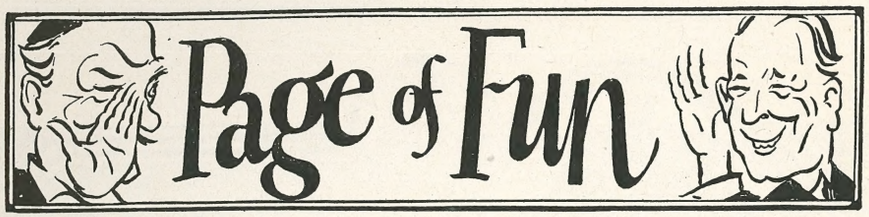
THOROUGHLY powerful, yet operation is simple in the extreme. In perfecting this newest marvel of Fischer engineering, our experts sought first for supreme efficiency—and economy followed as a second and natural step. For the Intermediate Model "V" Diathermy Apparatus is so called because it is intermediate both in cost and in the space it occupies.

A pamphlet describing the new Diathermy Apparatus and discussing the various electrical modalities, is available to any physician without cost.

Address—

Intermediate in size and cost, but a giant in efficiency

H·G·Fischer & Company, Inc.
Physiotherapy Headquarters
2333-43 Wabansia Avenue
Chicago, Illinois



The Bore—"I passed by your place yesterday."
The Bored—"Thanks, awfully!"

A college education never hurt anybody who was willing to learn something afterward.—*Boston Transcript.*

"Doctor," said the sick man, "the other physicians who have been in consultation over my case seem to differ with you in the diagnosis."
"I know they do," replied the doctor, who had great confidence in himself, "but the autopsy will show who was right."

Him (to sweet young thing)—"I can see I'm only a pebble in your life."
Her—"That's all. But I wish you were a little boulder."

A Scotch minister was on his usual visiting rounds when he came across one of his old friends. "And how has the world been treating you, Jock?" he inquired.
"Very seldom," answered Jock sadly.

"Drink," said an Irish preacher, "is the greatest curse of our country. It makes ye quarrel with yer neighbors. It makes ye shoot at yer landlord. And it makes ye miss him."

"How dare you kiss the maid while I'm out?"
"Why, my dear! That's the only chance I get."

Sam—"Do yuh refuse to pay me dat two dollahs I lent you?"
Rastus—"Oh, no, sah. Ah don't refuse, ah jes' refrains."

A contractor who professed to be very fond of children became very angry because some little fellow stepped on a new pavement before it was dry.
His wife rebuked him. "I thought you loved children," she said.
"I do in the abstract, but not in the concrete," he replied.

Irate Flat Dweller — "Look here, Brown, your infernal loud-speaker kept me up till twelve last night!"
Wireless Fiend—"My dear old cherub, you ought to have stuck it for another quarter of an hour; we got some great stuff from Portland."

Bride (at phone)—"Oh, John, hurry home and tell me what's wrong. I forgot and somehow got the plugs mixed, and now the radio is covered with frost and the refrigerator is singing "Welcome is the Warmth of Spring."
Groom (Physiotherapy graduate) — "That's nothing to worry about, I just treated a patient with the actino ray and he complained bitterly of faradic, and now there is a patient in the office who wants to sue me for burning his back and all I gave him yesterday was fifteen minutes of sine wave treatment while the book says from 20 minutes to half an hour."

Indignant Citizen: "Officer, stop that man"!
Officer: "Whaffur?"
Indignant Citizen: "Why, he's a bootlegger!"
Officer: "Don't yez get so excited, there'll be another one along in a minute."