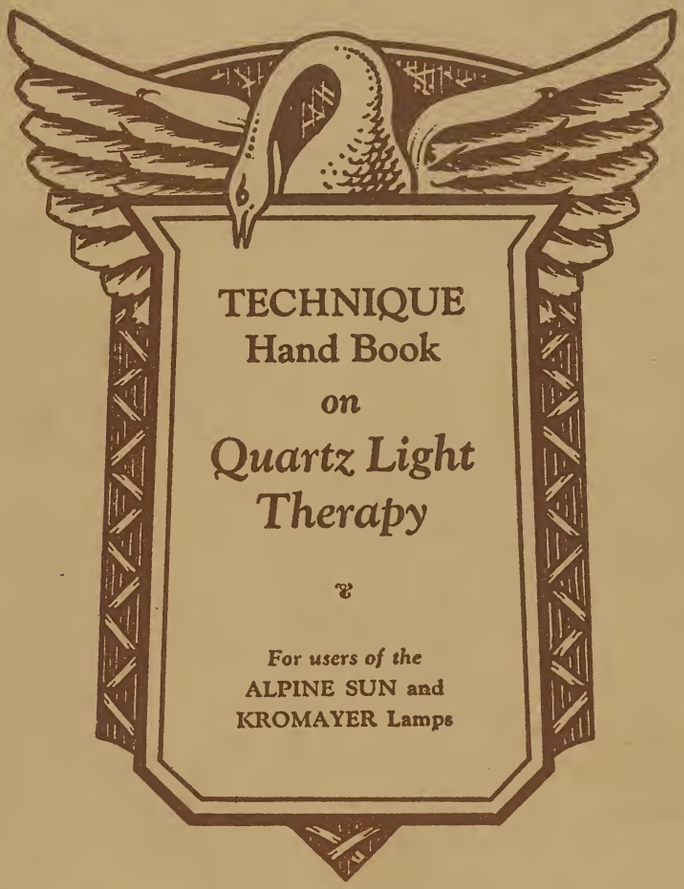


# TECHNIQUE
## Hand Book
## *on*
# *Quartz Light Therapy*

*For users of the*
**ALPINE SUN and**
**KROMAYER Lamps**

G. P. Edwardsville
1929
Griffin Hospital
Derby, Conn.

Technique Handbook

on

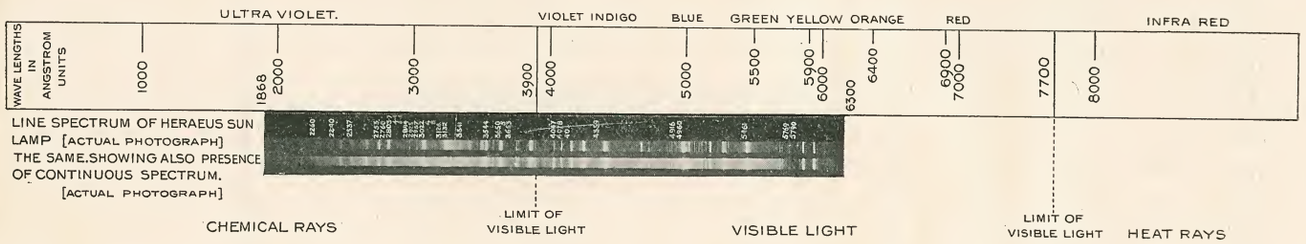
# Quartz Light Therapy

*For users of the*

ALPINE SUN *and* KROMAYER LAMPS

*Published February, 1926*
HANOVIA CHEMICAL & MFG. COMPANY
Newark, N. J.
Branch Offices: New York, Chicago, San Francisco

## THE QUARTZ-LIGHT SPECTRUM




The above plate shows the visible and ultraviolet section of the spectrum. The spectrum as shown includes part of the infra red, the visible and the ultraviolet rays. The colors of the spectrum are written above their respective wavelengths.

The photographic reproduction of the actual spectrum of the Alpine Sun Lamp gives a clear idea of the richness of the lamp in the ultraviolet region. It will be seen also from the lower photograph that a marked continuous spectrum is present in the lamp rays as is the case in natural sunlight.

# *FOREWORD*

THIS is not so much a book as a tool. It is offered in the spirit of service to the physicians to whom Quartz Light Therapy is a new subject. It is the expression of our own findings and a consensus of the opinion of many eminent physicians who have employed HANOVIA Quartz lamps in their private practice. It should serve as a guide in a general way for the building up of the individual practitioner's technique.

We wish to express our thanks to those physicians, scientists, technicians, chemists and physicists who, through their generous cooperation, have so materially aided us in compiling the data given in the following pages.

It is our sincere trust that, with the information herein given and elsewhere procurable, the users of HANOVIA Lamps will develop the maximum skill in their employment of ultraviolet light. With the successful employment of this potent modality the science of therapy will have advanced farther toward its ultimate goal—the alleviation of the ills of humanity.

HANOVIA CHEMICAL & MFG. CO.
Newark, New Jersey
February, 1926

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# TECHNIQUE HANDBOOK ON QUARTZ LIGHT THERAPY

## Purpose and Scope

The purpose and mission of this book is to lay before the new user of the Alpine Sun and Kromayer Lamps sufficient preliminary information so that, with the Handbook as immediate reference, his individual technique may be built up upon a solid foundation of fact.

In this Handbook we are primarily concerned with the question of technique. Such topics as mechanical features, setting up and installing lamps and the operation of the mechanical parts are considered in another book, known as the "Instruction Book" which is supplied with each lamp. The "Instruction Book" also explains in detail the function of the Operatometer, the mechanics of electrical control, the lighting of lamps, etc., etc. We urge every new user of Hanovia Lamps to read carefully the "Instruction Book" supplied with each lamp. A thorough understanding of the mechanics of the lamp is the first step towards its successful employment.

There are no arbitrary rules by which one must abide to succeed in the use of Quartz Light. Each patient's sensitiveness to the action of the rays governs the dosage employed. A careful study of each individual case, and a thorough knowledge of this potent agent are essential if the most gratifying results are to be recorded.

We have endeavored, in correlating the data furnished by the various writers, logically to merge their recommendations so that our own represent an accurate assemblage of the most prevalent and resultful practice. Thus they provide a safe working basis for the new user, until his own experience teaches him what procedure is best for the case in hand. Recourse has been made to all the available literature on the subject, and in the technique section of this Handbook, wherever possible, the medical reference has been listed. It is hardly necessary for us to stress the advisability of securing these papers which, in every case, bear directly upon the successful use of ultraviolet in connection with the indication under which they are listed.

It should be understood that we do not stand sponsors for all the several claims made by the various writers. Our purpose has been to indicate the degree of authority for the claims made under each indication. If, in some instances we have erred by including those where the advantage of treatment by ultraviolet light is open to question, we shall feel greatly indebted to our friends for their cooperation to the end that unfounded or over-enthusiastic reports will be omitted from future editions.

It is possible that there are several

matters which we have not fully discoursed in this Handbook. When informed of such omissions, we shall be very careful to include such information in future editions.

We hope that whenever any points of general interest come to the minds of the physicians employing Quartz Light Therapy, they will be kind enough to cooperate with us by supplying the information. It will be used to enhance the value of this Handbook to the profession. It is the sincere desire of this company to cooperate with every practitioner of Quartz Light Therapy in every possible way, and if at any time we can be of service, we shall deem it a privilege to be called upon.

## Standardizing the Lamps

Upon setting up a new Alpine Sun or Kromayer Lamp (in accordance with detailed instructions contained in the "Instruction Book") the first step that a physician should take is standardizing that particular lamp, so as to determine the length of exposure necessary to give the various degrees of erythema for the proper therapeutic procedure.

There are a number of methods by which this may be accomplished, but a simple and practical method is as follows:

Light the Lamp, and allow it to burn at reduced intensity, until the needle of the OPERATOMETER is within the operating range (Alternating Alpine and Kromayer, without the button on the transformer pushed down. Direct Kromayer on the first button of the rheostat). Then take a slip of paper and cut a small hole in it about one-half of an inch in diameter.

*ALPINE SUN LAMP*—Place the paper over the arm, and expose the arm to the rays of the Lamp at ten inches distance. Hold arm exposed for one minute, move paper to another part of the arm and expose for two minutes, then three minutes, four, etc. On the following day notice the results, and try at thirty inches distance, repeating the same operations. In this way can be determined the length of time it takes your individual lamp to produce a first, second, third and fourth degree erythema, at any particular distance.

*KROMAYER LAMP*—Using the same method, hold the arm against the Quartz lamp window, about 10 seconds, then another spot for 20 seconds, and so on, up to one minute. The next day repeat, holding the arm 2½ inches away, etc. When you have determined these factors, you have standardized your individual lamp.

## Degrees of Erythema

It is extremely important that the sensitiveness to ultraviolet light of each individual patient be given careful consideration, for it is understood that a fair-skinned or blonde person reacts much more readily than a darker subject. With this in mind, one can proceed to prescribe Quartz Light more effectively and without fear of discomfort to the patient.



The following are the definitions of the degrees of erythema specified in the Technique Section of this Handbook:

A FIRST DEGREE ERYTHEMA is a reaction so slight that it causes no subjective symptoms. The reddening of the skin is very slight, and is not followed by visible exfoliation.

A SECOND DEGREE ERYTHEMA is a reaction accompanied by symptoms of mild sunburn. The reddening is plainly visible, and after the reaction subsides it is followed by a granular exfoliation.

A THIRD DEGREE ERYTHEMA is a reaction intense enough to cause symptoms of severe sunburn. The reddening is intense and the epidermis can be peeled off in large strips.

A FOURTH DEGREE ERYTHEMA is a blister production.

*Frequency of Treatment:* It is of utmost importance to know how frequently ultraviolet light may be administered. To this end, the ERYTHEMA CHART should be carefully studied. The Chart explains the various reactions for each degree of erythema, and the time required for the clearing up of the skin.

In those cases where treatment has been omitted for a period of ten days, it is safest to recommence the treatment with half the last exposure. If, however, three weeks or more have elapsed, it is well to begin again with the initial dosage.

In some instances the treating of a condition will show an improvement for one patient and not for another. Experience and information suggest that in such a case the time of dosage be increased, for possibly the dosage given is not enough for that specific indication.

*Pigmentation:* After repeated doses, erythema ("Sunburn") is followed by pigmentation ("tanning"), which is due to the deposition of the pigment melanin as granules around the nuclei of the basal cells of the epidermis. They thus form a protective screen round the nuclei. In therapeutics, therefore, the appearance of pigmentation necessitates the administration of longer exposures.

The following table gives the various figures necessary in calculating length of dosage time, distance of radiation, etc. These figures have been compiled by taking the average of some new Alpine Sun and Kromayer Lamps. This chart can act as a guide to you, but you must bear in mind the fact that it is essential for you to standardize your own particular lamp in order to get the best therapeutic results. You might find some difference in time, but whether it is large or small, you should be familiar with the chart on page four.

## ERYTHEMA CHART

| Degree | Reaction | Frequency of Treatment | Time Required To Render Desired Degrees | | | | |
|---|---|---|---|---|---|---|---|
| | | | Alpine Sun Lamp | | The Kromayer Lamp | | |
| | | | 10 in. | 30 in. | Contact | 2½ in. | 8 inches |
| *First* | Very slight, causes no subjective symptoms. Reddening of skin very slight. | This degree may be given daily. | ½ of a minute | Three minutes | Ten seconds | One minute | Two minutes |
| *Second* | Symptoms of mild sunburn. Reddening is visible and followed by granular exfoliation. | Daily if necessary. Advisable to allow two days between treatments. | One minute | Eight minutes | 25 seconds | Two minutes | Four minutes |
| *Third* | Symptoms of severe sunburn. Reddening intense. Will peel off in large strips. | Allow three or four days to elapse between treatments. | Two minutes | Fifteen minutes | 40 seconds | Three minutes | Six minutes |
| *Fourth* | This degree of erythema is a blister production. | Allow a week to ten days to elapse between treatments. | Five minutes | Thirty minutes | One minute | Four minutes | Ten minutes |

NOTE: TONIC DOSAGE: A tonic dose is a mild stimulative dose, corresponding to a first degree erythema, or even less, administered in the form of general body radiations. Its effect is generally the stimulation of the endocrin activities, the processes of removal of toxins, diseased and decaying tissues, the establishment of the process of metabolism, and an improvement in the elimination process.



## The Interval Timer

The HANOVIA INTERVAL TIMER is very helpful in aiding the physician to give the exact dosage time. It is a simple apparatus, and when set to the required time, gives the alarm when the treatment is finished. In this way the operator is relieved from the necessity of holding a watch or personally supervising the treatment. When dosage time runs up to ten minutes or more, this Timer renders very important service, relieving the operator during the entire length of treatment.




## Therapeutic Application

To secure the best therapeutic results with the Quartz Lamps several points should be taken into consideration, and while not demanding immediate recognition with a new lamp, they should be given serious thought and subsequent attention.

It is important to see that the arc tube has not become clouded. A clouded tube will greatly reduce the intensity of the ultraviolet rays, and therefore the effectiveness of the radiation.

To avoid interruption of service the clouded burner should be exchanged for a new one. The cost involved is very little higher than the cost of renewing the old burner.

The sensitiveness of each patient's skin to ultraviolet light should be borne in mind. As brought out in a previous paragraph, fair-skinned persons are more sensitive than brunettes, and in those cases the various degrees of erythema are obtained in less dosage time. For the direct current Kromayer a safe rule is to move the rheostat lever (for patients with normal skin) to the third stud, moving it up to full only for patients exhibiting a subnormal reaction, and only moving it to the second stud for patients displaying more than the usual sensitiveness to the rays.

Before applying the rays, the skin should be thoroughly cleansed, and it should be remembered that scales and crusts intercept quartz rays. Healthy skin reacts more strongly to light than diseased tissue under treatment, and its protection during treatments should not be neglected.

It should be remembered to cover the genital organs during the radiation while giving general body dosage, as well as the breasts of female patients, as these sensitive

portions of the body are very susceptible to the rays, and severe erythema may cause pain. Mucous membranes will tolerate longer exposure than the skin.

No case has been reported, to our knowledge, in which even the most severe dosage has produced any destruction of tissue between the epidermis.

## General Body Radiations

In cases of general skin eruptions and in those cases such as pulmonary and surgical tuberculosis, anemia, senile pruritus and some constitutional and nervous diseases where it is best suited to utilize the systemic effect of the rays, general body radiations are indicated. They are administered in the following manner:

Place the patient upon a flat couch, the body being entirely naked. It is well to advise the patient to relax completely and to keep the mind entirely at ease during the treatment. (Patients doing this oftentimes sink into a profound sleep.)

The skin of the entire body must be directly exposed to the rays, the thinnest covering will absorb them. When treating women the nipples may be suitably protected by small paper bottle caps of the druggist style.

A first degree erythema should be given at about 30 inches distance. Both the anterior and posterior portions of the body should be radiated. The posterior first, then the anterior. At the second and subsequent treatments the time of exposure may be increased and the distance of the lamp very slowly decreased (never less than 18 inches for systemic) as the tolerance of the skin allows.

Treatments may be administered every second day for the first three exposures, thereafter twice weekly. In all cases bear in mind the patient's tolerance, and regulate the increased dosage accordingly. When the dosage administered has been full, a sensitive patient may suffer a slight headache. This may be attributed in part to the inhalation of ozone generated by the lamp (Alpine only), and whether or not this may be beneficial in certain cases, these symptoms soon disappear upon reaching the out-door air.

In only a very sensitive patient will the reddening (erythema) show during treatment; it generally appears three to four hours afterwards. A first degree erythema is not generally produced in *general body radiations*. The object in view when administering general radiations for systemic effects is to produce a gradual deep tanning of the entire body without vesication or undue peeling. It is sometimes recommended after 12 to 15 exposures that an intermission be made of three to four weeks before resuming treatments. When beginning treatments again short exposures must be given at first, since the patient has by that time lost most of the tan, and with it the immunity to burning.

*The eyes should* be carefully protected; goggles may be worn by the patient or small wads of cotton placed over the eyes. The most simple method in cases of adults is to keep the eyes shut when facing towards the light.

*A tonic dose* (see p. four) is similar to a general body radiation.



## Technique of Compression Treatment

The object of the compression treatment is, by producing a local dehematization through the pressure of the quartz lens on the tissues, to enable the ultraviolet rays to penetrate into the deeper layers of the epithelial tissues, instead of being absorbed by the blood in the surface capillaries.

In cases where, for physical reasons, it is not possible to exert a sufficient pressure on the tissues, either a subcutaneous injection or a surface application of adrenalin may be resorted to, and the lens merely placed against the surface without exerting any pressure on it.

When treating skin lesions the lens selected should always be, as nearly as possible, the same size as the lesions to be treated and a simple method to avoid burning the healthy skin surrounding the lesion under treatment is to protect it with adhesive plaster or paste, as explained under the heading "Distance Radiation with the Kromayer." If the lesion is on the face, the patient can hold the lamp himself by resting his elbow on a small table, or it can be held in position by the operator.

In some cases where a long exposure is necessary, it will be found convenient to bind the lamp on, in position, by means of bandaging. The lens should be pressed very firmly against the tissue to exclude all the blood. For treatment of mucous membranes special applicators are required, suited to the particular needs of the case. (See under Applicators.)

## Distance Radiation with the Kromayer Lamp

For the distance radiation of small lesions, the distance usually employed is about 2½ inches from the lamp window. For convenience in such cases, the Sharpe localizer is best employed, for in addition to insuring the correct distance, the tubes cut off the light from the surrounding healthy skin, and from the patient's eyes.

In treating larger areas, the surrounding parts should be carefully screened off. A black cloth serves this purpose satisfactorily, or a sheet of black paper with a hole cut in it corresponding to the lesion to be treated. Where it is necessary, however, to exactly circumscribe a defined area, the most convenient method is to place pieces of adhesive plaster around the edges to give a sharply defined margin, any exposed parts outside the plaster being protected by some dark covering. As an alternative, Dr. F. G. Harris, Chicago, suggests the following paste: Tincture of green soap 50, water 50, burnt umber 15; rub well in mortar,

apply with small brush to healthy tissue to be protected. After treatment paste may be readily washed off with water. The patient should be so placed that the rays strike perpendicularly the surface under radiation.

## Local Radiations with Alpine Sun Lamp

Lesions which are quite small may be radiated through the selective diaphragm; holding the lesion within an inch or two of the lamp hood, using the *adaptor*. Applicators for local treatment may be used, all other local radiations are administered with the lamp hood open. Whether the rays are allowed to issue vertically or horizontally, the lamp should be so placed that the arc tube of the burner is parallel with the surface under treatment.

The patient is placed in the best possible position in relation to the lamp. Cover the surrounding areas, and when treating women, additional protection should be given if they are wearing thin meshed waists. In treating the face, care should be taken to protect the eyes.

## The Use of Applicators

The successful use of the Kromayer Lamp depends to a great extent upon the judicious employment of the various applicators designed for the treatment of the various conditions discussed under "Indications and Technique." Applicators have been designed from time to time to meet every exigency, and an intelligent understanding of their functions is an assurance of satisfactory results with the Kromayer Lamp.

The following illustration shows the standard applicators in present use. They are made of crystal quartz, fused quartz and metal, properly fitting the Lamp. In some of the applicators bubbles are placed in the quartz rods in order to diffuse the rays. All nasal rods should have a liberal supply of bubbles. This also applies to the long and short quartz rods.

The attachments are provided with a holder, having three hooks, which slide into position from above the lamp window, and clamp on securely by thumb screws. The mica protection window should be removed before attaching the applicators.

Complete instructions regarding the use and care of the applicators are given in the "Instruction Book." However, it may be mentioned here that fused quartz applicators may be sterilized by boiling. The crystal quartz lenses are not, however, to be treated in this manner, as they will crack if placed in boiling water. Numbers 2002, 2003, 2004, 2005, 2018 and 2019 are crystal applicators.

In brief, the uses of the various applicators are as follows:

2002: *small round lens*

2003: *large square lens*

2004: *medium round lens*



Used in all compression where it is desired to force the blood out of the tissues and obtain deep penetration as in deep infections.

2128: *Wagner speculae*—Used in gynecological conditions. Placed in the patient and then lamp is brought up after a Sharpe localizer No. 2015 is put on the Kromayer. The small size A is also used in rectal work the same way.

2150: *Prostatic*—Placed on lamp and then directed in rectum, may be used in vaginal work to reach cervix.

2152: *Sampson* Pyorrhea rods—The popular type of pyorrhea applicators. The straight and 45° rods used in treating gonorrheal conjunctivitis.

2153—Used in hay fever.

2154—Used same as No. 2019. Sampson prefers this type.

2005: *Long round lens*—Used in Vincent's angina where compression is necessary as in hemorrhoids.

2007: *Quartz rod 2¾" long*—Used principally in the outer ear, eczema and furunculosis, etc., about 6 mm. diam.

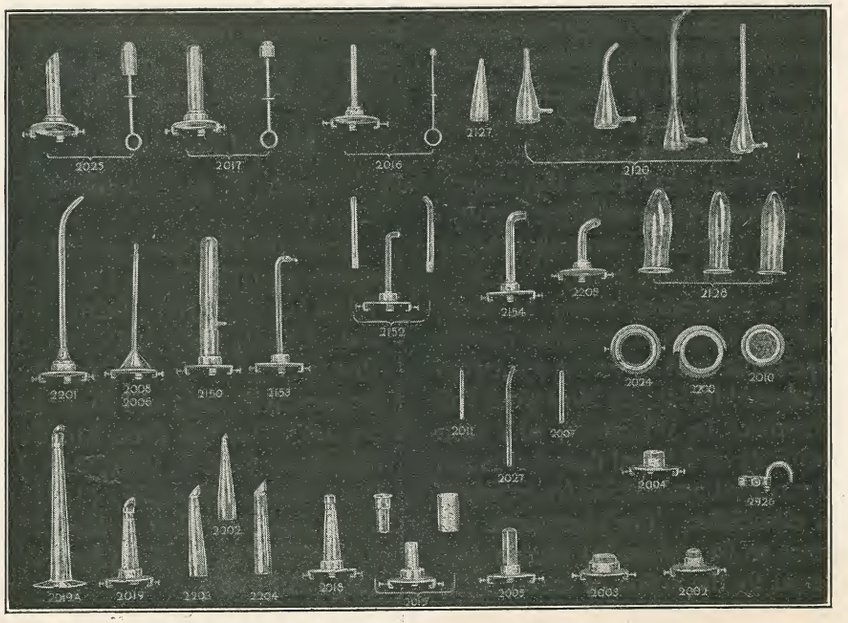
2008: *Long quartz rod 6¾" long*—Used in empyema, tubercular kidney, gonorrhea, about 6 mm. diam.

2009: *Blue filters*—Used to shut off the short ultraviolet wave lengths below 2900. This approximates the carbon arc spectrum but requires 8 to 10 times as long an exposure to get the same degree of erythema.

2010: *Mica window*—Shuts off the ultraviolet when lamp is lighted, but not being applied to patient.

2011: *Weaver applicator*—Small rod about 3 mm. diam., used in children's ears and small sinuses.

2014: *Quartz lamp window*—For the front end of Kromayer, always




Some of the Standard Applicators Now in Use.

put the bevel edge outwards. If leak occurs at window put in a new rubber gasket. Don't screw too tightly or you may crack the window.

2015: *Sharpe localizer* — Three open cylinders for confining the rays to a small area, as in boils, etc.

2016: *Sinus applicator*—Used in tubercular sinuses.

2017: *Plank Proctoscope*—Some practitioners prefer the small size A of 2128 and ray the entire colon, after putting one of the 2015 localizers on the lamp. The applicator is inserted in the patient and the lamp then brought up and clamped to the proctoscope.

2018: *Pharyngeal applicator* — Used in tonsillar conditions.

2019: *Baldwin laryngoscope* — Used in tubercular laryngitis.

2024: *Blue Window*—Similar to filters 2009, but simpler to put on lamp.

2025: *Prostatic applicator*—For prostatitis, applied to patient and then lamp is brought up by hand.

2027: *Nasal applicator*—Used in ozena, hypertrophied turbinates, etc

2120: *Ladabeck irrigators*—Used in tubercular sinuses, distilled water is passed into the sinus and the lamp applied at back of each irrigator.

## Penetrative Properties of Ultraviolet

Ultraviolet rays shorter than those of sunlight (2800 Angstrom units), penetrates through non-dehematized living tissue of about 2 mm. thickness and ultraviolet of sunlight (longer than 3000 Angstrom units) through 3 to 4 mm. Preserved dead tissue, because of coagulation and chemical changes, is very much more opaque than living tissue.

However, dead tissue that has not been preserved, in undergoing putrefaction transmits somewhat better than normal living tissue.

The penetrating power of ultraviolet is largely responsible for the results obtained by recent researches conducted by *Hess* in New York and *Steenbock* in Wisconsin, who have definitely established that cholesterol is rendered antirachitic by exposure to ultraviolet. The phenomena appears to be a chemical change produced by the action of wavelengths shorter than 3000 A.U. This reaction probably has an important relationship to the preventative and curative influence of ultraviolet radiations in rickets, for cholesterol is a common constituent of the skin and blood, and these radiations have sufficient penetrative power to act on the cholesterol of the body.

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Hess and Weinstock, Proc. Am. Pediat. Soc., June 7, 1924; Am. J. Dis. Child. *28,* 256 (1924); Proc. Soc. Exp. Biol. & Med. *22,* 5. 6 (1924-25); J. Biol Chem. *64,* 181, 193 (1925).

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## Ultraviolet Light in Industry

Many of the industrial plants throughout the country have their own medical staffs for the treatment of the injured employee. In such medical departments, Quartz Light Therapy plays a very important part in rehabilitating the injured patient, thus cutting down to a minimum the lapse of time caused by the injury. The use of ultraviolet light in the treating of wounds, not only aids in the healing, but is a great help in the safe-guarding of the injury from infection.

In an article which appeared in the *American Journal of Physical Therapy,* June, 1925, *Leo C. Donnelly, M.D.,* states, "To the employer of labor, ultraviolet, when he has used it, has proved of great help. It is the most powerful germicide in existence that kills germs without injuring the tissue cells."

The physician in attendance at one of the country's largest automobile plants states that the use of ultraviolet in the plant had reduced the amount of amputated fingers about 80% and the period of injury about 40%.

## Published Books on Ultraviolet Therapy

We heartily recommend that the physician and practitioner initiating the employment of ultraviolet light procure for himself authoritative books on the subject. Our suggested titles comprise a list written by reputable medical men, who by their long experience and activities in this field and with this therapeutic modality, understand the subject thoroughly. All of these books contain information that is practical, enlightening and valuable, and they form a source for constant reference.

Naturally, with our twenty years of experience in the manufacture of Quartz Light apparatus, we have been in intimate contact with the profession, and can very well appreciate its problems. We know these problems are fully discussed in our suggested list of readings, and urge our friends to procure these books *in toto* or in part for their libraries.

We have stocked a number of the following books for your convenience, and shall be glad to supply them at the regular publishers' price. All of them can be secured directly from the publishers.

"Ultra Violet Light," by Dr. Hugo Bach (Bad Elster). Paul B. Hoeber, publisher. $1.50.

"Physiotherapy Technique," by

C. M. Sampson, M.D. C. V. Mosby Co., publishers. $6.50.

"Baldness," by Richard W. Mueller, M.D. E. P. Dutton, publisher. $2.00.

"Technique Handbook on Quartz Light Therapy for the Users of the Alpine Sun and Kromayer Lamps," published by this Company.

"The Chemical Action of Ultraviolet Rays," Ellis & Wells. The Chemical Catalog Co., publishers. $5.00.

"Physiotherapy, Theory and Clinical Application," Harry Eaton Steward, M.D. Paul B. Hoeber, Inc., publishers. $7.50.

"Ultraviolet Rays in Dermatology," Ralph Bernstein, M.D. Achey and Gorrecht, Lancaster, Pa. $2.50.

"Life Shortening Habits and Rejuvenation, Arnold Lorand, M.D. F. A. Davis Co., publishers. $3.00.



# Indications and Technique

In several of the following indications will be found the notation to refer to another indication, but in most part, the particular technique for it will be given. Where the references are entirely referred, it has been because it is essential that the other technique matter be read.

In most cases the instructions to allow the reaction to clear up before repeating will be noted. This is a general rule, and should be followed out in most cases.

## Abscess

Marked success is reported in aborting infection and preventing abscess formation as well as in treating chronic abscesses. It is essential that drainage be first established.

**Technique:** Kromayer—First to second degree erythema locally with appropriate applicator using compression.

Alpine—General tonic treatment or second degree local.

**Medical Reference:** Dr. Arthur E. Schiller, Detroit, Jour. Michigan State Medical Society, June, 1922. Dr. Leo C. Donnelly, Detroit, Jour. of the Michigan State Medical Society, March, 1921. Dr. T. J. Howell, M. B., Ch. B., Case Reports, Lancaster, England, 1920-22.

## Aganthosis Nigricans

"Where no other remedy availed, the juvenile form caused by some form of irritation of the abdominal sympathetic yielded readily to intensive Alpine Sun treatment."

**Technique:** Alpine—Third degree erythema. Local application. Distance 10 inches.

**Medical Reference:** Dr. Fred Wise, N. Y. Medical Journ., February 3, 1917.

## Acholia

(See Celiac Disease.)

## Acne

Many of the leading Dermatologists claim the Alpine Sun Lamp to be the best, quickest and safest modality at their disposal for the treatment of acne, its use being indicated in all forms of this disease. Where the patient is suffering from some digestive disorder, the skin may clear up nicely, but subsequently relapse. In such cases the local applications may profitably be supplemented by general radiation of the entire body with suitable internal medication. It is well to inform the patient regarding the expected reaction in this treatment, for in some cases a marked erythema up to considerable vesication will take place after the first treatment, much like a severe sunburn. The patient's mind should be set at ease by the assurance of no harmful results, as those of a nervous disposition may become alarmed when they discover a very red face a few hours after treatment. A pronounced reaction is desired, resulting in peeling, and the temporary inconvenience is vastly over-balanced by the improved complexion which follows.

**Technique:** Place a small pledget of cottton over eyelids, filling in the space below the eyebrows so that the light will not reach eyelids. *Do not cover eyebrows* and see that hair is brushed back so that the rays can reach the edge of the scalp.

## Acne—*(Continued)*

It is also advisable when treating women with delicate skin to cover the ears.

*In pustular acne* it is well to evacuate pustules before treatment, cleansing with alcohol so that the area treated will be entirely free from foreign matter. According to the delicacy of the skin of the patient to be treated, expose each side of the face as indicated below.

Alpine—Third degree erythema: Repeat two or three times as old reaction dies out.

Kromayer—Third degree erythema for local areas.

**Medical Reference:** Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey and Gorrecht, 1918. Dr. E. L. Oliver, Boston Med. & Surg. Jour., p. 155, Aug. 5, 1920; Jour. of the A. M. A., Aug. 19, 1922. Dr. C. A. Simpson, Washington, D. C., Southern Med. Jour., Oct., 1918. Dr. William L. Clark, Philadelphia, Therapeutic Gazette, May 15, 1916. Dr. Howard Fox, New York City, Jour. of the A. M. A., Oct. 27, 1923, p. 1417. Discussion by Drs. Ayres and Scholtz of Los Angeles. John Butler, M. D., Archives Demat., Jan., 1924. E. W. Hirsch, M. D., Am. Jour. Clin. Med., June, 1922. Fred Wise, M. D., N. Y. Med. Jour., Feb. 3, 1917. E. L. Oliver, M. D., Boston, Aug. 5, 1920. J. J. Ellor, M. D., The Bacterial Therapist, Sept., 1923. John Zahorsky, M. D., Mo. St. Med. Jour., Feb., 1925. E. D. Chipman, M. D., J. A. M. A., Sept. 27, 1924. C. Lee McCarthy, M. D., Med. Jour. & Record, May 4, 1925. L. J. Carter, M. D. Canadian Med. Asso. Jour., Feb., 1925. E. F. Traub, Med. Jour. & Record, July 15, 1925.

## Acne Keloid

Otherwise known as "Dermatitis Papillaris Capillitii," being rather rare, is by no means susceptible to the usual methods of treatment. Unusually good results are reported, with no scar formation.

**Technique:** Kromayer—Fourth degree erythema. Contact with compression first treatment, deponding upon thickness of lesion. Repeat, if necessary, in 10 days to three weeks.

It is advisable to treat only one section at each sitting.

**Medical Reference:** Dr. R. Bernstein, Philadelphia, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918.

## Acne Vulgaris

One of the most favorable fields for the employment of the Kromayer Lamp is acne vulgaris, one of the dermatoses which calls into play all the properties of the ultra-violet rays.

The importance of this method of treatment is most apparent in very refractory and deeply infiltrated cases of true acne vulgaris. With acne rosacea the prognosis is not quite so favorable, though good results are secured in these cases, also. (See Rosacea.)

In the *pustular type* all pustules should be carefully opened and evacuated before treatment.

**Technique:** Kromayer—Third degree erythema at 2½ inches. Allow reaction to clear up and repeat. For treating extensive areas the Alpine Sun Lamp will be found more convenient.

**Medical Reference:** Dr. A. Jordon, Northwest Med., Jan., 1917. Dr. E. W. Hirsch, Amer. Jour. of Clinical Med., June, 1922. J. Zahorsky, M. D., Mo. St. Med. Jour., Feb., 1925. J. J. Ellor, M. D., The Bacterial Therapist, Sept., 1923. (See references under Acne.)



## Acnitis

Favorable reports have been made in this disease.

**Technique:** Alpine—Second degree erythema, 10 inches. Must be treated persistently, weekly.

**Medical Reference:** Dr. H. E. Alderson, Clinical Professor of Medicine, Stanford University, San Francisco, Calif., Arch. of Dermat. and Syph., July, 1922.

## Adenitis (Tubercular)

"The Glands gradually disappear" under compression with lens in contact with Kromayer Lamp and general body radiations with Alpine Sun Lamp.

**Technique:** Alpine—Second degree erythema. General body treatment.

Kromayer—Third degree erythema, locally.

**Medical Reference:** Dr. A. E. Schiller, Detroit, Jour. Mich. State Med. Soc., June, 1922. T. H. Plank, M. D., Am. Jour. Elec. & Rad., Nov., 1924.

## Adenoma Sebaceum

Dr. Howard Fox says that "The usual methods of treatment are unsatisfactory, and for this reason many cases have been left untreated." Excellent results and marked improvement is reported with the Kromayer Lamp, and is much preferred to X-Ray."

**Technique:** Kromayer—Third or fourth degree erythema. Distance 4 inches.

**Medical Reference:** Dr. Rulison, presented by Dr. Highman at N. Y. Dermat. Soc., April 25, 1922; discussion by Drs. Trimble and Howard Fox. Dr. Highman, Arch. of Dermat. and Syp., June, 1923, page 841, and discussion by Drs. Howard Fax, Rulison and Fred Wise. Dr. Geo. M. MacKee, "X-Rays and Radium in the Treatment of Diseases of the Skin," Lea & Febiger, 1921.

## Alopecia Areata and Alopecia

Satisfactory results are only obtained by the production of a powerful erythema, even to vesication. The treatment must be given systematically and with due regard to the existing conditions. The sensitiveness of the patient's skin to the light rays will also in some measure influence the procedure.

The most favorable prognosis is, of course, presented by cases of recent development, that is, cases in which no extensive atrophy of the follicules has occurred. Where the area affected is at all extensive, the treatment may be given more simply and in much shorter time by means of the Alpine Sun Lamp. On small areas, however, the Kromayer Lamp can be conveniently applied without applicators.

**Technique:** Alpine—Third to fourth degree erythema, 10 inches distance. Protect patient's forehead and ears from rays.

Kromayer—Third degree erythema locally for small areas.

**Medical Reference:** Dr. Howard Fox, N. Y., Arch. Dermat. and Syph., July, 1921, p. 535; also Jour. of Cut. Dis., Oct., 1917. Dr. W. J. MacDonald, Boston Med. and Surg. Jour., Vol. 188, No. 21, p. 809, May 24, 1923. Dr. E. L. Oliver, Boston, Boston Med. and Surg. Jour., Vol. CLXXXIII, No. 6, p. 155, Aug. 5, 1920; also in the Jour. of the A. M. A., Aug. 19, 1922. Dr. R. W. Muller, "Loss of Hair" and "Baldness, Its Prevention and Cure," E. P. Dutton, New York. Dr. Fred Wise, New York City, N. Y. Med. Jour., Feb., 1917. T. Clyde McKenzie, M. D., Ch. B. and Irvin C. Suttan, M. D., The Am. Jour. Physiotherapy, June, 1925. G. B. Eusterman, M. D., Ohio St. Med. Jour.,

## Alopecia Areata and Alopecia—*(Continued)*

Nov., 1924. C. D. Collins, M. D., Am. Inst. of Homeo., June, 1918. Alfred Schalek, M. D., The Ur. & Cut. Rev., Vol. XXII, No. 5, 1918.

## Amenorrhea

Many leading gynecologists use the Alpine Sun in the treatment, as an aid to other modalities. It is especially indicated if the patient is chloratic or anemic.

**Technique:** Kromayer—Second degree erythema locally, using speculum, giving direct radiations.

Alpine—General body tonic dose with a second degree erythema for abdomen and lumbar region.

(Also see Dysmenorrhea.)

**Medical Reference:** L. C. Donnelly, M. D., Am. Jour. Elec. & Rad., April, 1924.

## Anemia

The Alpine Sun Lamp is of great benefit in the treatment of anemic patients in conjunction with proper dietetic and hygienic measures. It is found that patients' appetites quickly improve, their general vitality is increased, and betterment of their general conditions is effected. Results are also reported in pernicious anemia as cited in the references below.

**Technique:** Alpine—First or second degree erythema, or tonic dosage, over entire body.

**Medical Reference:** Major C. M. Sampson, M. D., "Physiotherapy Technic," C. V. Mosby Co., 1923. Dr. L. C. Donnelly, Detroit, Jour. Michigan State Med. Soc., Jan., 1922; also Am. Jour. of Electro. and Radiol., April, 1924.

Alpine Lamp Giving Tonic Dosage in Case of Anemia

## Angioma and Angioma Cavernosum

(See Naevus and Telangiectasis.)

**Technique:** Kromayer—Intense fourth degree erythema, contact with firm compression, using quartz lens. Cover surrounding skin for subsequent treatments, so that the areas treated do not overlap. Allow to clear up and repeat.

**Medical Reference:** E. D. Chipman, M. D., Jour. Am. Med. Asso., Sept. 27, 1924. Fred Wise, M. D., N. Y. Med. Jour., Feb. 3, 1917.

## Angioma Serpiginosum

This rare cutaneous disorder, for which there is no other known successful remedy, yields readily to intensive treatment.

**Technique:** Kromayer—Fourth degree erythema locally, contact, also at 2½ inches distance on small areas.

**Medical Reference:** Dr. Fred Wise, New York City, N. Y. Med. Jour., Feb. 3, 1917; also in Jour. of Cutan. Dis., 1913. Dr. E. D. Chipman, San Francisco, Jour. of the A. M. A., Sept. 27, 1924, Vol. 83, No. 13, Page 971.



## Ankylosis

Numerous reports show gratifying relief obtained by the use of the Alpine Sun Lamp, the patella becoming free and the cicatrices, which were firmly adherent to the capsule of the joint, being again freely movable.

**Technique:** Alpine—Third degree erythema locally around joint, starting treatments at about 24 inches, decreasing distance at subsequent treatments to about 15 inches minimum.

Kromayer—May be used locally. Allow reaction to clear up and repeat.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, N. Y., 1916.

## Arteriosclerosis

General body radiations with the Alpine Sun Lamp are employed as an aid in the treatment of arteriosclerosis and by reason of the resultant increase in the rate of elimination, material benefit is claimed. This treatment is highly recommended by some authors.

**Technique:** Alpine Sun—First degree erythema. General body radiations, giving a tonic dose every other day.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, N. Y., 1916. L. C. Donnelly, M. D., Am. Jour. Phys. Ther., Nov., 1924.

## Arthritis

The local stimulation and increase in the elimination are reported as of material help in clearing up cases of hypertrophic, rheumatoid and gonorrheal arthritis. At the same time a course of general body radiations with the Alpine Sun Lamp may well be given to raise the patient's vitality and stimulate general metabolism. One of the most satisfactory features of this treatment is the rapidity with which the painful element is controlled.

**Technique:** Alpine—First degree erythema. General tonic radiations; with second or third degree erythema reaction around joint, at 10 inches distance when such reaction will not interfere with other treatments. Allow reaction to clear up and repeat.

**Medical Reference:** Hypertrophic and Gonorrheal Arth., Dr. A. H. Bingham, New York, paper read at Acad. Path. Sci., N. Y., Dec. 27, 1918. "The Sun Lamp in Orthopedics," by Anson H. Bingham, M. D., read at the Academy of Pathological Science, N. Y. City. Pneumococcic, arthritis, and periarthritis, deformans and decubitus, Dr. A. E. Schiller, Detroit, Jour. Mich. State Med. Soc., June, 1922. Major C. M. Sampson, M. D., "Physiotherapy Technic," C. V. Mosby Company, 1923. F. T. Woodbury, M. D., Amer. Jour. Electro. & Radiology, April, 1924. L. C. Donnelly, M. D., Amer. Jour. Electro. & Radiology, Nov., 1924. C. A. Simpson, M. D., Southern Med. Jour., Oct., 1918. C. Benoit, M. D., Amer. Jour. Electro. & Radiology, Oct., 1923.

## Asthma

Despite the conflicting prevalent ideas regarding the etiology and treatment of asthma, there seems good reason to believe that the Alpine Sun Lamp, by virtue of its action on the nervous system as well as its stimulating effect on body metabolism and calcium and phosphorus content of the blood, may prove of pronounced value in the treatment of this disease. One author claims that he has had conspicuous success with the Alpine Sun Lamp in the treatment of bronchial catarrh, emphysema and bronchitis, and bronchial asthma. Other reports show

## Asthma—*(Continued)*

gratifying results and surprising relief, apparently permanent in severe cases of bronchial asthma.

**Technique:** Alpine—First degree erythema, tonic dose.

Kromayer—First to second degree erythema locally. (See Hay Fever.)

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, 1916. Dr. A. R. Hollender, Chicago, Amer. Jour. Clin. Med., April, 1924; also Journal of the A. M. A., Dec. 15, 1923, 81:2003; also in Jour. of O. O. and L., Aug., 1924. Drs. F. J. Novak and A. R. Hollender, in Illinois Med. Jour., April, 1924. A. R. Hollender, M. D., Maurice H. Cottle, M. D., Medical Herald and Physiotherapist, July, 1925. R. H. Kuhns, B. S., M. D., Arc. of Pediatrics, Feb., 1925. Glassman, Amer. Physician, April, 1925. J. L. Myers, M. D., Am. J. Elec. & Rad., Dec., 1925.

## Bather's Ear

(See Infection.)

**Technique:** Alpine—First degree erythema, general body radiations.

Kromayer—Second degree erythema locally.

**Medical Reference:** F. T. Woodbury, M. D., Amer. Jour. Electro. & Radiology, Apr., 1925.

## Bazin's Disease

(See Erythema Induratum.)

**Technique:** Kromayer—Second degree erythema in contact without compression.

## Blood Pressure

The ability of quartz rays to restore to normal is shown here. High blood pressure is brought down to normal; low blood pressure brought up to normal; reported to be especially good when accompanied by Nephritis.

**Technique:** Alpine—Second degree erythema. General body radiations.

**Medical Reference:** Dr. C. Benoit, "Use of Ultra-Violet Rays in Therapeutics," Rev. in Amer. Jour. of Electro. and Radiol., Aug., 1923, pp. 260-270. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, New York, 1916. "Actinic Therapy," by T. Howard Plank, M. D.

## Boils

(See Furunculosis.)

Gratifying results reported, usually clear up in one treatment. Drainage should be established.

**Technique:** Kromayer—Fourth degree erythema under firm compression.

Alpine—Third to fourth degree erythema locally.

**Medical Reference:** Dr. I. O. Denman, E. E. & N. & T. Monthly, March, 1923. Dr. R. Bernstein, Philadelphia, "Ultra-Violet Rays in Modern Dermatology." Dr. Post, Chicago, Lecture St. Ann's Hospital, 1920. Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, 1916.

## Bowel Irregularities

Another example of the ability of quartz rays to restore to normal. Diarrhoea, which seems characteristic of lesions of the large bowel in Intestinal Tuberculosis *is stopped;* and constipation, which seems characteristic of lesions of the small bowel in intestinal tuberculosis, is also stopped.

**Technique:** Alpine—First degree erythema, general body radiation.

**Medical Reference:** Dr. D. A. Stewart, Canadian Med. Ass'n Jour., Jan., 1923. Dr. Leo C. Donnelly, Detroit, "A second publication on Ultra-violet Ray Therapy with Case Histories," Jour. Mich. Sta. Med. Soc., March, 1921. Dr. L. C. Donnelly, Amer. Jour. of Electro. and Radiol., Dec., 1922.



## Bowel Irregularities—*(Continued)*

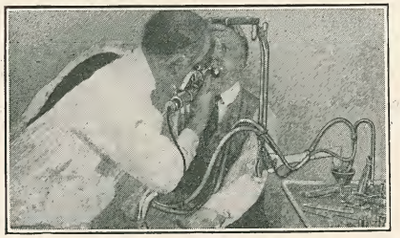
## Bronchiectasis

There is no other known resultant for this otherwise invariably fatal disease. Many successes have been reported.

**Technique:** Alpine—First to second degree erythema, with general body tonic dose.

Kromayer—First to second degree erythema locally.

## Bronchitis, Bronchial Asthma and Bronchial Catarrh



THE KROMAYER LAMP BEING USED IN TREATING BRONCHITIS

Pronounced success is reported in these diseases.

**Technique:** Alpine—First to second degree erythema. General body tonic dose in conjunction.

Kromayer—First to second degree erythema locally.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, 1916. "Actinic Therapy," by T. Howard Plank, M. D.

## Bruises and Hematomata, Traumatic Injuries

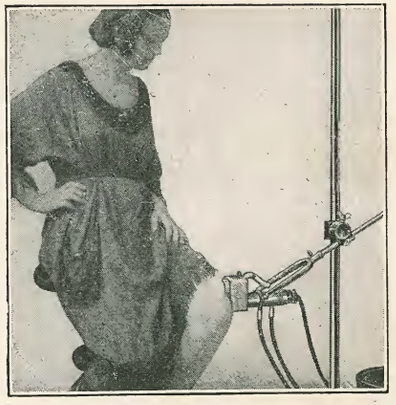
A short exposure to the rays of the Kromayer Lamp, sufficient to prompt an increased circulation locally over the affected areas, quickly reduces pain and stiffness, and leads to a marked increase in the rate of absorption.

Bruises heal rapidly as reported by many authorities.

**Technique:** Kromayer—Second degree erythema locally.

Alpine—Second degree erythema generally.

**Medical Reference:** Dr. L. C. Donnelly, Detroit, Jour. of Michigan State Medical



KROMAYER COMPRESSION TREATMENT USED FOR DISINFECTING BRUISE

## Bruises and Hematomata, Traumatic Injuries *(Continued)*

Society, March, 1921. Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, 1916. Dr. I. O. Denman, Eye, Ear, Nose and Throat Monthly, March, 1923.

## Burns

(See also X-Ray Burns)

Burns with large blisters from gasoline and oil explosion, showed burning and pain immediately removed. Similar success is reported with X-Ray burns.

**Technique:** Alpine—First degree erythema.

Kromayer—First degree erythema locally.

**Medical Reference:** Dr. A. E. Schiller, Detroit, Jour. Mich. State Med. Soc., June, 1922. Dr. L. C. Donnelly, Detroit, "A Second Publication on Ultra-Violet Ray Therapy with Case Histories," Jour. of the Mich. Sta. Med. Soc., 1921. Maj. C. M. Sampson, M. D., "Physiotherapy Technique," C. V. Mosby Company, 1923, p. 167.

## Bursitis

Rapid results are reported by several authorities.

**Technique:** Kromayer—Third degree erythema applied locally.

Alpine—Third degree erythema applied locally.

**Medical Reference:** Dr. A. H. Bingham, New York City, read at Acad. of Path. Sci., "The Sun Lamp in Orthopedics." Dec. 27, 1918.

## Carbuncles

Prompt relief and cures are reported. It is essential *that drainage* be established.

**Technique:** Kromayer—Third to fourth degree erythema locally under contact on diseased area. Protect healthy skin from rays.

Alpine—Third degree erythema locally. Allow reaction to clear up and repeat.

**Medical Reference:** Dr. L. C. Donnelly, Detroit, "A Second Publication on Ultra-Violet Therapy with Case Histories," Jour. Mich. Sta. Med. Soc., 1921. Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, 1916.

## Cardiac Diseases

As outlined under Blood Pressure, both Hypertension and Hypotension are normalized. Hypernoea, tachycordia and dyspnoea are removed, or greatly relieved

**Technique:** Alpine—First degree erythema, general body radiation.

**Medical Reference:** Dr. C. Benoit, Review in Jour. of Elect. and Radiol., Aug., 1923, p. 260. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, New York, 1916.



## Catarrh

Bronchial—(See "Asthma.")

**Technique:** Alpine—First to second degree erythema. Tonic dose. General body treatment.

Kromayer—First to second degree erythema. Allow to clear up and repeat.

**Medical Reference:** E. F. Traub, M. D., Med. Jour. & Record, July 15, 1925.

## Catarrh of the Cervix Uteri

(See Gynecology.)

**Technique:** Kromayer—Second degree erythema. Direct exposure where possible.

Alpine—General tonic radiation. Second to third degree erythema.

## Celiac Disease

At the scientific exhibit of the University of Illinois at the A. M. A. meeting, Chicago, June, 1924, Dr. Julius Hess (Prof. of Pedr., University of Ill., Chicago), announced that numerous favorable results had been obtained in cases of celiac disease, which had been treated with the Alpine Sun Lamp.

**Technique:** Alpine—First degree erythema.

## Cellulitis (Pelvic)

(See Gynecological conditions.)

**Technique:** Kromayer—Second degree erythema, using appropriate applicator. Allow to clear up and repeat.

Alpine—General body radiations always indicated. Second degree erythema, at 30 inches, decreasing to a minimum of 10 inches in subsequent treatments.

**Medical Reference:** L. C. Donnelly, M. D., Michigan State Med. Jour., Jan., 1925.

## Cervical Erosions, Cervicitis

(See Gynecology.)

**Technique:** Kromayer—Second degree erythema—The usual method of application is by means of the medium Sharpe Localizer or McCaskey Prostatic Applicator, applied through a vaginal speculum. Where gonococci are present all the mucous surfaces should be carefully radiated. Allow few days to clear up and repeat.

Alpine—General body radiations. Second degree erythema. Thirty inches—decreasing distance in subsequent treatments to about 10 inches, gradually.

## Cervical Lymph Glands (Tuberculous)

In view of the universally recognized importance of quartz light therapy in this particular manifestation, it seems worthy of special notice. Many brilliant cases have been reported from time to time, and authoritative writers prefer this treatment to surgical operations where such can possibly be avoided. Where surgical operation is necessary, subsequent treatment with the Alpine Sun Lamp has proven of great service. In most cases a course of general radiations may advantageously be combined with the local treatment of the lesions.

## Cervical Lymph Glands (Tuberculous)—*(Continued)*

A careful study of each individual case should be made accurately to adapt the dosage to the tolerance of the patient. Where the patient shows otherwise normal physical condition there will generally be found a better tolerance for the ultra-violet rays.

**Technique:** Alpine—General tonic dose; distance about 12 inches. Allow reaction to subside and repeat, strengthening dosage slightly.

Kromayer — Compression treatment locally, giving a second degree erythema.

**Medical Reference:** Dr. A. H. Bingham, "Sun Lamp in Orthopedics," Read at Acad. of Path. Science, New York City, Dec. 27, 1918. Dr. A. E. Schiller, Jour. Mich. Sta. Med. Soc., June, 1922. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916.

## Chancroid

The Kromayer Lamp has been used very successfully in treating chancroids.

**Technique:** Kromayer—Third degree erythema, distance 2½ inches. The associated glandular enlargement treated by compression with the Kromayer, third degree erythema. Allow reaction to subside and repeat.

**Medical Reference:** Dr. A. E. Schiller, Jour. Mich. State Med. Soc., June, 1922.

## Chilblain

(See Erythema Pernio.)

**Technique:** Alpine—Second degree erythema. Allow to clear up and repeat.

**Medical Reference:** L. J. Carter, Canadian Med. Ass'n. Jour., Feb., 1925.

## Chloasma

Chloasma responds readily with *Kromayer* Lamp, although the underlying cause is more important than the treatment of the local manifestation.

**Technique:** Kromayer—Third degree erythema; contact with compression, using quartz lens. Allow to clear up and repeat.

**Medical Reference:** Dr. R. Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey and Gorrecht, 1918.

## Chlorosis

(See Anemia.)

**Technique:** Alpine—General tonic radiation. Second degree erythema.

**Medical Reference:** L. C. Donnelly, M. D., Amer. Jour. of Physical Therapy, Nov., 1924.

## Chorea

Decided benefit is claimed for quartz light therapy by one author, who writes: "Good results were observed in a girl ten years old. The spasmodic movements of the face and hands disappeared after twelve treatments, with lamp at 24 inches distance, and the general condition improved."

**Technique:** Alpine—General tonic radiation.



## Chorea—*(Continued)*

**Medical Reference:** Dr. F. J. Kern, Cleveland, Ohio State Med. Journal, April, 1922. Dr. Hugo Bach, "Ultra-Violet Light," Hoeber, New York City, 1916. L. G. Beinhauer, Arch. of Dermat., June, 1925.

## Cicatrix

(See Keloid.)

**Technique:** Kromayer—Third degree erythema, contact with firm compression, using quartz lens applicator. Allow reaction to clear up and repeat.

## Colitis

Just as ultra-violet radiation has proved its value in Constipation, so also has it shown its value in the treatment of Colitis, of which Constipation is the most frequent cause.

**Technique:** The colon should be kept clean.

Alpine—First degree erythema, general body radiation.

## Colpitis Granularis

(See Gynecology.)

**Technique:** Alpine—General radiations always indicated and local if accessible.

Kromayer—Second degree erythema, using the medium Sharpe Localizer or the McCaskey Prostatic Applicator. Allow few days to clear up and repeat.

## Conjunctivitis, Gonorrheal, Phlyctenular and Corneal Ulcer

Favorable reports are made by several authorities.

**Technique:** Kromayer—First degree erythema at 2½ inches. Careful local applications are necessary.

Alpine—First degree erythema. Protect healthy portions from rays.

**Medical Reference:** Dr. I. O. Denman, Toledo, Eye, Ear, Nose and Throat Monthly, March, 1923. Major C. M. Sampson, "Physiotherapy Technique," C. V. Mosby, St. Louis, 1923.

## Conjunctivitis, Phlyctenular

The Kromayer Lamp is best suited, but equal results are recorded with Alpine Sun Lamp. Careful localized treatments should be administered.

**Technique:** Fifteen seconds at about eighteen inches—increasing time and shortening distance gradually at subsequent treatments. Treatments every three or four days, allowing reaction to subside and repeat.

## Corneal Ulcer

The Alpine Sun Lamp is very successful in cases of this kind.

**Technique:** Alpine Sun Lamp—First degree erythema at about eighteen inches, increasing dosage at subsequent treatments, allowing reaction to subside and repeat.

## Coxitis, Tuberculous

Rollier reports favorable results in this condition.

**Technique:** Alpine—First degree erythema, general body radiations.

**Medical Reference:** Dr. Rollier, Leysin, Switzerland, Zeit für Baln, Vol. IV, No. 1.

## Cystitis

Marked relief has been reported from several sources by treatment of this condition through the vagina or rectum. The painful urination is usually controlled after the third or fourth radiation.

**Technique:** Kromayer—Third degree erythema, using proctoscope via rectum or with Sharpe Localizer and small size Wagner Speculum, or McCaskey Prostatic Applicator through the vagina.

Alpine—General body tonic dose. Second degree erythema locally when accessible.

First few treatments every other day, gradually dropping off to twice weekly.

**Medical Reference:** Dr. Leo. C. Donnelly, Detroit, Jour. of Michigan State Med. Society, 1921. Major C. M. Sampson, M. D., in "Physiotherapy Technic," C. V. Mosby Co., 1923. "Actinic Therapy," by T. Howard Plank, M. D.

## Dermatitis Venenata

Particularly of the ivy poison type, responds readily to treatment with the Alpine Sun Lamp. The painful stinging and burning is usually relieved after the first or second exposure. The rays appear to stop the spread of the disease, and should be administered over the surrounding skin as well as the actual lesion.

Whether resulting from irritation, produced by various chemicals or plant of the Rhus or other species, responds readily to the Kromayer Lamp.

**Technique:** Alpine—General body radiations, giving a good second degree erythema. Distance 30 inches, gradually decrease distance at subsequent treatments.

Kromayer—Second degree erythema. Treat daily until cleared up.

**Medical Reference:** Dr. R. Bernstein, Philadelphia, "Ultra-Violet Rays in Modern Dermatology," Achey and Gorrecht, 1918. Dr. W. J. MacDonald, Boston, Med. and Surg. Journal, May 24, 1923.

## Diarrhoea

(See Bowel Irregularities.)

**Technique:** Alpine—General body radiations. First degree erythema.

**Medical Reference:** L. C. Donnelly, M. D., Amer. Jour. of Phys. Therapy, Nov., 1924. V. Eastabrook and A. R. Lincoln, paper, 1925.

## Diphtheria Carriers, Sterilizing

It is reported that one treatment sterilizes in 50% of cases, and that none requires more than three treatments.

**Technique:** Kromayer—In contact, using nasal rod. Second degree erythema, withdrawing rod gradually at ½-inch intervals, treating each place. Repeat, increasing subsequent dosage slightly.

**Medical Reference:** Dr. L. C. Donnelly, Detroit, in Jour. of the Mich. State Med. Soc., Sept., 1921. Amer. Jour. of Electro. and Radiol., Nov., 1921.



## Dysmenorrhea

Favorable reports have been made on hypothyroid and membranous types.

**Technique:** Alpine—General body radiations, second degree erythema.

Kromayer—Second degree erythema. The usual method of application is by means of the medium Sharpe Localizer or McCaskey Prostatic Applicator. Treatment every three days, to twice weekly.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D. Dr. L. C. Donnelly, Detroit, Med. Jour., Sept., 1920. A. Gottlieb, M. D., Calif. and Western Med., Oct., 1925.

## Eczema

Excellent results have been secured in treating this disease by both the Alpine Sun and Kromayer Lamps. For the most part, mild dosage is sufficient in acute cases. Deeply infiltrated and heavily incrusted lesions require longer exposure to produce the same reaction. Before raying, any heavy crusts should be carefully removed, as they will absorb most of the rays falling upon them. In rare instances of eczema rubum, which become aggravated by sun exposure, Quartz Light would seem to be contraindicated.

General radiation of the entire body with the Alpine Sun Lamp concurrently with the local treatment is strongly recommended in chronic cases.

**Technique:** Alpine—Eczema (Acute): General tonic radiation; when about cleared up, give a light third degree erythema for final clearing up. Lamp at about 30 inches, decreasing gradually to about six inches.

Eczema (Chronic): Third or fourth degree erythema from start at about 30 inches.

Allow reactions to clear up and repeat.

Kromayer (Acute): Second degree erythema at 2½ inches. Allow reaction to clear up and repeat.

For Chronic, Scaly or Dry Eczema. Third to fourth degree erythema at 2½ inches. Allow reaction to clear up and repeat.

**Medical Reference:** Major C. M. Sampson, M. D., in "Physiotherapy Technic," C. V. Mosby Co., 1923. Dr. Ralph Bernstein in "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. Aurol Eczema, Dr. W. C. Barker, Phila., Amer. Jour. Elect. & Radiol., Aug., 1922. Dr. C. S. Thomson, Chief of Clinic U. S. Vet. Bur., Newark, in Amer. Jour. of Elect. and Radiol., July, 1923. Aurol Eczema, Dr. I. O. Denman, E. E. N. T. Monthly, Mar., 1923. Dr. W. J. MacDonald, Boston, Med. and Surg. Jour., May 24, 1923. F. A. Davis, M. D., Med. Jour. & Record, Oct. 19, 1925. T. C. McKenzie, M. B., Ch. B., & I. C. Suttan, M. D., Amer. Jour. Phys. Therapy, June, 1925. E. D. Chipman, Jour. A. M. A., Sept. 27, 1924. J. Zahorsky, M. D., Missouri State Med. Jour., Feb., 1925. L. J. Carter, M. D., Canad. Med. Ass'n. Jour., Feb., 1925. A. S. Clark, M. D., Jour. Cutaneous Diseases, June, 1924.

## Emphysema

(See Asthma.)

**Technique:** Alpine—First or 2nd degree erythema. General body radiations. Allow to clear up and repeat.

## Empyema (Tuberculous)

Draining cavities may be reached by suitable applicators, using the Kromayer Lamp. Successful results have been reported in such conditions where no bronchial fistulae is present.

**Technique:** Kromayer—First degree erythema. Such cavities should be treated daily or twice weekly, using special applicators.

Alpine—General body tonic doses.

## Endometritis

(See Gynecological Conditions.)

**Technique:** Kromayer—Second degree erythema, using medium Sharpe Localizer or McCaskey Prostatic Applicator. Treatment two days to twice weekly.

Alpine—General tonic radiations, local application if possible. Allow to clear up and repeat.

## Enuresis

Favorable results are reported to have been obtained, whereas all usual remedies had failed.

**Technique:** Alpine—General body tonic radiations.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916. "Actinic Therapy," by T. Howard Plank, M. D. L. C. Donnelly, M. D., Amer. Jour. of Physical Therapy, Nov., 1924.

## Epididymitis

Results obtained are reported as very satisfactory.

**Technique:** Kromayer—Second to third degree erythema without applicators.

**Medical Reference:** Dr. Leo. C. Donnelly, Detroit Med. Journal, Sept., 1920. Dr. F. J. Kern, Ohio State Medical Journal, April, 1922. C. T. Stone, M. D., Amer. Jour. of Physical Therapy, Apr., 1924.

## Erysipelas

Good results are reported in Clinical Reports of 100 cases. Preferred to X-Ray.

The powerful bactericidal action of the ultra-violet rays proves very valuable in the treatment of this disease, and for that reason quartz light therapy is the favorite mode of treatment with many physicians.

**Technique:** Alpine—Third degree erythema at 30 inches, decreasing to a minimum of 18 inches. Allow to clear up and repeat.

Kromayer—Second degree erythema with compression, making sure that all the surrounding skin is covered, so that subsequent treatments do not overlap. Treat daily.

**Medical Reference:** Dr. Alois Czepa, New York Medical Journal and Medical Record, Oct. 18, 1922, page 485. Dr. Bernstein, Philadelphia, "Ultra-Violet Rays in Modern Dermatology," Achey and Gorrecht, 1918. J. Zahorsky, M. D., Mo. State Med. Jour. Feb., 1925. A. Jordan, Northwest Med., Jan., 1917.



## Erythema Induratum (Bazin's Disease)

Excellent results were obtained in treating erythema induratum with the Kromayer Lamp.

**Technique:** Kromayer—Second to third degree erythema in contact without compression.

**Medical Reference:** Drs. H. E. Alderson and H. C. Coe, Stanford Univ. Med. School, in Calif. State Jour. of Med., Vol. xxii, Jan., 1924. Dr. E. L. Oliver, Boston, Archives of Dermatology and Syphiol., November, 1922, with discussion by Drs. Fred Wise, New York, and A. W. Stillians, Chicago. Dr. W. J. MacDonald, Boston Med. and Surg. Journal, May 24, 1923.

## Erythema Multiforme

Splendid results were obtained with both Alpine Sun and Kromayer Lamp. When extensive lesions are present, treatment is much more convenient with the Alpine Sun Lamp. In any case general body radiations with the Alpine Sun Lamp is recommended concurrently with the local radiations of the lesions.

**Technique:** Kromayer—Second degree erythema at 8 inches. Allow to clear up and repeat.

Alpine—General tonic radiation, and locally a second degree erythema. Allow to clear up and repeat.

**Medical Reference:** Dr. Ralph Bernstein, Phila., in "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918.

## Erythema Pernio (Chilblain)

Readily succumbs to the influence of ultra-violet rays and decided relief after second treatment is reported.

Whether of a neurotic type or induced simply by cold, this condition may be quickly alleviated by applications of quartz light, and the intense itching promptly relieved. In the cases of neurotic patients, general body radiations may be administered to improve the general condition.

**Technique:** Alpine—Second degree erythema at 18 inches. Allow to clear up and repeat.

Kromayer—Third degree erythema at 2½ inches. Allow to clear up and repeat.

**Medical Reference:** Dr. R. Bernstein, Philadelphia, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918.

## Felon

(See Paronychia.)

**Technique:** Alpine—General body radiations and local second degree erythema.

Kromayer—Second or third degree erythema.

## Fever (in Tuberculosis)

Marked reduction in temperature quickly noted.

**Technique:** Alpine—First degree erythema.

**Medical Reference:** Dr. S. F. Blanchet, Saranac Lake, N. Y., "17th Annual Meeting National T. B. Association." Dr. H. L. Grasso, N. Y. Medical Journal, Jan. 6, 1917.

## Folliculitis Decalvans

Reported rapid cure, resisting all other treatments.

This condition requires strenuous treatment. Before radiating the pustules should be carefully opened and evacuated. If the hair papillae have not already been destroyed, it is usually a matter of considerable gratification to the patient to observe the prompt way in which the hair falling is arrested.

**Technique:** Alpine—Third degree erythema at 24 inches. Allow reaction to subside and repeat, decreasing the distance to 16 inches gradually.

Kromayer—Third degree erythema at 2½ inches. Treatment every other day to twice weekly as the condition warrants.

**Medical Reference:** Dr. W. J. MacDonald, Boston, Boston Med. and Surg. Journal, Vol. 188, No. 21, p. 809, May, 1923. Dr. R. Bernstein, Phila., "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918.

## Fracture

Favorable reports are reported in the treatment of Compound Fracture of Metatarsal Colles Fracture, etc. Both Alpine Sun and Kromayer Lamps were used.

**Technique:** Alpine—First degree erythema, general body radiation. Treatment on alternate days locally.

Kromayer—Second degree erythema in contact.

**Medical Reference:** Dr. Leo C. Donnelly, Detroit, Uutra-Violet Ray Therapy with Case Histories, Jour. Mich. Sta. Med. Soc., March, 1921. J. Zahorsky, M. D., Missouri State Med. Jour., Feb., 1925.

## Furunculosis

If taken before it begins to suppurate a boil may be readily aborted by an intensive compression treatment with the Kromayer Lamp. One treatment will usually suffice.

**Technique:** Alpine—Third degree erythema, covering the surrounding tissue, 12 to 15 inches distance, repeat.

Kromayer—Third degree erythema. Contact under firm compression, using quartz lens. Usually not necessary to repeat treatment.

**Medical Reference:** Dr. I. O. Denman, Eye, Ear, N. & T. Monthly, March, 1923. Dr. R. Bernstein, Philadelphia, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. Dr. Post, Chicago, Lecture read before Associated Drs. of St. Anne's Hospital, 1920. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916.

## Gangrene—Threatened

If the destruction process has not gone too far, mild stimulation of the affected parts by quartz light radiations may prove decidedly helpful. Good results have been reported by several writers.

**Technique:** Alpine—Third degree erythema at 30 inches, decreasing distance at subsequent treatment. Allow to clear up and repeat.

Kromayer—Third degree erythema should be produced over radiated area, and as soon as erythema fades, repeat. (This can be in addition to any other treatment being administered.) Treatment, two to three times weekly, bearing in mind the patient's tolerance.

**Medical Reference:** D. A. Kriser, Munchener Medizinische Wochenschrift. Dr. Leo C. Donnelly, Detroit, Ultra-Violet Ray Therapy, with Case Histories, Jour. Mich. Sta. Med. Soc., March, 1921.



## Gangrene (Threatened)—*(Continued)*

## Gastro-Intestinal Diseases (Gastric Ulcer)

Excellent results have been obtained in treating gastro-intestinal diseases with the Alpine Sun Lamp, including gastric ulcer, hyperacidity and hypersecretion. Some favorable recoveries with improvement in appetite and general condition.

**Technique:** Alpine—General tonic radiations, giving a first or second degree erythema over abdominal region. Increasing treatment, and decreasing distance at subsequent treatment.

**Medical Reference:** Dr. Leo C. Donnelly, Detroit, American Journal of Elect. & Radiol., Dec., 1922. Dr. Luis Y. Yague, Inter. Med. Dig.; also in Los Progresos de la Clinica, Jan. 31, 1920, CXXXVI, 79.

## Gingivitis

(See Pyorrhea.)

**Technique:** Kromayer—Scale the teeth thoroughly, using a pyorrhea applicator, placing the tip of the applicator directly on the spot, using pressure to dehaematize, treating the area both facially and lingually, giving a third degree erythema. Subsequent treatments, the dosage should be increased.

**Medical Reference:** A. L. Parsons, D. D. S., Dental Cosmos, June, 1925.

## Glands

(See Cervical Lymph Glands.)

**Technique:** Alpine—General tonic doses. Distance 12 inches. Allow reaction to subside and repeat, increasing dosage slightly.

Kromayer—Compression treatment locally, giving a second degree erythema.

**Medical Reference:** L. C. Donnelly, M. D., Amer. Jour. of Phys. Therapy, Nov., 1924.

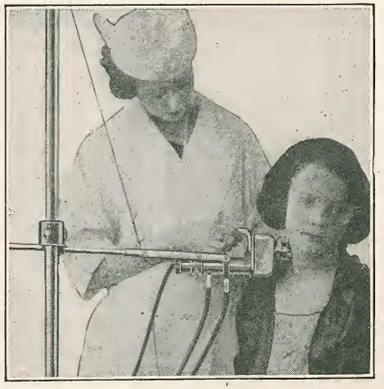
## Goiter

In cases of Goiter, the Kromayer Lamp is preferable to the Alpine Sun. However, the use of the latter in conjunction with the Kromayer is suggested as conducive to general well-being during period of treatment. In a particular case, after a dozen treatments, the report was, "Goiter very much **improved.**"

**Technique:** Kromayer—Third degree erythema. Allow to clear up and repeat.

Alpine—General body radiations locally, second to third degree erythema.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D.



KROMAYER COMPRESSION FOR GOITER

## Gonorrhea

In both male and female this condition is greatly improved because of the powerful bactericidal properties of the ultra-violet rays. The mucous membranes should be thoroughly radiated, also the prostate and posterior urethra, per rectum, using the Plank Proctoscope. Radiation of the penis upper and lower surfaces and over the pubes is also recommended.

It is reported that if a treatment is begun with males within the first three or four days after first discharge is seen, that the case can be successfully treated.

**Technique:** Kromayer—Second degree erythema, using proctoscope or McCaskey Prostatic Applicator, and medium Sharpe Localizer through a vaginal speculum in treating female patients. Male patients, Proctoscope over prostate and posterior urethra, two inches over penis, testicles and inguinal glands. Treatment daily until discharge is controlled. Then twice weekly. In the male, the long quartz rod is used.

Alpine—General body radiations, tonic dose, to stimulate and increase resistance.

**Medical Reference:** Dr. Leo C. Donnelly, Detroit, Medical Journal, Sept., 1920.

## Gout

Good results are reported in treatment of gout. Patients with faulty heart action are greatly benefited as the functions of the skin are greatly stimulated by the rays of the Alpine Sun Lamp. The resulting reduction of blood pressure and the stimulation of metabolism are also of great benefit to persons troubled with gout.

**Technique:** Alpine—General tonic radiations at 15 inches. Treatment repeated after reaction clears up.

**Medical Reference:** Dr. Hugo Bach, in "Ultra-Violet Light," Paul B. Hoeber, 1916.

## Granuloma Pyogenicum

The clearing up of the condition is reported.

**Technique:** Alpine—Fourth degree erythema at 10 inches. Surrounding skin must be protected.

**Medical Reference:** Dr. Parkhurst, Toledo, Arch. of Dermat. and Syphiol., March, 1922.

## Gunshot Wounds

The Alpine Sun Lamp has been employed in the treatment of gunshot wounds in many of the Base Hospitals, proving an effective means of clearing up sluggish and infected cases. Badly suppurating wounds of several months' standing have been found to put on a healthy appearance and clear up in from two to seven treatments.

**Technique:** First cleanse wound thoroughly and carefully remove all pus, scabs, etc., so that light can reach every part of the wound. The rays not only stimulate healthy granulation but the bactericidal effect is assisted by removing all obstructions to the light.

Alpine—General body radiations; giving local second degree erythema if exposed.

Kromayer—First to second degree erythema, locally, using suitable applicator when necessary.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916. Dr. Leo C. Donnelly, Jour. Mich. State Med. Soc., Jan., 1922. Dr. A. E. Schiller, Detroit, Journal of the Mich. State Med. Soc., June, 1922.



## Gynecological Conditions

Mucous membranes of the vagina and rectum require heavy treatment to produce results. Light doses will not suffice. The quartz speculae with Sharpe Localizers and long quartz rods, or McCaskey's Prostatic Applicator are usually found convenient. Compression is also necessary to obtain the deep bactericidal effect of the rays.

Many prominent gynecologists have reported successful use of quartz light in treating a variety of pelvic inflammatory conditions, including Neisserian Infections, Pruritis Vulvae, Dysmenorrhea, Cervical Erosions, Vaginitis, Pelvic Cellulitis, Colpitis, Granularis, Myomata of the Uterus, Melorrhagia, Endometritis, Leucorrhea, Pysalpinx and Ovaritis.

The bactericidal action of the quartz rays is most important, particularly where gonococci are present, and the local stimulating action on the affected parts apparently proves more effective when augmented by external radiations with the Alpine Sun Lamp over the entire torso. This holds wherever the general condition has become affected as a result of the disease.

**Technique:** Alpine—Second degree erythema, when the lamp may be used locally.

General tonic radiations always indicated and local if accessible.

Kromayer—Second degree erythema. The usual method of application is by means of the medium Sharpe Localizer applied through a vaginal speculum. Where gonococci are present all the mucosis surfaces should be carefully radiated. It is not in any way suggested that surgical and other methods be neglected where indicated, though in many cases operation may be avoided by appropriate treatment every other day to twice weekly.

## Hair, Falling

Premature falling of the hair is generally due to germ infection of the hair follicles. If there is any life left in the hair follicle, continued use of the ultra-violet rays will stimulate hair growth. The ultra-violet kill the germs in the hair follicle and prevent further loss of hair.

**Technique:** Alpine—Third degree erythema, focusing rays through lamp's apertures to cover small affected areas. Forty-eight hours for first three treatments, and then twice weekly thereafter. Protect patient's forehead and ears.

**Medical Reference:** Dr. Leo C. Donnelly, Detroit, Medical Journal, Sept., 1920. Results of epilating X-Ray overdose, Arch. Dermat. and Syph., Sept., 1922. Richard H. Muller, Med. Record, May 8, 1915.

## Hay Fever and Rhinitis

Favorable results have been reported in the treatment of hay fever by radiating the air passages of the nose by means of the solid quartz rod applicator. The sneezing and lacrimation are usually controlled in six to eight treatments.

**Technique:** To get the most effective benefits in treating this condition, Quartz Light Therapy should be preceded with conversive application of high frequency through a non-vacuum electrode. Dr. Sampson states that he has found the conjoint use of high frequency preceding the ultra-violet gives much better results than the use of high frequency or ultra-violet alone. The high frequency is adminis tered through a nasal mucosa, starting with a mild heat gradually to tolerance from 5 to 10 minutes' treatment to each side of the nose. This followed by ultra-violet through the nasal applicator, pushing the applicator as far back in the naris as possible, giving a three to four-minute exposure; then slightly withdrawing the nasal applicator one-half inch or so, giving

## Hay Fever and Rhinitis—*(Continued)*

similar exposure. Then withdraw at short intervals, applying the applicators clear of the nose. Treat the other nasal the same way. Then replace nasal applicator with hay fever applicator, placing it in position behind the uvula and direct the ultra-violet into the posterior naris, giving a two to three-minute exposure, keeping the end of the applicator gently moving all the time so as to prevent excessive reaction at any one spot and to diffuse the light. Then remove the hay fever applicator and use a Sharpe localizer and place tonsil applicator or similar one and ray the entire throat and tonsils, being careful not to produce a fourth degree erythema.

Treatments daily unless there is excessive evidence of reaction in any one locality, in which case treatments on that locality should be omitted until reaction dies down.

Favorable results are reported in the treatment of Hay Fever and Rhinitis. In both cases general body radiation should be given with the Alpine Sun Lamp, and more particularly in the case of hay fever, local application well into the antrum by means of a speculum. This may be more conveniently administered, however, by the Kromayer Lamp, and straight quartz rod applicator.

Sampson says this treatment of hay fever comes near to being specific.

**Medical Reference:** Maj. C. M. Sampson, M. D., "Physiotherapy Technique," C. V. Mosby Co., 1923, page 386. Drs. F. J. Novak and A. R. Hollender, in Illinois Med Jour., April, 1924. A. R. Hollender, M. D., and Maurice H. Cottle, M. D., Medical Herald and Physiotherapist, June, 1925. A. R. Hollender, M. D., Eye, Ear, Nose and Throat Monthly, June, 1924. C. R. Brooke, M. D., Int. Clinics, Vol. 2, Series 34.

## Hemorrhoids

Usually considered best to operate where large protruding hemorrhoids present and then treat. Gratifying results reported, pain quickly relieved.

**Technique:** Third degree erythema; contact with firm compression, using special hemorrhoid applicator. The applicator should be suitably lubricated and firmly held in its holder to avoid losing it through pressure of the sphincter muscles. It is first carefully introduced and the lamp is then brought into position on the holder. Where difficulty is found in entering the applicator a small vibrator applied to the back wall will cause the muscles to relax and the applicator is entered without distress. Allow reaction to clear up and repeat.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D.

## Herpes Zoster (Shingles)

Relief can be afforded the patient, not only from the severity of the eruption, but from the accompanying neuralgic pains if treatment is given at the onset of the attack. Radiations with the Alpine or Kromayer Lamp will often arrest the development of cutaneous manifestations.

**Technique:** Alpine—Second degree erythema, radiations over spinal and nerve distribution centers at 30 inches distance. Allow to subside and repeat.

Kromayer—Third degree erythema, 2½ inches. Allow to subside and repeat with fourth degree erythema.

**Medical Reference:** Dr. R. Bernstein, Phila., "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. "Actinic Therapy," by T. Howard Plank, M. D.



## Hives

(See Urticaria.)

**Technique:** Kromayer—Second degree erythema, 2½ inches, treat twice weekly.

Alpine—Second degree erythema, 30 inches over affected areas. Allow to subside and repeat, increasing dosage and decreasing distance to 18 inches.

## Hypertrophied Turbinates

Shrinkage of turbinates to normal size is reported.

**Technique:** Kromayer—Second or third degree erythema, contact under compression with nasal applicator. Increase dosage at subsequent treatments.

Alpine—Tonic dose.

## Hypochondriasis

The great blood building and tonic effect of the rays probably largely accounts for the favorable results reported here.

**Technique:** Alpine—First degree erythema, general body radiation.

## Hysteria

(See Neurasthenia.)

**Technique:** Alpine—First degree erythema, general body radiation.

## Ichthyosis

This condition, considered a congenital disease by almost all observers, undoubtedly is due in a great measure to defective action of the sebaceous and sweat glands. (Dr. D. W. Montgomery, Ref. Hdbk. of the Med. Soci., Vol. V., p. 493.) Evidently the powerful action on the glands and skin responsible for the favorable reports in this condition.

Where the patient is willing to submit to rather severe reaction, even to the point of vesication, this condition is greatly relieved by the Alpine Sun Lamp.

**Technique:** Alpine—General body radiations, giving second, third and fourth degree erythema at subsequent treatments, allowing the reaction of each to subside before repeating.

**Medical Reference:** Dr. R. Bernstein, Philadelphia, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. "Actinic Therapy," by T. Howard Plank, M. D.

## Impetigo (Contagioso)

One author reports the results are quite astonishing; two or three exposures being sufficient to clear up exceedingly persistent cases.

The bactericidal properties of the ultra-violet rays make the Alpine Sun and Kromayer Lamps important factors in the treatment of this disease. In some cases heavy radiation to vesication is necessary.

**Technique:** Alpine—Third degree erythema at 30 inches, reducing distance and increasing dosage at subsequent treatments to 18 inches. Allow to subside and repeat.

Kromayer—Third degree erythema at 2½ inches.

**Medical Reference:** Lecture by Dr. Post before Assoc. Doctors of St. Anne's Hospital, Chicago. "Actinic Therapy," by T. Howard Plank, M. D. J. Zahorsky, M. D., Missouri State Med. Jour., Feb., 1925. G. B. Eusterman, Ohio State Med. Jour., Nov., 1924.

## Hay Fever and Rhinitis—*(Continued)*

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**Medical Reference:** Lecture by Dr. Post before Assoc. Doctors of St. Anne's Hospital, Chicago. "Actinic Therapy," by T. Howard Plank, M. D. J. Zahorsky, M. D., Missouri State Med. Jour., Feb., 1925. G. B. Eusterman, Ohio State Med. Jour., Nov., 1924.

## Infantile Paralysis

Excellent results are reported as obtained in improving the general health of patients suffering from infantile paralysis.

**Technique:** Alpine—First degree erythema. General body radiations.

**Medical Reference:** Dr. Leo C. Donnelly, Detroit, Med. Jour., Sept., 1920.

## Infantile Tetany

It has been conclusively demonstrated that the calcium concentration of the serum is regularly low in cases of active and infantile tetany, and it has been shown that the calcium concentration of the serum of rachitic children can be raised to a normal level by exposing the children to ultra-violet rays.

**Technique:** Alpine—Second degree erythema, giving general body radiations. Increase subsequent exposures, bearing in mind the increasing tolerance of the patient. Allow reaction to subside before repeating.

**Medical Reference:** Drs. Horton, Casparis and Benjamin Kramer, from the Department of Pediatrics of the Johns Hopkins University and the Harriet Lane Home, Johns Hopkins Bulletin, July, 1923. Dr. L. A. Hoag, of Boston, American Journal of Diseases of Children, Aug., 1923. Dr. Fonteyne, Soc. Delge de Ped., in A. M. A. Jour., April 26, 1924, p. 1375. E. P. Russell, M. D., Michigan State Med. Jour., Dec., 1924.

## Infants (Prematurely Born)

Prematurely born infants' metabolism is raised by treatment under the Alpine Sun Lamp as shown in the Children's Hospital of Boston.

**Technique:** Alpine—First degree erythema. General body radiations.

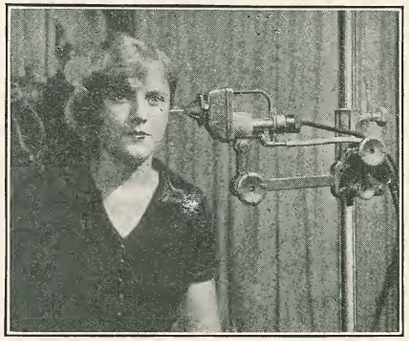
## Infections (Bather's Ear; Chronic Middle Ear Suppuration, etc.)

Owing to the powerful bactericidal action of ultra-violet rays, all kinds of infections may be treated with the greatest success by ultra-violet rays.

**Technique:** Alpine—First degree erythema. General body radiations.

Kromayer—Second or third degree erythema locally. Allow reaction to subside and repeat.

**Medical Reference:** Dr. I. O. Denman, Eye, Ear, Nose and Throat Monthly, March, 1923. Bulletin of Johns Hopkins Hospital, Jan., 1923. New York Medical Journal and Medical Record, July 4, 1923. Arch. of Int. Med., May, 1917, Vol. XIX, part 1, page 801. W. E. Howell, Medical Herald and Physiotherapist, June, 1923. I. O. Denman, M. D., Amer. Medicine, June, 1925. J. Zahorsky, Mo. State Med. Journal, Feb., 1925. A. E. Schiller, M. D., Michigan State Med. Jour., June, 1922.



KROMAYER LAMP TREATING A CASE OF CHRONIC MIDDLE EAR SUPPURATION



## Influenza

Quartz Light is reported to be a logical treatment for aborting influenza and for the treatment of convalescent cases of this character.

**Technique:** Alpine—First or second degree erythema. General body radiations.

**Medical Reference:** Dr. L. C. Donnelly, Jour. of Mich. State Med. Soc., Jan., 1922; also Journal of Mich. Sta. Med. Soc., March, 1921.

## Injuries (Traumatic)

(See Bruises.)

**Technique:** Alpine—Second degree erythema generally.

Kromayer—Second or third degree erythema locally.

## Insomnia

Exposure to ultraviolet rays produces a marked improvement in a large majority of cases. Generally, on the following night patients experience sound sleep.

**Technique:** Alpine—First degree erythema, general body radiations.

**Medical Reference:** Dr. S. F. Blanchet, Saranac Lake, transactions Seventeenth Annual Meeting Nat'l T. B. Ass'n. "Actinic Therapy," by T. Howard Plank, M. D. Dr. L. C. Donnelly, Detroit, Mich., Jour. of Mich. State Med. Soc., 1921.

## Intestinal Diseases

Favorable results are reported in very severe cases of hypersecretion and hyperacidity, as well as in cases of stomach and intestinal trouble.

**Technique:** Alpine—First or second degree erythema, general body radiations.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, 1916. Dr. L. C. Donnelly, Amer. Jour. of Elec. and Rad., Dec., 1922., No. 12.

## Intestinal Obstructions

**Technique:** Alpine—First degree erythema. General body radiations.

## Intestinal Tuberculosis

(See under Tuberculosis.)

**Technique:** Alpine—General body radiations.

## Keloid and Scars

Favorable reports are had from treatment of this condition with the Kromayer Lamp.

On account of the heavy thickening of the tissues severe dosage is necessary to produce anything more than a surface reaction.

**Technique:** Kromayer—Third degree erythema, contact under firm compression, using quartz lens applicator. Allow reaction to clear up and repeat. It is best to cover the treated area when treating another, so that the treatments will not overlap.

**Medical Reference:** Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. Dr. W. L. Clark, Therap. Gazette, May 15, 1916.

## Keratosis Pilaris

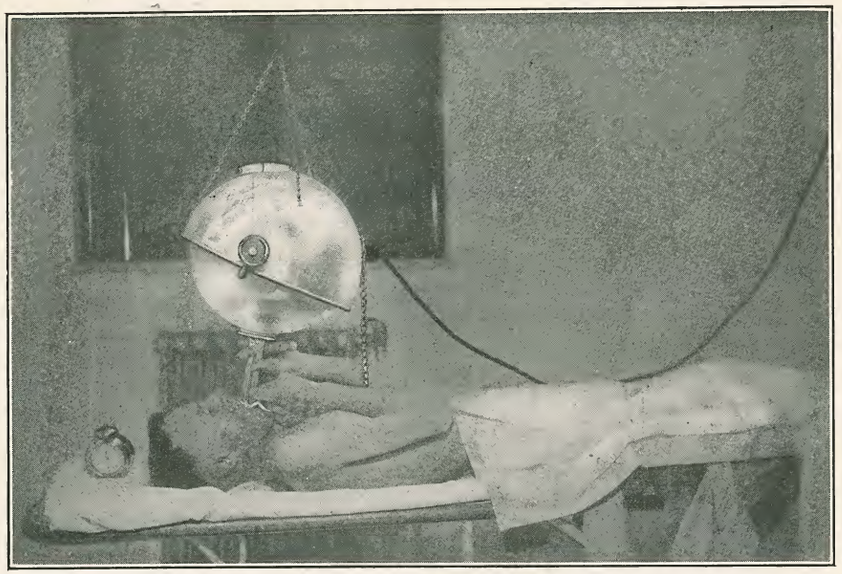
This condition readily responds to local radiations with either the Alpine or Kromayer Lamp. Mild reaction with slight exfoliation usually is enough to relieve condition.

**Technique:** Alpine—Second degree erythema according to the stubbornness of the case. Distance 30 inches, decreasing distance at subsequent treatments.

Kromayer—Second degree erythema, at 8 inches. Allow to clear up and repeat.

**Medical Reference:** Dr. Michelson, Archives of Derm. & Syph., May, 1922. Dr. Fred Wise, New York Med. Jour., Feb. 3, 1917. Dr. R. Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918.

## Laryngitis (Acute and Tubercular, also Pharyngitis)



Alpine Sun Lamp Treating Case of Tubercular Laryngitis

Marked success has followed the treatment of tubercular laryngitis as well as the acute forms of this disease.

**Technique:** Kromayer—First or second degree erythema, using a laryngeal applicator. Caution should be used not to cause a violent reaction. Treatment every two days if reaction will allow.

Alpine—External first degree erythema local radiations may be given, including the head and chest.

**Medical Reference:** Dr. Edgar Mayer, Saranac Lake, Amer. Rev. of Tub., Dec., 1921. Dr. I. O. Denman, Eye, Ear, Nose and Throat Monthly, March, 1923. M. Osterman, Amer. Jour. of Phys. Therapy, Jan., 1925. I. O. Denman, M. D., Eye, Ear, Nose and Throat Monthly, June, 1923. J. H. Bendes, Chicago Med. Soc. Bul., Sept. 2, 1923.



## Leucorrhea

(See Gynecological Conditions.)

**Technique:** Kromayer—Second degree erythema. The usual method of application is by means of the Medium Sharpe Localizer or the McCaskey Prostatic applicator, applied through a vaginal speculum. Treatment, two days to twice weekly.

Alpine—General body tonic dose.

## Leukoderma (Vitiligo)

The areas that respond with complete, or nearly complete, pigmentation as a result of treatment by ultra-violet light are those situated on the face. Achromic areas or covered surfaces of the body respond with only a partial degree of pigmentation, the degree of pigmentation in an area being approximately in inverse ratio with the degree to which it had been habitually kept protected from the sun's rays.

**Technique:** Kromayer Lamp—With a lens applicator under compression, third degree erythema. Normal skin should be protected.

**Medical Reference:** Dr. N. Toomey, Instructor in Derm., St. Louis University of Medicine, Journal Missouri State Med. Ass'n, Dec., 1922. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916.

## Lichen (Planus and Tropicus)

Lichen Planus responds readily to moderate doses of ultra-violet light. Most authors recommend radiation sufficient to produce a mild blistering. The prompt control of the accompanying pruritus is an advantage.

**Technique:** Alpine—First or second degree erythema. General body radiations, 30 inches.

Kromayer—Second degree erythema, 2½ inches.

**Medical Reference:** Dr. W. J. MacDonald, Boston, Boston Med. & Surg. Jour., Pg. 809, May 24, 1923. "Actinic Therapy," by T. Howard Plank, M. D. Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. E. D. Chipman, M. D., Jour. A. M. A., Sept. 27, 1924. C. S. Thompson, Amer. Jour. Electro. & Radiology, June, 1925.

## Lumbago

Favorable reports are had in this condition whether associated with sciatic neuritis or not. Pain is gradually lessened at each treatment.

**Technique:** Alpine—Second degree erythema. General body radiation, particularly over lumbar region.

Kromayer—Second degree erythema locally.

**Medical Reference:** Dr. Donald McCaskey, N. Y. Med. Jour., Dec. 27, 1919. Dr. L. C. Donnelly, Det. Med. Jour., Sept., 1920. "Actinic Therapy," by T. Howard Plank, M. D.

## Lupus Erythematosus

Dermatologists claim that this condition succumbs readily to quartz light. The treatment is practically painless, effect important, scarring from lesion reduced to a minimum.

Strenuous treatment should be given.

## Lupus Erythematosus—*(Continued))*

Violent reaction, even to a severe burning with heavy vesication, is necessary to secure the best results. General body radiations with the Alpine are strongly recommended concurrently with the local treatment with the Kromayer.

It is preferred by some writers to administer a very severe burning by compression, giving milder radiations in between.

**Technique:** Kromayer—Fourth degree erythema, contact under firm compression, using quartz lens applicator. Treatment two to three weeks.

Alpine—Third degree erythema at 24 inches, decreasing distance at subsequent treatments. General body radiations. Allow reaction to subside and repeat.

**Medical Reference:** Dr. C. A. Simpson, Southern Med. Jour., Oct., 1918, No. 10. Dr. A. Schuyler Clark, Jour. of Cuta. Diseases, June, 1914. Dr. W. L. Clark, Philadelphia, Therapeutic Gazette, May 15, 1916. Dr. G. M. McKee, "X-Rays and Radium in the Treatment of Diseases of the Skin," Lea & Febiger, 1921. T. C. McKenzie, M. B., Ch. B. and I. C. Suttan, Amer. Jour. of Phys. Therapy, June, 1925. L. J. Carter, Canad. Med. Ass'n Jour., Feb., 1925. E. D. Chipman, Jour. A. M. A., Sept. 27, 1924. Howard Fox, M. D., Jour. of Cutaneous Diseases, March, 1917.

## Lupus Vulgaris (Also Scrofuloderma)

Favorable results are reported by many authorities.

**Technique:** Kromayer Lamp—In contact under compression, third to fourth degree erythema. Repeat after reaction subsides in two or three weeks.

Alpine Sun Lamp—A general body radiation with the Alpine Sun Lamp, first or second degree erythema.

**Medical Reference:** Dr. E. L. Oliver, Jour. A. M. A., Aug. 19, 1922. Dr. A. Schuyler Clark, Jour. of Cut. Diseases, June, 1914. Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. Dr. E. W. Hirsch, Amer. Jour. of Clin. Med., June, 1922. Scrofuloderma. Dr. W. J. MacDonald, Boston Med. and Surg. Jour., May 24, 1923. H. L. Classen, M. D., Cincinnati Jour. of Med., May, 1925. E. D. Downey and F. A. Forney, Colo. Med., Jan., 1925. F. Wise, M. D., Arch. of Dermat., Nov., 1924. G. B. Eusterman, Ohio State Med. Jour., Nov., 1924. M. Scholtz, M. D., Calif. & Western Med., June, 1922.

## Marasmus

The ability to increase infant metabolism is well illustrated in the favorable reports on this disease.

**Technique:** Alpine Sun Lamp—First degree erythema, tonic radiation.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D.

## Mastoid Wounds

It is reported that prolonged or delayed convalescence following some mastoid operations can be prevented by the adequate use of ultra-violet rays.

**Technique:** Alpine—First degree erythema. General body radiation.

Kromayer—Second degree erythema, locally.

**Medical Reference:** Dr. L. C. Donnelly, Detroit, Amer. Jour. of Elec. and Rad., Dec., 1922.



## Menstrual Disorders

(See Dysmenorrhea.)

**Technique:** Alpine—General body radiation. Second degree erythema.

Kromayer—Second degree erythema. The usual method of application is by means of the medium Sharpe Localizer, or McCaskey Prostatic applicator.

## Metrorrhagia

(See Gynecology.)

**Technique:** Kromayer—Second degree erythema, using proper applicator. Treatment two days to twice weekly.

Alpine—General tonic radiation. Local where accessible.

## Middle Ear Suppuration, Chronic

(See Infections.)

**Technique:** Alpine—First degree erythema. General body radiations.

Kromayer—Second degree erythema, locally with suitable applicator. Allow reaction to subside and repeat.

## Mumps

Reports show prompt relief of pain even after the first treatment has been made.

**Technique:** Alpine Sun Lamp—Second degree erythema. The scrotum was rayed during the same dosage.

**Medical Reference:** Dr. F. J. Kern, Ohio State Medical Journal, April, 1922. Dr. L. C. Donnelly, Jour. of Mich. State Med. Soc., Jan., 1922.

## Myomata of Uterus

(See Gynecological Conditions.)

**Technique:** Kromayer—Second degree erythema applied by means of the medium Sharpe Localizer or McCaskey Prostatic applicator, through a vaginal speculum. Treatment, two days to twice weekly.

Alpine—General body tonic dose.

## Myositis

Good reports are at hand in the treatment of this condition.

**Technique:** Alpine Sun Lamp—Third degree erythema.

**Medical Reference:** Dr. Edgar Mayer, Amer. Rev. of Tub., April, 1921.

## Naevus, Vascular (Port Wine Mark)

This is preeminently the domain of the Kromayer Lamp, because compression is needed to produce results. Many authorities report success in treating naevi.

**Technique:** Kromayer Lamp—Fourth degree erythema in contact under compression. Second treatment, if needed, in two or three weeks.

**Medical Reference:** Dr. A. Schuyler Clark, Jour. of Cut. Dis., June, 1914. Dr. Fred Wise, Arch. of Derm. & Syph., March, 1922. Dr. W. L. Clark, Phila.

## Naevus, Vascular (Port Wine Mark)—*(Continued)*

Therapeutic Gazette, May 15, 1916. Dr. E. L. Oliver, Boston Med. & Surg. Jour., p. 155, Aug. 5, 1920; also Jour. of A. M. A., Aug. 19, 1922. Dr. Fred Wise, N. Y. Derm. Soc., Nov. 22, 1922. Dr. E. W. Hirsch, Amer. Jour. of Clin. Med., June, 1922. Dr. W. T. Lee, Jour. Amer. Inst. of Homo., April, 1922. Ervin Butler and Turnacliff, M. D., Soc. Trans., Arch. of Dermat., Jan., 1925.

## Neisserian Infections

(See Gynecological Conditions.)

**Technique:** Kromayer—Second degree erythema. The usual method of application is by means of the Sharpe Localizer with Quartz Speculae or McCaskey Prostatic applicator. Treatment, two days to twice weekly.

Alpine—General body tonic dose.

## Nephritis

Plank reports very good results.

**Technique:** Alpine Sun Lamp—First degree erythema, gradually increasing exposures as patient's tolerance increases.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D.

## Nettle Rash

(See Urticaria.)

**Technique:** Alpine—Second degree erythema, 30 inches. Decrease distance at subsequent treatments.

Kromayer—Second degree erythema at 2½ inches.

## Neuralgia and Arthralgia

A large percentage of cases reported by Brustein (Leningrad), show either complete recovery or considerable improvement.

**Technique:** Alpine Sun Lamp—Second degree erythema, general body radiation.

Kromayer—On local areas second or third degree erythema.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916. Dr. L. C. Donnelly, Jour. of Mich. Sta. Med. Soc., 1921.

## Neurasthenia and Hysteria

The Alpine Sun Lamp has benefited a great number of such cases. Particularly in post-operative cases and those showing angioneurotic, arterio spastic and paresthetic conditions.

**Technique:** Alpine—General body tonic radiations.

**Medical Reference:** Dr. L. C. Donnelly, Jour. of Mich. Med. Soc., Jan., 1922; also Det. Med. Jour., Sept., 1920. "Actinic Therapy," by T. Howard Plank, M. D. J. E. G. Waddington, M. D., Amer. Jour. of Phys. Therapy, June, 1924.

## Neuritis

A large percentage of results are reported in this disease. One authority reported five out of six successful; no other form of treatment was employed.

**Technique:** Alpine—Second to third degree erythema over local area. General tonic radiations, 30 inches.



## Neuritis—*(Continued)*

Kromayer—Second degree erythema, locally.

**Medical Reference:** Dr. A. H. Bingham, read at Academy Path. Soc., N. Y. City, Dec. 27, 1918. Dr. L. C. Donnelly, Jour. Mich. Sta. Med. Soc., March, 1921, and Det. Med Jour., Sept., 1920.

## Neurodermatitis

**Technique:** Alpine—General tonic giving a good second degree erythema. 30 inches.

Kromayer—Second degree erythema. Treat daily till cleared up.

## Neurosis

The benefit in this condition is probably due to the great blood building and tonic effect of the ultra-violet rays.

**Technique:** Alpine Sun Lamp—First degree erythema. General body radiation.

**Medical Reference:** Dr. L. C. Donnelly, Det. Med. Jour., Sept., 1920.

## Osteomyelitis

Quartz light is unquestionably a favorite modality in the treatment of this condition. Circulatory disturbances which have existed for a long time improve with treatment, retracted scars raise to the level of the surrounding normal skin. This form of therapy is very successful in this condition.

**Technique:** Alpine—General tonic radiations, third degree erythema locally, increasing at subsequent treatments.

Kromayer—Second to third degree erythema at 2½ inches, giving heavier doses where bone is exposed. Allow reaction to clear up and repeat.

**Medical Reference:** Dr. L. C. Donnelly, Det. Mich. Sta. Med. Soc., Jan., 1922. Dr. A. E. Schiller, Jour. Mich. Sta. Med. Soc., June, 1922. W. E. Howell, Med. Herald and Physiotherapist, June, 1925. T. H. Plank, M. D., Clinique, Chicago, May, 1917.

## Otitis Media

Some very good results have been obtained by the use of the Kromayer Lamp and in conjunction with the Alpine Sun.

**Technique:** Alpine—Second degree erythema applied by using the short quartz rod with Mayer Aurol applicator inserted in the ear canal as far as possible up to the drum.

Alpine—General body radiations, tonic dose. Allow to clear up and repeat.

**Medical Reference:** Dr. I. O. Denman, Ear, Nose and Throat Monthly, March, 1923, and Jan., 1926. Drs. H. Gershenberger and C. T. J. Dodge, Amer. Jour. of Dis. of Children, Oct., 1922, p. 320. J. Zahorsky, Missouri State Med.,

Method Used in Treating Otitis Media

## Otitis Media—*(Continued)*

Jour., Feb., 1925. A. R. Hollender, M. D., & Maurice H. Cottle, M. D., Amer., Jour. of Phys. Therapy, April, 1925. A. R. Hollender, M. D., & Maurice H. Cottle, M. D., Eye, Ear, Nose and Throat Monthly, Feb., 1925.

## Ovaritis

(See Gynecological Conditions.)

**Technique:** Kromayer—The usual method of application is by means of the medium Sharpe Localizer or McCaskey Prostatic applicator, through a vaginal speculum. Where gonococci are present all the mucous surfaces should be carefully radiated. Treatment, two days to twice weekly.

Alpine—General body tonic dose.

## Ozena (Atrophic Rhinitis)

Ozena is reported to respond readily to the Kromayer Lamp. All scabs should first be removed to allow the rays free access to the inflamed tissues.

**Technique:** Kromayer—Second and not more than a third degree erythema should be produced by contact, using short quartz rod, inserted through the nasal cavities. These cavities should be cleaned well. Treatment every other day, increasing treatments in accordance with patient's tolerance.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916. Dr. L. C. Donnelly, Jour. of Mich. Sta. Med. Soc., Jan., 1922.

## Parakeratosis Variegata

(See Keratosis Pilaris.)

**Technique:** Alpine—Second degree erythema, 30 inches.

Kromayer—Second degree erythema, 8 inches. Allow to clear up and repeat.

**Medical Reference:** Dr. Michaelson, Soc. Trans., Arch. of Dermat., F. 432.

## Paronychia

Favorable results were obtained in this condition when combined Alpine Sun and Kromayer Lamp treatments were given.

**Technique:** Alpine—General body radiations to first to second degree erythema. Also local treatment, third degree erythema.

Kromayer—Third degree erythema locally. Allow to clear up and repeat.

**Medical Reference:** C. M. Sampson, M. D., Amer. Jour. of Roent., Sept., 1922. page 582.

## Pelvic Cellulitis

(See Gynecological Conditions.)

**Technique:** Alpine—Second degree erythema. The usual method of application is by means of the medium Sharpe Localizer or McCaskey Prostatic Applicator, through a vaginal speculum. Treatment, two days to twice weekly.

Alpine—General body tonic dose.

**Medical Reference:** Dr. Hugo Bach, "Ultra-Violet Light," Paul Hoeber, 1916 Dr. L. C. Donnelly, Jour. Mich. Sta. Med. Soc., Jan. 1922. Dr. E. W. Hirsch, Amer. Jour. of Clinc. Med., June, 1922.



## Periarthritis

In this, as in other bone and joint infections, an early beneficial effect has been noted.

**Technique:** Alpine—Second degree erythema, general body radiations, or second to third degree erythema locally.

Kromayer—Second to third degree erythema locally.

**Medical Reference:** Dr. W. C. Campbell, Amer. Jour. of Ortho. Surg., 1916. Dr. A. E. Schiller, Det., Jour. Mich. Sta. Med. Soc., June, 1922. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916.

## Periostitis

Favorable reports are had in conditions of peritonitis with prompt relief of pain. Drainage should be established by opening the abscess.

**Technique:** Alpine—General body radiation. Second degree erythema, treat local area.

Kromayer—Third degree erythema, locally.

**Medical Reference:** Lt. L. B. Lippman (M. C. D. S.), U. S. Navy, Amer. Jour. of Elec. & Rad., Oct., 1921. Dr. L. C. Donnelly, Jour. of Mich. Sta. Med. Soc., March, 1921.

## Peritonitis (Tuberculosis)

(See Tuberculosis.)

**Technique:** Alpine—Second degree erythema, locally if possible, general tonic radiations.

Kromayer—Second degree erythema locally.

## Pernio

(See Erythema Pernio.)

**Technique:** Alpine—Second degree erythema at 18 inches. Allow to clear up and repeat.

Kromayer—Third degree erythema at 2½ inches.

## Pharyngitis

(See Laryngitis.)

**Technique:** Alpine—External local first degree erythema, include head and chest.

Kromayer—First or second degree erythema, using a pharyngeal applicator. Do not cause a violent reaction.

## Pityriasis

Responds quickly to the action of the rays. After one treatment will generally disappear on the subsequent peeling of the skin.

**Technique:** Alpine—Second to third degree erythema, 30 inches. Decrease distance in subsequent treatments.

Kromayer—Third degree erythema, 2½ inches. Allow reaction to subside and repeat.

**Medical Reference:** Dr. Ralph Bernstein, "Ultra-Violet Rays in Mod. Derm." Achey & Gorrecht, 1918. Dr. W. J. MacDonald, Boston, Med. & Surg. Jour., May 24, 1923. Dr. E. D. Chipmen, San Fran., Jour. A. M. A., Sept. 27, 1924, p. 971. G. B. Eusterman, M. D., Ohio State Med. Jour., Nov., 1924.

## Pityriasis Rosea

Ultraviolet will cause a rapid disappearance of the disease.

**Technique:** Alpine—Entire body radiation, second degree erythema.

**Medical Reference:** J. C. Milchael, M. D., Southern Med. Jour., July, 1925, Vol. XVIII, No. 7, p. 519.

## Plant Poisoning

(See Dermatitis Venenata.)

**Technique:** Alpine—General tonic radiations, giving a good second degree erythema, 30 inches.

Kromayer—Second degree erythema. Treat daily till cleared up.

## Pleurisy

Reports show that cases of Pleurisy, whether tubercular or pneumonic, are benefited and show relief from pain practically without exception.

**Technique:** Alpine Sun Lamp—First or second degree erythema, general body radiation.

**Medical Reference:** Dr. L. C. Donnelly, Jour. Mich. Sta. Med. Soc. March, 1921.

## Pneumonia

Authorities state that the use of ultra-violet radiation is a logical means of prevention of pneumonia where the symptoms indicate the approach of such conditions.

**Technique:** Alpine—First to second degree erythema. General body radiations.

Kromayer—Second degree erythema, locally.

**Medical Reference:** Dr. L. C. Donnelly, Jour. Mich. Sta. Med. Soc., Jan., 1922, and Jour. Mich. Sta. Med. Soc., March, 1921. Dr. A. E. Schiller, Jour. Mich. Sta. Med. Soc., June, 1922. Dr. Donald McCaskey, N. Y. Med. Jour., Dec. 27, 1919.

## Port Wine Marks

(See Naevus.)

**Technique:** Kromayer—Fourth degree erythema in contact under compression.

**Medical Reference:** E. D. Chipman, Jour. A. M. A., Sept. 27, 1924. G. B. Eusterman, Ohio State Med., Jour., Nov., 1924.

## Pott's Disease

One authority states that ultra-violet is the best single method of treatment possessed by the medical profession.

**Technique:** Alpine—First to second degree erythema.

Kromayer—Second degree erythema locally. Surgery if necessary.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D. Dr. A. H. Bingham, paper read at the Academy of Path. Sci., N. Y. City, Dec. 27, 1918.



## Proctalgia (Proctitis)

Very favorable reports have been had in these cases. The rays may be applied by means of the Plank Proctoscope for the relief of Proctalgia. The technique is the same as for Proctitis. In the latter case the Kromayer Lamp has proved of great benefit in a manner analogous to the action on inflammatory skin lesions.

Presumably there are two distinct functions of the rays here brought into effect; the bactericidal power of the ultra-violet light in conjunction with the local stimulation of the tissues and increased flow of lymphatics to the affected parts. The reported results of this treatment have been intensely gratifying.

**Technique:** Second degree erythema. Through Plank Proctoscope or McCaskey Prostatic Applicator inserted in the rectum. These applicators should first be inserted in the maximum length and then gradually removed to radiate the area screened off by the tube itself. Treatment at first daily or every other day, reducing to twice weekly as the patient's condition improves.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D.

## Prostatitis

"Obstinate cases of prostatic diseases, including the acute and chronic infected prostates; the functionally deranged prostate without infection; the prostate and seminal vesicles in which there exists some power which can be utilized but without which impotency exists, have been favorably treated. In other words, the stubborn, unyielding prostatic abscess case with positive smears, either gonococcus or mixed infection; the enlarged, baggy prostate with negative smears, but with a long train of subjective disorders; the deranged prostate and seminal vesicles with accompanying impotency" are those which yield most readily to this treatment. The necessity of frequent urination is relieved in a marked degree and in many cases patients who were disturbed in this way many times during the night are able, after a few radiations, to enjoy unbroken sleep and the nervous condition is also improved.

**Technique:** Kromayer—Local application through a Proctoscope or the Burrows Applicator, or using the smallest size speculum with a Sharpe Localizer to radiate the colon, second or third degree erythema.

**Medical Reference:** Maj. C. M. Sampson, Physiotherapy Technic, C. V. Mosby & Co., 1923. Dr. Donald McCaskey, N. Y. Med. Jour., May 4, 1921. Dr. L. C. Donnelly, Jour. Mich. Sta. Med. Soc., March, 1921, and Detroit Med. Jour., Sept., 1920. Dr. E. W. Hirsch, Amer. Jour. of Clin. Med., June, 1922.

## Pruritus

Pruritus Ani and Pruritus Vulvae, as well as pruritic condition associated with many skin diseases, all respond readily to treatment with the Kromayer Lamp. For the treatment of extensive areas, e.g., Pruritus Senilis, the Alpine Sun Lamp should be used.

**Technique:** Alpine—Second degree erythema or a third degree if condition resists.

Kromayer—Second to third degree erythema, 2½ inches. Allow reaction to subside and repeat.

**Medical Reference:** Dr. E. W. Hirsch, Amer. Jour. of Clin. Med., June, 1922. Dr. E. L. Oliver, Boston Med. & Surg. Jour., p. 155, Aug. 5, 1920. Dr. H. F. Pitcher, Amer. Jour. of Elec. & Rad., Feb., 1922. Dr. C. A. Simpson, South. Med. Jour., Oct., 1918. Med. Times, March, 1923, p. 79. L. J. Carter, Canad. Med. Journal, Feb., 1925. M. Scholtz, Calif. & Western Med., June, 1922.

## Psoriasis (Para-Psoriasis)

These cases respond readily to treatment with the Kromayer and Alpine Sun Lamp, and the individual lesions quickly disappear. Strenuous radiations are necessary with marked desquamation, and before exposure scales should be removed as far as possible to allow the rays to reach the surface of the skin.

**Technique:** Alpine—Third degree erythema, and even fourth degree on resistant patches.

Kromayer—Third degree erythema, 2½ inches. Allow to clear up and repeat.

**Medical Reference:** Dr. C. S. Thomson, Chief of Clinic, U. S. Veterans' Bureau, Newark, Amer. Jour. of Elec. & Rad., July, 1923. Dr. E. L. Oliver, Boston Med. & Surg. Jour., Aug. 5, 1920, also in Journal of A. M. A., Aug. 19, 1922. Dr. C. A. Simpson, South. Med. Jour., Oct. 18, 1918. Dr. H. E. Alderson, Clinical Prof. of Med. (Skin Diseases), Stanford Univ. Med. School, San Francisco, Arch. Derm. & Syph., July, 1923. I. Glassman, American Physician, April, 1925. G. W. Swift, M. D., Northwest Med., May, 1925. W. H. Goeckerman, M. D., Northwest Med., May, 1925. T. C. McKenzie, M. B., Ch. B., and I. C. Suttan, Amer. Jour. of Phys. Therapy, June, 1925. J. Zahorsky, Mo. State Med., Jour., Feb., 1925. L. J. Carter, Canad. Med. Jour., Feb., 1925. C. D. Chipman, Jour. A. M. A., Sept. 27, 1924. E. W. Hirsch, Amer. Jour. of Clin. Med., June, 1922. Dr. Swartz, Soc. Trans. Arch. of Dermat., (F. 409).

## Pyorrhea

Many reports have been received of favorable results in treating pyorrhea with the Kromayer Lamp.

The action of quartz light is based on the facts, that: the internal organism relieved by the blood being drawn to the surface. The red blood corpuscles receive an increase in energy. Stimulation of calcium and phosphorus metabolism, stimulation of bone tissue growth. The destructive effect on bacteria.

**Technique:** Kromayer—Scale. All deposits around necks of all teeth should be removed thoroughly. Enter as deeply as possible below the free margin of the gums, and remove all deposits.

Using a pyorrhea applicator, place the tip of the applicator directly on the spot to be treated, holding it against the soft tissue with gentle pressure. Pressure must be exerted continually while treating. First treatment a third degree erythema. Treat areas around spot similarly. No more than three or four teeth should be treated at one time, and each area is treated both facially and lingually. Allow reaction to subside from two to three days—give the same treatment, increasing length of exposure, and treat other areas if necessary. The reaction after the third treatment should develop a fourth degree erythema or blister.

**Medical Reference:** C. M. Sampson, M. D., "Physiotherapy Technique," C. V. Mosby Co., 1923. Dr. Daly, Tufts Dental School, N. E. Dental Ass'n Meeting, June 8, 1921, also Dental Cosmos, March, 1922. Dr. W. S. Bainbridge, U. S. Naval Hosp., Brooklyn, N. Y., at Commencement of the Detroit College of Medicine and Surgery. Lt. L. B. Lippman (M. C. D. S.), U. S. Navy, Amer. Jour. of Elec. & Rad., Oct., 1921, also Inter. Jour. of Orth., Jan., 1923. Dr. H. H. Schumann, M. D., D. D. S., Chicago Dental Society Official Bulletin, Jan. 17, 1922. I. L. Folstein, D. D. S., Dental Cosmos, Feb., 1925. I. L. Folstein, D. D. S., Dental Cosmos, Nov., 1925. A. L. Parsons, D. D. S., Dental Cosmos, June, 1925. F. W. Lake, D. M. D., Dental Cosmos, Feb., 1925.



## Pyosalpinx

(See Gynecology.)

**Technique:** Kromayer—Second degree erythema. The usual method of treatment is by means of the medium Sharpe Localizer or McCaskey Prostatic Applicator. Treatment two days to twice weekly.

## Rhinitis

(See Hay Fever and Ozena.)

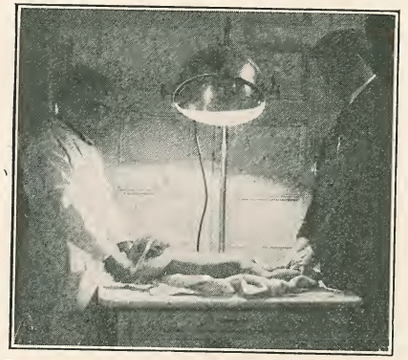
## Rhinophyma

**Technique:** Kromayer—Third degree erythema 2½ inches. Allow covering skin to peel off, and repeat.

Alpine—Third degree erythema.

## Rickets

Many authorities testify to the value of ultra-violet treatment in the prevention of rickets. Ultra-violet rays increase the calcium and phosphorus content of the blood as well as increase general body metabolism.



Infant Being Given an Alpine Sun Treatment for the Prevention of Rickets.

**Technique:** Alpine Sun Lamp—First or second degree erythema. General body radiation. Gradually increasing the dosage as the reaction subsides and tolerance is established.

**Medical Reference:** Dr. Lynne A. Hoag, Amer. Jour. of Child. Dis., p. 194, Aug., 1923. Dr. A. F. Hess and L. J. Unger, Amer. Jour. of Dis. of Children, Aug., 1921. Drs. McCullon, Shipley, Simmonds and Becker, Jour. of Biological Chem., Aug., 1922. Dr. A. F. Hess, Atlantic Med. Jour., May 1924, p. 467. Drs. W. L. Orr, E. E. Holt, Jr., L. Wilkins and F. H. Boone, in Amer. Jour. Dis. Children, Oct., 1923. Science Supplement, May 22, 1925. T. Schultz and M. Morris, Amer. Jour. of Child. Dis., Oct., 1925. I. Jundell and E. E. Block, F. Faber, Amer. Jour. of Child. Dis., Oct., 1925. G. M. Lyon, B. S., M. D., W. Va. Med. Jour., June, 1925. L. R. DeBuys, Ill. Med. Jour., June, 1925. L. Fischer, Jour. of Met. Research, Nov.-Dec., 1923. S. G. Wilson, M. Seldowitz, M. D., Jour. of Dis. of Child., May, 1925. E. P. Lehman, M. D., Mt. Jour. of Ortho., June, 1925. L. Tixler and Feldzer, M. D., Amer. Jour. of Phys. Therapy, June, 1925. A. F. Hess, Canad. Med. Ass'n Jour., May, 1925. M. Osterman, Ars. Medici, Vienna, ix, Spitalgasse. C. R. Moulton, M. D., Hospital Buyer, June, 1925. J. A. Myers, M. D., Colo. Med., June, 1925. A. F. Hess, Jour. A. M. A., June, 20, 1925. H. S. Mitchell and F. Johnson, Amer. Jour. of Physiology, March, 1925. E. L. Milosavich, M. D., Int. Jour. of Ortho., Feb., 1925. A. F. Hess, Jour. A. M. A., April 4, 1925. J. Zahorsky, M. D., Mo. State Med. Jour., Feb., 1925. R. Forbes and G. Green, Colo. Med., Feb., 1925. K. Huldschinsky, 2nd edition, 1925. D. M. Dayton, Northwest Medicine, Nov., 1924. A. F. Hess, M. D., and Mildred Weinstock, Jour. A. M. A.,

## Rickets—*(Continued)*

Nov. 15, 1924. E. T. Wyman and C. A. Wymuller, Jour. A. M. A., Nov. 8, 1924. L. E. Holt, Jour. A. M. A., May 20, 1922. E. A. Park, Dental Cosmos, Feb., 1925. Dr. K. Huldschinsky: No. 26, Deutsche Medizinische Wochenschrift (26 IV, 1919). No. 49, Allgemeine Medizinische Central-Zeitung (6 XII, 1919). Vol. XI of Strahlentherapie (1919). Vol. XXVI, No. 5, Zeitschrift für Kinderheilkunde. Alfred Hess: Atlantic Med. Jour., May, 1924.

## Ringworm

(See Sycosis.)

**Technique:** Kromayer—Third degree erythema. Contact with firm compression, using Quartz Lens applicator or radiating from a distance of 1 inch. Allow to subside and repeat.

Alpine—Third degree locally.

**Medical Reference:** J. Zahorsky, Mo. State Med. Jour., Feb., 1925. H. Fox, M. D., Arch. of Dermat., Sept., 1922.

## Rosacea

Depending on the condition of the lesions, one of the two methods, distance or compression, radiation is indicated. Dermatologists consider three stages of Rosacea: the hyperaemic, the telangiectic and the hypertrophic. Rosacea of the nose, when associated with telangiectasis, will not succumb to surface radiations alone, likewise the hypertrophic type. The hyperaemic type readily succumbs to mild radiations with the lamp at about two or three inches distance, while the hypertrophic and telangiectic conditions demand treatment using contact with firm compression.

**Technique:** Kromayer—Third degree erythema, 2½ inches.

Alpine—Third degree erythema.

Hypertrophic and Telangiectic Types

Kromayer—Third degree erythema, immediate contact with firm pressure with clear quartz window and suitable quartz lens.

Allow to clear up and repeat.

**Medical Reference:** Dr. W. L. Clark, Phil., Therapeutic Gazette, May 15, 1916. Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. G. B. Eusterman, M. D., Ohio State Med. Jour., Nov., 1924. F. Wise, N. Y. State Med. Jour., Feb. 3, 1917.

## Sacroiliac Strains

(See Lumbago.)

**Technique:** Alpine—Second degree erythema. General body radiations, particularly over region.

Kromayer—Second degree erythema locally.

## Scabies

Immediate relief from itching is reported and permanent relief after a series of treatments.

**Technique:** Alpine Sun Lamp—Second degree erythema.

**Medical Reference:** Dr. F. J. Kern, Ohio St. Med. Jour., April, 1922. L. J. Carter, M. D., Canadian Med. Ass'n Jour., Feb., 1925.



## Scars

(See Keloid.)

**Technique:** Kromayer—Third degree erythema. Contact with compression, with suitable applicator.

## Sciatica

It is reported that cases treated with the Alpine Sun Lamp have experienced relief from pain in from twelve to twenty-four hours; and complete recovery is reported from five to twenty treatments. The whole region involved should be exposed to each treatment.

**Technique:** Alpine—Second to third degree erythema, with first degree erythema, general body radiation.

Kromayer—Second degree erythema locally.

**Medical Reference:** Dr. A. H. Bingham, N. Y., read at the Academy Path. Soci., N. Y. City, Dec. 27, 1918. Dr. L. C. Donnelly, Det. Jour. of Mich. Sta. Med Soc., March, 1921, and Detroit Med. Jour., Sept., 1920. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916. Dr. F. J. Kern, Ohio Sta. Med. Jour., April, 1922. T. Clyde McKenzie, M. B., Ch. B., and I. C. Suttan, Amer. Jour. of Phys. Therapy, June, 1925.

## Scrofuloderma

(See Lupus Vulgaris.)

**Technique:** Kromayer—Third to fourth degree erythema in contact under compression.

Alpine—General body radiations, tonic dose. Allow reaction to subside and repeat.

## Seborrhea

(Also Seborrhoeic Dermatitis.)

Successful reports have been received on the treatment of this condition.

**Technique:** Alpine—Third degree erythema preferred. A second degree may do.

Kromayer—Third to fourth degree erythema on small areas.

**Medical Reference:** Dr. C. A. Simpson, South. Med. Jour., Oct., 1918. Dr. W. J. MacDonald, Boston Med. & Surg. Jour., May 24, 1923, p. 809. Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. G. B. Eusterman, M. D., Ohio State Med. Jour., Nov., 1924.

## Shingles

(See Herpes Zoster.)

**Technique:** Alpine—Second degree erythema, 30 inches. Allow to subside and repeat.

Kromayer—Third degree erythema, 2½ inches.

## Sinus Infections

The majority of patients, some of whom have been treated in various ways for a period of years, have testified that they derived more benefit from this procedure than anything they have used before. These cases seem to be permanently benefited.

Pus and mucous discharge in the sinus

## Sinus Infections—*(Continued)*

cavity should be all removed before treatment, and the rays applied by means of the short quartz rod introduced through the nose so as to project into the cavity.

**Technique:** Kromayer—Second degree erythema applied with a short quartz nasal rod or special sinus applicator, giving general exposures to surrounding skin. Treatments daily, increasing the intervals as the discharge is controlled.

Alpine—Second degree erythema externally.

**Medical Reference:** Dr. L. C. Donnelly, Jour. Mich. Sta. Med. Soc., Jan., 1922, also in Journal of the Mich. Sta. Med. Soc., March, 1921. Lt. L. B. Lippman (M. C. D. S.), Amer. Jour. of Elec. and Rad., Oct., 1921. Norman M. Paterson, Eye, Ear, Nose and Throat Monthly, Oct., 1924.

## Spasmophilia

The prognosis of spasmophilia in infants is serious in many cases; the only therapy that has a permanent effect is the ultra-violet irradiation introduced by Huldschinsky in rickets and tetany, which Sachs used successfully in spasmophilia.

**Technique:** Alpine Sun Lamp—First degree erythema, general body radiations.

**Medical Reference:** Dr. Armin Flesch Orvosi hetil., Budapest, Sept. 23, 1923. Dr. P. Rohmer Bull, Soc. de Pediat de Paris, May, June, July, 1923. H. Casparis and B. Kramer, M. D., Amer. Jour. of Phys. Therapy, Jan., 1925. G. W. Schultze, M. Morris, J. Nourse and D. N. Smith, Amer. Jour. of Child. Dis., Oct., 1925. L. Tixler and Feldzer, Amer. Jour. or Phys. Therapy, June, 1925.

## Surgical Cases (Post-Operative)

(See Gunshot Wounds.)

**Technique:** Alpine—General body tonic radiations, giving a local second degree erythema.

Kromayer—Second degree erythema locally.

## Sycosis Vulgaris (Also Tinea; Ringworm; Tinea Cruris)

This condition readily yields to treatment by the Kromayer Lamp or Alpine Sun locally.

**Technique:** Kromayer—Third to fourth degree erythema in contact, or at 1 inch as case may require. Hair should be clipped to allow rays to reach area treated.

Alpine—Third degree erythema.

**Medical Reference:** Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. Dr. Fred Wise, N. Y. Med. Jour., Feb., 1917. Dr. Moses Scholtz, Cal. Sta. Jour. of Med., June, 1922. T. C. McKenzie, M. B., Ch. B., I. C. Suttan, Amer. Jour. of Phys. Therapy, June, 1925. M. Scholtz, Calif. and Western Med., June, 1922. H. Fox, Arch. of Dermat. (File 470).

## Synovitis

Cases of synovitis are reported as successfully treated by this treatment alone.

**Technique:** Alpine—First to second degree erythema applied locally.

Kromayer—Second degree erythema at one inch distance. In severe cases the treatment must be persisted in. Allow to clear up and repeat.

**Medical Reference:** Dr. A. H. Bingham, read at the Academy Path. Soci., N. Y., Dec. 27, 1918. "Actinic Therapy," by T. Howard Plank, M. D.



## Synovitis—*(Continued)*

## Telangiectasis

Telangiectasis, whether of natural occurrence or produced by X-Ray burns, responds readily to compression treatment.

**Technique:** Kromayer—Fourth degree erythema in contact, using compression.

**Medical Reference:** Dr. W. L. Clark, Therapeutic Gazette, May 15, 1916. Dr. G. M. MacKee, "X-Rays and Radium in the Treatment of Diseases of the Skin," Lea & Febiger, 1921, says: "X-Rays and radium gives unwarranted reactions in this treatment, and that much better results can be had with ultra-violet," p. 495. The normal skin should be protected. Dr. H. H. Hazen, Prof. of Derm., Georgetown Univ., Amer. Jour. of Roent., Feb., 1922. Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918.

## Tenosynovitis

(See Synovitis.)

**Technique:** Kromayer—Second degree erythema, using compression.

Alpine—Second to third degree erythema, around affected area.

## Tetanus

Favorable reports are had in this condition.

**Technique:** Alpine—General body tonic dose. Local when accessible.

Kromayer—Second degree erythema locally.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916. A. H. Rowe, M. D., Jour. A. M. A., June 20, 1925.

## Tetany (Infantile)

(See Infantile Tetany.)

**Technique:** Alpine—First to second degree erythema. General body radiations.

Kromayer—Second to third degree erythema locally.

**Medical Reference:** A. F. Hess, M. D., Jour. A. M. A., June 20, 1925. F. W. Schultze, M. Morris, J. D. Nourse, and D. N. Smith, Amer. Jour. of Child. Dis., Oct., 1925. E. P. Russell, Michigan State Med. Jour., Dec., 1924. L. A. Hoag, Amer. Jour. of Child. Dis., Oct., 1923. H. Casparis and B. Kramer, M. D., Johns Hopkins Bulletin, June, 1924.

## Thyrotoxicosis

Should receive medication, ultra-violet radiation and complete rest in bed.

**Technique:** Alpine—General body tonic dosage, local second degree erythema.

**Medical Reference:** O. W. Wyatt, M. D., The Jour. of Rad., June, 1924, Vol. V, No. 6, pp. 197-200.

## Tinea: (Versicolor, Trichophytina, Circinata, Sycosis, Tonsurans, Crusis) Ringworm

(See Sycosis.)

**Technique:** Kromayer—Third to fourth degree erythema contact.

Alpine—Third degree erythema.

## Tonsillitis and Hypertrophied Tonsils

The Kromayer Lamp is principally used in treating tonsillitis as well as hypertrophied tonsils. Clean out infection in the latter.

Several authoritative writers report successful treatment of infected and hypertrophied tonsils with the Kromayer Lamp. Marked reduction is often noticeable after the first radiation.

**Technique:** Kromayer—Second degree erythema, using tonsic applicator or Sharpe Localizer, the entire tonsil should be rayed. Crypts filled with caseous material should first be cleansed out to allow a thorough radiation of the entire tissues.

**Medical Reference:** Dr. F. J. Kern, Ohio Sta. Med. Jour., April, 1922. Dr. L. C. Donnelly, Mich. Sta. Med. Soc., Jan., 1920. Mich. Sta. Med. Soc. Jour., p. 356, Sept., 1921. Amer. Jour. Elec. and Rad., Nov., 1921. Dr. I. O. Denman, Eye, Ear, Nose and Throat Monthly, March, 1923.

## Trachoma

Sampson reports a case treated by ultra-violet which showed prompt and perfect response.

**Technique:** Kromayer—Third degree erythema, using 45° pyorrhea applicator with compression.

**Medical Reference:** C. M. Sampson, M. D., "Physiotherapy Technic," C. V. Mosby & Co., 1923.

## Trench Mouth

(See Vincent's Angina.)

**Technique:** Kromayer—Third degree erythema, using quartz pyorrhea applicator, raying both lingual and facial sides. Not more than three or four teeth should be treated at one sitting. Treat every three days, unless a severe reaction occurs. Allow reaction to subside. Severe reactions are essential.

## Tuberculosis

(See also Ankylosis and Empyema.)

*Pulmonary* tuberculosis shows a high percentage of successful results in children, better than the percentage in adult cases (Dr. B. Feinberg, Bellevue Hospital, New York City).

*Surgical* tuberculosis appears to require, besides ultra-violet treatment, treatment with an incandescent filament lamp to get the best results.

Usually the fever is stopped in one to four weeks, and this is permanent in fifty per cent. of the cases. Twenty-five per cent. of the tubercular cases in the British Army showed intestinal symptoms and, in Dr. Stewart's paper named in the references given below, all but five of forty-seven cases of intestinal tuberculosis recovered, or were permanently improved; of seventy-seven cases, "many with gross pulmonary lesions," two-thirds have shown improvement.

Surgery is contraindicted where the small bowel is involved in intestinal tuberculosis. The ultra-violet should be used alone in such conditions. Special applicators can be manufactured to reach cavities with light from the Kromayer Lamp.

In many manifestations of tuberculosis the Alpine Sun Lamp has received wide recognition as one of the most important aids in the treatment of this disease.

The literature on this subject, quoted in part below, is extensive and worthy of special study, including the writings of Rollier and other European authors. Where a seat of infection is internal, it is at present a matter of speculation whether a direct action is produced. The indirect action of general body radiations is undoubted. The patient's resistance is increased, the blood count is improved, his temperature falls, his weight rapidly increases, and in the words of one writer, "he takes a new lease on life." Tubercular bones and joints, Pott's Disease, and discharging sinuses require, in addition to general body radiations, more intense local radiations with the Alpine Sun Lamp. Tubercular rectal fistulae and tubercular laryngitis may be treated locally with the Kromayer Lamp, using special applicators designed for the purpose.



## Tuberculosis—*(Continued)*

Alpine Sun Lamps in Use at the Lymanhurst School for Tubercular Children, Minneapolis, Minn.

**Technique:** Caution should be used in treating until reactivity of patient is determined. General tonic first degree erythema at first.

*The following routine is a favorite one with many authorities:*

1. As a rule more care must be used in planning for the sicker patients, that is,

## Tuberculosis—*(Continued)*

those who are in bed with fever or those who are quite weak.

2. In all cases, start gradually to avoid burning. The lamp should be 36 inches away, in most cases, using two to three minutes on each of the four parts. This time is usually increased very gradually until skin sensitiveness, that is, burning, stops—then the increases can be a minute a day on each of the four parts.

3. The four parts of the body should be exposed an equal length of time, the increases should be equal on each part.

4. Expose parts in the following order: First, the front of the knees, then (patient turns over) on the back of the knees. Then move the table down and

Treating Case of Tubercular Glands. Courtesy of Essex County Sanitarium, Caldwell, N. J.

apply to back. Again (patient turns over) and apply to front of the chest. In abdominal cases the abdominal application is given last.

5. Work up by increases of one minute a day on each of the four parts, until ten minutes on each part is reached. Then bring the Lamp one-half inch closer, each day holding to ten minutes as before, until down to twenty-four inches. Then increase the time one minute per day, until twenty minutes is reached.

6. In abdominal cases, start application of light at 24 inches for one minute. After the first week, if patient does not burn, increase one minute every other treatment, until ten minutes is reached. Then draw up to ten. Keep lowering the lamp one-half inch, until it is within 16 inches.

7. Plan for sicker ones with physician, in beginning, and at any time there is a problem. Keep temperature record so that results of treatment can be watched. Also note any symptoms that bear specially on effects of treatment.

8. Remember the daily cleaning of the burner with absorbent cotton and grain alcohol. Also keep the lamp closed when not in use.

*Local Treatment of Sinuses:*

Cut a hole in a piece of paper corresponding to the size of the sinus, including a small margin of healthy skin, placing it in position to protect the surrounding surface from burning.

**Technique:** First degree erythema. General body radiations.

In advanced cases the first exposures should be very mild to avoid a temporary rise in temperature. They should be repeated daily, and in some institutions the practice is to radiate at first treatment the feet only; then to the knees, gradually increasing the area exposed, until the whole body is included. Up to this point, the distance and time of exposure should remain constant, gradually increasing the dosage subsequently, as described under the "General Body Radiations." The patient's tolerance should at all times be carefully borne in mind, and a severe erythema and exfoliation avoided.

**Medical Reference:** Dr. F. J. Kern, Ohio Sta. Med. Jour., April, 1922, Amer. Rev. of Tub., June, 1922. Dr. Edgar Mayer, Saranac Lake, Franklin County



## Tuberculosis—*(Continued)*

Med. Soc., June 12, 1917. Drs. Hyde and Grasso, N. Y. Med. Jour., Jan. 6, 1917. Amer. Review of Tub., April, 1920. Jour. of the A. M. A., June, 1924. Amer. Rev. of Tub., Oct., 1922. Dr. S. F. Blanchet, "One Hundred Cases of Pulmonary and Intestinal Tuberculosis," Trans. Seventeenth Annual Meeting, Nat. Tub. Ass'n. Dr. D. A. Stewart, Canadian Med. Ass'n. Journal, Jan., 1923. Drs. Lawrason Brown, Sampson and Hayes, summary of 1,036 cases, Trans. Eighteenth Annual Meet., Nat. Tub. Ass'n., May, 1922. H. J. Gerstenberger & S. A. Wall, Jour. of A. M. A., Nov. 22, 1924. E. Mayer, M. D., Amer. Rev. of T. B., Oct., 1924. O. Barkus, Amer. Rev. of T. B., Oct., 1924. I. Kopits, Amer. Jour. of Child. Dis., Oct., 1925. F. A. Davis, Med. Jour. and Record, Oct. 19, 1925. H. P. Wright, M. D., Canad. Med. Ass'n. Jour., Oct., 1925. Marion E. Howe, E. M. Medler, Amer. Rev. of T. B., Dec., 1924. W. B. Chapman, Clinical Medicine, June, 1925. T. M. Levick, Brit. Jour. of T. B. File 2019. H. Schmitz, Jour. of Radiology, April, 1925. Von Bonsdorff, M. D., Jour. A. M. A., March 21, 1925. E. Mayer, M. D., Amer. Rev. of T. B., April, 1924. R. S. Penticost, B. A., M. D., Canadian Med. Ass'n. Jour., Oct., 1924. C. A. Peters, Canadian Med. Ass'n. Jour., Dec., 1924. W. B. Chapman, Radiology. May, 1925. H. P. Wright, Med. Clinics of N. A., May, 1924. Selig Simon, Amer. Rev. of T. B. File 414. E. Mayer, M. D., Amer. Rev. of T. B. File 434. E. Mayer, M. D., Jour. A. M. A., June 14, 1924. J. Zahorsky, M. D., Missouri State Med. Jour., Feb., 1925. E. D. Chipman, Jour. A. M. A., Sept. 27, 1924. J. H. Stokes, M. D., Amer. Jour. of Med. Sciences, May, 1924. E. H. Bruns, Amer. Rev. of T. B., Oct., 1924. N. Paterson, Eye, Ear, Nose and Throat Monthly, Oct., 1924. F. J. Carter, Canad. Med. Ass'n. Jour., Feb., 1925. J. H. East, Amer. Jour. of Phys. Therapy, Oct., 1924. A. S. Clark, M. D., Jour. of Cutaneous Dis., June, 1914. R. J. Erickson, The Am. Rev. of T. B., Sept., 1925.

## Ulcers (for Gastric Ulcer, see Gastro-Intestinal Diseases)

Chronic ulcers of various kinds, including X-Ray ulcers, respond quickly to treatment with the Alpine Sun Lamp and also the Kromayer Lamp.

The object in view being mild stimulation and simultaneous sterilization of the surface, the dosage should not be excessive. Healthy granulation follows, with regeneration of the epithelium.

**Technique:** Alpine—Third degree erythema, first tonic, very mild exposure, from a distance afterwards.

Kromayer—Third degree erythema, at 2½ inches. Treatment weekly.

**Medical Reference:** Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. Dr. E. L. Oliver, Boston Med. & Surg. Jour., Aug. 5, 1920; also in Jour. of the A. M. A., Aug. 19, 1922. Dr. C. A. Simpson, South. Med. Jour., Oct., 1918. Dr. L. C. Donnelly, Jour. Mich. Sta. Med. Society, 1921. Dr. A. E. Schiller, Jour. Mich. Sta. Med. Soc., June, 1922. L. J. Carter, Canad. Med. Ass'n. Jour., Feb., 1924. T. C. McKenzie, M. D. Ch. B., and I. C. Suttan, Amer. Jour. of Phys. Therapy, June, 1925. N. Paterson, Eye, Ear, Nose and Throat Monthly, Oct., 1924. G. Murero (Reforma Med., June 2, 1924. M. Buchholtz, M. D., Int. Jour. of Surgery, Oct., 1920.

## Urethritis

(See Gonorrhea.)

**Technique:** Kromayer—Second degree erythema, using prostatic applicator. Treatment daily, then twice weekly.

Alpine—General body tonic dose.

## Urticaria

Chronic urticaria, which at times is the bane of the dermatologists, is reported to have responded admirably to ultra-violet radiations of the Alpine Sun Lamp; six to eight treatments, as a rule, have been necessary. After the second, at times third radiation, the intense itching and pricking has ceased.

**Technique:** Alpine—Second degree erythema.

Kromayer—Second degree erythema, 2½ inches. Treatment twice weekly, increasing dosage, according to increased tolerance.

**Medical Reference:** Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918. M. Osterman, Ars. Medici, Vienna, ix, Mar., 1925. L. C. Donnelly, M. D., Amer. Jour. of Phys. Therapy, Nov., 1924. L. J. Beinhauer, Arch. of Dermat., June, 1925.

## Vaginitis

(See Gynecology.)

**Medical Reference:** J. Zahorsky, Mo. State Med. Jour., Feb., 1925.

## Vesiculitis

This must be treated through the rectum.

**Technique:** Kromayer—Second or third degree erythema, using small sized Wagner speculum with Sharpe Localizer per rectum.

**Medical Reference:** "Actinic Therapy," by T. Howard Plank, M. D.

## Vincent's Angina (Trench Mouth)

Ultra-violet is reported to be "practically a specific" for Vincent's Angina.

**Technique:** Kromayer—The technique for treating is similar to that used for Pyorrhea. Scale and clean well. Apply third degree erythema using pyorrhea applicator. Treat by contact compression, both facially and lingually. Allow reaction to subside and repeat.

**Medical Reference:** Dr. L. B. Lippman, M. C. D. S., U. S. Navy, Amer. Jour. of Elec. & Rad., Jan., 1921; also in Inter. Jour. of Ortho., Jan., 1923. Dr. I. O. Denman, E. E. N. & T. Monthly, March, 1923.

## Vitiligo

(See Leukoderma.)

**Technique:** Kromayer—Using lens applicator under compression third degree erythema. Normal skin around lesion should be protected.

**Medical Reference:** N. Toomey, Jour. A. M. A., June 20, 1923.

## Whooping Cough (Pertussis)

Reports received showed that the whooping cough was stopped almost immediately, in cases where treatment with the Alpine Sun Lamp was preceded by the administration of quinine sulphate.

**Technique:** Alpine—Second degree erythema, general body radiation.



## Whooping Cough—*(Continued)*

**Medical Reference:** Dr. K. G. Woodward, Arch. of Ped., Aug., 1924, p. 582. Dr. Hugo Bach, "Ultra-Violet Light," Paul B. Hoeber, 1916. F. Schottem, Amer. Jour. of Phys. Therapy, Jan., 1925. L. W. Smith, M. D., Amer. Jour. of Child. Diseases, Nov., 1924.

## Wounds

(See Gunshot Wounds.)

**Medical Reference:** W. D. McFee, Physiotherapy News Bulletin, June, 1925. L. C. Donnelly, M. D., Amer. Jour. of Phys. Therapy, June, 1925. A. E. Schiller, M. D., Michigan State Med. Jour., June, 1922. C. R. Brooke, M. D., Amer. Jour. of Electro. and Radiology, June, 1923.

## X-Ray Burns

Reports state that ultra-violet treatment "is superior to any other agent at our disposal" in the treatment of X-Ray Burns.

**Technique:** "In X-Ray burns the ultra-violet treatment for the open ulcer and that for the surrounding skin is different. In the open ulcer it is absolutely necessary to stir up the greatest possible reaction for the first treatment or two. To produce this intense fourth degree erythema, and if in a day or two the reaction does not show proper intensity, repeat with a heavier dose.

"All sloughs or dead tissue must be cleaned off to permit the penetration of the rays. Any pockets should be exposed by using a pyorrhea rod on the Kromayer Lamp. At subsequent treatments this is not necessary. The Kromayer is more convenient for the first treatment, but afterwards the Alpine Sun Lamp is better and the whole area can be treated at one exposure in the latter treatment. The strength of the dose can be gradually decreased, starting with a third degree erythema after the first intensive doses have been given to the open ulcer."

**Medical Reference:** Maj. C. M. Sampson, "Physiotherapy Technic," C. V. Mosby & Co., 1923. Dr. A. E. Schiller, Mich. Sta. Med. Soc., June, 1922. Dr. J. G. Burke, Read at Col. of Phy. and Surg., Dec. 13, 1917. Dr. Knowles, Arch. of Derm. and Syph., March, 1924.

## X-Ray Dermatitis

In the simple type of X-Ray dermatitis, that is, the superficial burns, nothing will ameliorate them as quickly as very mild raying with the Alpine Sun Lamp.

**Technique:** Alpine—First or second degree erythema, three to four exposures at intervals of two to three days.

**Medical Reference:** Dr. Ralph Bernstein, "Ultra-Violet Rays in Modern Dermatology," Achey & Gorrecht, 1918.

## X-Ray Telangiectasis

(See Telangiectasis.)

**Technique:** Kromayer—Fourth degree erythema, by compression.