

# "BRITESUN"

## Carbon Arc Lamps

"BRITESUN" Single Arc  
"BRITESUN" Twin Arc  
"BRITESUN" Specialist

### *Treatment Booklet*

NEW ADDRESS  
3735-39 BELMONT AVE.



*Radiant Therapy*  
*Ultra Violet*  
*Infra Red*

1115-17 N. Franklin St.  
CHICAGO  
ILLINOIS

**“BRITESUN”**

**Carbon Arc**

**Ultra Violet**

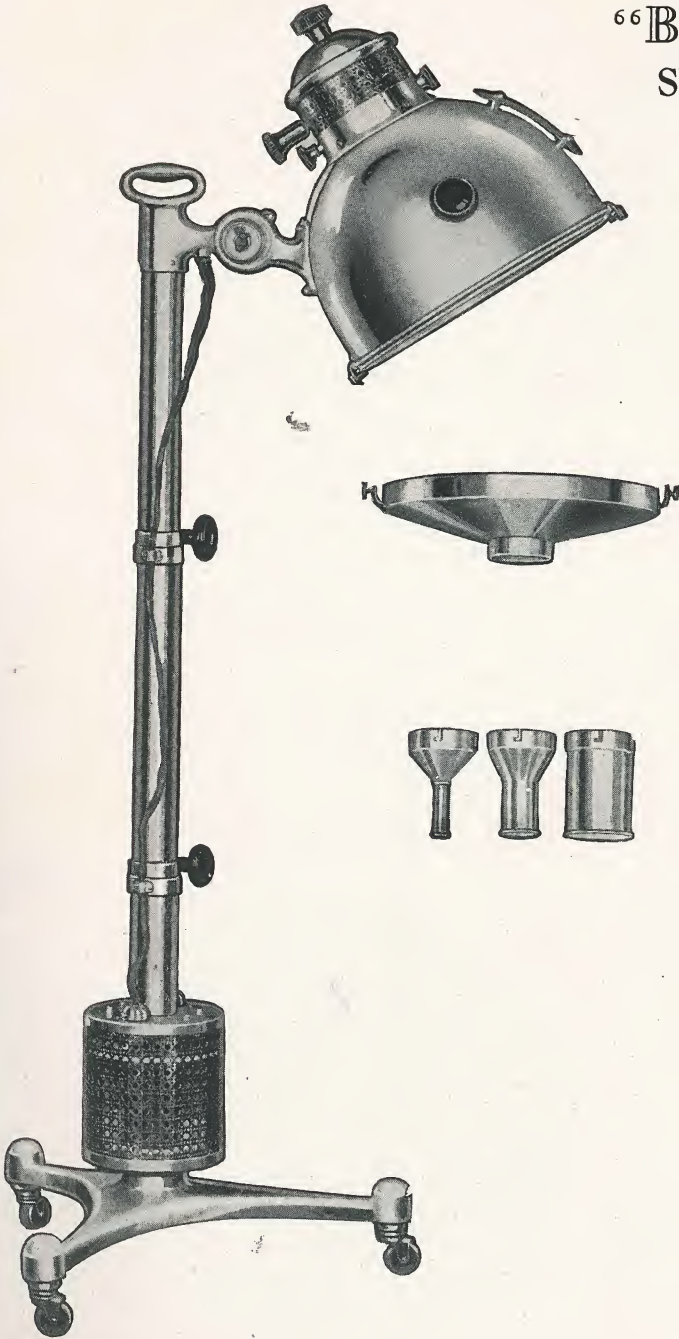
**RADIATION**

**In the Treatment  
of Disease**



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BY  
BRITESUN, INC.

“BRITESUN”  
SINGLE ARC  
LAMP



Delivers  
*Radiant Therapy*  
*Ultra Violet*  
*Infra Red*  
*Rays*

Select  
Energy  
Desired  
at Will

A60—"BRITESUN" SINGLE ARC LAMP

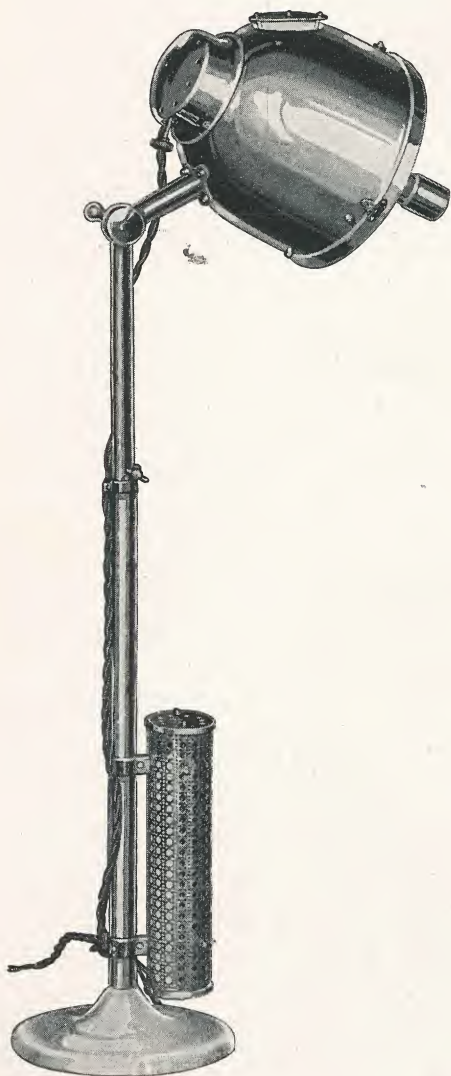
<sup>66</sup>BRITESUN  
TWIN  
ARC  
ULTRA  
VIOLET  
LAMP



A80—"BRITESUN" TWIN ARC LAMP

# **“BRITESUN”<sup>99</sup> SPECIALIST**

## **CARBON ARC LAMP**



*A Revelation in  
Beauty and  
Compactness*



Safe  
Silent  
Constant  
Portable  
Reliable  
Automatic  
Adjustable Arc  
Easily Operated  
Accurate Dosage  
Unconditionally  
Guaranteed

A70—“BRITESUN” SPECIALIST LAMP



# The Carbon Arc Lamp and Human Pathology

## Introduction

"The Carbon Arc lamp will fully replace Sunlight"—Finsen Institute. An Austrian layman in 1789 established the first solarium and demonstrated excellent results in many acute and chronic conditions.

One hundred years later Dr. Rollier established solaria in the Alps near Leysin, Switzerland, and proved the great value of sunlight in the treatment of various types of tuberculosis.

Later, Niels Finsen of Copenhagen, Denmark, attempted to establish Heliotherapy there but was unable to accomplish much of value on account of the few hours of actual sunlight and the great angle of incidence of the sun's rays. The spectroscopes of that period had already shown the great similarity of the emission of the high wattage carbon arc lamp and the sun, so Finsen then turned his attention to this substitute.

Of recent years the mercury vapor quartz lamp has been developed and its use adopted by many authorities—but many have since replaced the mercury vapor lamp with the modern impregnated carbon lamp simply because they have been able to obtain better results with it. Very recently some of the first men in the profession have turned their attention to the new carbon arc lamp and have definitely come out with the assertion that the mercury vapor lamp is only superior for local and circumscribed areas, that for larger areas and for metabolic and tonic effects the modern arc lamp is superior.

There is a misconception in the minds of many that should be corrected. They speak of the mercury lamp as the ultra violet lamp. As a matter of fact, any arc lamp is an ultra violet lamp and the modern metal impregnated carbon arc lamp is capable of a production of many times as much ultra violet light as the therapeutic mercury vapor lamp operating on 300-400 watts. It all depends upon the composition of the electrodes and the amount of electrical input.

Another important matter is that certain persons point out that the mercury vapor lamp gives (when new) 26% ultra violet and that the impregnated carbon arc lamp gives only 7 to 12%. Now the question is 26% and 12% of WHAT. That they do not tell us.

As a matter of fact, it can only refer to the percentage of the electrical consumption exhibited as ultra violet light emitted. So in terms of ultra violet volume we have in the mercury vapor lamp (only



when new) about 26% expressed in ergs per sq. cm. of something less than 300 watts of consumed electricity. Whereas, with the modern metallic impregnated carbon arc lamp, about 12-15% of ultra violet energy expressed in ergs per sq. cm. of 600 or more watts consumption.

In other words, the modern arc lamp is more worthy to be called an ultra violet lamp than a mercury vapor lamp. In addition, by employing certain combinations of carbons we can exactly reproduce sunlight; we can give an emission with infra red predominating; or, we can give a predominance of ultra violet radiation.

THE MODERN CARBON ARC LAMP IS A PROLIFIC ULTRA VIOLET PRODUCER.

### LIGHT

Light according to Clerk Maxwell consists of electro-magnetic waves or vibrations of the ether. Maxwell's hypothesis has now been accepted by the scientists of the world as true and proved.

### PHYSICS OF LIGHT

It having been definitely proved by science that light consists of waves, it was necessary to find certain units of measure, hence the following have been adopted as standard:

1 micron, abbreviated by Greek mu  $\mu$ , = .001 m.m.

1 millimicron, abbreviated by two Greek mu  $\mu\mu$ , = .000001 m.m.

1 Ångstrom Unit, abbreviated by Å.U. = .0000001 m.m.

The later unit has been universally accepted by the medical profession as the standard unit of measurement in therapeutics.

The Solar Spectrum is divided into three general divisions with wave lengths as follows:

Ultra Violet, 7% of total; wave length, 1000-3700 Å.U.

Visible, 13% of total; wave length, 3700-8000 Å.U.

Infra Red, 80% of total; wave length, 8000-100000 (or more) Å.U.

These figures are not absolute due to atmospheric and other absorption but are quite close and correct for all therapeutic purposes.

Some authorities further divide the invisible Infra Red and Ultra Violet bands into the near band, the middle band and the extreme band, thus placing their relative position to the visible spectrum.

The Visible Spectrum is divided into seven colors as follows: Violet, Indigo, Blue, Green, Yellow, Orange, Red.

According to Lukeish solar energy, at the zenith, furnishes 7000 H.P. per acre or about 0.16 H.P. per square foot. Steinmetz was an ardent believer in the potency of the Infra Red band and stated that the entire heat and energy of the sun was brought to the earth by



this means. That all of life depended on Infra red, without which first the vegetation would die, then the animals, and, finally man himself.

Many well-known writers view the rapidly dwindling stocks of coal and petroleum with a great deal of alarm and look forward to a frozen world but their fears are groundless as long as the sun shines. Solar motors are being employed now in California and also by the French in Africa and every day some new hydro-electric plant is being placed in service. And water energy is nothing but a mild manifestation of solar energy.

Thus, as expressed by a well-known authority on light, "THE SUN IS AND ALWAYS WILL BE THE ONLY SOURCE OF ENERGY AND POWER." So the doctor should bear in mind always that, in light therapy, he is dealing with a ponderable and potent physical and chemical agent. Light even exerts pressure and if any reflector could be made perfect the pressure would be exactly double.

Color depends entirely on temperature because temperature controls wave length. That is to say, when we increase temperature we decrease wave length, but increase the frequency. For instance, if one observes a piece of platinum wire that is being heated slowly by the electric current, controlled by a delicate rheostat, by means of a good spectroscope, he will find that as he slowly cuts down the resistance the wire gradually becomes red and only a red band is shown by the spectroscope.

While keeping the eye at the spectroscope, gradually cut out the resistance with the rheostat and you will note that as the wire gets hotter that the various other colors will appear viz., orange, yellow, green, blue, indigo, violet. Then if you are employing a quartz spectroscope you will find that when the platinum wire reaches incandescence you will be getting into the ultra violet band.

If you then carry through the same experiment with a quartz spectrometer you will find the various wave lengths represented. And most of all you will have discovered that "the higher the temperature of any emitting source the shorter will be the wave lengths of light emitted" and that color depends entirely on temperature.

Ultra Violet light has the property of making certain chemicals give off light. If the induced luminescence disappears as soon as the U.V. ceases this light is called fluorescence. If it persists for a time after the U.V. ceases it is called phosphorescence. The Infra Red rays will instantly destroy the phosphorescence caused by U.V.



Balmain's paint as a substance which shows a brilliant phosphorescence under U.V. is a combination of the sulphids of calcium, barium and strontium. It is an excellent test for U.V. radiations.

### CHEMICAL ACTION OF ULTRA VIOLET

Many physicians term the Ultra Violet rays "Actinic Rays" and although this is a misnomer these rays are the most actinic or chemical of the entire solar radiation. They cause the skin to tan by bringing about a deposit of melanin in the dermis. They cause the formation of ozone by the action on oxygen in the presence of catalysts. They fade various dye stuffs. Radiations of less than 2000 Å.U. break up Hydrochloric, Hydrobromic, or Hydriodic Acids. They cause the increase of hemoglobin in the blood stream.

Carbon metabolism, in the body, is increased under U.V. irradiation, carbon dioxide being eliminated. Plants on the contrary take in carbon dioxide and fix the carbon, releasing pure oxygen, under U.V. Modern millers and linen manufacturers are employing U.V. to bleach their wares.

Many thousand chemical reactions are brought about by U.V. that would otherwise be impossible.

### ACTION OF ULTRA VIOLET ON BACTERIA

In the middle ages it was found that suppurating wounds quickly healed on exposure to solar rays. We now know that it was the U.V. that brought this about. Even the early Romans recognized the fact that the sun's rays destroyed odors.

However, it was only a few years ago that bacteriologists became active and began to test the bactericidal effects of U.V. One of the leading authorities gives us the following table showing the lethal points of various bacteria when exposed to U.V.

#### Diplococci

|                     |   |         |
|---------------------|---|---------|
| Gonococcus .....    | 6 | Seconds |
| Meningococcus ..... | 6 | "       |

#### Staphylococci

|                       |    |   |
|-----------------------|----|---|
| Pyogenes Albus .....  | 10 | " |
| Pyogenes Aureus ..... | 12 | " |

#### Streptococci

|                   |    |   |
|-------------------|----|---|
| Viridans .....    | 14 | " |
| Hemolyticus ..... | 18 | " |
| Mucosus .....     | 25 | " |



|                |    |         |
|----------------|----|---------|
| Pneumococci    |    |         |
| Group I        | 25 | Seconds |
| Group II       | 20 | "       |
| Group III      | 25 | "       |
| Group IV       | 15 | "       |
| Bacilli        |    |         |
| Influenzae     | 18 | "       |
| Diphtheria     | 10 | "       |
| Tuberculosis   | 12 | "       |
| Leptrae        | 15 | "       |
| Coli           | 18 | "       |
| Typhosis       | 18 | "       |
| Dysentery Type | 20 | "       |

U.V. will even destroy the spores of Bacillus anthracis which cannot be destroyed by boiling water under normal pressure. This all done by direct exposure to U.V. but bacteria are also destroyed in the body through U.V. irradiation. This is an entirely different process and will be treated elsewhere.

## HOW THE COMPONENTS OF CARBON ARC RADIATIONS ARE DETECTED AND MEASURED

As the emission from the carbon arc differs somewhat with the kind of electrode employed the amounts of the three bands of the spectrum will necessarily differ. As a general rule, the Infra Red band is tested and measured by the Infra Red spectroscope in combination with a delicate thermopile and reflecting galvanometer.

The Visible Spectrum by the ordinary prism or grating spectroscope and photographic plate.

The Ultra Violet by means of the quartz spectroscope. A very good method, when great accuracy is not required, is the fluorescence produced when U.V. impinges many minerals and chemicals such as: Quinine fluoresces blue.

Salicylates fluoresces blue.

Kerosene fluoresces light blue with opalescence.

Fluorspar fluoresces purple.

Balmain's paint phosphoresces like strong moonlight.

Willemite fluoresces green.

Another good simple test is to moisten filter paper with 20% KI in distilled water. On exposure to U.V. in the biological or abiotic bands it will turn brown. The U.V. has broken up the KI into I and KOH. This detects wave lengths of less than 3050 Å.U.

Or one may employ filter paper moistened with 20% KCN. It will soon discolor under radiations of less than 3130 Å.U. An electro-scope that has been charged with negative charge will be discharged,



under U.V., because of the release of electrons by U.V. Accurate measurement of U.V. can only be made by expensive quartz spectroscopes and photography.

### BIOLOGICAL EFFECTS OF CARBON ARC RADIATIONS

The biological effects of the emission from the modern Carbon Arc is much greater than from the mercury vapor lamp. This statement has been made by such leaders in the therapeutic field as Wm. Benham Snow, E. C. Titus, Fr. de Kraft, Niels Finsen, Axel Reyn, et al. The main reason is on account of the much greater volume of radiant energy being absorbed and utilized than is possible with the mercury vapor lamp employing only about 300 watts of electrical consumption. Again they all agree that the radiation from the Carbon Arc Lamp is much more penetrative, hence gives markedly greater metabolic effects.

Hess and associates, and Steenbock and associates, and Bovie, as well as others prior to their work, have demonstrated greatly increased growth of various domestic animals under U.V. radiations (Carbon Arc and Mercury Vapor) as well as the fixation of calcium, phosphorus, iron, etc. In addition, their experiments have proved that food rayed by various sources of U.V. energy has developed the same properties as the U.V. itself. They have found that a cow fed on rayed hay produces milk rich in vitamins and in calcium fixing properties. This milk can be drunk by women nursing their babies and carry the same biologic properties to the babies.

Hens rayed with U.V., from any source, produce eggs rich in vitamins while unrayed hens lay eggs poor in vitamins and poor in fertility. It is predicted by authorities that the health of the human race will soon be much improved because we will all be eating U.V. rayed foods. The only two articles of common diet that cannot be benefited are white granulated sugar and common salt.

The biological effects are further treated under Physiological Effects.

### THE TRANSMISSION OF CARBON ARC RADIATIONS

There are two main factors of value in Carbon Arc radiations, both of which are invisible and both of which are little transmitted by ordinary glass. In fact, there are special glasses now being highly advertised to transmit U.V., but as a matter of fact, they transmit little that is less than 2800 A.U. so the greatest bactericidal effects cannot be looked for. The factors spoken of are the U.V. band and the Infra Red band, both of which are of enormous import in modern therapy.



Pure fused quartz is now obtainable and although it is high in price it serves a very useful purpose in orificial pathology as it will transmit practically 100% U.V. energy down to about 2000 A.U. through the visible band and far into the Infra Red band.

If wave lengths of less than 2000 A.U. are required, one must resort to fluorspar or to even very high vacuum. However, all these bands are well outside the therapeutic range and are of interest, at present, only to the physicist.

The shorter wave lengths used in medicine and as produced by the water cooled mercury vapor lamp have extremely small penetration and serve mostly to greatly irritate the skin. Some writers claim that this benign inflammatory process stimulates reparative processes but others condemn such radiations as being destructive and getting too close to the radiations from the old style gas tube which did such execution among early Roentgenologists. In fact, some of the greatest friends of the water cooled lamp who formerly insisted on pressure applications now employ the lamp at a target distance of 5 or more inches.

The longer radiations as produced by the modern Carbon Arc lamp transmit to the tissues the longer U.V. rays which are much more penetrative and are always benign and healing as well as bringing about those necessary processes such as mineral fixation and the normalizing of metabolism.

### PHYSIOLOGICAL EFFECTS OF CARBON ARC RADIATION

William Benham Snow, the eminent authority and writer on the subject of Physiotherapy, definitely stated that the Carbon Arc was of superior value in all except local bactericidal effects. In the latter case he preferred the mercury vapor lamp. This would indicate that for Tuberculosis, Anemias, Hay-fever, Rickets, Asthma, Toxemias, Bacteremia, and, in fact, all conditions characterized by a lowered alkaline reserve and demineralization, the Carbon Arc should be used.

The demonstrated and proved effects of the modern Carbon Arc radiations are as follows:

1. Carbon Arc radiation is analgesic. The combined spectrum emitted is much more active and rapid than from the mercury vapor lamp.
2. The volume of U.V. is very large, hence the radiations are bactericidal.
3. If "C" carbons are used the middle band U.V. will produce strong erythema. If "B" carbons are used the near but highly biologic band predominates. If "A" carbons are employed one



gets almost the exact sun's spectrum. Other carbons may be used to obtain spectra in which any desired band predominates. These things cannot be accomplished with the mercury vapor lamp as the spectrum is almost exactly the same at all times.

4. Vitamin formation is brought about.
5. Fixation of various minerals such as calcium, iron, phosphorus and iodine is thoroughly demonstrated.
6. Acidosis is corrected.
7. Hemoglobin is increased.
8. Anti-body formation is increased.
9. Toxins are oxidized and eliminated.
10. Glandular function is enhanced.

Breuer gives us a list of diseases characterized by a shortage in blood calcium.

1. Pyorrhea.
2. Tuberculosis.
3. Algerie.
4. Slow healing fractures.
5. Hay-fever.
6. Asthma.
7. Nephritis.
8. Rickets.
9. Many diseases of the vegetative nervous system.
10. Infections.
11. Cancer.

In view of the above and in addition that Hess, Unger, Hill and many others have positively proved the fixation of calcium we must certainly give more definite attention to the use of Carbon Arc irradiations in the treatment of the above conditions, which cover such a large percentage of all cases of human pathology.

#### **ERYTHEMA OR NO ERYTHEMA—THAT IS THE QUESTION**

A certain surgeon, who boasted somewhat that he performed appendectomies in seven to ten minutes, finally reached a point when it was most urgent that he himself SUBMIT TO AN APPENDECTOMY. Did he ask his surgeon to perform the operation in 10 minutes? Hardly. He made the surgeon promise, on his honor, to take no less than 30 minutes and even more time, if marked adhesions were found.

The manufacturers of quartz lamp equipment dwell largely on the ability of their product to produce strong erythema and attempt



to thus sell the physician on the idea that rapidity of erythema is the true measure of the superiority of their product.

The Journal of the American Medical Association recently stated that neither an erythema or lack of erythema was any criterion by which to judge the therapeutic effect of Ultra Violet light and in reply to a point blank question as to which was superior the Carbon Arc or the mercury vapor lamp they simply stated that both were good; that some authorities preferred one and some the other; that good results were obtained by both.

As stated by Robaud, "When it can be clinically demonstrated to me that a strong skin irritation, as, for instance, an X-Ray burn, is of any therapeutic value, then and not until then will I accept a substitute for the Finsen Carbon Arc Lamp."

Dr. Percy Hall, one of the best informed authorities on Phototherapy in Europe, states, "Whether the amount of erythema produced governs the amount of therapeutic effect gained, is a matter of doubt. Too violent an erythema should not be attempted. It is better to proceed slowly. Much in the same manner as in vaccine therapy."

Titus tells us of the exacerbation produced in pulmonary tuberculosis by the mercury vapor lamp. And yet certain manufacturers prate of the rapidity with which they can produce a great degree of erythema. They do not come out and tell that the reason for this is the shorter, abiotic non-penetrative wave lengths that are doing this. And that the longer biologic wave lengths are those desirable in obtaining biological results with little or no irritation.

A few cases require a strong erythema and those cases are mostly dermatites, and the Carbon Arc lamp employing the proper carbons is entirely capable of producing the correct amount of erythema to produce even better results than with the strong burns produced by a water cooled mercury vapor lamp.

Dr. D——— reported such a case. "Patient C———. Age 48. Male. White. History negative. Wassermann negative. Differential blood count normal. Calcium content 9mg. Eczema over both feet and extending almost to knees. Patient constantly scratched area and kept it raw. Had to apply ointment twice daily to work. Could sleep little at night. Extremely nervous and neurotic. I irradiated the area with a —— water cooled quartz lamp and obtained a second degree erythema. Patient almost went insane with a terrible exacerbation and I had to visit him twice and apply narcotics to relieve. After reaction had cleared up, again used the quartz lamp with an even worse flare-up.



"The patient absolutely refused further treatment with this lamp, but with great difficulty I persuaded him to permit irradiation with an old B——— marine carbon arc lamp. Relief was marked from the first treatment and after six 30 minute exposures the condition was entirely cleared up. Several times later the condition seemed about to return but a few minutes with the old Carbon Arc lamp about twice a month kept the patient completely free from the condition and permitted him to work with comfort without other treatment."

### REGARDING ERYTHEMAE

There are three degrees of erythema as follows:

- 1st Degree—A mild blush appearing about 4 hours after treatment and disappearing in about the same time after maximum. This is the erythema, only, to be employed for mineral fixation, for increased anti-body formation and for tonic and metabolic effects.
- 2nd Degree—Erythema is a marked reddening of the tissues just short of a blister and is used in certain local infections of localized area. It appears about 4 hours after treatment; requires 24 hours to reach maximum and gradually disappears, leaving considerable pigmentation or tanning.
- 3rd Degree—Erythema is a blister and should be little used, except as a last resort and in very circumscribed areas. It requires about 5-7 days for this reaction to clear up and it sometimes leaves a bad cosmetic effect.

Remember, that blondes and children burn much more readily than do adults who are of darker complexion or who are in good health and much exposed to sunlight. Anemics should be treated with much care until they have pigmented. Always warn nervous patients of the slight sunburn they may expect in a few hours.

As the "BRITESUN" Carbon Arc Lamp produces rays in the biologic band there need be no fear of burns or great uneasiness following its use. And the shorter wave lengths are still further eliminated by the air gap between the patient and the lamp.

Always shield the eyes.

### TYPES OF CARBON ELECTRODES EMPLOYED

In order to obtain best therapeutic results it is necessary to employ, for select cases, four different formulae of carbon electrodes. Do not lose sight of the fact that the spectrum of the mercury vapor is always the same while the spectra of the "BRITESUN" Carbon Arc Lamps can be greatly changed and modified in order to get specific results for specific cases.

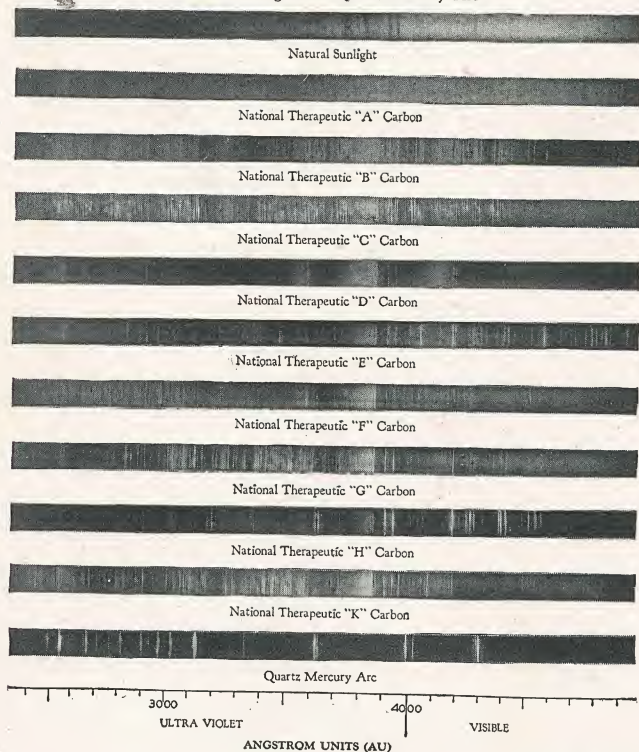


Doctor, if you write a prescription for Codeine Sulph. you would seriously object to the pharmacist filling it with gum opium, or Heroin or any of its salts, or Morphine or any of its salts, or Narceine, or Papaverine or any of the other derivatives or compounds of Papaver Somniferum.

That is why you should use the "BRITESUN" Lamps with specific carbons for specific purposes.

### SPECTROGRAMS

National Therapeutic Arc Carbons  
Natural Sunlight and Quartz Mercury Arc



NATIONAL CARBON CO., INC.

### "BRITESUN" CARBONS

Sun Ray Carbons—A combination of "A" (white tip) and "G" (green tip). In using this combination, insert "A" on top and "G" on bottom—These are very useful carbons and are the ones regularly furnished with the "BRITESUN" Lamps. The spectrum is an almost exact duplicate of the Sun's spectrum at zenith (noon). Just the same band so successfully employed by Rollier and Finsen. Employed for best results in impaired metabolism, as a general tonic



to maintain health, to fix calcium, in surgical tuberculosis, etc. This type carbon will be abbreviated in the text of this brochure as S.R.C.

**Ultra Violet Carbons—Two types—“C” (silver tip) or Imported (blue tip)**—These carbons are impregnated with certain metals which guarantee a large emission of the biologic U.V. band. Better for recalcification than S.R.C. Also to be preferred in infections especially for local irradiations and used with the metallic applicators or localizers. This carbon will be abbreviated by U.V.C.

**Radiant Carbons “D” (black tip)**—The maximum energy exhibited by this carbon is the visible spectrum with a slight admixture of Infra Red, but with very little U.V. They are preferred in cases that formerly used the so-called deep therapy lamp, only much better results will be obtained for conditions in sub-cutaneous areas but not deep. Abbreviated in this text as R.C.

**Red and Infra Red Carbons “E” (red tip)**—Maximum energy in the red and Infra Red and adapted mostly to conditions requiring greater penetration than R.C. and when patients are already fully mineralized. Pain is a great indication for this carbon. Abbreviated R.I.C.

### A FEW SUGGESTIONS

Areas treated must be absolutely nude. If much hair covers the area it should be shaved or clipped closely. The skin should be thoroughly washed before treatment. ALWAYS PROTECT THE EYES DURING TREATMENT.

### ABBREVIATIONS

|                                |        |
|--------------------------------|--------|
| Sun Ray Carbons.....           | S.R.C. |
| Ultra Violet Carbons.....      | U.V.C. |
| Radiant Carbons .....          | R.C.   |
| Red and Infra Red Carbons..... | R.I.C. |
| General Body Radiation.....    | “GBR”  |

### TECHNIQUE

You Can Shorten the Time by Decreasing the Distance  
Suggested by an Authority

#### USE OF “BRITESUN” SINGLE ARC LAMP, “BRITESUN” TWIN ARC LAMP, AND “BRITESUN” SPECIALIST LAMP

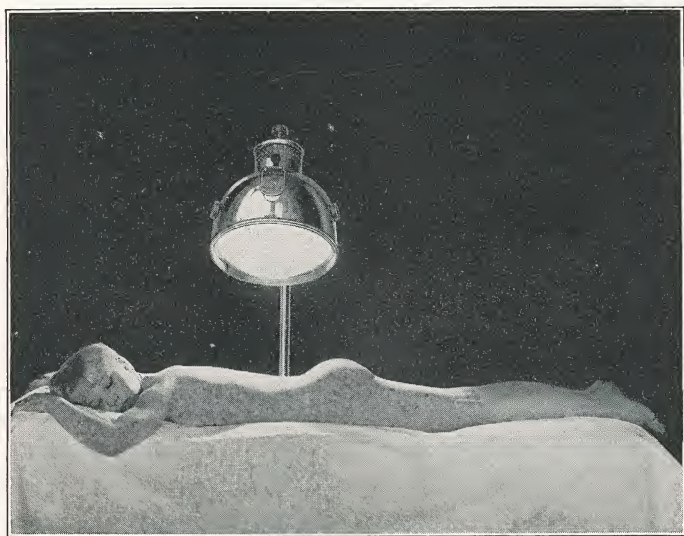
The following technique is based on the use of the A60—  
“BRITESUN” SINGLE ARC LAMP. When treating with the  
“BRITESUN” TWIN ARC LAMP, decrease the time of treatment  
about three minutes and lengthen the distance slightly. When using



the "BRITESUN" SPECIALIST LAMP increase the time of treatment about three minutes and shorten the distance slightly.

Bear in mind at all times that you must work out a specific technique for each patient. Remember that fair-skinned or blonde persons react much more quickly than do brunettes. Also that children pigment more readily than most adults. Anemics should be treated with much care until they have pigmented.

Follow the general technique for the first two or three treatments to ascertain the reaction of the patient. Then proceed to prescribe a specific technique, increasing or decreasing time of treatment and distance as indicated.



#### GENERAL BODY RADIATION

#### GENERAL RADIATION—TONIC

General Radiations are almost always indicated—whether condition to be treated is general or areata—in fact many apparently local disorders have readily responded to the General Bath when Local Radiations alone have failed. In all cases, General Radiations hasten the cure and lessen the possibility of recurrences.

In General Tonic Radiations, as well as in all other Light treatments, the parts to be radiated must be bare and free from salves or ointments. Daily or thrice weekly radiations, starting at 10 minutes front and back, at twenty inches. Gradually increase treatment periods until they reach one hour.

REMEMBER—Short Intense Radiations stimulate—Long Mild Radiations sedate.



### **ABSCESS.**

Both German and Italian authorities have written of their preference for the carbon arc in this condition. If it has not progressed to the point of suppuration it can usually be aborted as follows: Place localizer "N" on lamp and to attach the applicator "M" that will best cover the threatened abscess. Bring the lamp up to patient and treat 15 to 30 minutes. Follow immediately with "GBR" at about 30 inches for 15-30 minutes, employing U.V.C. Give "GBR" daily until improvement is noted, then thrice weekly. If pus is present, first evacuate and treat as above. Vaccines are synergetic and of value.

### **ACNE**

Russian and English writers report very favorably on intractable acne. Vaccines are synergetic and helpful. Clean out bowels and keep clean. Test for calcium deficiency. Give "GBR" with U.V.C. 15-30 minutes thrice weekly for eliminative and bactericidal effects at 30 inches. Precede this with local irradiations employing applicator "M" over pustules for 10 minutes. Persistence will bring good results after everything else has failed.

### **ADENITIS**

Treat as for abscess. Also see tuberculosis.

### **ADHESIONS**

Penetrating heat should first be used to soften the tissues so for best and quickest results use R.I.C. over area for 30-60 minutes as close as can be comfortably borne. Follow immediately with irradiations with U.V.C. Plank has long recommended just such a procedure, as the softened adhesions by the heat rays tends to break down and reabsorb under U.V. energy. Treat three times weekly and persist, and gratifying results will follow. Sinusoidal currents will also assist.

### **ANKYLOSIS**

This being simply an adhesion of a joint, treat as for adhesion. The fibrous type will yield if persisted in.

### **APPENDICITIS**

Active, acute appendicitis calls for surgery, usually. If diagnosis is made and treatment instituted before pus is present it is possible to abort an acute attack. Chronic, catarrhal cases usually respond well if persistent treatments are made.

If there is no pus present, treat as follows: Use R.I.C. at 15



inches for twenty to thirty minutes over McBurney's point. Then follow with U.V.C., giving "GBR" for 20-30 minutes at 36 inches both front and back. Treat daily. Place patient on proper diet and see that emunctories are properly active. If pus is present or even suspected operate at earliest possible moment and then follow out regime as above.

If adhesions form after operation, treat as for adhesions.



#### **TREATMENT OF ASTHMA AND BRONCHITIS**

#### **ARTERIOSCLEROSIS**

Ray the body "GBR" for 20 minutes at 20 inches with S.R.C. Treat three times weekly. Supervise diet and elimination.

#### **ARTHRITIS**

See Rheumatism.

#### **ASTHMA**

A large percentage of these cases being characterized by calcium deficiency should be put on calcium salts or on foods rich in organic calcium and the entire body rayed 30 minutes at 36 inches employing U.V.C. Treat three times weekly, both front and back. Excellent results can be promised in a large percentage of cases.



### **ALOPECIA**

Nagelschmidt grew hair on 196 out of 200 patients by the use of U.V. The hair should be clipped close or rolled up so that the rays can be placed directly on the diseased zones. Give 30-minute irradiations with U.V.C. at 20 inches or even less and after reaction has cleared up, retreat. It will take several months to show results but if all concerned will persist, excellent results are assured in most cases.

### **AMENORRHEA**

Place the proper applicator in vagina and employing S.R.C. treat 15 minutes. Treat over pelvis with R.I.C. 30 minutes, at 30 inches. Many cases being due to anemia it is well to give "GBR" once per week or even oftener until improvement issues with U.V.C. 30 minutes, at 36 inches. Supervise diet and elimination.

### **ANEMIA**

Simple anemias respond well to irradiations from U.V.C. thrice weekly, 30 minutes, at 30 inches. See that proper food is ingested. The erythrocyte count should gain, together with the hemoglobin increase.

In pernicious anemia, claims have been made for Infra Red over the long bones three hours daily. We make no claims but suggest that it will do no harm to try and if so use R.I.C. Treat daily. Careful differential counts should be made often in order to follow closely the action.

### **AUTOINTOXICATION**

Plank, Donnelley and other successful Physiotherapists employ U.V., together with diet with extraordinary results in many cases that fail to respond to other forms of treatment. The probable reason for such excellent results is the ability of the U.V. to increase the protective powers of the body; the increased oxidation due to increased hemoglobin, and the enhanced elimination.

First put patient on proper diet and see that he does not break over. Give "GBR" three to five times weekly with U.V.C. 30 minutes, at 30 inches, both front and back. See that proper elimination is had daily. As improvement is noted, the number of treatments can be reduced.

### **BLOOD PRESSURE**

Many authorities such as Bach, Plank, et. al., report favorably on the use of U.V. in Hypertension, provided, of course, there is not advanced Arteriosclerosis or Nephritis. But even in the latter conditions, a great deal can often be accomplished by carbon arc radiations. (See Nephritis.)



Give "GBR" three times weekly 20 minutes, at 30 inches with U.V.C. Place on strict diet. It is impossible to tell just how rapidly the condition can be corrected, but many apparently serious cases have apparently reached a normal condition in six weeks to two months.

### **BRONCHITIS**

Treat as for Asthma. An occasional irradiation over the upper pulmonary tract employing R.I.C. before using U.V.C. will also be of great benefit.

### **BRUISES**

See Ecchymosis.

### **BURNS**

Localized treatments given daily with "BRITESUN" employing S.R.C. for 15-30 minutes as close as patient can comfortably bear it will hasten healing, ease pain and prevent infection. If properly carried out, there is usually little remaining cicatrix.

### **BURSITIS**

Treat as for Ankylosis.

### **CARBUNCLE**

See Furunculosis.

### **CANCER**

Cancer, being a manifestation of demineralization, calls for an increased intake of calcium and irradiation daily with U.V.C. 20 minutes, at 30 inches, front and back, give "GBR." Locally the pain can be much eased by regional irradiations with R.I.C. We claim no curative powers but many authorities claim that life can be prolonged considerably and the suffering mitigated.

### **CATARRH**

For any catarrhal condition, give "GBR" with U.V.C. 30 minutes, at 30 inches, 2-3 times weekly. If possible, also employ an applicator and give 15 minutes locally.

### **CELLULITIS-CERVICITIS**

See Gynecology.

### **CHANCROID**

Good results obtained. Employ applicator and give 15-30 minutes as closely as possible with U.V.C. Give "GBR" with same carbons 15-30 minutes, at 30 inches. Treat three times weekly. If glands become affected, treat as for Abscess.



### **CHLOASMA**

Eradicate etiological factor. Use applicator and treat locally with U.V.C. 10-20 minutes. Permit reaction to clear up and retreat.

### **CHLOROSIS**

See Anemia.

### **CHOREA**

Good results may be promised. Give calcium or foods rich in calcium. See that elimination is good. Give "GBR" with U.V.C. thrice weekly 30 minutes, at 36 inches, front and back. If first treatment shows more than a mild erythema, cut down dosage on second.

### **CHOLECYSTITIS**

If gall stones are found, surgery should be resorted to. But English authors laud C.A. irradiations. Give local irradiations twice weekly over gall bladder, employing proper applicator ten minutes with R.I.C. Follow with "GBR" with U.V.C. 20-30 minutes, at 30 inches. Watch diet and elimination.

### **COLITIS**

Plank employs U.V. in this condition with excellent results. Screen off the remainder of the body and treat the abdomen 10-20 minutes, at 18 inches. Then remove screen and give "GBR" 30 minutes, at 30 inches, front and back. Diet. Change flora of intestinal tract. Treat thrice weekly.

### **CONJUNCTIVITIS**

Sampson, Plank, et. al., report favorable results. Administer with extreme care. Should too much irritation occur, drop warm castor oil in the eye.

### **CORYZA**

The combined solar spectrum as exhibited by the "BRITESUN" lamp is of great value here. Treat the upper thorax locally, employing S.R.C. for 15-20 minutes, at 24 inches. Then give "GBR" with same carbons or better with U.V.C. 30 minutes, at 36 inches, front and back. Treat daily until improvement is noted, then reduce number of treatments.

More prompt results will be had if the throat and naso-pharynx are also rayed for 10-15 minutes through smaller applicator. Three treatments usually suffice.

### **CYSTITIS**

Nearly all clinicians report favorably on U.V. It should be applied through vagina or rectum with small applicator. Use U.V.C. 10



minutes. "GBR" should immediately follow with either S.R.C. or U.V.C. 20-30 minutes, at 30 inches. Treat daily until symptoms ameliorate and then lengthen the interval between treatments. Keep urine alkaline secundum arte.



**DORSAL APPLICATION**

### **DERMATITIS**

The radiations from the "BRITESUN" form one of the best techniques for the treatment of the various manifestations of dermatitis.

As a general rule, it requires a strong erythema to get best results and after it has cleared up to re-treat. Many cases are characterized by calcium shortage. Most of them by intestinal indigestion and autointoxication and these should be corrected.

Treat the area locally by employing an applicator that will protect healthy tissue. Or use a screen of paper or cloth. Use U.V.C. and bring the lamp as close as possible, with entire comfort to patient. give an exposure of from 10-20 minutes. Permit reaction to clear up and re-treat. From the local treatment with "GBR" employing either



U.V.C. or S.R.C. 20-30 minutes, at 30 inches, front and back. Treat thrice weekly.

Correct bad habits of living. Clean up the intestines. Treat as above and results are sure.

### **DIABETES MELITUS**

Some authorities condemn U.V., for already the patient has too much ionic calcium. Nevertheless, Bach tells us of some remarkable cures by mild raying. Plank also uses U.V. if there is not extreme acidosis or coma. Here, again, we see the advantage of the "BRITESUN" because by a proper selection of carbons, we can regulate the radiations with great exactness.

The writer then would suggest "GBR" with R.C., starting 10 minutes, at 36 inches, front and back and gradually increase the time. As soon as any decided improvement is noted, change to carbon S.R.C. Diet is a large factor here and the use of insulin or other preparation is indicated.

### **DIARRHOEA-DYSENTERY**

See Colitis.

### **DIPHTHERIA CARRIERS**

U.V. will destroy the Klebs-Loeffler bacillus readily. Donnelley was the first to mention the sterilization of membranes in the nose and throat so that many people who were a menace to others were rendered harmless. Employ U.V.C. locally, by using proper applicators in nose and throat, for 15 minutes. A second treatment is scarcely ever necessary.

### **DYSMENORRHEA**

Plank writes that U.V. is the best single modality we have for this condition, and should be used locally and systematically for a few days prior to the Catamenia. The literature teems with reports of success in the hypothyroid and membranous types. As stated before, many cases of "nerves," due to lack of calcium and phosphorus, yield to U.V. Thus the unbalance is corrected and Dysmenorrhea often automatically adjusts itself.

Give "GBR" with S.R.C. 20-30 minutes, thrice weekly. Twice weekly employ the proper applicator and give locally (per vagina) 15-20 minutes with R.I.C.

### **ECCHYMOSIS**

If it is a simple contusion and the skin is not broken, it is best to use R.I.C. locally for 15-30 minutes as close as comfortable. If any



infectious symptoms appear, use U.V.C. locally and "GBR." Pain is usually relieved at once and infectious processes aborted. If pus appears, treat as for Abscesses.

### ECZEMA

Chronic Eczemas in which infiltration and lichenization of the skin are the chief changes, generally yield to Carbon Arc radiation



### LOCAL RADIATION FOR ECZEMA

though they are refractory to both roentgen rays and ointments. Abolition or reduction of pruritis and objective benefit may be expected, in the chronic, stationary and torpid cases.

Lombolt analyzes the results in 42 cases treated at the Finsen Institute. 13 had Neurodermatitis; 9 dry Eczema (among them 2 who had been under treatment for five and six years by roentgen and other methods), 14 had weeping Eczema, all Chronic, and 5 had Acute Eczema. Doses varied from 10 to 30 minutes, repeated from two to four times, with satisfactory results in all instances. Another case—a man, aged 63, with Lichen Ruber Hypertrophicus of 14 years standing. After 15 minutes exposure the skin became almost natural and the intense itching disappeared. Use Ultra Violet Carbons. See Dermatitis.



### **ENDOMETRITIS**

Treat as for Dysmenorrhea.

### **ENURESIS**

Bach reports very favorably on this condition. Bauer says that he has controlled it when all other methods failed. Give "GBR" twice weekly with U.V.C. or S.R.C. 10-15 minutes, front and back. Once per week a mild irradiation through vagina, if possible, or rectum will greatly assist.

### **EPIDIDYMITIS**

A leading authority claims for U.V. the term of "our best remedy." Do not forget that too much heat will sterilize by destroying the seminiferous tubules. Shield all but the scrotum and expose it to the rays through localizer as closely as patient's comfort will permit for 15-30 minutes, employing U.V.C. Follow with "GBR" with either S.R.C. or U.V.C. 20 minutes, at 30 inches. Treat 2-3 times weekly.

### **ERYSIPELAS**

Snow was the first to claim that radiant light was specific here. This is true, but better results can be obtained, as far as time is concerned, from the unfiltered "BRITESUN" rays. Treat the local area only, employing a localizer or applicator with R.C. for from 15-45 minutes. Then give "GBR" with U.V.C. or S.R. 15-30 minutes, front and back. Treat daily until improvement is noted, then lengthen the interval between treatments.

### **ERYTHEMA, INDURATUM OR MULTIFORME**

Shield healthy areas and bring lamp as close as comfortable. Give 20-30 minutes with U.V.C. Follow immediately with "GBR", 15 minutes, at 24 inches with U.V.C. or S.R.C. Permit reaction to clear up and re-treat. Excellent results can be promised.

### **ERYTHEMA PERNIO (CHILBLAINS)**

This may come from either nerve condition or exposure to cold. Excellent results obtainable with "BRITESUN" rays. Give local irradiations through localizer, as closely as possible, with S.R.C. or U.V.C. for 15-30 minutes. Re-treat as soon as reaction subsides.

### **FELON**

Treat as for Abscess. Relief is almost immediate.

### **FOLLICULITIS DECALVANS**

Open and express all pustules. Employ localizer with "BRITESUN" as close as can be borne and with U.V.C. give 10-15 minutes. Re-treat if necessary as soon as reaction has subsided.



## **FRACTURES**

Slow healing fractures are usually due to low calcium content or bacterial invasion. Give local irradiations with R.I.C. 15-30 minutes, thrice weekly. Give "GBR" with U.V.C. or S.R.C. twice weekly 30 minutes, at 36 inches. If reaction from first treatment is too much, cut down next treatment slightly. All we require is a 1° erythema systematically. Give foods rich in calcium.

## **FURUNCULOSIS**

Treat as for Abscess. Results excellent. In intractable cases give Staph. Vaccine.

## **GANGRENE**

In diabetic gangrene little can be accomplished save the relief from pain. In other types the prognosis is favorable. The combined rays as exhibited in "BRITESUN" R.I.C. followed with U.V.C. have produced some very remarkable results in senile type.

Treat the local condition first with R.I.C. as close as possible for 15 minutes. Then follow with local irradiation with U.V.C. for 15-30 minutes. Follow with "GBR" to raise the body immunology and for the beneficial effect on patients Psyche. Treat thrice weekly.

## **GASTRIC OR DUODENAL ULCER**

Dr. Plank declares U.V. the "Principal Treatment." "BRITESUN" rays tend to relieve acidosis and usually relieve the pain quickly. Ionic calcium is deposited in the tissues. And with the beginning of active pigmentation the general condition improves. One may employ either S.R.C. or U.V.C. 15-30 minutes, at 24-30 inches daily, at first, and as tanning progresses, increase the time or decrease the distance.

## **GINGIVITIS**

Sufficient evidence is at hand to justify us in declaring U.V. specific, in many oral diseases such as Vincent's Angina, Pyorrhea, etc. Employ instrumentation to prepare the teeth and gums. Use small applicator and placing it against the diseased areas give 5-15 minutes with U.V.C. A fused quartz applicator would be even better. Do not treat over five teeth at one seance and permit reaction to clear up before re-treating same area. Absolute regeneration of bone tissue has been demonstrated both by the X-Ray and by later surgery.

## **GOITRE**

Simple. This is essentially a lack of Iodine. "GBR" with U.V.C. will materially assist in fixing the Iodine. Treat once weekly, 15-30 minutes, at 30 inches.



### GOITRE, EXOPHTHALMIC

Plank recommends U.V. in toxic cases. Bach also uses U.V. Langemak reports some very remarkable cases in Journal A.M.A. Employ localizer and after bringing lamp as closely as comfortable and with U.V.C., treat 10-15 minutes daily.

### GONORRHEA

The M. Gonorrheae is known to be the most easily destroyed by heat. It requires a temperature only slightly above 98.6 to greatly weaken its virility and power of rapid procreation. It is probably for this reason that Saidman, the celebrated French clinician, so highly lauds a combination of Infra Red and U.V. to cure pathology caused by the germ. The Neisser Bacillus most highly proliferates in the male genitalia where the temperature is usually about 97° so that at normal body temperature it shows a weaker growth. And yet it shows more human misery than any other micro-organism.

Locally the diseased zone should receive long, intense irradiations with R.I.C. to raise the temperature and assist by phagocytosis and hyperemia. Follow officially with U.V. employing U.V.C. 10-15 minutes. "GBR" immediately afterward to increase metabolism, raise opsonic index. Treat daily and as condition improves, increase the treatment intervals.

Buccal and G.C. Ophthalmia are best treated with "BRITESUN" R.C. and followed with appropriate Ag. salts.

In the male, raying prostate through proctoscope is very good technique.

### GOUT

Probably the best treatment is "BRITESUN" irradiations employing S.R.C. or U.V.C. in "GBR" daily to thrice weekly, 15-30 minutes, at 30 inches. Locally, R.I.C. or R.C. treatment quickly relieve pain. Toxins are rapidly oxidized; B.P. lowered; metabolism increased.

### GUN SHOT WOUNDS

See infections.

### GYNECOLOGY

Nearly all pathology of the female generative tract is traceable to bacterial invasion. The combination of heat and U.V. forms the ideal bactericide and anti-inflammatory procedure. Thus the ideal treatment in these cases is to heat up the area with Infra Red and then follow with the powerful U.V. emission from the "BRITESUN." For G.C., see Gonorrhea. Same for Salpingitis and other Neisserian



infections, although bear in mind that confined pus is a contra-indication for heat.

Endocervicitis is best treated by sponging clean and then introduce the proper applicator, per vaginam, treating 10-15 minutes with U.V.C., following immediately afterward with "GBR" with same carbons or S.R.C. 20 minutes, at 30 inches and gradually increase the time on successive seances. Treat at least thrice weekly until improvement is noted, then increase intervals between treatments. Treat Cellulitis same way.

Always keep in mind that Infra Red rays lower the viability of all types of bacteria and thus pave the way for the bactericidal U.V. That Infra Red rays are contra-indicated where there is confined pus or acute danger of hemorrhage. With these assertions and with our talk on our therapeutic carbons it will not be long until every physician can establish his own technique just right to fit individual patients and diseases.

### HAY FEVER

Hay fever, in most cases, being a condition of hypersensitization with certain proteins and a shortage of ionic calcium and it having been positively demonstrated that U.V. desensitizes, destroys toxins and fixes calcium, what could be more rational than the use of the "BRITESUN" lamp with U.V.C. for the correction of this condition, as the volume of U.V. given off under normal operating characteristics is enormous, and the wave lengths practically all in the biologic band.

Give foods or medicines rich in calcium. Five grain doses of calcium lactate four times daily is the best. Give "GBR" at least twice weekly, 15-30 minutes, at 30 inches with U.V.C., front and back. For local treatment, employ same carbon and with proper applicator either metal or fused quartz treat the nose (each nostril) and naso pharynx 10-15 minutes. Good results and relief should follow the first treatment and become more manifest as the course is followed out.

### HYPERPIESIS

See Blood Pressure.

### HYPERTHYROIDISM

See Goitre, Exophthalmic.

### HYSTERIA

See Neurasthenia.



### HEMORRHOIDS

U.V. gives good results. Employ an applicator and bring up the lamp close enough to permit pressure of applicator on hemorrhoid, give 10-15 minutes with U.V.C. Pain is relieved quickly. Permit reaction to subside and re-treat as before.



### TREATING TUBERCULAR JOINT

#### HERPES

Shield healthy tissue and bringing lamp up close give 10-15 minutes with U.V.C. The eruption usually ceases at once and dries up while the neuralgic pains are minimized. Pick out the nerve trunk supplying the area and treat as above.

### HYPOCALCEMIA AND HYPOPHOSPHATEMIA

There is plenty of confirmed evidence that U.V. will fix calcium, phosphorus, iron and iodine in proper tissues. Considering that a large percentage of diseases are due to this shortage the most logical treatment is U.V. in the biologic band, as supplied by the "BRITESUN" lamp. Thus the conclusion that U.V. should be used in Asthma, Nephritis, Hay Fever, Rickets, Tetany, Pyorrhea, Tubercu-



losis, Eczema, Anaphylaxis, Cancer, Avitaminosis, Fractures, Bone Diseases, Angioneurotic Edema, Mucous Colitis, old Ulcers, etc.

### **ICHTHYOSIS**

See Dermatitis.

### **IMPETIGO**

See Dermatitis.

### **IMPOTENCY**

Jesionek first discovered the property of U.V. in increasing the libido. Most all cases of impotency are due to prostatic conditions and to former Neisserian infection. See Prostatitis.

### **INFANTILE PARALYSIS**

U.V. is of value here in its ability to increase anti-body formation, for its tonic effects, and its ability to fortify the body and raise resistance against infective processes. Use U.V.C. or S.R.C. and give "GBR" from 10-15 minutes, at 30 inches. Treat thrice weekly and increase dosage as the child becomes pigmented. Use sinusoidal currents to correct deformities after the disease is cured.

### **INFECTIONS**

Sonne first proclaimed the fact that bacteria heated slightly about their normal habitat temperature succumbed much more readily to U.V. radiation. His findings have since been proved and the facts accepted by all clinicians. This then paves the way to the successful use of light in such conditions.

Thus in local infections, when there is no confined pus and no danger of hemorrhage the best technique is to employ an Infra Red modality to heat up the area and weaken the viability of the bacteria, produce an active arterial hyperemia, and promote leucocytosis. Follow this immediately with local intensive irradiations of U.V. for local bactericidal and regenerative effects. Then employ "GBR" to obtain a systemic absorption of U.V. and thus bring into the struggle the entire immunological powers of every cell of the body.

This is the order used by the most successful clinicians in the world and can well be followed in its entirety. It took a World War to bring all these facts to the profession.

### **INFLUENZA**

Dr. Plank, in his latest book, strongly recommends the combined use of radiant energy in this disease, and, that properly used, will show results within 24 hours.

Give 30-60 minutes "GBR" with R.C. or R.I.C. and follow im-



mediately with "GBR" from U.V.C. 15-30 minutes, at 24-30 inches. With same carbons and proper applicator, ray the nose and throat 15 minutes. Treat daily.

### INSOMNIA

Excellent results reported. It is probably due mostly to the selective sedative action of U.V. on the sympathetic nervous system. If possible, give patient a neutral bath of 30-60 minutes. Follow by radiating "GBR" with S.R.C. or U.V.C. for 20-30 minutes, front and back. Give a glass of warm milk and the patient will usually fall asleep within a few minutes and have a really refreshing sleep.

### INTESTINAL INFECTIONS

Treat as for Colitis.

### KELOIDS

Very gratifying results are reported. Treat as for Lupus.

### LARYNGITIS

You can depend on good results from Actinotherapy. Employ U.V.C. and having attached an applicator that will enter the mouth treat the throat for 10-15 minutes. Follow with local treatment over the larynx on the outside for 10-15 minutes as closely as possible. Then "GBR" 15-30 minutes, front and back. One or two irradiations will usually suffice for complete relief.

### LEUCORRHEA

See Gynecology and Gonorrhea.

### LICHEN PLANUS

Treat as for Dermatitis.

### LUMBAGO

Treat as for Rheumatism.

### LUPUS

Lupus, being a tuberculous lesion, one should treat locally and systemically. You will recall that Finsen made his first great success by the use of the carbon arc in Lupus. And the modern carbon arc giving us much more favorable U.V. rays than the old one of Finsen, will give just that much better results.

Use U.V.C. and with an applicator that fits the lesion or by screening off healthy tissue and bringing the "BRITESUN" as close as possible, treat for 20-30 minutes or even more if you find that your first treatment was not sufficient to produce a very strong reaction. Then follow with "GBR" 20-30 minutes, front and back, at 30 inches.



Decrease distance as patient becomes tanned. Permit reaction to clear up and re-treat wherever necessary.

### **MARASMUS**

Treat as for Rickets q.v.

### **MASTOIDITIS**

Many years ago, Dr. Snow stated that Otitis Media could be cured and Mastoiditis prevented by the intensive radiant light treatments. How much better then is the modern carbon arc—The "BRITESUN." If the mastoid cells have begun to break down, surgical intervention is indicated. If not, shield all of the head except the mastoid process and the affected ear. Use U.V.C. or S.R.C. as closely as you can bring the "BRITESUN" for 15-30 minutes. Follow with "GBR" 30 minutes, at 30 inches, front and back. To ray the inside of the ear, employing the proper applicator is also good technique. Treat daily, if possible, but if the reaction from the first treatment is too severe, follow the outlined technique until reaction subsides, with R.L.C.

### **NAEVI**

This is a very successful treatment. Treat the condition locally as for Lupus.

### **NEPHRITIS**

Several articles of recent date in the Journal of the A.M.A. have placed Nephritis in the column of diseases caused by or, at least, characterized by calcium deficiency, and if this be true, this may account for the very good results obtained by co-workers with the carbon arc.

If case permits, give foods rich in calcium. Give "GBR" with either U.V.C. or S.R.C. starting with 15 minutes, at 30 inches and gradually, on successive treatments, increase time and decrease distance. Never get any more than a mild first degree erythema. Treat thrice weekly and as improvement is noted, increase the interval between treatments.

Russell, a leading British clinician, reports as follows: "In chronic Nephritis, good results have been obtained by the use of U.V. rays. We have treated many cases of this condition in which there has been high B.P. Improvement has been noted in nearly every case."



### NEURASTHENIA (Including Psychasthenia)

Many of these cases show marked calcium and phosphorus shortage. Then, again, the higher frequencies of the solar spectrum shows a marked sedative action on the sympathetic nervous system. If caused by malignancy, or by ulcers of the gastro-intestinal tract, correct the condition; or if from auto-intoxication, the "BRITESUN" will correct the latter two factors in a good percentage of cases. Plank reports some very remarkable results from U.V.

Give "GBR" with U.V.C. or S.R.C. 15-30 minutes, at 30 inches, thrice weekly, front and back. If sore spots exist in the spine, shield all other tissues and give rather intensive treatments with the same carbons.

Again check up the lower bowels.

### NEURITIS

The "BRITESUN" will give good results, regardless of the cause. But no permanent benefit will be possible until the underlying cause is eliminated—Syphilis, Infections, Toxemias, etc.

Give intensive local irradiations at the painful areas with U.V.C. or S.R.C. at comfortable distance for 10-15 minutes. Always follow with "GBR," 15-30 minutes, at 24-30 inches. A first degree erythema, only, is required. Treat daily to thrice weekly as indicated by pain.

### NEUROSIS

Treat as for Neurasthenia.

### NEURALGIA

Treat as for Neuritis.

### OSTEOMYELITIS

Plank has followed his treatments with U.V. by checking up with X-Rays and has shown some startling regenerations of diseased bone tissue. Donnelley has also written a great deal of his remarkable cures of the condition with U.V.

Locally, give intensive treatments with U.V.C. to gain strong erythema. This will require 10-15 minutes as close as possible to the "BRITESUN." Permit reaction to subside and re-treat. Follow immediately with "GBR" with same carbons. Give 15-30 minutes, at 24-30 inches. Treat thrice weekly. Look out for calcium shortage.



### OTITIS MEDIA

Treat as for Mastoiditis.

### OVARITIS AND SALPINGITIS

See Gynecology and Gonorrhea. Continuous hot douches with Epsom of great value.



TREATING OTITIS MEDIA

### OZENA

Good results are obtained. First clean out the nose with alkaline sprays and follow with local irradiations with U.V.C. in nose and naso-pharynx, employing the proper applicator to reach these areas, 10-15 minutes usually suffice. Follow with "GBR," 15-30 minutes, at 30 inches. Treat locally daily. Systemically thrice weekly.

### PANCREATITIS

Many authorities claim excellent results. Plank lauds I.R. and U.V. The "BRITESUN" supplies both at the same time and saves time and furnishes better results. Treat locally, giving 15-30 minutes, at 18 inches with U.V.C. or S.R.C., while shielding healthy areas. Follow with "GBR," 15-30 minutes, at 24-30 inches. Treat thrice weekly.

### **PERIOSTITIS**

Treat as for Osteomyelitis and Felon.

### **PITYRIASIS**

See Dermatitis.

### **PLEURISY**

Many favorable results reported by authorities with both Infra Red and U.V. Our experience shows that the combined treatment is best. Treat as for Bronchitis, except that the local irradiations are changed as to position. the R.I.C. carbons used first and followed by U.V.C. systemically will prove even better.

### **PNEUMONIA**

Lindsay, Breuer, Masterson, et. al., report favorably on Infra Red in Pneumonia. Lindsay calls it the best single modality. U.V. rays help the increased resistance to the disease. It is the opinion of many clinicians that the combined treatments will very often abort an incipient case and will greatly assist in the treatment of the acute stage.

Give fairly intensive treatments over the chest with R.I.C. as closely as bearable for 15-30 minutes. Follow with "GBR" with U.V.C., 15-30 minutes, at 24-30 inches. Treat daily until marked improvement is shown, then decrease number of treatments. Keep up the U.V.C. during convalescence.

This does not interfere with any other outlined treatment.

### **POST-OPERATIVE TREATMENT**

Local Radiation of thirty minutes promptly relieves pain following operation of abscesses, appendicitis, etc., affecting prompt and complete healing. Treat twice weekly.

### **PORT WINE MARKS**

If pressure is made on the mark and upon removal, a white area is left which almost immediately resumes the color, treat as under Naevus. If pressure does not dehematize the area, it is a case for Radium or other more drastic modality.

### **POTT'S DISEASE**

The rays of the "BRITESUN" is probably the best modality. Good results if persistence is shown. Give local irradiation with U.V.C., 10-15 minutes, at 18-20 inches. Follow immediately with "GBR," 15-30 minutes, at 24-30 inches. Treat thrice weekly. See also Tuberculosis.



### PROCTITIS

Treat as for Prostatitis because the area of pathology is practically the same and if one has one he has the other to some extent, in all human probability.

### PROSTATITIS

Here is another condition that yields most readily to Infra Red and Ultra Violet therapy. Thousands of clinical reports attest the value of these two modalities. Both McCaskey and Plank have written of the remarkable results.

First get the stools soft and keep them soft during the course of the disease. Employ some form of applicator that will enter the rectum and permit the direct raying of the gland. It may be metal or fused quartz. Ray the gland 5-15 minutes daily with U.V.C. The perineum may also be intensively rayed with advantage. Follow with "GBR" with same carbons 15-30 minutes, at 24-30 inches daily until improvement and then increase the interval.

### PRURITUS

U.V. is one of the best modalities not only to relieve the itching but as a curative agent. Place patient in favorable position to get the radiation and after shielding the healthy skin or by employing the proper applicator give intensive treatment as closely as possible for from 10-20 minutes. Permit the reaction to clear up and re-treat.

Russell tells us that it can usually be cured in from 6-12 seances. In many cases carbon arc radiation has cured Pruritus Ani vel Vulvae when the mercury vapor lamp and X-Rays made it worse.

"GBR" will also prove of value in correcting pathology or acidosis.

### PSORIASIS

Treat as for Pruritus. Also see Dermatitis. Watch elimination and diet.

### PYORRHEA

From some leading articles by Daly, Falstein, Lake, et. al., it would seem that U.V., combined with instrumentation, is almost specific. See GINGIVITIS and treat the same.

### RAYNAUD'S DISEASE

Intense Local Radiation of twenty minutes—followed by General Radiation. Thrice weekly.



### **RHINITIS**

Some types of Rhinitis are due to calcium deficiency. Treat as for Hay Fever. See also Ozena.

### **RICKETS**

The researches of Huldschinsky, Hess, et. al., have demonstrated that U.V. fixes calcium and is specific in Rickets. It is well to give foods rich in calcium and calcium orally and follow with mild prolonged treatments with U.V.C. as "GBR." Start the treatments with 15 minutes, at 36 inches and gradually increase time and decrease distance. Thrice weekly until very marked improvement is shown. then increase intervals.

### **RHEUMATISM**

Saidman claims for combined Infra Red and U.V. good results even in Arthritis Deformens. In G.C. Rheumatism, intensive irradiations are indicated at the focus. In fact, no permanent results will be possible until the focus of infection be eradicated, whether it be teeth, tonsils, appendix, ovaries.

Ray the focus and the painful zones intensively and closely with R.I.C. every day. Follow with U.V.C. and finally give "GBR" thrice weekly with U.V.C. or S.R.C. 15-30 minutes, at 30 inches.

### **ROSACEA**

Treat as for Acne or Dermatitis.

### **SALPINGITIS**

See Gynecology and Gonorrhea.

### **SCABIES**

U.V. is specific. Treat as for Dermatitis.

### **SCURVY**

This is a deficiency of vitamins; especially of C. Give diet rich in C and also give thrice weekly "GBR" with S.R.C. or U.V.C. 15 minutes, at 30 inches.

### **SCIATICA**

See Neuritis.

### **SEBORRHEA**

Treat as for Acne.

### **SHINGLES**

See Herpes.



## SINUSITIS

Good results can be expected if treatments are persisted in. First thoroughly clean the sinuses of pus and mucus. Then employing a suitable metal or quartz applicator ray for 10-15 minutes. Then follow with "GBR" with U.V.C. or S.R.C. 15-30 minutes, at 24-30 inches. A first degree erythema is all that is required systemically.

If very painful, great relief can be obtained with R.I.C. and in fact, several prominent physicians have told us that these Infra Red and Red ray irradiations are by far the best treatment. Try both ways for no patient is more grateful than one who receives relief from the pains of Sinus trouble.

## SPASMOPHILIA

See Rickets

## SYPHILIS

See Gonorrhea.

## TELANGIECTASIS

This calls for intensive irradiation with the R.I.C. and follow with intensive U.V.C. Limit the treatment to the diseased tissue. Give at least 30 minutes with R.I.C. as closely as patient can bear it. Give 10-30 minutes of U.V.C. quite close. A third degree erythema should be produced for best effect. Re-treat just as soon as desquamation has progressed and pigmentation is shown.

## TONSILITIS

Opinions differ so regarding Tonsilitis that it is impossible to draw a full and complete conclusion, but it is certain that some types respond quickly and thoroughly to the combined solar radiations with the U.V. reinforced as in the "BRITESUN" U.V.C. carbons. No one will be so foolish as to state that there are no tonsils not requiring complete extirpation, but at the same time it must be admitted that there are many cases in which they should not have been removed.

Even if tonsils are completely removed, there still remains bacteremia and toxemia and the "BRITESUN" will materially aid in their oxidation and elimination.

Employ the proper applicator that will cover the tonsils nicely and attach it to the localizer. Use the U.V.C. and give from 10-15 minutes with actual contact of the applicator. Follow immediately with "GBR" with same carbons and give 15-30 minutes, front and back, at 30 inches. In acute cases, treat daily. In sub-acute and chronic cases, treat thrice weekly.



## TUBERCULOSIS

This subject has been fully treated by so many masters that nothing we could say will add to the sum total of human knowledge. In general, this is accompanied by calcium shortage and any treatment that is expected to produce results must fix calcium and that without causing any increase of fever. Many well-known authorities



TREATING TONSILITIS

state that the mercury vapor lamp increases temperature while the carbon arc lowers it toward normal.

The first treatment should be given with a great deal of care and if it is followed by much increase of temperature you have given too much and the next must be shorter or else at a greater target distance. The first object is to get a good pigmentation and then increase the time and decrease the distance as fast as the patient's tolerance will permit. Above all, do not overtreat.

Have careful charts made to direct you not only in this individual case, but as well in other and later cases. It is good technique until the patient's tolerance is established to divide the body into several



zones and treat only one zone until the tolerance is raised and the entire body treated.

When discharging sinuses are present, you can give fairly intensive irradiations with proper applicator. The U.V.C. carbons should be employed although the S.R.C. will prove good. Diet and rest will play an important part in the final recovery of your patient, but the "BRITESUN" will accomplish what no other combination will accomplish.

In surgical tuberculosis you should be able to obtain arrests in above 90%. In pulmonary and laryngeal the average is very much less unless you get the patient under strict regime at the onset.

### ULCERS

Gastric or Duodenal. See Gastric.

### ULCERS

Nearly always points to a calcium deficiency. If diabetic, see Diabetes. Other types yield to "BRITESUN" irradiations. Use R.I.C. to ease severe pain. Otherwise use U.V.C. or S.R.C. Shield healthy tissue except a small margin around the ulcer and treat intensively with lamp as close as comfortable, 10-30 minutes. Then follow with "GBR," 15-30 minutes, at 30 inches. Treat thrice weekly.

### URETHRITIS

Treat as Gonorrhea.

### VAGINITIS

See Gonorrhea.

### VARICOSE ULCERS

See Ulcers, chronic.

### WOUNDS

Intense Local Radiation, followed by General Radiation if wound is of severe nature.

### X-RAY BURNS

See Telangiectasis.

# MEMORANDUM

