ULTRA VIOLET UVI

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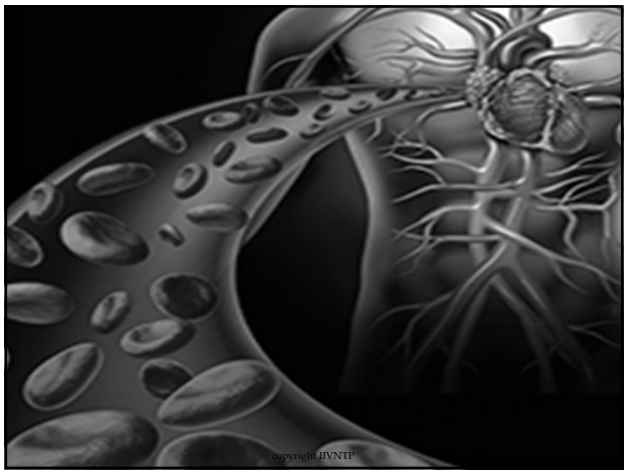

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Ultra Violet Blood Irradiation/ UBI

- History of names
  - Auto transfusion of UV-irradiated blood /UVB
  - blood irradiation
  - Hematogenic oxidation therapy
  - photoluminescence
  - Photophoresis
  - Quantum therapy
  - LBI Laser Blood irradiation (transcutaneous)

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- **Ultraviolet Blood Irradiation** (UBI) is a procedure that exposes the **blood** to specific spectrum of light to heighten the body's immune response and to eliminate pathogens. Pathogens absorb greater amounts of photonic light then our RBCs and WBC's

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UBI
Optimal outcome

1. Successful treatment is dose dependent
   a. Small dose stimulatory
   b. Large dose inhibitory
2. In vivo therapy deriving potency and effective outcome from activated human blood and its cells.

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History

- Initially developed in Switzerland 19th century
  - Noted use in bacterial-cidal action
- Dr. Emmett Knott, Seattle WA 1923
  - First use of blood irradiation/dogs
    - All were clear of septic bacteria,over-irradiated died
    - Developed small doses frequently more effective (no deaths)
- Knott Therapy: 1928 Human use- successful
  - Hemolytic streptococcus septicemia
  - 1933 2nd case successful
  - Multiple cases followed with success including viral pneumonia
  - FDA approved 501(K) device Knott Hemo-Irradiator
  - Now used world wide 1920's-1940s
    - Added to ozone (HOT) hemotogenic Oxidation therapy

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From the *New York Herald Tribune*, April, 1949

SUNDAY, APRIL 17, 1949

New York Infirmary Uses New Ally in Research Against Rheumatic Fever

Research workers find evidence that the heart recovers more rapidly from the ravaging effects of rheumatic fever when the blood of the patient is irradiated with ultra-violet light. To date, ninety-eight children have already been returned to good health by this simple new treatment. This, in another way electricity supplied by CON EDISON helps make New York City a healthier, more pleasant place to live.

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Uses

- Bacterial infections
- Viral infections
- Co-morbities
  - lyme
- Asthma
- Autoimmune disorders
- Botulism
- Cellulites cases
- Dermatological
- Encephalitis
- Hepatitis
- Inflammation
- Ophthalmic infections
- Peritonitis
- Polimeylitis
- Septecemia
- Necrotizing Pancreatitis
- Wound healing

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The reduction in use

- Scientists
- Biophysics in initial stage
- Lack of funding and marketing
- Led to lack of usage
- Antibiotic usage soared
- Decrease in published findings in major medical journals diminished use in the US
- Not discredited, only abandoned in use
- Continued in Germany, Russia, Ukraine, N. European countries (lack of light in winter)

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Resurgence

- Russian extensive lab and clinical studies beyond any to date (1990's).
- Use increases in the presence of antibiotic and microbial resistance
- Increase in the cost of (western) pharmaceuticals
- Developed Lazer Blood Irradiation/LBI
  - Fiber (optics) inserted into a vein
- UBI and LBI equally used
- Developing in Asian corridor.
- Western hemisphere

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How it works

- Biophysics
- Spectrum well known/studied
- Greatest function for therapeutics
- 200- 1,000 nm/wl
- UV-A: 320-400
- UV-B 290-320
- UV-C 190-290
- Visible: 400-700 Infrared 700+

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Wound Healing

- Visible light at high intensity can kill bacteria in infected wounds.
- illumination of infected wounds with intense visible light, prior to low intensity
- illumination for stimulating wound closure, may reduce infection and promote healing.

- Lasers Surg. Med. 40:509–514, 2008. 2008 Wiley-Liss, Inc.

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Frequency of treatments

- The treatments may take effect immediately and the benefits are apparent for up to 45 days or greater

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UV A (B)

- Acute infectious
  - typically will be treated with one treatment
  - daily or every other day until improved or resolved.
- Chronic
  - One to ten treatments weekly or bi-weekly until resolved
  - Continue as needed beyond 10 tx

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UBI-C Treatment Frequency

- Acute infectious
  - typically will be treated with one treatment daily or every other day until improved or resolved.
- Chronic conditions:
- variable schedule
- typical pattern of treatment
  - one treatment two times per week for three weeks
  - one treatment weekly for four weeks
  - gradually taper to one treatment every two months maintenance..

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Typical Assays

- Patient dependent
- Laboratory
  - Serum blood
  - GI
  - Cardiac
- Ultra sound
- CT scan
- PET scan

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Side Effects

- Euphoria (manic)
- Reduced fatigue
- Improved circulation
- J. Herxheimer reactions flu like symptoms
- Detoxification including dermatological, headaches (not enough fluid),

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Contraindications

- Porphyria
- photosensitivity
- acute hemorrhagic diseases (hemophilia- not routine medical anticoagulation)
- hyperthyroidism
- subacute appendicitis and cholecystitis
- Acute MI (immediately post myocardial infarction)

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Post Instructions

- Plenty of fluids
  - Electrolytes/minerals
- Reduce oral supplementation of anti oxidants post treatment
- Exercise
- Saunas
- Enemas, colonics as needed

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Equipment

- Types of UVB/I machines
- Compatibility to other treatments
- Knott
- 2nd generation
- Current digital/ optic fiber

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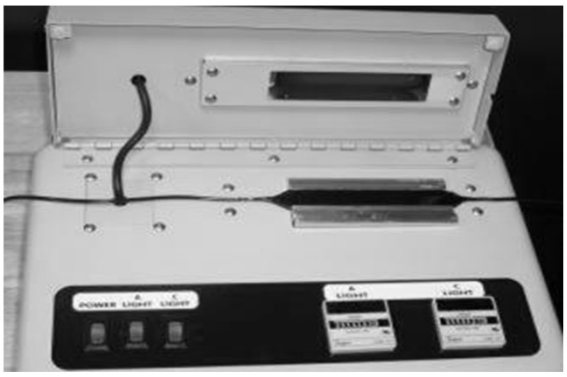

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Treatment

- 20 min
- Anti-coagulant for tubing and coagulation during treatment
- 3 "washings" through the uv curvette

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Digital Model Optical Output

- UV Wavelength: 1000 uW/cm2
- Red Wavelength: 270 uW/cm2
- Green Wavelength: 225 uW/cm2

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Treatment

- combines clinically validated therapeutic wavelengths into a single, optical emission.
- 60 minutes total time
- 30 minutes of Red and UVA
  - cytokine activity
- 30 minutes of Red and Green

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- Three key benefits:
- 1. Integration into an existing, standard I.V. catheter simplifies the procedure. There is no need for additional catheter sites and no sharps remain in body
- 2. Blood remains in its natural environment inhibiting a foreign body response
- 3. Most importantly, nearly 100% of a patient's total blood volume is treated in a single treatment

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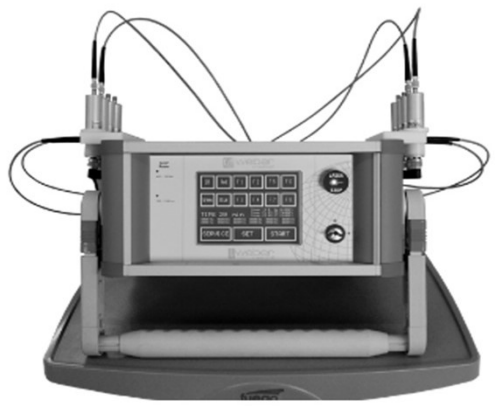

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Benefits

- All equipment can be integrated with other treatments
- Ozone
- Hydrogen peroxide
- High dose Vit C
- Oxidative treatments

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