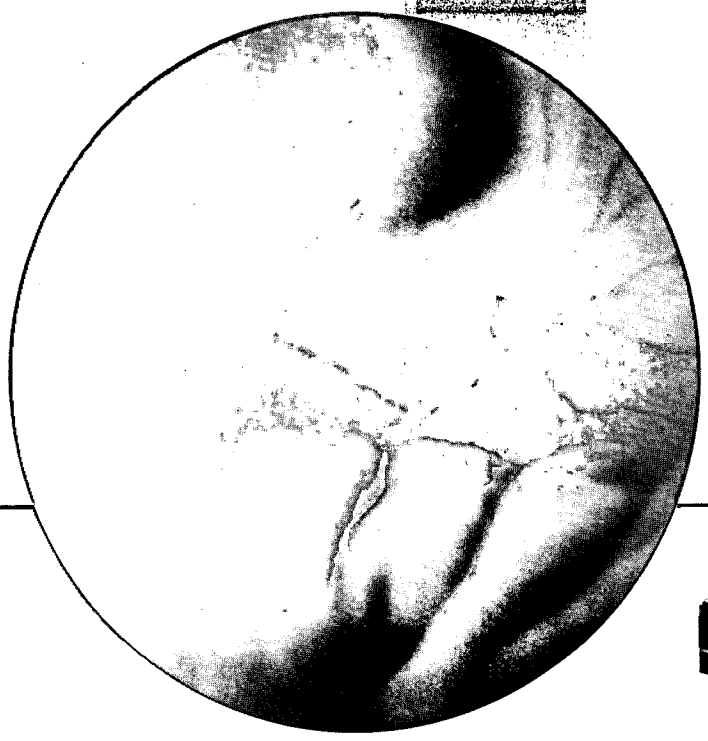
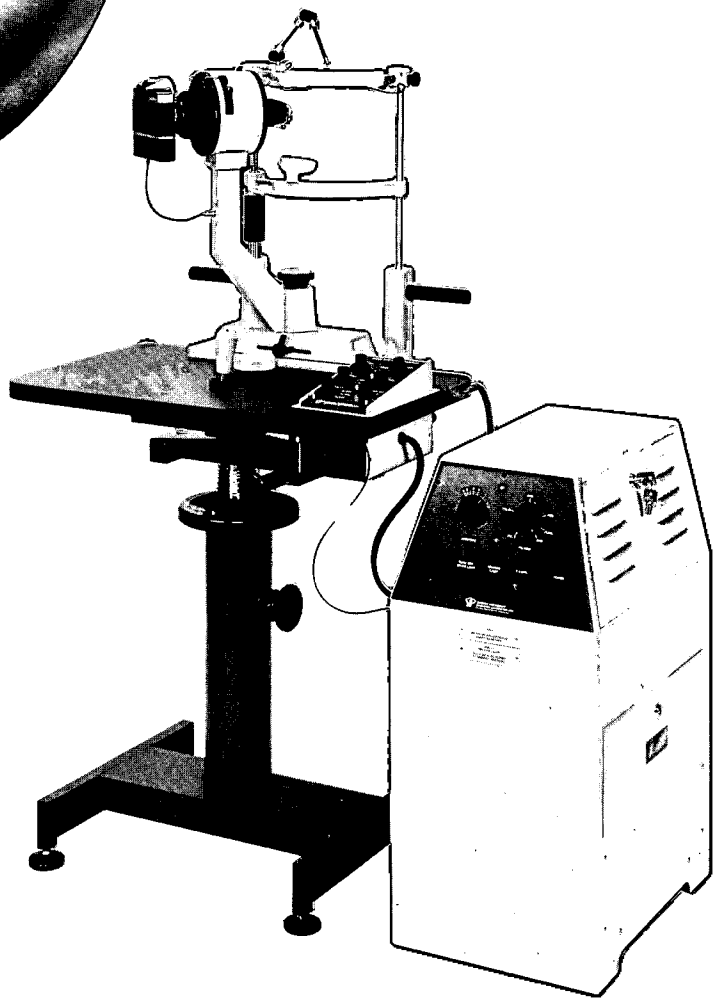
DIAGNOSTIC AND SURGICAL EYE INSTRUMENTS





POMERANTZEFF EQUATOR PLUS CAMERA

Photographs 148° . . . 80% of the retina on a single 35mm frame

Panoramic Fundus Documentation

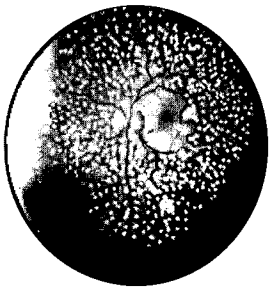
- For pre- and post-operative records
- After retina and vitreous surgery or photocoagulation
- Complements B-scan ultrasound diagnosis
- Through small pupils of intraocular lens implant patients
- Records ophthalmoscopic examination

MEDICAL INSTRUMENT RESEARCH ASSOCIATES, INC.

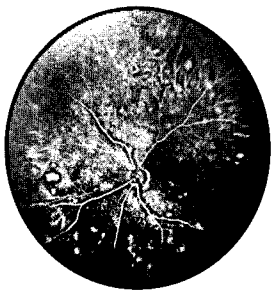
87 Rumford Avenue, Waltham, Massachusetts 02154
Telephone (617) 894-2200 · Telex 94-0533

Pomerantzeff Equator Plus Camera (EPC)

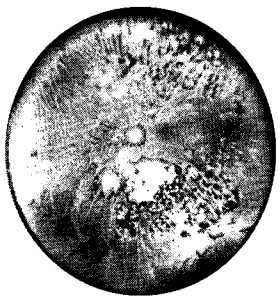
The EPC is the most advanced fundus camera available today. It offers the ophthalmologist an essential, diagnostic modality which complements conventional fundus photography. Now, diagnosis and documentation of the peripheral fundus are performed easily, providing the ophthalmologist with a complete, reproducible record of pathological changes. Diabetic retinopathy, scleral buckles, tumors and all peripheral retinal diseases can be photographed on a single frame.



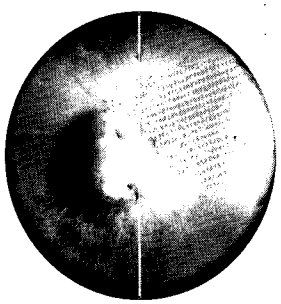
Pan-Retinal Photocoagulation



Fluorescein Angiogram

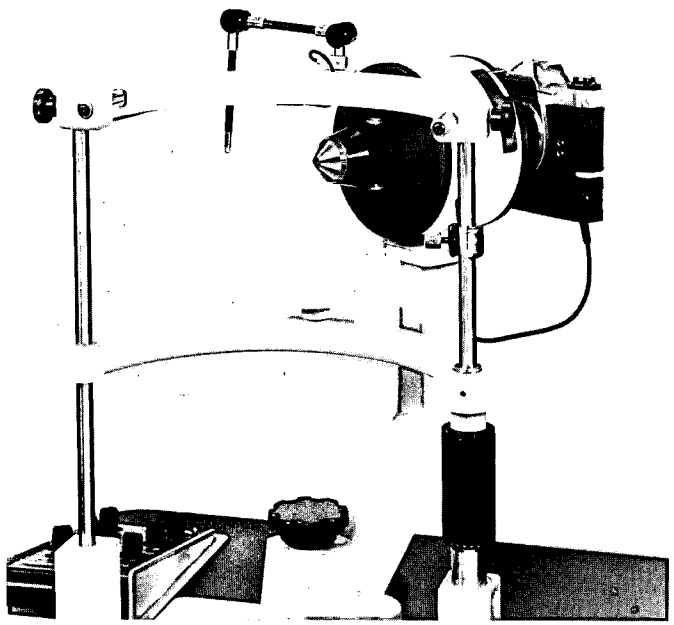


Diabetic Retinopathy



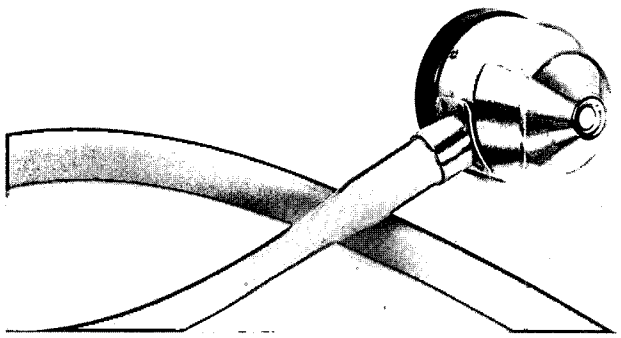
Malignant Melanoma

To achieve the wide field, corneal contact lenses are used. Either of two interchangeable lenses is easily mounted on the camera housing or removed with a quick disconnect system. The contact lens is spring loaded to prevent the application of excessive pressure to the patient's eye. An alarm will sound when the force applied to the eye reaches 70 grams. Contact lens photography is as harmless and easy to perform as applanation tonometry.



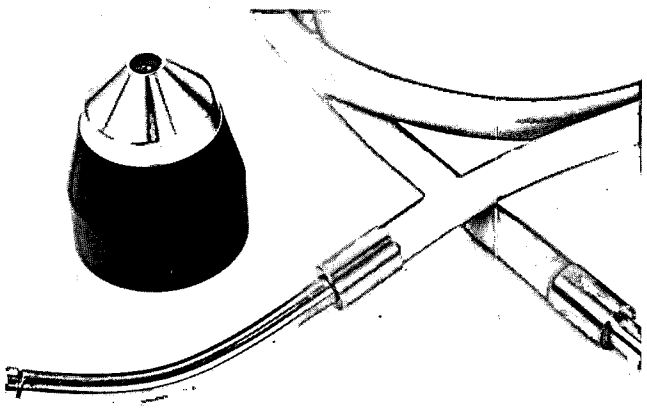
Transillumination Lens

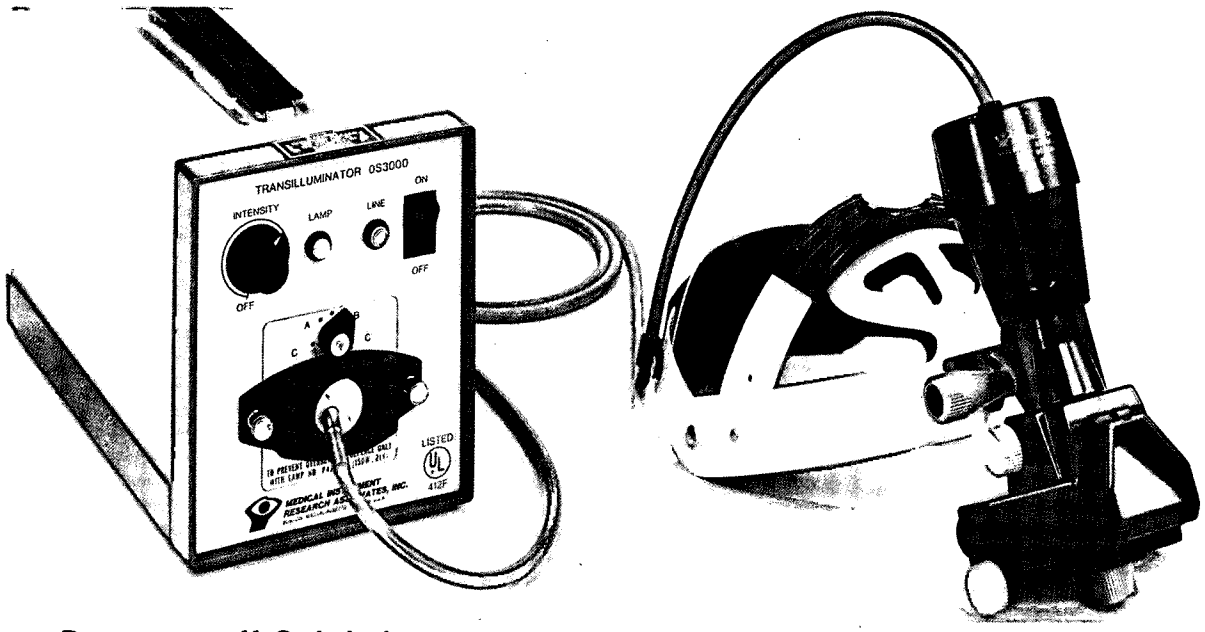
Color and monochromatic photographs are taken with the transillumination lens and a separate fiber optics bundle. The bundle is hand held posterior to the limbus in the vicinity of the pars plana and transilluminates the fundus through the ocular wall. Depending whether the pathology is located nasally or temporally one would illuminate from the opposite side. Transillumination eliminates the backscatter of light into the viewing system and allows improved penetration of lens and vitreous opacities. Photographs through a pupil as small as 2mm may be taken with this method of illumination; this capability is extremely beneficial in the management of patients with intraocular lenses or patients who are under antiglaucomatous therapy.



Direct Illumination Lens

Color and monochromatic photographs may be taken of patients with clear media or when increased pigmentation does not permit easy transillumination. The fiber optics are incorporated into the Direct Illumination Lens and retinal illumination is through the pupil. A 6.5mm pupil is required for direct illumination. Fluorescein angiography is also performed with the Direct Illumination Lens.



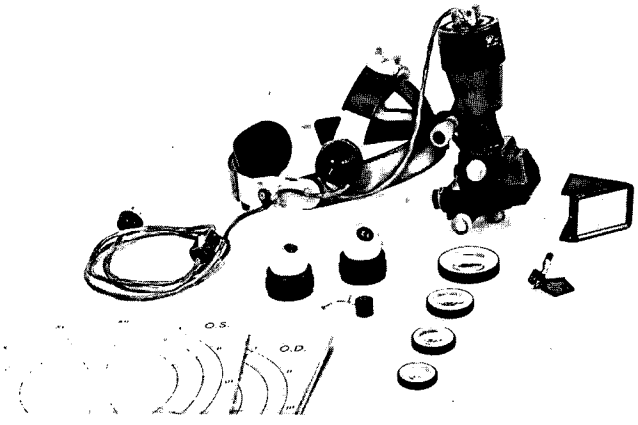


Schepens Pomerantzeff Ophthalmoscope with Fiber Optics Illumination

The High Intensity Transilluminator OS3000 is an alternate source of illumination for the Ophthalmoscope. The combination of instruments provides the Ophthalmoscope with a maximum illumination which is several times brighter than with the usual incandescent bulb.

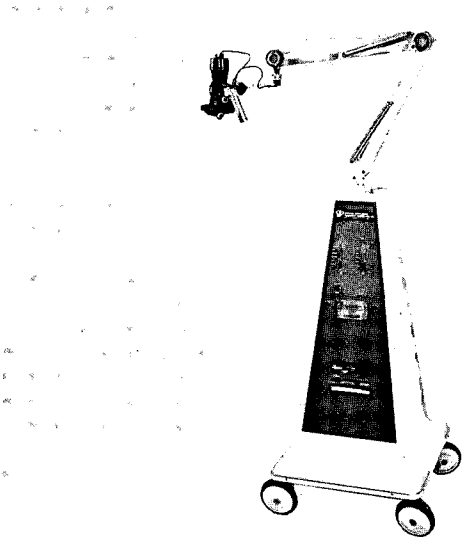
With any one of the narrow bandpass filters, there is sufficient illumination to see the fundus. These filters enable the ophthalmologist to examine structures which cannot be seen with usual white light.

- The blue filter is for ophthalmoscopy with fluorescein injection.
- The green and yellow filters are indicated for observation of vessels and the retina. With these filters, it is possible to use higher intensities of illumination causing less photophobia than with similar levels of white light.
- The red filter is useful to examine the choroid and for ophthalmoscopy when the transparent media contain opacities or are hazy.



Schepens Pomerantzeff Ophthalmoscope

A universal binocular indirect ophthalmoscope for routine fundus examination. This instrument can also be optimized for difficult cases. Great depth of field is available through widely dilated pupils. Stereoscopic vision is possible around opacities in the transparent media and through small or undilated pupils. Displacement of the sharp image of the light source affords improved illumination of the fundus periphery. Comfort is assured as the headband distributes the weight of the ophthalmoscope over a large surface of the head. The ophthalmoscope itself weighs 12 oz. which represents only 52% of the total weight of the ophthalmoscope and headband. A fluorescein filter is available.



Ophthalmoscope Stand

The Ophthalmoscope is mounted on a stand to provide the ophthalmologist with the ultimate in utility, comfort and convenience while using indirect ophthalmoscopy during surgery. Aseptic ophthalmoscopy is possible without the discomfort of wearing a headband ophthalmoscope for several hours. The Ophthalmoscope can be easily disconnected from the Stand and sterilized in ethylene oxide gas.

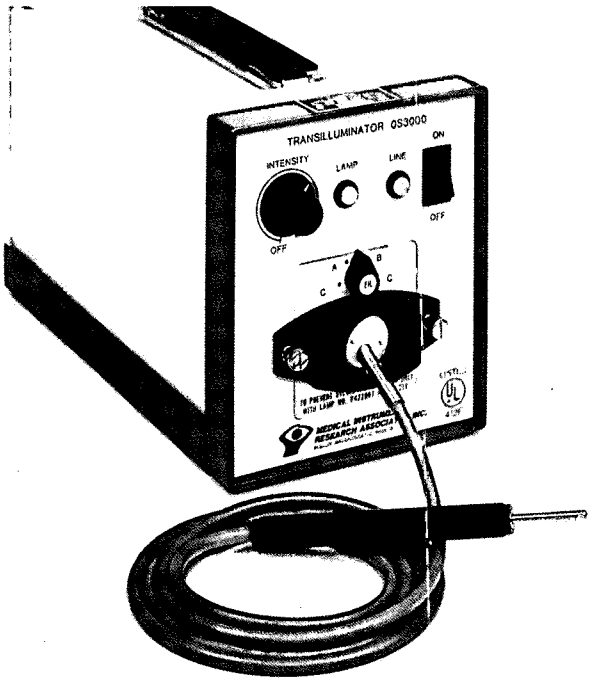
High Intensity Transilluminator

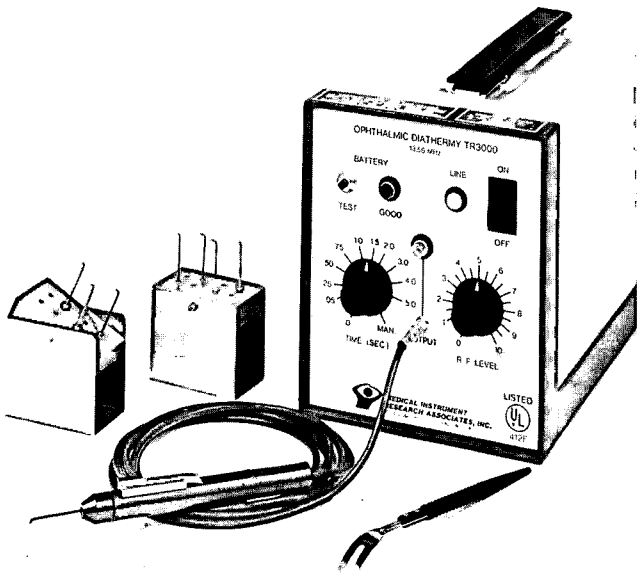
The diagnostic and surgical High Intensity Transilluminator is particularly useful for general illumination, retinal detachment procedures, ophthalmoscopy, localization of intraocular foreign bodies and uveal tumors, gonioscopy and goniotomy. Transillumination is a valuable aid in the study and management of the following conditions:

Retinal Detachment — Determining the shape and position of large choroidal structures such as vortex veins and long ciliary nerves and arteries. This permits the surgeon to avoid these structures with diathermy or perforation.

Intraocular Foreign Bodies — Detecting intraocular foreign bodies located close to the ocular wall, even if the transparent media are cloudy.

Uveal Tumors — Examining the posterior segment (with or without vitreous hemorrhage) for the presence of a tumor.





Ophthalmic Diathermy

Twenty years of worldwide clinical use has confirmed high frequency unipolar diathermy as the current of choice for producing chorioretinal adhesion and for many other ophthalmic electrosurgical procedures. The Ophthalmic Diathermy incorporates a timer for scleral marking and for facilitating reproduction of burns of uniform intensity. The degree of scleral dryness causes little variation in power output.

The Ophthalmic Diathermy TR3000 has become the basic building block of our electrosurgical system for intraocular and extraocular surgery of both the anterior and posterior segments.

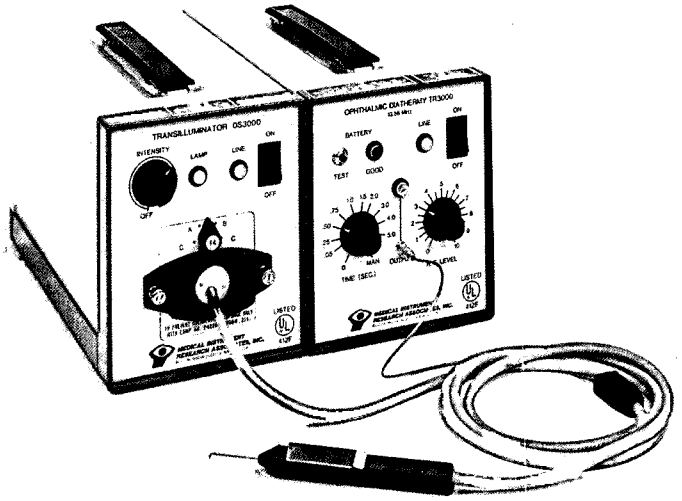
Patient Safety: Both Ophthalmic Diathermy TR3000 and Transilluminator OS3000 are LISTED BY UNDERWRITERS LABORATORIES INC.

Accessories for Ophthalmic Diathermy

Scleral Transillumination Electrode: Requires both High Intensity Transilluminator and Ophthalmic Diathermy for operation. Indicated for very precise diathermy application such as in the treatment of macular holes, localizing retinal breaks, tumors, and superficial scleral marking.

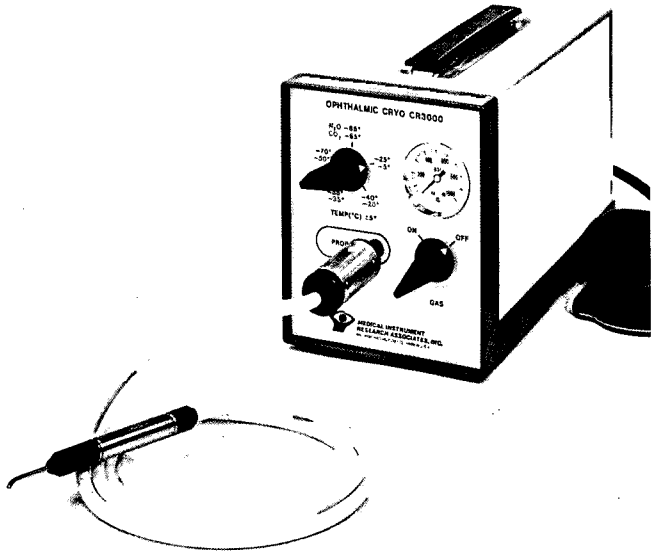
Nadler Coaptation Forceps: for hemostasis and fast, safe and effective electrocoaptation of the conjunctiva. Reduces operating time and post operative patient discomfort.

Intraocular Electrodes: a wide selection of coaxial electrodes with or without infusion are available for intraocular hemostasis of both anterior and posterior segments.



Ophthalmic Cryo

Complements the Ophthalmic Diathermy TR3000. The footswitch actuated, totally non-electric unit operates with either N_2O or CO_2 gas to provide freezing only at the probe tip where actually needed. No longer is there danger of freezing adjacent tissues at other than the probe tip. This eliminates any requirement for an insulating boot and gives the surgeon superior visibility of the precise area to be treated. Innovative gas flow system provides super fast freeze and defrost cycle and maintains cryo probe shaft and handle at room temperature. A wide selection of ophthalmic probes can be flash autoclaved or gas sterilized.



Sponge Explants for Retinal Detachment Surgery

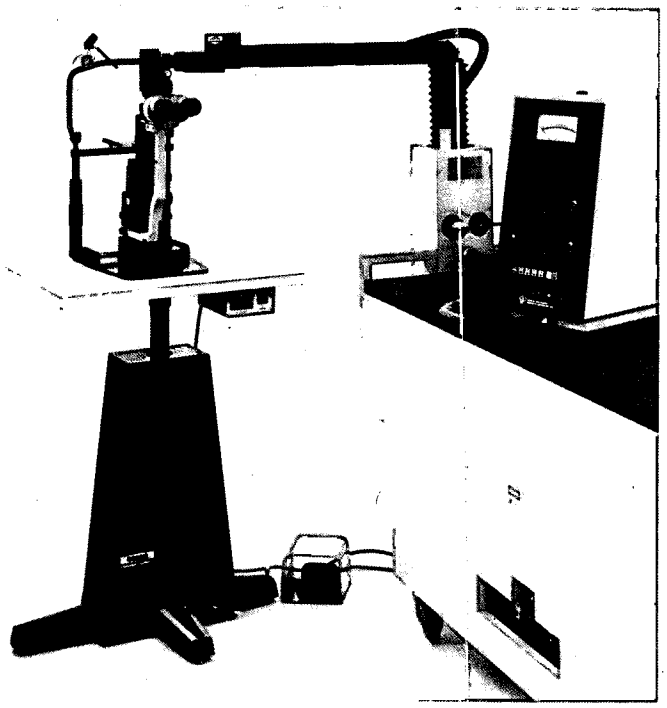
Silicone Scleral Sponge is a soft, silicone elastomer sponge designed for the repair of retinal detachment using the episcleral technique with cryotherapy. It is made from the highest quality, clean grade silicone elastomer and is: soft and elastic, non-toxic, non-antigenic, and easy to shape by the surgeon.

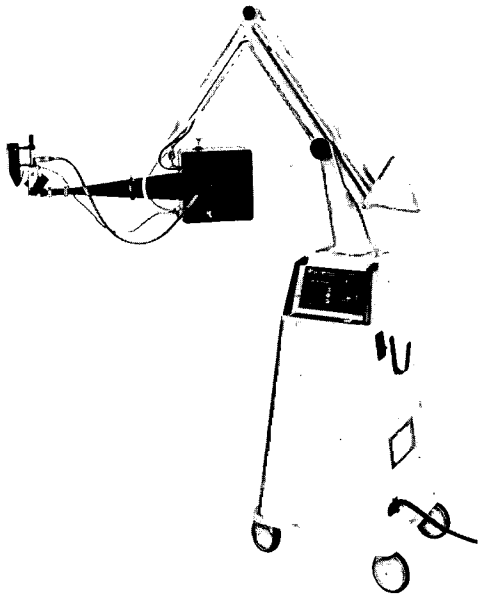
Silicone Scleral Sponge is presently available in 3mm, 4mm and 5mm cylinders, 3mm x 5mm and 5.5mm x 7.5mm ovals, and a 4mm x 12mm rectangle. The smaller oval (3mm x 5mm, Vaiser Design) is specially designed for retinal tears that require wider buckling, but not the increased height found in other shapes. The large rectangle (4mm x 12mm, Frederick Design) is especially useful for large retinal tears or multiple breaks which would otherwise require the placement of several smaller sponges together. In addition, leakage under the buckling at these joints is avoided.

Argon Laser Coagulator

The simple, unique, three mirror delivery system will not allow variations in the energy reaching the patient's eye. Complete freedom of motion is provided by rotating telescoping arms.

Polychromatic all line argon light or truly monochromatic single line green or blue light may be selected. The Argon Laser Coagulator is ideal for both private clinical practice and teaching institutions interested in research. The patient is protected as the indicated power level is measured *after* the movable optical elements of the flexible delivery arm. The beryllium oxide (BeO) plasma tube provides longer life, greater stability, and operates at a much lower temperature than the usual graphite tube. These features allow for immediate recycling in the event that the system should shut off due to insufficient water pressure.



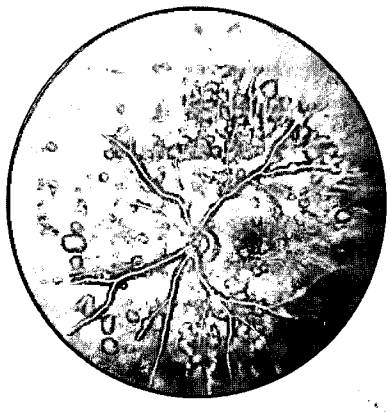


Xenon Light Coagulator

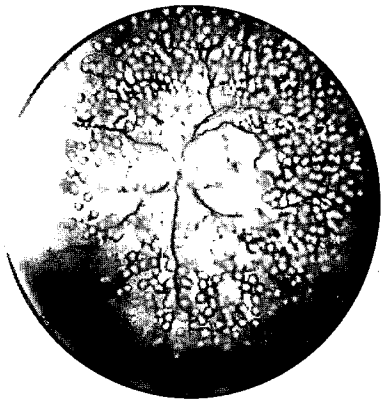
The mobile and flexible Light Coagulator provides sufficient power for ALL cases where xenon photocoagulation is indicated. Unique super red power levels are extremely valuable when treating retinal or choroidal tumors, when very small lesions are desirable, or when photocoagulating through hazy media. The fundus can be viewed with either a direct or a monocular indirect ophthalmoscope.

An unassisted surgeon can operate or move the Light Coagulator. The light source and optical system, suspended from a balanced, fully articulated arm, afford fingertip manipulation of the ophthalmoscope to any position.

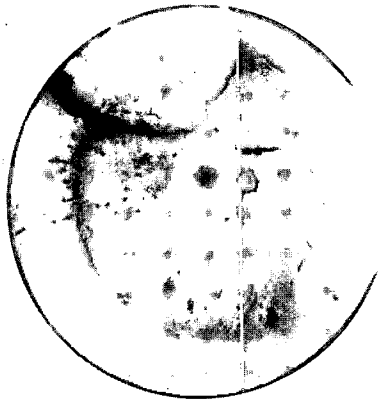
Pre and Post Operative Fundus Documentation with The Pomerantzeff Equator Plus Camera



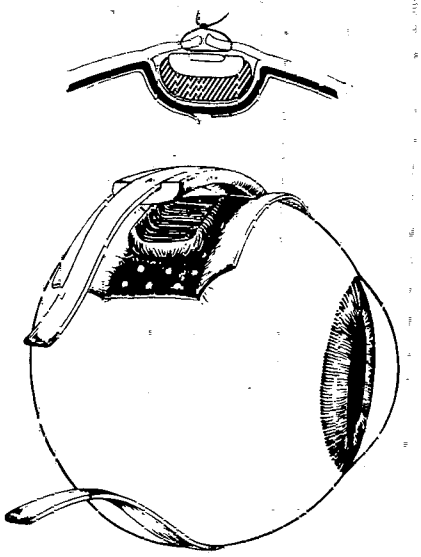
Fluorescein Angiogram

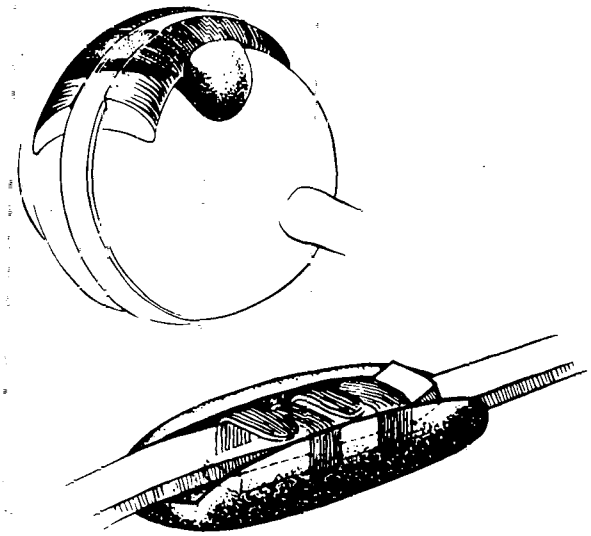


Pan-Retinal Photocoagulation



Scleral Buckle with Wedge #135S





Implants for Retinal Detachment Surgery

The scleral buckling procedure has proved useful in reattaching the retina to the choroid. A buckle is formed by a silicone or gelatin implant in the sclera. Implants for both encircling and segmental buckles were developed by Medical Instrument Research Associates, Inc. The implants have been used and tested over a twenty year period.

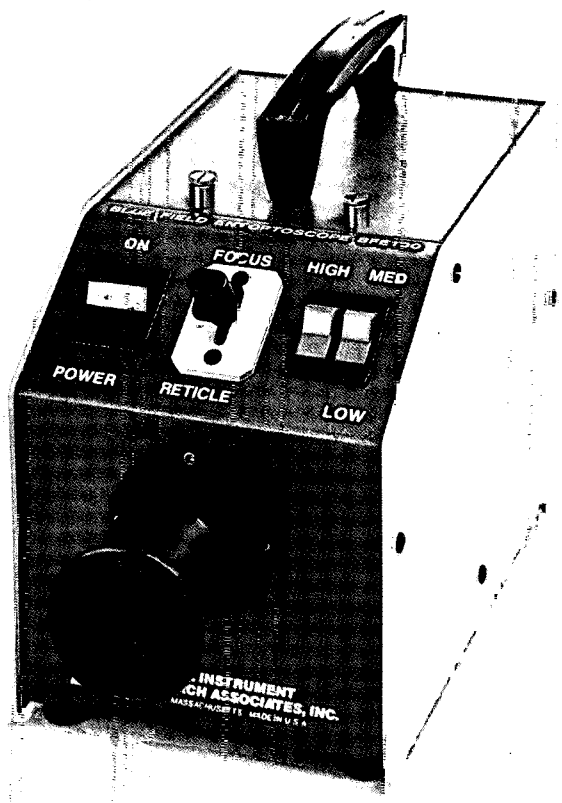
Grooved silicone implants are held in place by a silicone circling band around the globe. Several different implants, varying in size and shape, may be adapted under the circling band. The precise buckle, suited to a particular case, may be obtained with minimum trimming of the implant, or with a combination of implants, under the circling element.

Two circling bands are available. The Circling Band #40 has the correct tensile strength for maintaining an implant in position with sufficient pressure to form a permanent buckle and minimize scleral erosion. The more recent Circling Band #240 has the same cross section and therefore the same tensile strength. It is also wider and flatter; this reduces scleral indentation where indentation is not desired and also reduces the danger of late erosion.

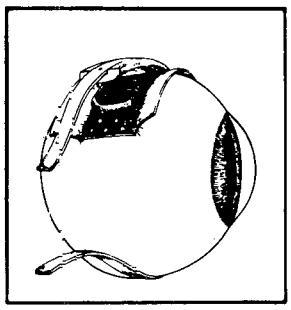
A special series of implants has been designed for use with each of the two circling bands. Implants in the "200 Series" fit under the circling Band #240 and implants in the "Sub-200 Series" fit under the Circling Band #40.

Blue Field Entoptoscope

Provides fast, easy, noninvasive and inexpensive test of macular function and perifoveal retinal circulation. The Entoptoscope allows evaluation of macular function in patients with opaque media (hyphema, cataract, vitreous hemorrhage, exudates, etc.). It is especially useful for preoperative evaluation of good macular function (at least 20/50 visual acuity) prior to cataract surgery. The blue field entoptic phenomenon allows the observation of ones own leukocytes flowing in macular retinal capillaries. The Entoptoscope complements other diagnostic modalities such as: ERG, ultrasound, and fluorescein angiography.



IMPLANTS AND EXPLANTS FOR SCLERAL BUCKLING



SUB-100 SERIES

#40S BAND

#20S STRIP

#31S STRIP

#32S STRIP

#78GS TIRE

#77GS HEMISPHERE

200 SERIES

#240S BAND

#219S STRIP

#220S STRIP

#225S STRIP

#277S TIRE

#287S TIRE

#276S TIRE

#279S TIRE

#280S TIRE

#281S TIRE

500 SERIES

#503S SPONGE

#504S SPONGE

#505S SPONGE

#506S SPONGE

#507S SPONGE

#508S SPONGE

#505GS SPONGE

#507GS SPONGE

#508GS SPONGE

IMPLANTS FOR SECURING OVERLAPPED ENDS OF CIRCLING BANDS

#40S BAND

#50S CLIP

#60S BOAT

#70S SLEEVE

BAND

CLIP

BOAT

SLEEVE

#240S BAND

#250S CLIP

#260S BOAT

#270S SLEEVE

RADIAL IMPLANTS FOR THE 200 SERIES

#135S WEDGE

#137S WEDGE

ADDITIONAL IMPLANTS FOR THE 200 AND SUB-100 SERIES

#22S BUTTON

#80S PAD

#103S MERIDIONAL IMPLANT

#106S MERIDIONAL IMPLANT

#112S CURVED MERIDIONAL IMPLANT

ADDIT ONAL STRIPS

#41S STFIP

#42S STRIP

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