

Palomar®
ConBio®

CYNOSURE®

Palomar Icon® Clinical Training

Permanent Hair
Reduction



Palomar Icon® Aesthetic System



Any treatment guidelines or parameters contained herein are intended for reference only and should not be substituted for sound clinical judgment.

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Please refer to the Palomar Icon® Operator's Manual and the Treatment Guide for additional information.

Cynosure does not endorse or guarantee the quality, accuracy, appropriateness, or effectiveness of any third party products. Use of such products is at customer's own risk.

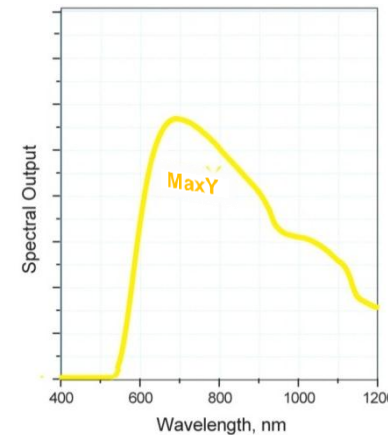
MaxY™ and MaxYs™ Pulsed Light Handpiece

CYNOSURE™

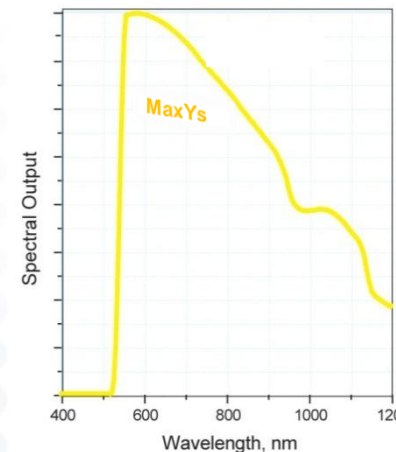
Applications:

- Permanent Hair Reduction including Lighter, Finer Hair
- Pigmented Lesion Removal

Wavelength:	525 - 1200 nm
Spot Size:	16 x 46 mm
Maximum Fluence:	52 J/cm ²
Pulsewidth:	1 - 400 ms
Maximum Speed:	2 Hz (Pulse Rate) 15cm ² /sec (Coverage Rate)



Wavelength :	525 - 1200 nm
Spot Size:	12 x 28 mm
Maximum Fluence:	81 J/cm ²
Pulsewidth:	1 - 100 ms

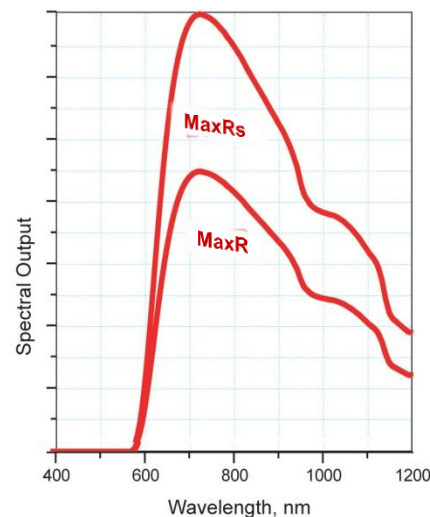


MaxR™ and MaxRs™ Pulsed Light Handpieces

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Applications

Permanent Hair Reduction on
all skin types, including tanned
and dark skin



Wavelength:	650 - 1200 nm
Spot Size:	16 x 46 mm
Maximum Fluence:	46 J/cm ²
Pulsewidth:	5 - 400 ms
Maximum Speed:	2 Hz (Pulse Rate) 15cm ² /sec (Coverage Rate)
Wavelength:	650 - 1200 nm
Spot Size:	12 x 28 mm
Maximum Fluence:	81 J/cm ²
Pulsewidth:	5 - 400 ms
Maximum Speed:	2 Hz (Pulse Rate)

1064+ (Nd:YAG) for Hair Reduction Cynosure

1064+

Hair Reduction for all skin types including Skin Types V & VI

Spot sizes: 1.5mm, 3mm, 6mm, 10mm

Pulse Width: 1-100 ms

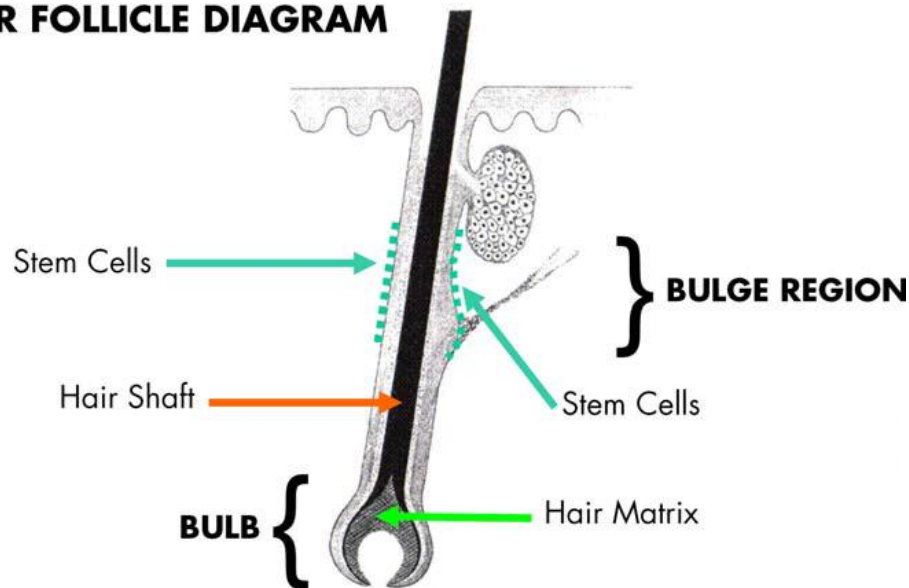
Fluence: 10 -700 J/cm² (spot size dependent)

Energy deeply absorbed by both melanin and hemoglobin



Target Chromophore for Hair Reduction CHROMASURE™

HAIR FOLLICLE DIAGRAM



- Bulb
- Bulge
- Papilla/Matrix
- Stem Cells

Theory of Selective Photothermolysis in Permanent Hair Reduction



- Light energy is selectively absorbed by the melanin in the hair shaft and hair matrix
- The energy is delivered in a way that affects the hair follicle and not the surrounding tissue
- Short pulse delivery (20ms) results in damaging the hair bulb causing thinning and lightening of hair and delay in hair re-growth, with possibility of permanent reduction

Hair Follicle Heating

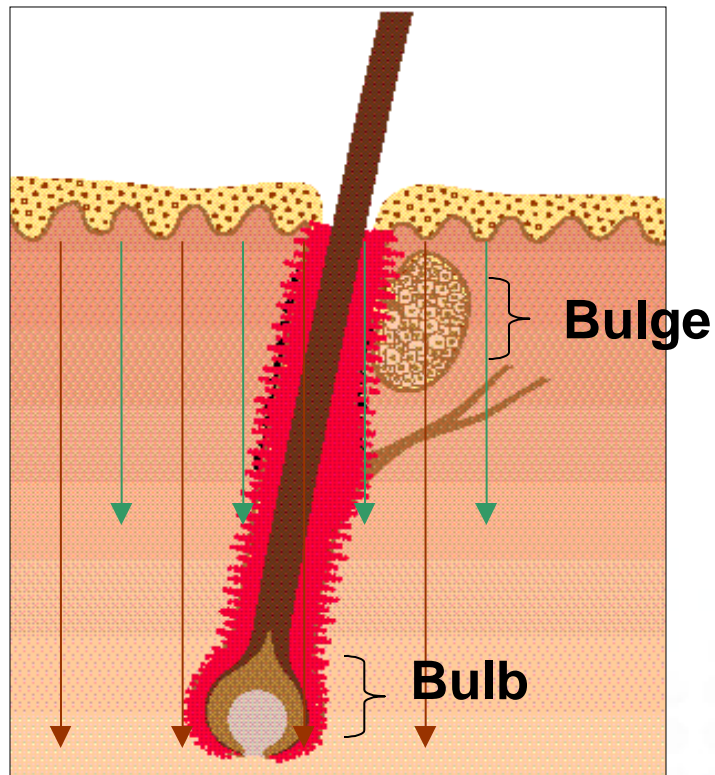


Photo thermal injury of hair bulge:

Thinning and lightening of hair with possibility of permanent reduction

Photothermal injury of hair bulb:

Delays re-growth of hair

Permanent Hair Reduction

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Hair Follicle

Extended Theory of Selective Photothermolysis in Permanent Hair Reduction

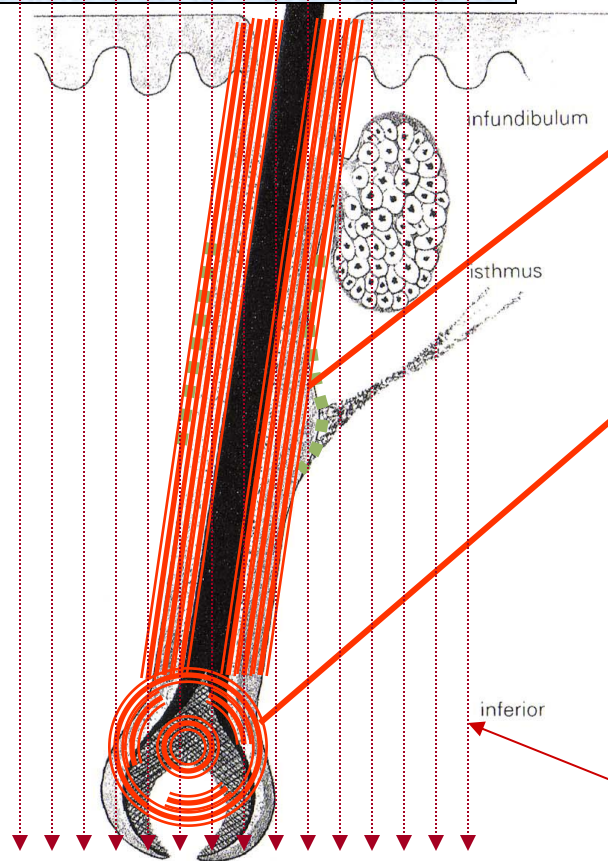


- A longer pulsewidth (e.g. 100ms) delivers the light energy over a longer period of time causing more thermal diffusion with an effect to the stem cells
- The stem cells do not have melanin to effectively absorb light but can be destroyed by heat diffusion from the matrix cells and hair shaft causing greater clearing per treatment
- There is some evidence that pulse durations between 20-100ms may be equally beneficial

Photo Epilation Using Palomar Technology

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Cold window



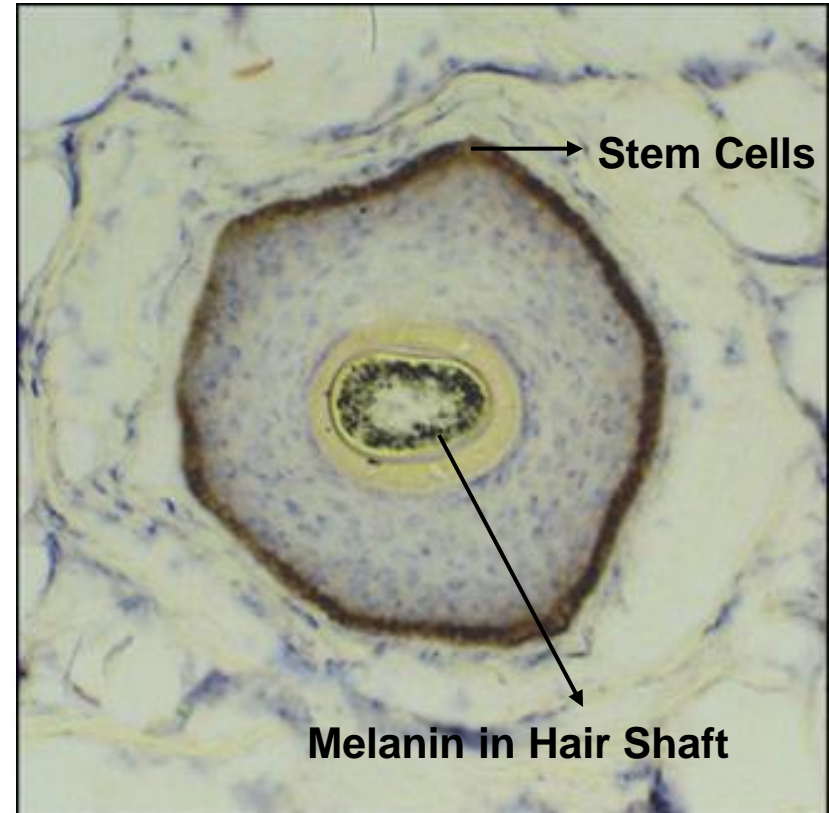
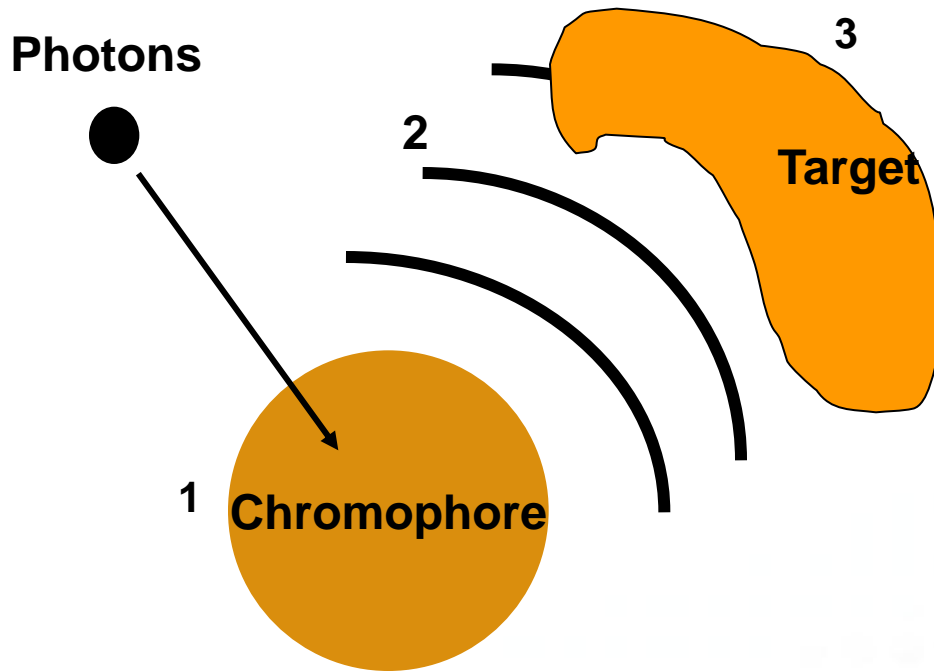
Thermal injury of stem cells causes permanent hair loss

Thermal destruction of hair bulb stops hair growth

Photons

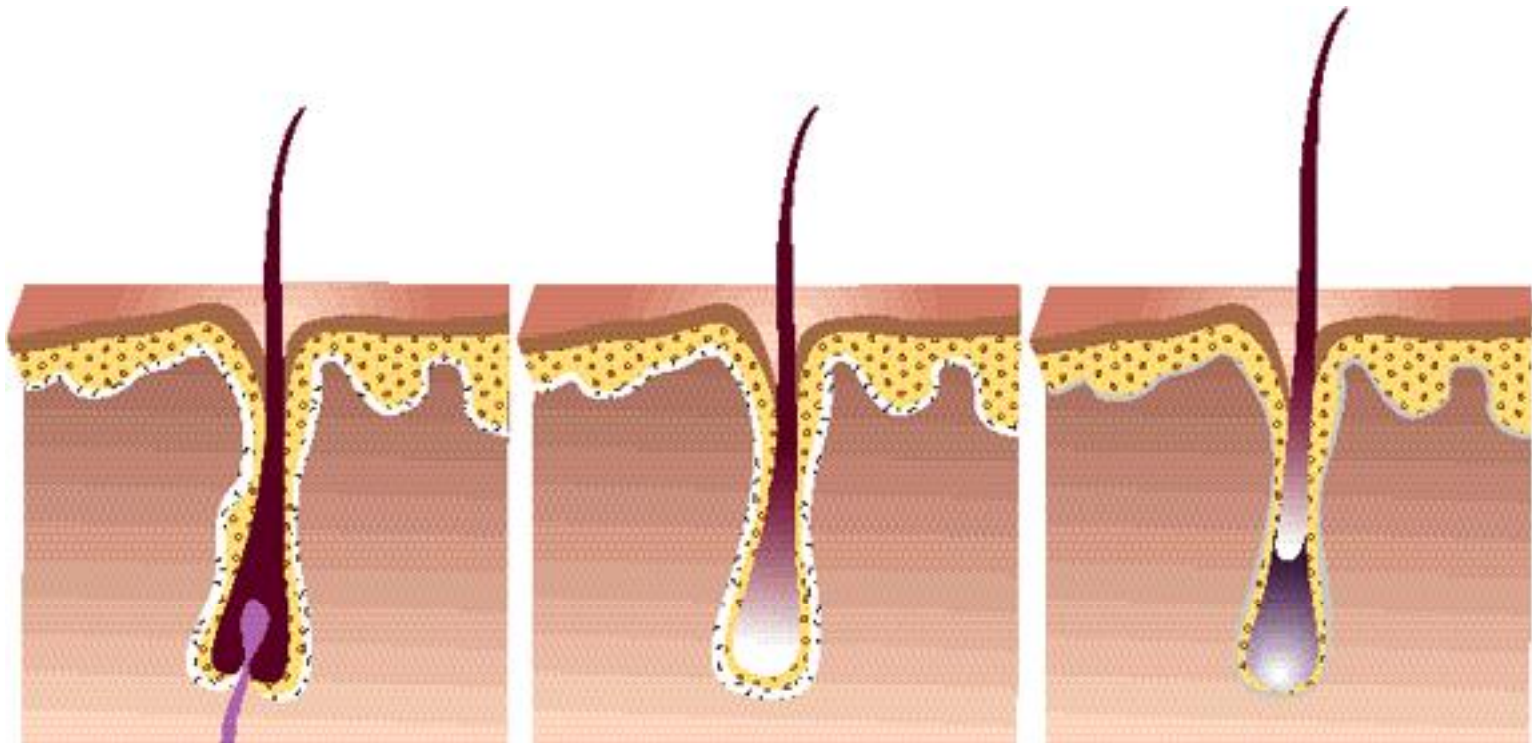
Extended Theory of Selective Photothermolysis

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1. Absorption By Chromophore
2. Diffusion of Heat
3. Destruction of Target

Hair Growth Cycle



Anagen
(growing)

Catagen
(transition)

Telogen
(resting)

Hair Growth Cycle



Region	Phases of Cycle (%)		Phase Duration, Weeks		Average Length of Developed Anagen Hair Follicle
	Anagen	Telogen	Anagen	Telogen	mm
Lip	65	35	8-19	6-7	1.8
Chin	70	30	48-50	10-12	3
Cheek	50-70	30-50	N/A	N/A	3
Bikini	30-40	54-70	16-18	12-14	4
Axillae	30-40	54-70	16	12	4
Arm	20-30	69-80	3-13	11-18	3
Leg	20-40	54-80	16-22	11-24	3.2

Exclusionary and Cautionary Criteria*



Exclusionary

- History of seizures
- Pregnancy
- Undiagnosed lesions
- Waxing, tweezing, epilation
- Immunosuppression
- Active infections
- Blood thinners/coagulation issues
- Open lesions
- ACTIVE tan (within 4-6 weeks of treatment)

Cautionary

- History of Herpes infection-
patient must use prophylactic
treatment
- Use of Exfoliants/Retinoids
within 2 weeks
- Hormonal conditions
- Change in medical history

*Refer to Operator's Manual for comprehensive list

Suggested Treatment Strategy



- Obtain signed consent form
- Review medical history; provide consultation
- To achieve best results, avoid tanning (sun exposure, outdoor tan, tanning beds or self tanning creams) for 4 weeks before and after treatment
- Daily use of minimum broad spectrum SPF 45
- No tweezing, waxing, epilation or electrolysis for 4-6 weeks before treatment

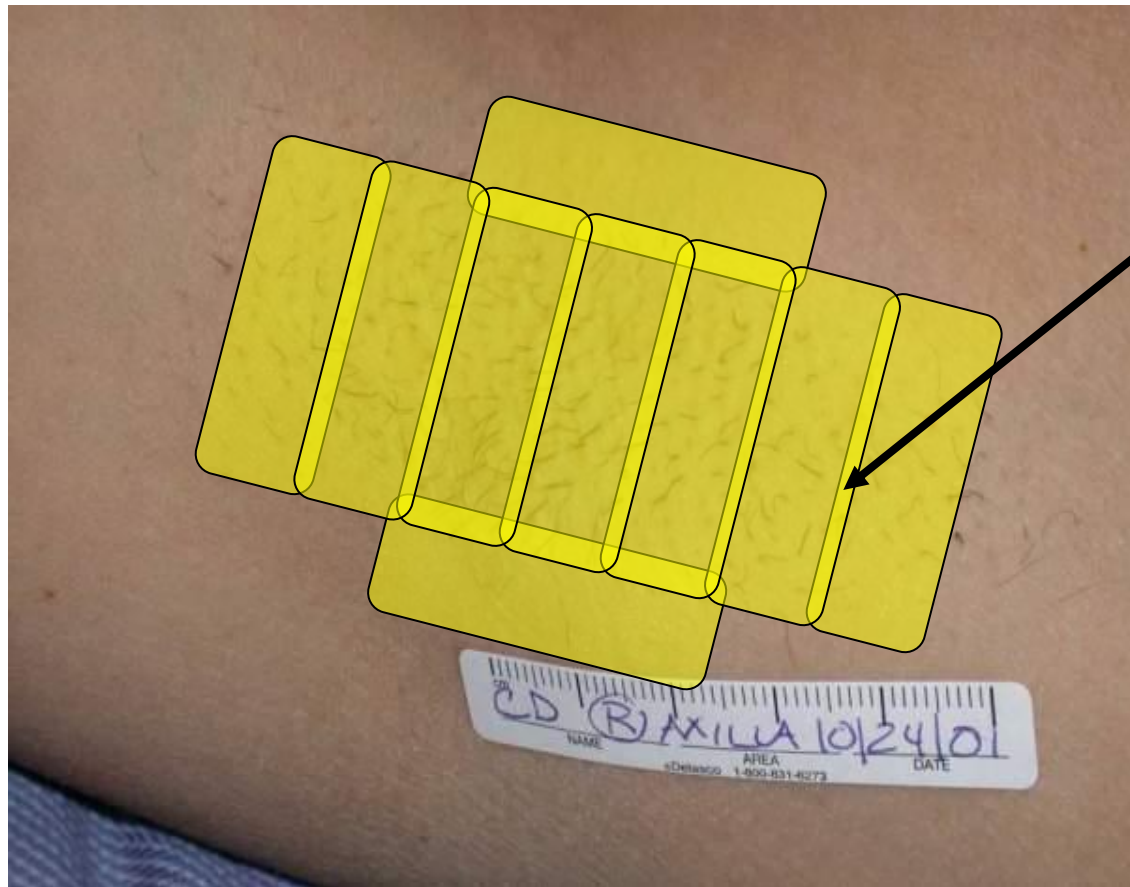
Suggested Treatment Strategy



- Take before and after pictures
- Clip or shave the treatment area
- Always perform test spots using LuxLotion™ per instructions in Operator's Manual
- Evaluate test spots after 30 minutes for skin types I - III and at least 24-72 hours for skin types IV - VI
- Always re-administer test spots at every visit as client's sun exposure can change since last treatment

Overlapping for Pulsed Light

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20% ~3mm

16mm

46mm

Suggested Treatment Technique for Hair Reduction with MaxY™, MaxYs™, MaxR™, and MaxRs™



- Always perform test spots before treating, on each client and at every visit
- Avoid treating over tattoos and darkly pigmented lesions
- Apply a thin coating of LuxLotion™ to planned treatment area
- Treat area applying firm, constant pressure
- 20% overlap is recommended
- Observe for clinical endpoints
- CoolRoller™ may be used for added comfort during and after treatment
- Use EPA-approved germicidal wipe to clean handpiece between every client

Suggested Treatment Technique for Hair Reduction with Lux1064+™



- Always perform test spots before treating, on each client and at every visit
- Apply a layer of LuxLotion™ or clear Humatrix® gel for easy gliding of the handpiece. Utilize the tracks in the lotion or gel to guide proper placement of parallel passes
- 10-20% overlap is recommended
- Avoid operating or treating within the orbital rim
- Use handpiece to pre-cool area to be treated, then glide the handpiece in the same direction for subsequent pulses

Suggested Treatment Technique for Hair Reduction with Lux1064+™



- Ensure the cooling portion of the handpiece remains in contact with the skin at all times during treatment
- Continually observe the skin during the treatment and assess whether to decrease fluence or increase pulse width
- Never double pulse
- Consider lowering fluence and or lengthening the pulse duration during the spring and summer months or if you are in an area where people tan or are outdoors and exposed to sun

Clinical Endpoints



Due to the efficient cooling of the skin by the handpieces and various wavelengths used, clinical endpoints will be variable. Some endpoints that *may* be observed are:

- Mild to moderate perifollicular edema
- Mild to moderate erythema
- Darkening of freckles

Perifollicular Edema Skin Type II Male



LuxY 14J/cm² 20ms
Back

Skin Type IV Male



LuxY 14J/cm² 20ms
Back

Mild Erythema (diffuse redness)
Skin Type III Male

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LuxY 14J/cm² 20ms
Leg

Immediate Post Treatment Dark Coarse Hair



Immediately post treatment-
skin not shaved

Immediately post treatment-
skin shaved



Skintel™ Reader

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The Skintel™ Reader is one of several tools a practitioner may use to assist in determining a client's starting test spot fluence.

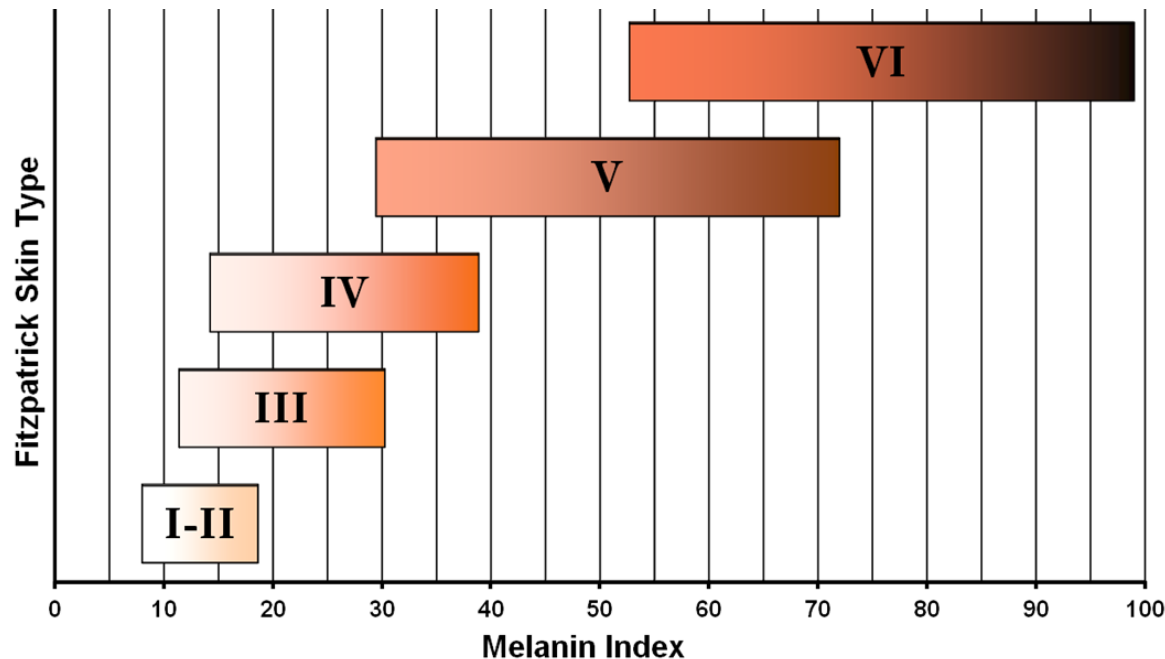
Test spots should always be administered before every treatment, on each client and at every visit



Melanin Index and Fitzpatrick Skin Type Scale Overlay

YNO SURE™

This chart illustrates how the Skintel™ Reader's Melanin Index has been observed* to correspond to the traditional Fitzpatrick Skin Type scale.

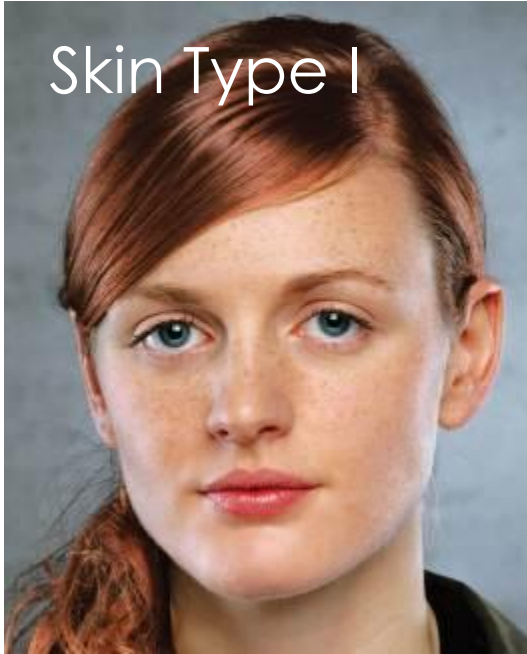


*Doherty, S., Cohen, R., Whitney, F., Bradley, O., Seckel, B., New Methods for Guidance of Light-Based Treatments Using Objective Melanin Measurements. PMTI, 2011.

Fitzpatrick Skin Type



Skin Type I



Fair skin, blonde or red hair, blue/green eyes never tans, always burns

Skin Type II



Fair skin, sandy–light brown hair, green or brown eyes occasionally tans, usually burns

Skin Type III



Medium skin, brown hair, brown eyes often tans, sometimes burn

Fitzpatrick Skin Type



Skin Type IV



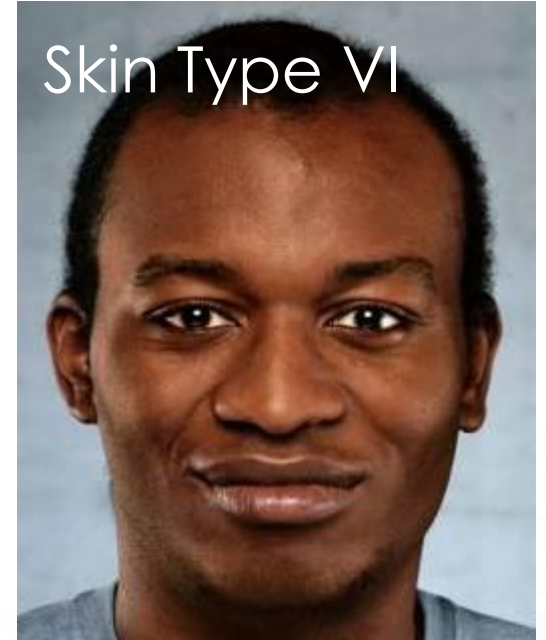
Olive skin,
brown/black hair,
brown/black eyes
always tans,
never burns

Skin Type V



Dark skin, black hair,
black eyes
never burns

Skin Type VI



Black skin, black hair,
black eyes
never burns

Sun Exposure

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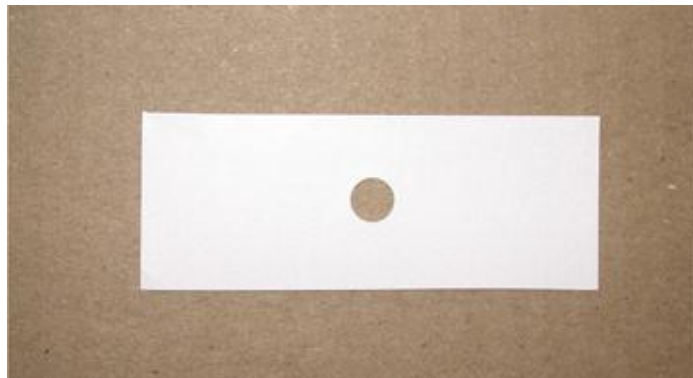


- The average person receives 18 hours of unexpected sun exposure a week.
- Verify sun exposure to the treatment area for the past 4 weeks.
- Sun exposure during the treatment course may decrease the efficacy of the treatments and increase side effects
- Sun avoidance and use of a minimum of SPF 45 throughout the treatment course is recommended.

Suggested Treatment Strategy



- Always perform test spots before treating, on each client and at every visit.
- Always perform test spots using LuxLotion™ per instructions in Operator's Manual. Evaluate test spots after 30 minutes for Skin Types I - III and at least 24-72 hours for Skin Types IV - VI
- Always re-administer test spots at every visit and always if client's sun exposure has changed since last treatment.



Skintel™ Calibration

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The **White** and **Black Calibration Standards**, inside the access door on the Icon® , are used to calibrate the Skintel™ Reader to ensure consistency of **Melanin Index** values.



Skintel™ Reader

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- Do not use the Skintel™ Melanin Reader without LuxLotion™
- Apply a thin coat of LuxLotion™ to the selected test spot skin surface

CAUTION: Always use LuxLotion™ when taking Skintel™ measurements.
Do not use any other liquid (e.g., Humatrix®).



Take the Skintel™ Reader measurement within the treatment area that has the darkest uniform (homogeneous) skin color.

DO NOT TAKE SKINTEL™ READINGS IN AREAS THAT HAVE:

- Active sun exposure within the past 4 weeks
- Tattoos
- Moderate to dense hair
- Distinct, darkly pigmented lesions
- Highly dense vascular lesions

Skintel™ Reader



After at least three (3) Skintel™ Reader measurements have been completed, the “Transmit” indicator will turn yellow.



Press the gray button on the Skintel™ Reader for one to two (1-2) seconds, then release to Transmit the MI Value to the Vectus® system



New **SurePulse** pulse configuration for hair removal - R, Rs, and Y, Ys handpieces:

- Offers the benefit of higher peak power of a short pulse width with the higher total energy of a long pulse width.
- SurePulse pulse configuration:

20ms (laser on) – 100ms delay (laser off) – 10ms (laser on)

- 3.2x higher peak power with same total energy as long pulse
- 50% greater fluence and 25% greater peak power than short pulse



MaxRs Fluence and Power Comparison

Pulse	PULSE WIDTH msec	FLUENCE J/cm ²	PEAK INTENSITY Watts/cm ²
SurePulse	130ms	62	2,500
Short Pulse	20ms	40	2,000
Long Pulse	80ms	62	775

Benefit of greater total energy

Benefit of high peak power

Palomar Icon® Additions

CYNOSURE®

SurePulse
option



Understanding how the SurePulse option works



The energy is split between the first and second pulses.

There is a delay of 100 ms which is fixed and occurs between the first and second pulse.

The total energy chosen for the TX is split automatically by the software.

The first pulse is weighted at 60% with a fixed pw of 20ms .

There is a delay of 100ms b/t the first and second pulse.

The energy for the second pulse is weighted at 40% of the total energy with a fixed pw of 10ms.

For example –If you are delivering 60J- the first pulse would deliver 36J at 20ms and then 24J would be delivered at 10ms with a 100ms pulse delay in between the 2 pulses.

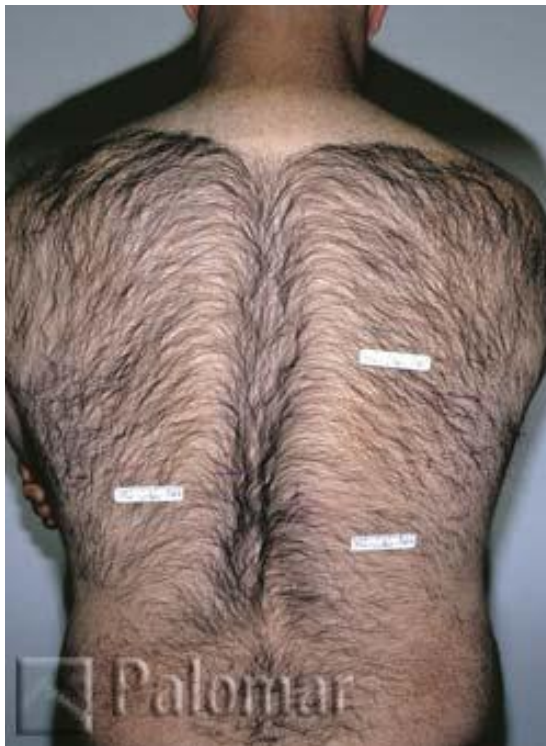


The SurePulse Option should be used towards the end of the hair removal series.

This Option is for those finer hairs that are difficult to treat.

SurePulse should be used on lighter skin types due to short pulsewidths.

Before



6 Months Post Treatment 6



Lux Y 14J/cm² 20ms

Photos courtesy of Alan Rockoff, M.D.

Before



6 Months Post Treatment 5



Lux Rs 27J/cm² 20ms

Photos courtesy of Khalil Khatri, M.D.

Before



1 Year Post treatment 3



Lux Y 20J/cm² 20ms

Photos courtesy of David Vasily, M.D.

Example of Hair Reduction With 1064+



Before



After



Photos courtesy of Rafael Schulze, MD

Suggested Post Treatment Care



- Apply cold gel packs as needed
- A mild sunburn-like sensation is expected; usually lasts 2-24 hours but may persist for 72 hours
- Prolonged redness, crusting or blistering may occur, but are rare. An antibiotic ointment or moisturizing lotion may be applied twice a day
- Steroidal creams may be used after treatment but are not always necessary
- Advise client to apply cool gel/ice packs to the area every hour for 15 minutes until symptom(s) subside

Suggested Post Treatment Care



- Continue to avoid sun and tanning exposure to reduce the chance of skin color changes. Use SPF 45
- Apply a moisturizer to dry or itchy skin twice a day until resolved
- Appearance of hair growth or stubble will be evident 7- 30 days after treatment, but this is not new growth. Additional treatments may be scheduled as new hair begins to grow
 - Clipping or shaving of the treatment area is permitted
- Avoid excessive exercise, pools, Jacuzzis, saunas and hot tubs for 7 days or until redness is resolved
- Do not pick or remove scabs or crusting

Hair Reduction



Q & A

