THE LARGEST DIDDE LASER FAMILY FOR HAIR REMOVAL





2021.05

Milesman is a company doing business in more than 30 countries and who researches and manufactures advanced technology medical laser equipment.

It is divided into departments specializing in Laser Physics, Dermatology, Advanced Optics, Thermodynamics and Laser Chemistry among others. The production and R&D functions are performed at different locations in Europe and the United States.

The company makes use of its own technology developed in conjunction with prestigious universities and international research centers which provides a solid base and excess capacity for sustained growth in the coming years.

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ABOUT LASERS and HAIR

ABOUT TREATMENT

SPECIAL FEATURES THAT MAKES MILESMAN COMPACT A UNIQUE **TECHNOLOGY**

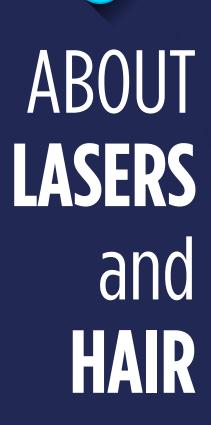
HAIR REMOVAL MARKET



THE LARGEST **DIDDE LASER FAMILY** FOR HAIR REMOVAL

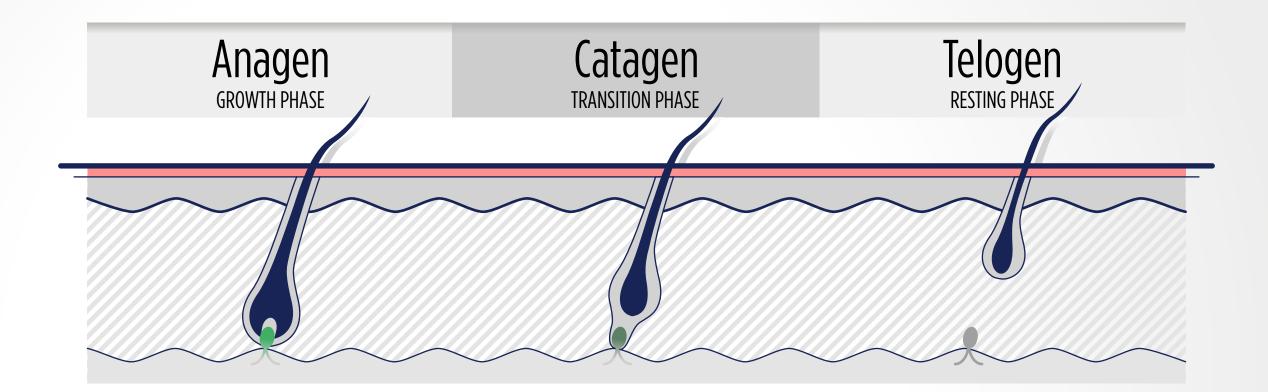






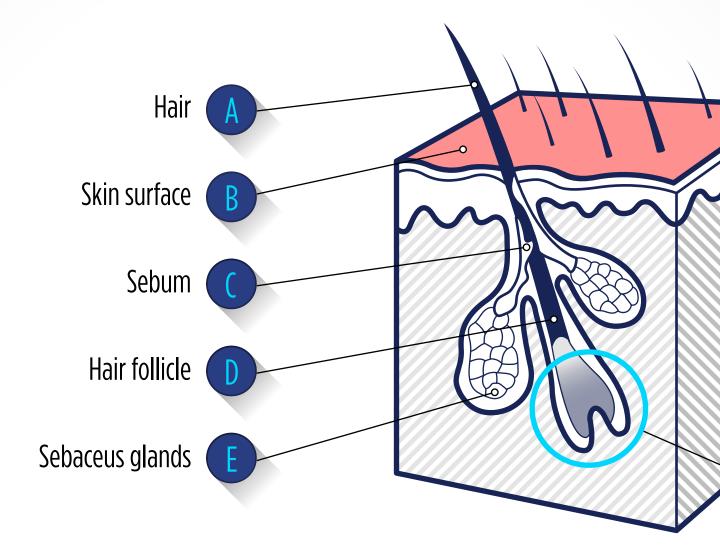




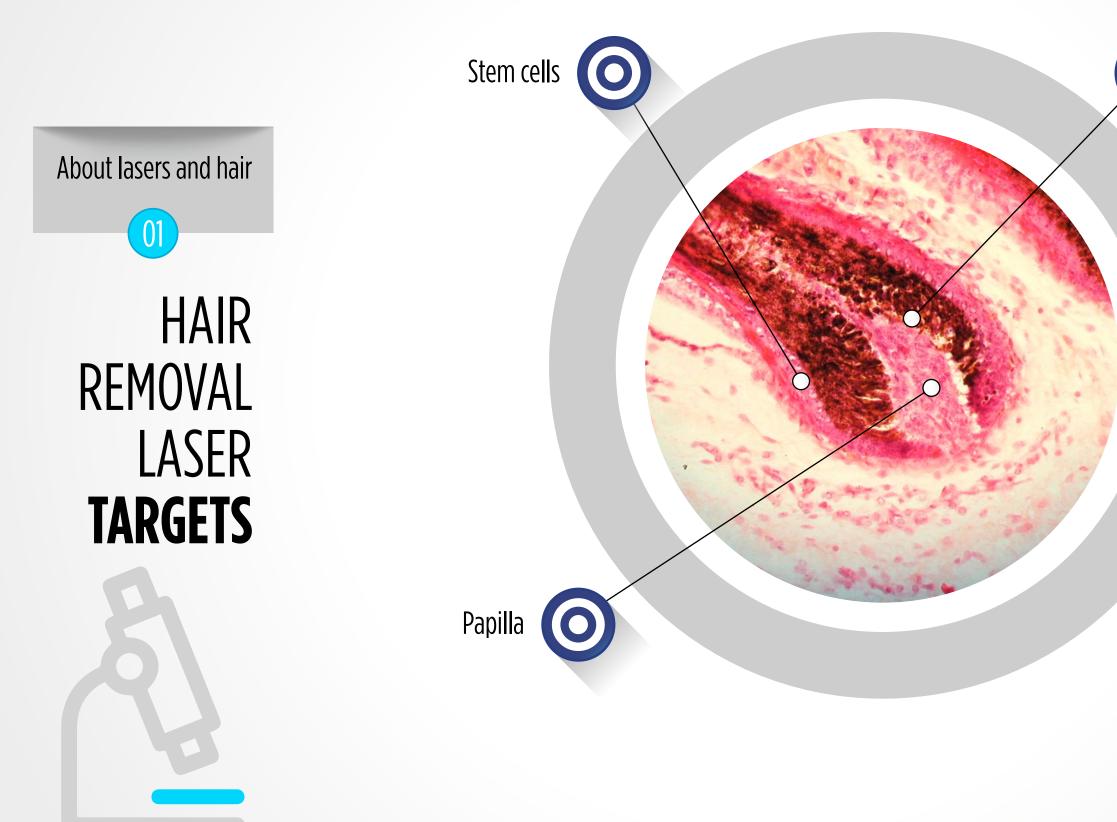


It is the active growth phase of hair follicles during which the root of the hair is dividing rapidly, adding to the hair shaft. During this phase the hair grows about 1 cm every 28 days. It is a short transition stage that occurs at the end of the anagen phase. It is the end of the active hair growth phase. This phase lasts for about 2 to 3 weeks. This process cuts the hair off from its blood supply and from the cells that produce new hair. It is the resting phase of the hair follicle. In this phase there is no hair shaft or recognizable follicular structures.

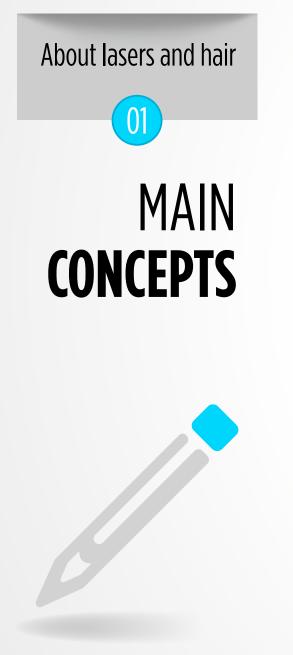












Main concepts

The targets of laser hair removal (matrix, papilla and stem cells) have to be denaturalized and coagulated to avoid the hair growing. The way to best do this is by applying heat to the hair shaft so that it transmits the NECESSARY heat to damage and coagulate stem cells, matrixes and papillas.

About lasers and hair 01 MELANIN Pigment is responsible for the color of skin, eyes and HAIR

Melanin





HIGH CONCENTRATION OF MELANIN, DARK HAIR AND BLACK SKIN

LOW CONCENTRATION OF MELANIN, LIGHT HAIR AND WHITE SKIN





Heating a hair follicle

Wavelength

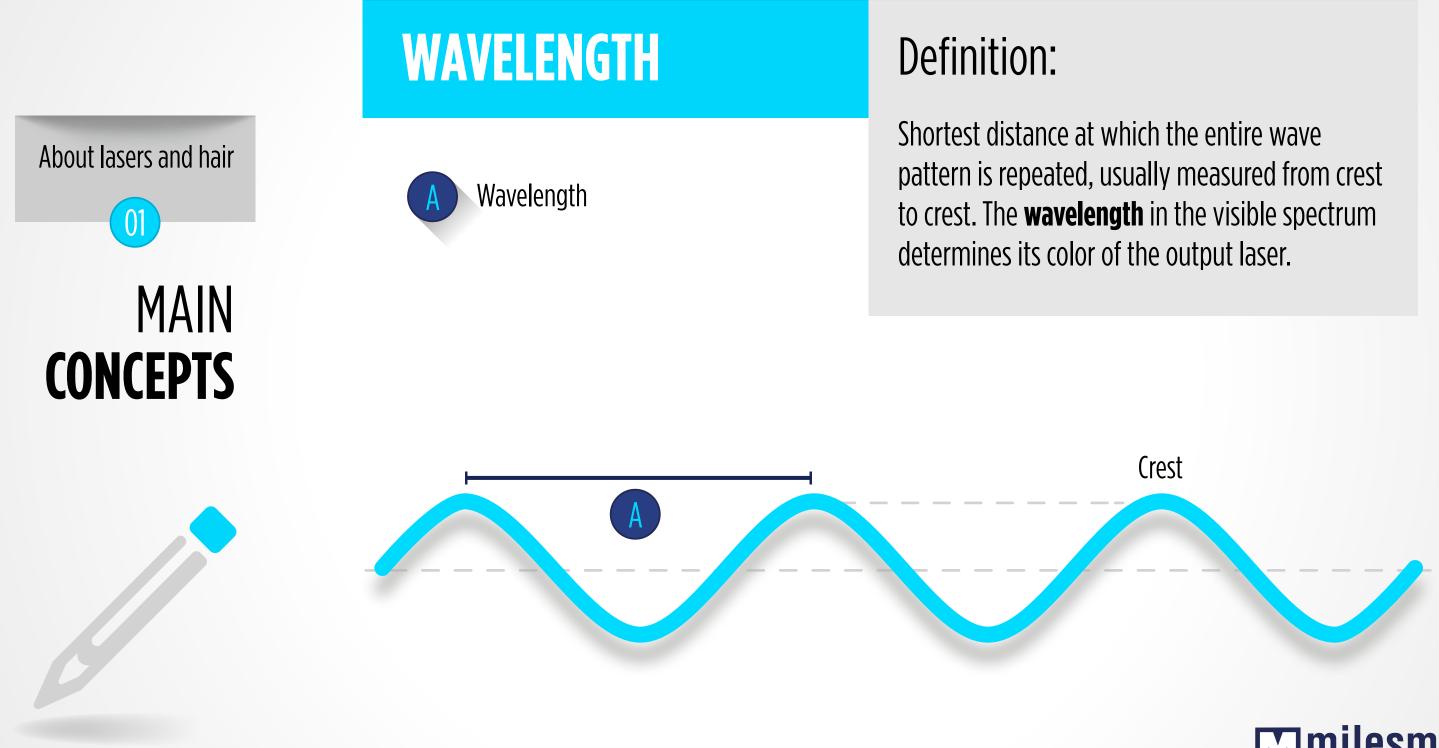
The laser light must have the proper wavelength which provides adequate absorption by the melanin but little by other pigments. (THEORY OF SELECTIVE PHOTOTERMOLYSIS)

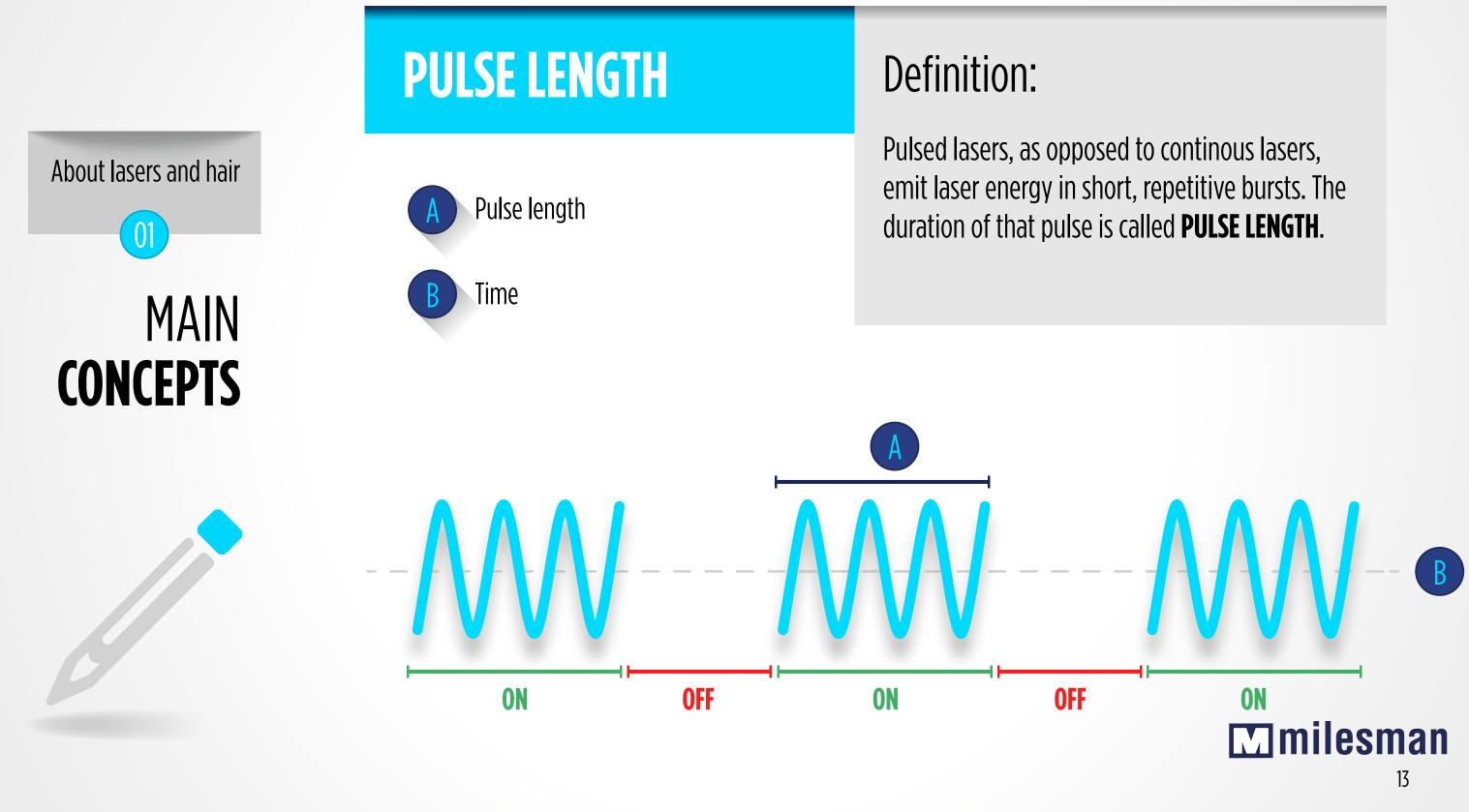
Pulse duration

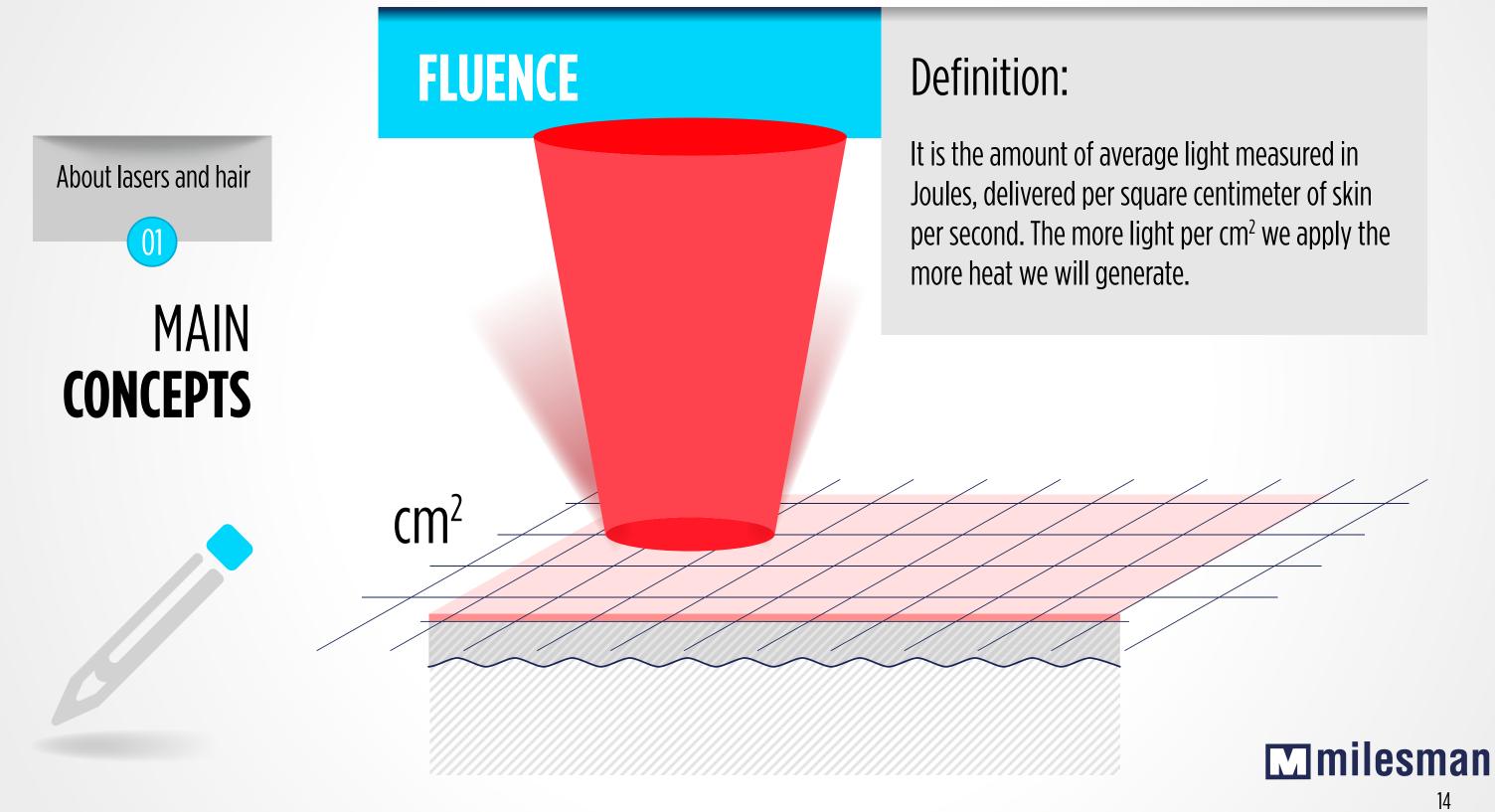
The laser light has to be delivered over a short time such that the melanin does not get overheated causing damage to the skin. Therefore it is said that the pulse duration must be shorter than the thermal relaxation time of the tissue in the treatment area.

Energy density

The laser light has to be delivered with a precise energy so that the melanin does not overheat and generate thermal damage to the skin.









Heating

Heating the hair enough to heat, damage and coagulate the stem cells and the papila, responsible for hair growth.

Melanin

The way to heat hair is by the emission of a **laser** that is absorbed by a component of the hair called **melanin**, which has the feature that turns it into **heat**.





RIGHT **Wavelength**

RIGHT **Penetration**

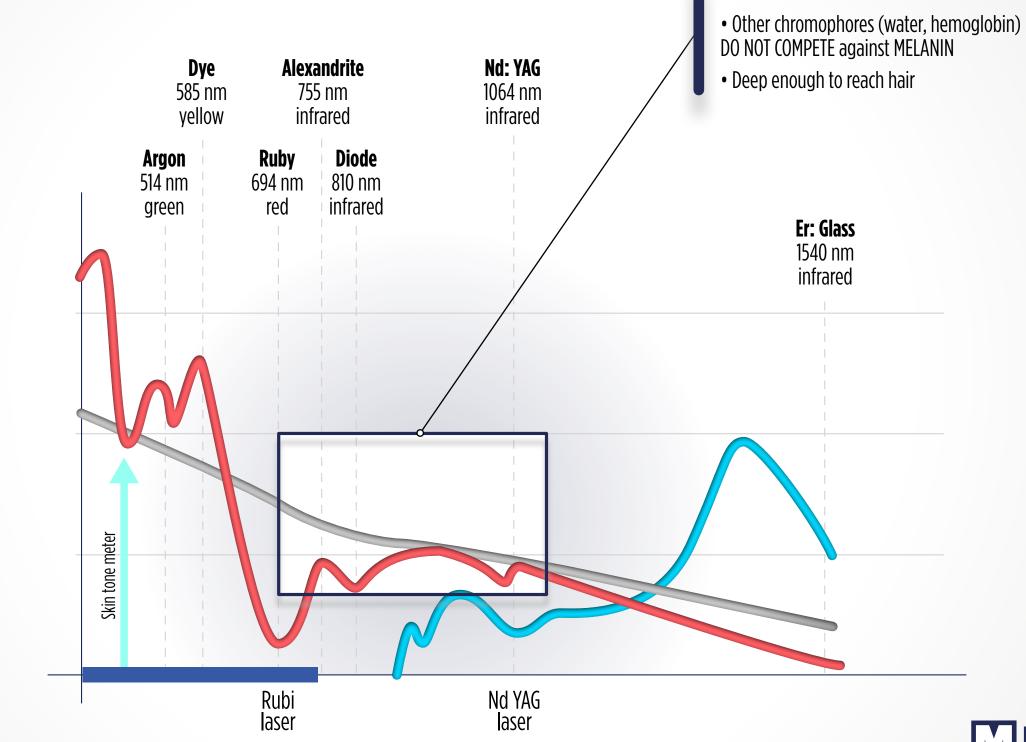
RIGHT **Protection**



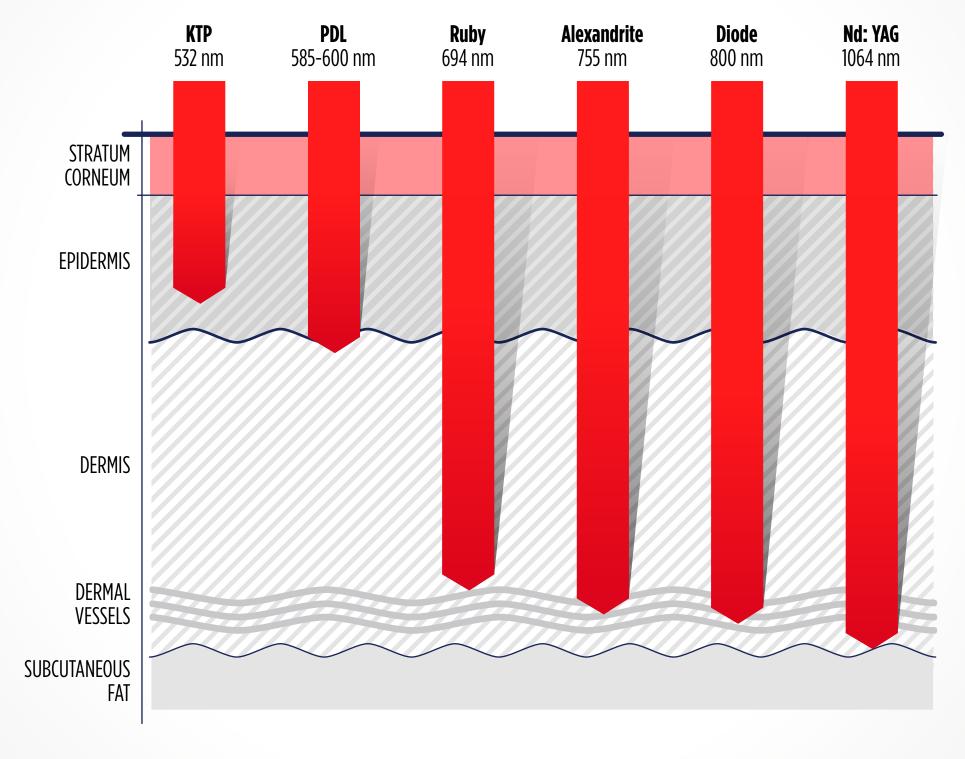
Melanin —

Water •

Oxyhemoglobin -



OPTICAL WINDOW FOR MELANIN = Area where:



Depth of penetration by various lasers

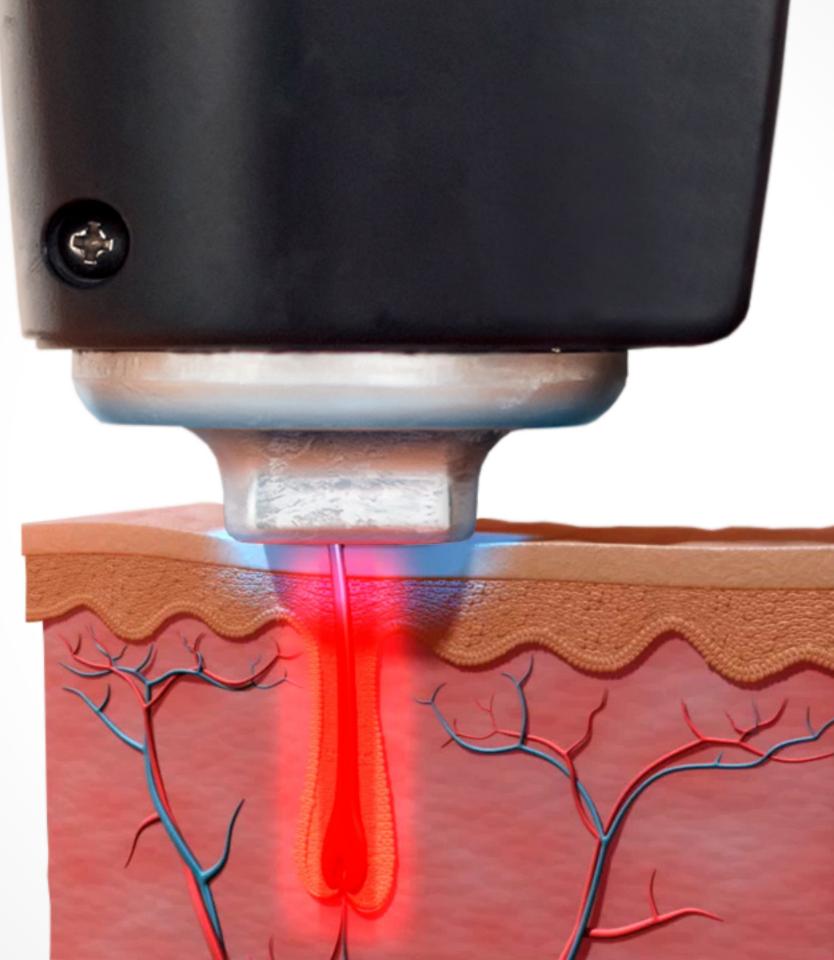
RIGHT **PENETRATION** REACHING THE STEM CELLS

About lasers and hair

01

Large terminal follicles are rooted deep in the subcutaneous fat. Papillas and stem cells are at the bottom of the hair follicles. A laser will be effective if it ´s able to reach the entire depth of the follicle. Only lasers from 650 nm up to 1,100 nm penetrate enough to reach the hair root and the targets.





Thermally very conductive material: facilitates a good distribution of **COLD**



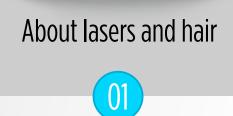
Allows a constant refrigeration even when the laser is being applied



IT IS RESISTENT

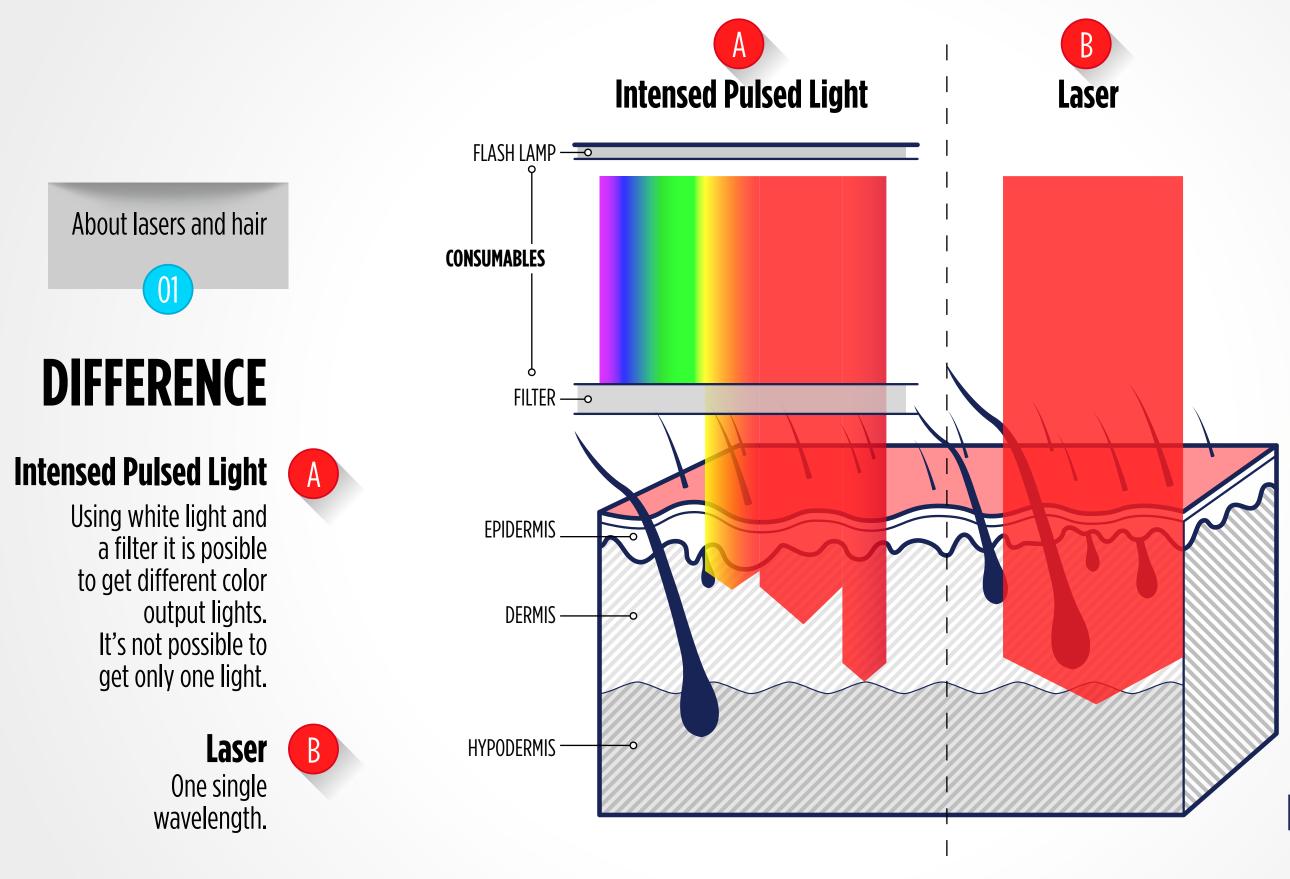


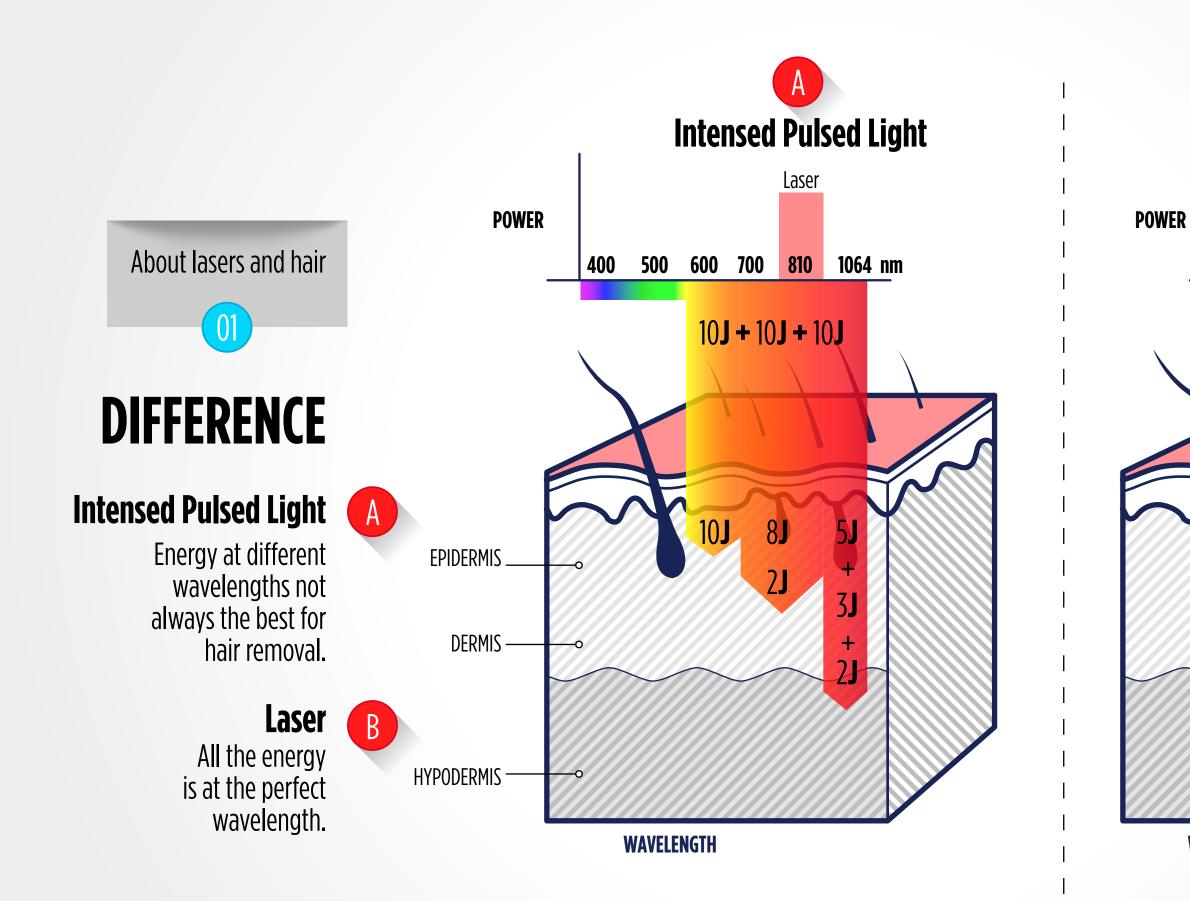
By pressing against the skin, it clears the blood from the vessels (hemoglobin) and brings the root to the surface

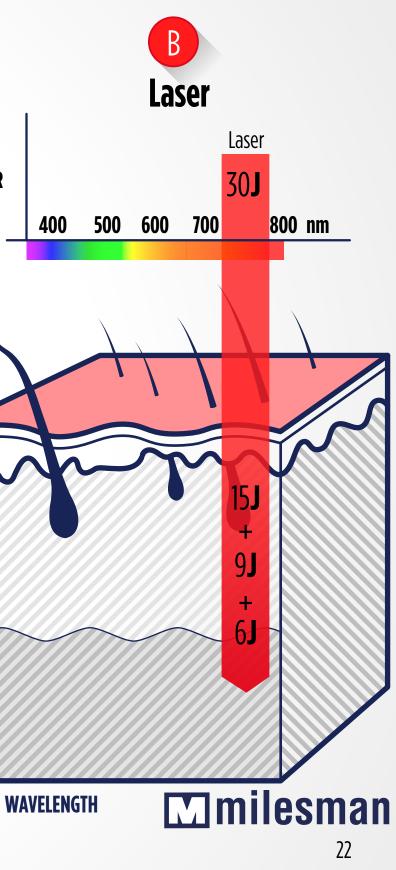


LASER UK IИ



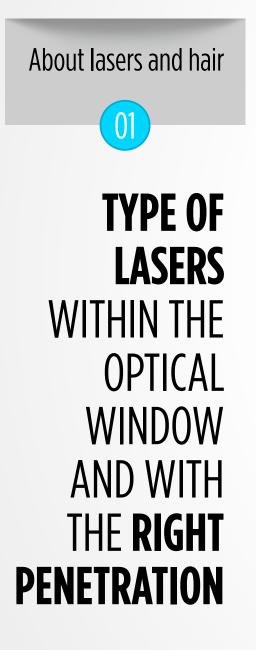














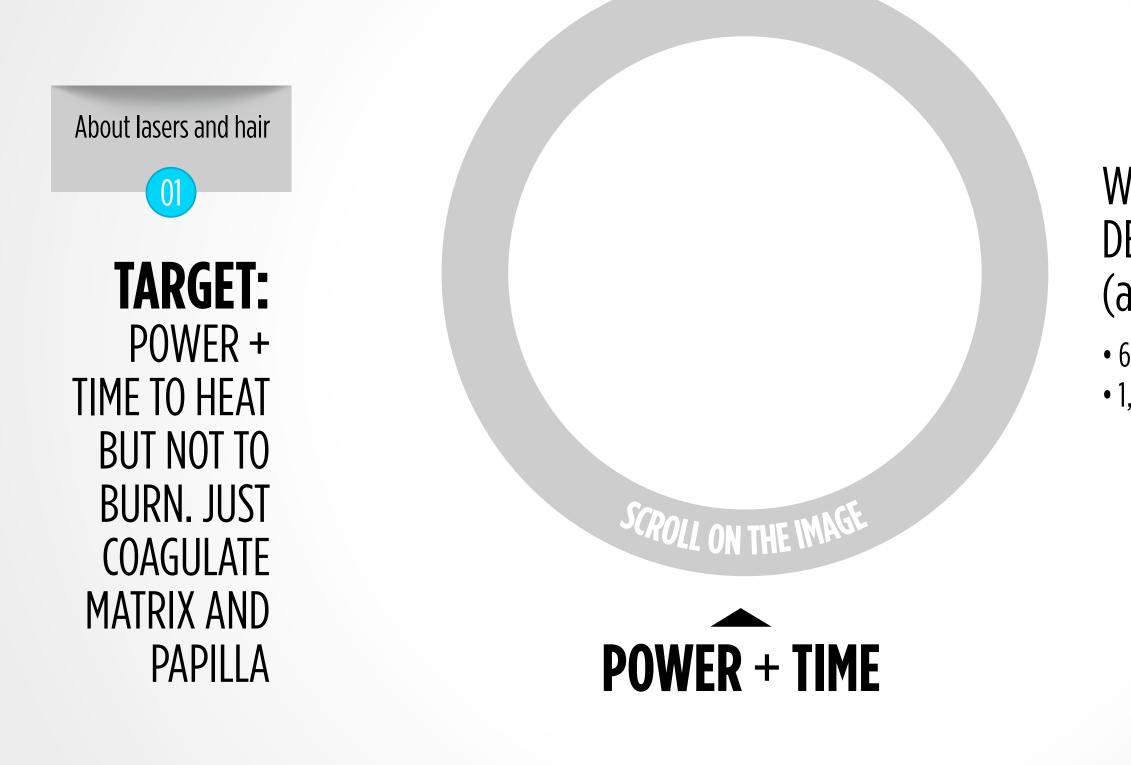






1,064 nm: Nd YAG and 1,064 diodes.

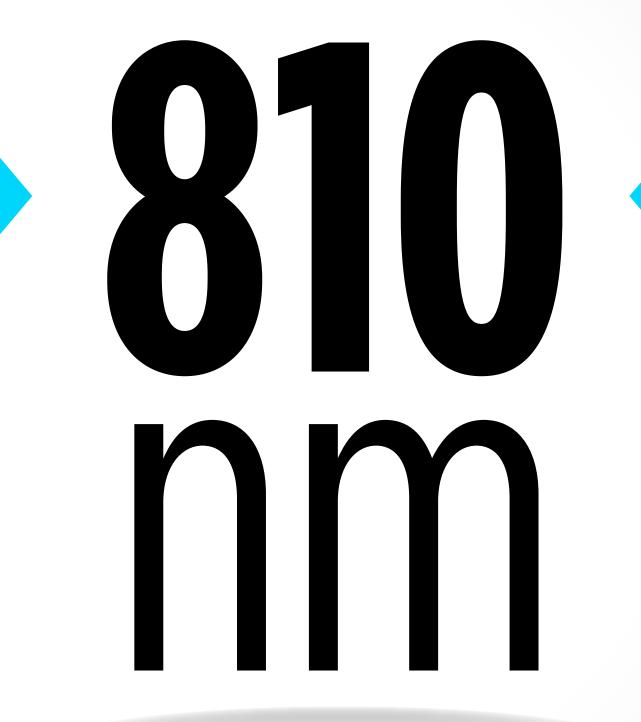




WHAT COMBINATION? DEPENDS on WAVELENGTH: (as a general rule)

685 nm, 755 nm and 810 nm: Short pulses1,064 nm: Long Pulses

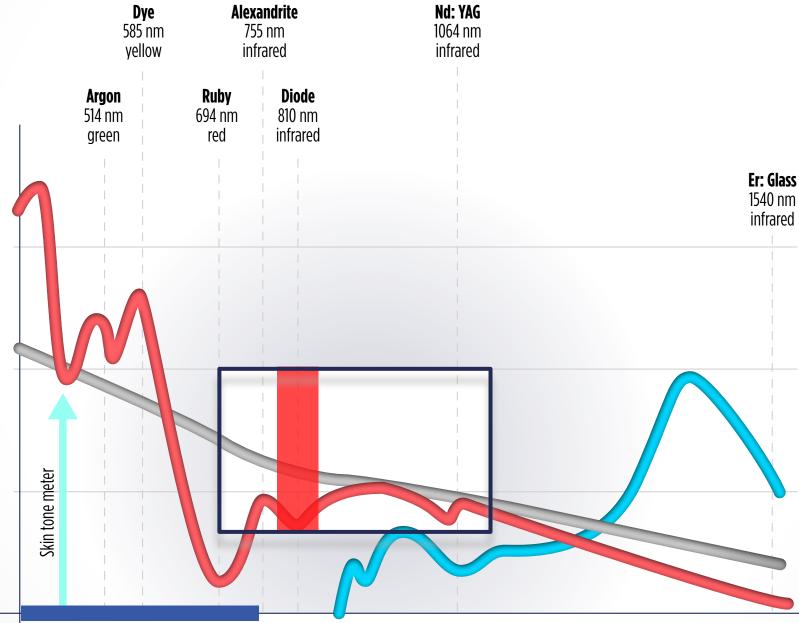






It's widely considered as the "**perfect**" and multiversatile wavelength as its wavelength is in the middle of the optical window.



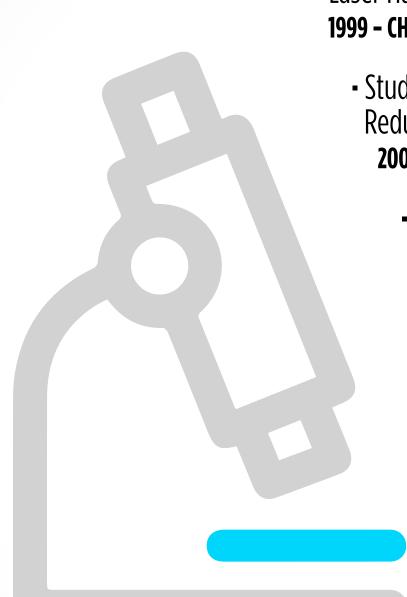


Million of sucessful cases performed all over the world.

Permanently and safety removes any type of hair at any skin phototype (specially II to IV).

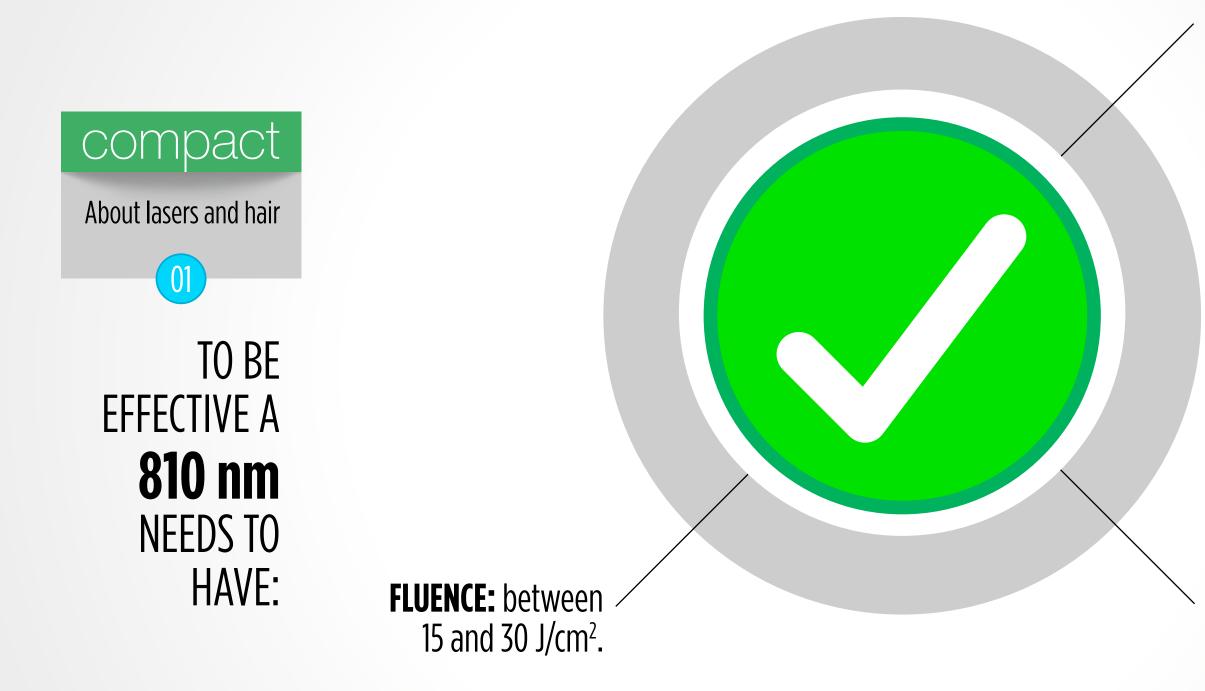
810nm: Recommended to treat all skin types, especially patients with high hair density and for initial hair removal sessions in most clientel.





- Laser Hair Removal: Scientific Principles and Practical Aspects, **1999 – CHRISTINE DIERICKX**
 - Study of Very Long-Pulsed (100 ms) High-Powered Diode Laser for Hair Reduction on All Skin Types, 2000 - ELIOT BATTLE AND ROX ANDERSON
 - 800 nm pulsed, high-power diode laser hair removal system, 1999 - ROBERT ADRIAN
 - Diode laser-assisted hair removal in Asians: A study of 101 Japanese patients.
 - 2000 TARO KONO AND MOTOHIRO NOZAKI
 - 2002 ATIF KAZMI
 - Laser Hair Removal, **1999 - ROX ANDERSON**

- Laser Hair Removal with an 800 nm Diode Laser – A Retrospective Study of 1,000 Women with Skin Types II to VI,



PULSE LENGTH: Variable between 20 ms and 100 ms.

COOLING SYSTEM for the TIP

compact

About lasers and hair

01



Wavelength:	810 nm
Repetition Rate "Single shot" mode:	1-2-3-4-5-6-7-8 Hz
Repetition Rate "Sweep" mode:	10 Hz
Spot size:	10 x 10 mm
Maximum fluence:	30 J/cm at 30 ms
Pulse width:	5 to 150 ms
Peak power:	2000 W
Laser Dimensions (Width x Length x Height):	390 mm x 450 mm x 250 23.8 in x 27.4 in x 12 in
Laser weight:	9 kg / 19 lb
Tip temperature:	Down to -9°C / 15.8°F



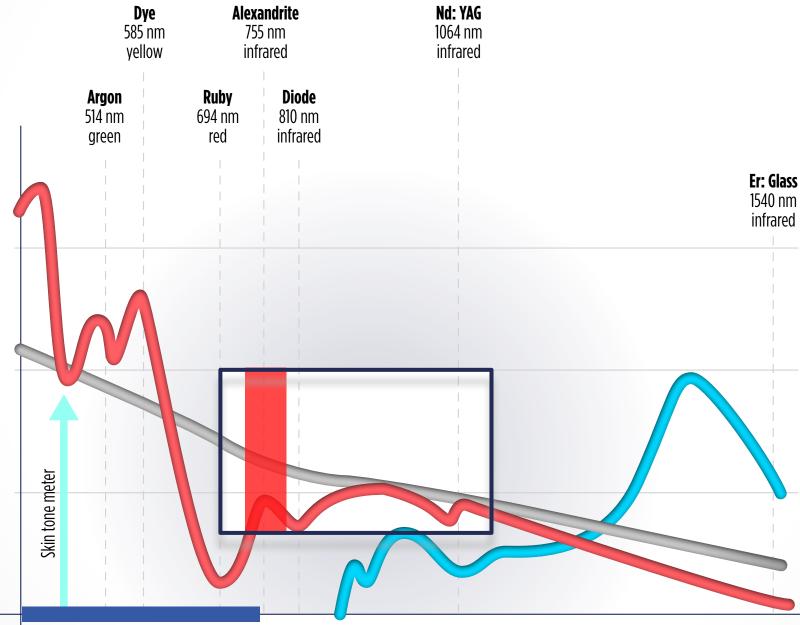


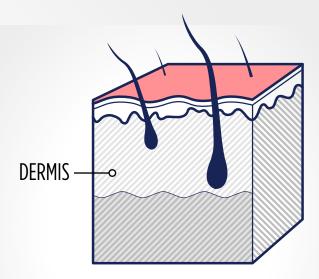




It is recommended to treat lighter skin and regular hair and especially fine hair or vellus.







This wavelength is very well absorbed by the melanin which is required when there is little vellus and penetrates less than other Lasers to the Depth where the vellus is located.

Vellus and fine hair are short, thin and possess slight coloration.

Vellus follicles are situated high in the dermis while large terminal follicles are rooted deep in the subcutaneous fat





INTERNATIONAL SCIENTIFIC COMUNITY **RESEARCH DONE** WITH **755 nm**

- Laser hair removal: long-term results with a 755 nm alexandrite laser. EREMIA S, LI CY, UMAR SH, NEWMAN N. DERMATOL SURG.

- Clinical assessment of a new 755 nm diode laser for hair removal: Efficacy, safety and practicality in 56 patients. MARIO A. TRELLES MD, PHD.

 Retrospective evaluation of the safety and efficacy of laser hair reduction with the 755nm alexandrite wavelength with 8 year follow up, ELISABETH RUSSE EVA CISCAR MANFRED HEROLD.

 Comparison of efficacy and safety of a novel 755-nm diode laser with conventional 755-nm alexandrite laser in reduction of axillary hairs. AYATOLLAHI, SAMADI.

- Removal of unwanted hair: efficacy, tolerability, and safety of long-pulsed 755-nm alexandrite laser equipped with a sapphire handpiece. **NISTICO, DEL DUCA E.**

- Novel 755-nm diode laser vs. conventional 755-nm scanned alexandrite laser: Side-by-side comparison pilot study for thorax and axillary hair removal. PAASCH U, WAGNER JA, PAASCH HW.



TO BE EFFECTIVE A **755 nm** NEEDS TO HAVE:



FLUENCE: between 15 and 30 J/cm².

PULSE LENGTH: Variable between 10 ms and 60 ms.

COOLING SYSTEM

Mmilesman

34



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Wavelength:	755 nm
Repetition Rate "Single shot" mode:	1-2-3-4-5 Hz
Repetition Rate "Sweep" mode:	10 Hz
Spot size:	10 x 10 mm
Maximum fluence:	30 J/cm at 50 ms
Pulse width:	5 to 150 ms
Peak power:	2000 W
Laser Dimensions	390 mm x 450 mm x 250
(Width x Length x Height):	23.8 in x 27.4 in x 12 in
Laser weight:	9 kg / 19 lb
Tip temperature:	Down to -9°C / 15.8°F



35



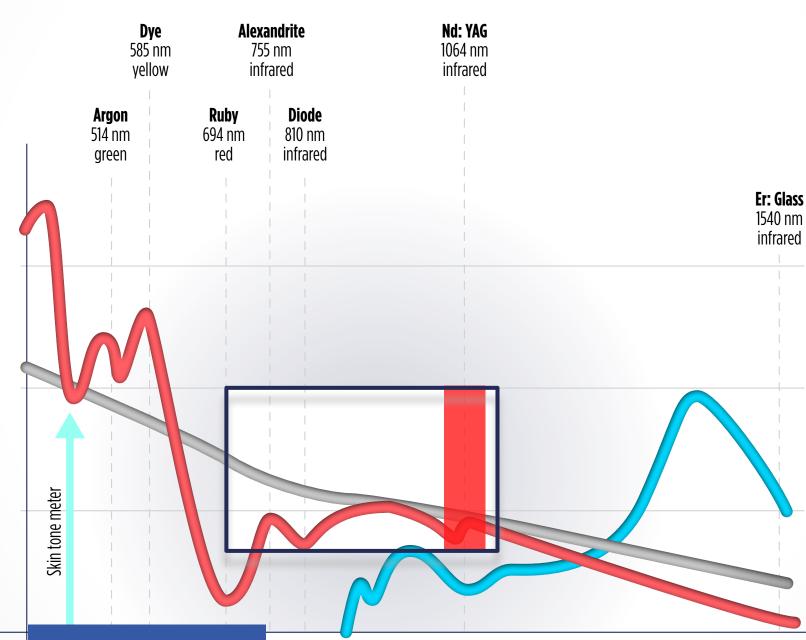






MAIN **ADVANTAGE:** TANNED AND DARK SKIN (PHOTOTYPES IV-VI)





1064 is less absorbed by melanin but it penetrates deeper. This feature together with LONG PULSES makes it less effective due to the fact that the temperature of the hair rises slower, but in exchange it allows the skin to be better cooled. 1064 nm goes very well with skin that has more risk of being damaged by the excess of melanin (tanned and black skin).





INTERNATIONAL SCIENTIFIC COMUNITY STUDES OF THE **1064nm** WAVELENGTH

- Hair removal with the long pulsed Nd:YAG laser: a prospective study with one year follow-up. LORENZ.
 - Effectiveness of short-pulse widthx Nd:YAG in laser hair reduction. JANE SD, MYSORE V.
 - Patient Reported Improvement in Quality of Life Associated With Successful Laser Hair Reduction at Hemodialysis Site With 1064-nm Nd:YAG Laser. THOMAS LW.
 - Trichoscopic changes in hair during treatment of hirsutism with 1064-nm neodymium:yttrium-aluminum-garnet laser. MOHAMED EE, AHMED AM.
 - Treatment Sessions and Different Hair Types in Indian Patients. MITTAL R, SRIRAM S, SANDHU K.
 - Nd:YAG laser hair removal in Fitzpatrick skin types IV to VI. CHAN CS, DOVER JS.
 - Surg. 1999; 25:175–8.
 - **BENCINI PL, LUCI A, GALIMBERTI M, FERRANTI G.**

- Evaluation of Long-pulsed 1064 nm Nd:YAG Laser-assisted Hair Removal vs Multiple

- Long term epilation with long pulsed neodimium: YAG Laser. Dermatol

- Hair removal with the long pulsed Nd: YAG laser: A prospective study with one year follow-up. Lasers Surg Med. 2002;30:127–34 LORENZ S, BRUNNBERG S, LANDTHALER M, HOHENLEUTNER U.



TO BE EFFECTIVE A **1064 nm** NEEDS TO HAVE:



FLUENCE: between 15 and 30 J/cm².

PULSE LENGTH: LONG more than 40 ms up to 100-150 ms (long pulses).

COOLING SYSTEM



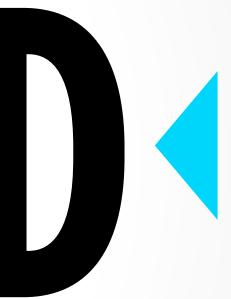
MILESMAN OFFER

Wavelength:	1064 nm	
Repetition Rate "Single shot" mode:	1 Rate "Single shot" mode: 1-2-3-4-5-6-7-8 Hz	
Repetition Rate "Sweep" mode:	10 Hz	
Spot size:	10 x 10 mm	
Maximum fluence:	30 J/cm at 30 ms	
Pulse width:	5 to 150 ms	
Peak power:	2000 W	
Laser Dimensions (Width x Length x Height):	390 mm x 450 mm x 250 23.8 in x 27.4 in x 12 in	
Laser weight:	9 kg / 19 lb	
Tip temperature:	Down to -9°C / 15.8°F	









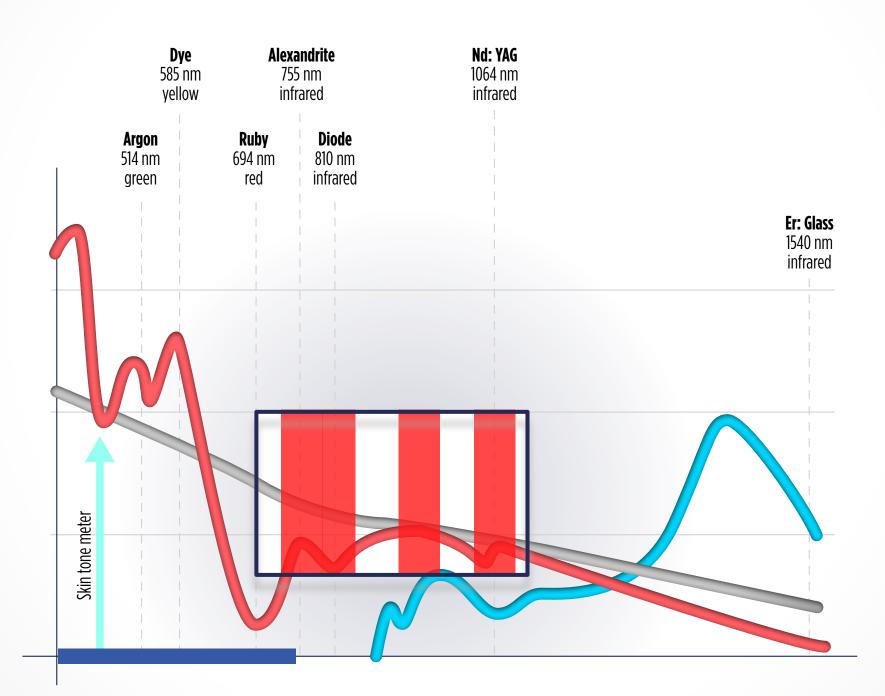
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Combined wavelength: Perfect balance to treat dark phototypes (III-VI). Efficacy of 810nm and safeness of 1064 nm. Ideal to reach hair at any depth and dark skin.



MAIN ADVANTAGE: LATEST TECHNOLOGY IS THE COMPLETE COMBINATION





Mmilesman



MILESMAN OFFER

Wavelength:	755, 810, 940 and 1064 nm	
Repetition Rate "Single shot" mode:	1-2-3-4-5-6-7-8 Hz	
Repetition Rate "Sweep" mode:	10 Hz	
Spot size:	10 x 10 mm	
Maximum fluence:	30 J/cm at 30 ms	
Pulse width:	5 to 150 ms	
Peak power:	2000 W	
Laser Dimensions	390 mm x 450 mm x 250 m	
(Width x Length x Height):	23.8 in x 27.4 in x 12 in	
Laser weight:	9 kg / 19 lb	
Tip temperature:	Down to -9°C / 15.8°F	





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Milesman compact 810 nm

compact alex 755 nm

Milesman compact yag **1064** nm

Milesman Compact blend **755, 810, 940** and **1064** nm

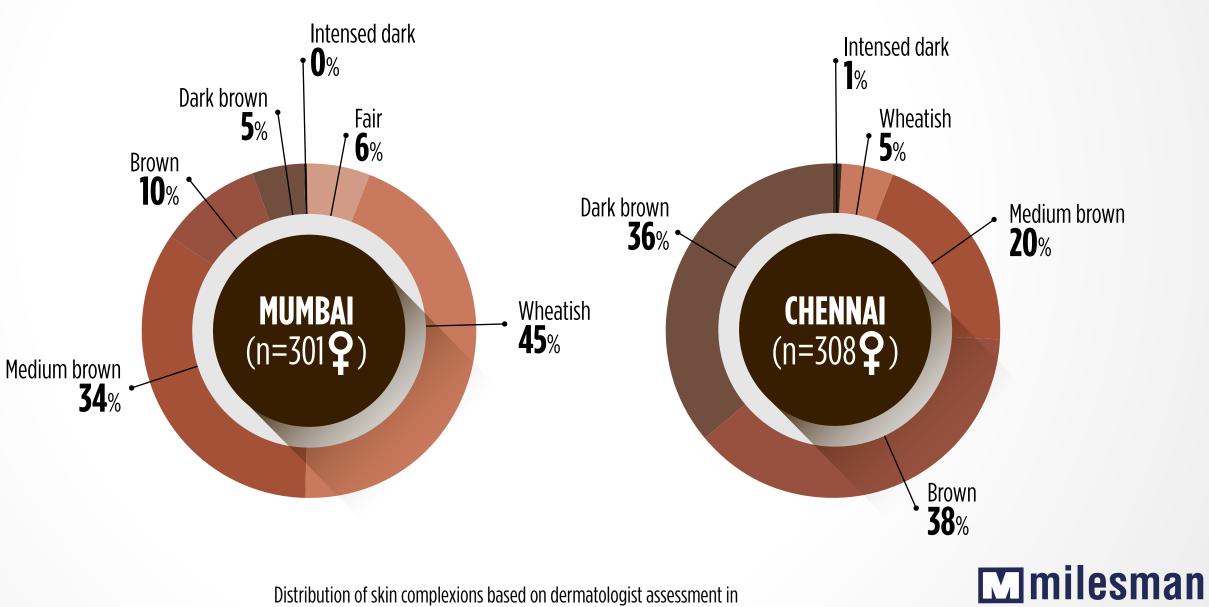


Considering laser types, skin colors and hair color and thickness **there is not a perfect laser for all situations.**

Depends on your patients features and on your preferences (better results with more risks or poorer results with less risks)

Skin complexion: dermatologist assessment



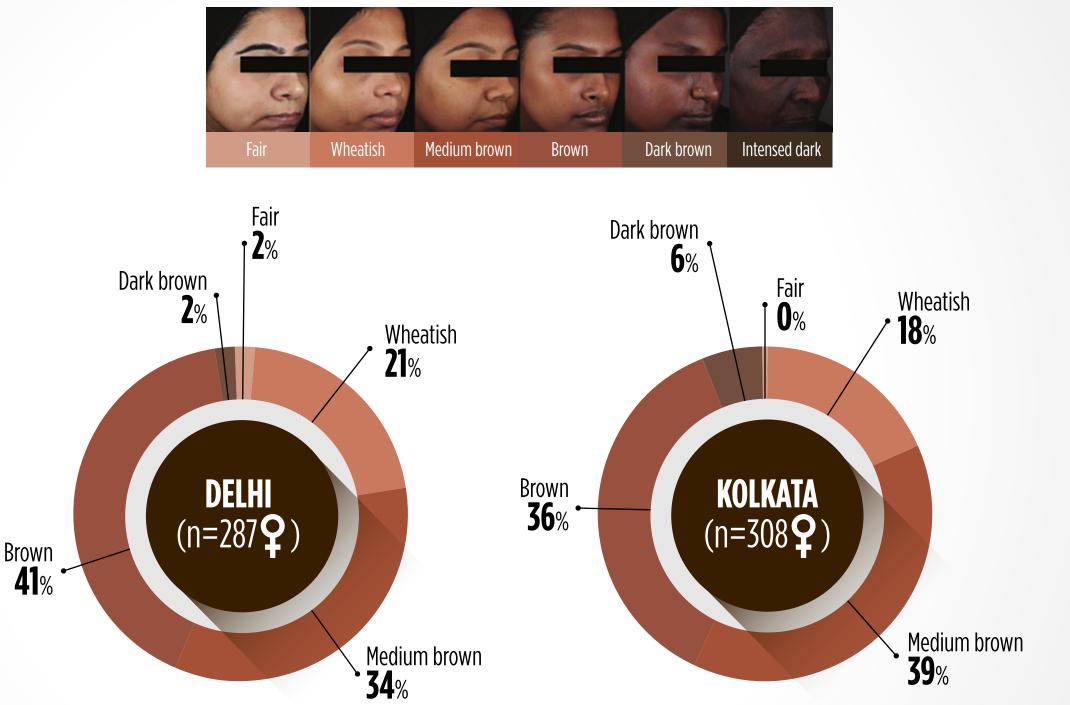


Distribution of skin complexions based on dermatologist assessment in **Mumbai, Chennai, Delhi, and Kolkata (N = 1,204)**



Mumbai Chennai Delh Kolkata

Skin complexion: dermatologist assessment



Distribution of skin complexions based on dermatologist assessment in **Mumbai, Chennai, Delhi, and Kolkata (N = 1,204)**

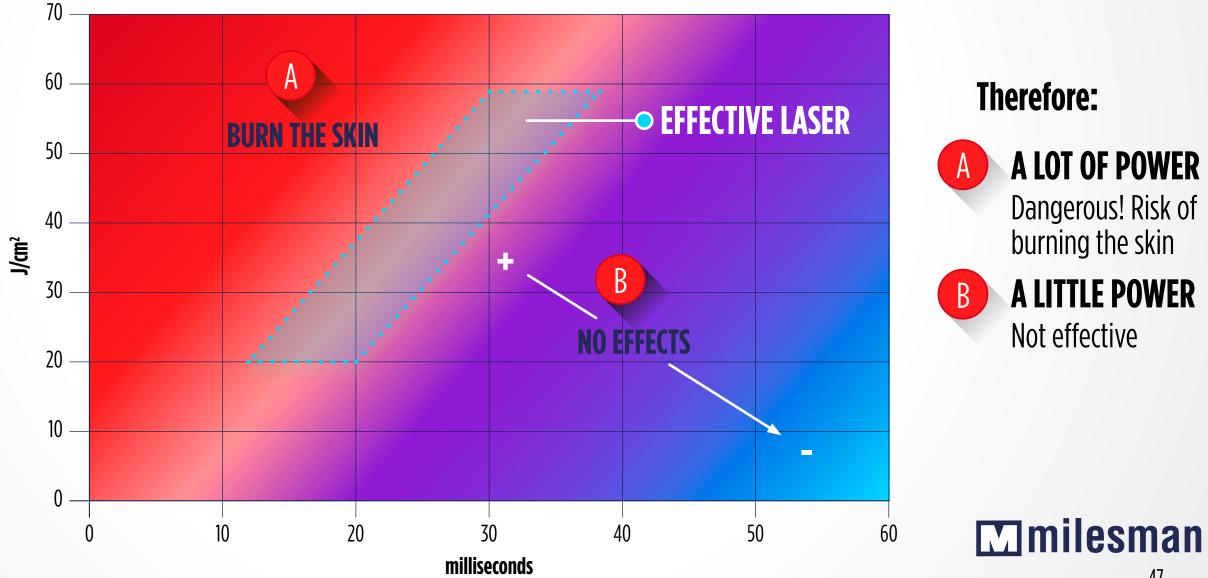


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Power is essential in laser hair removal effectivity.

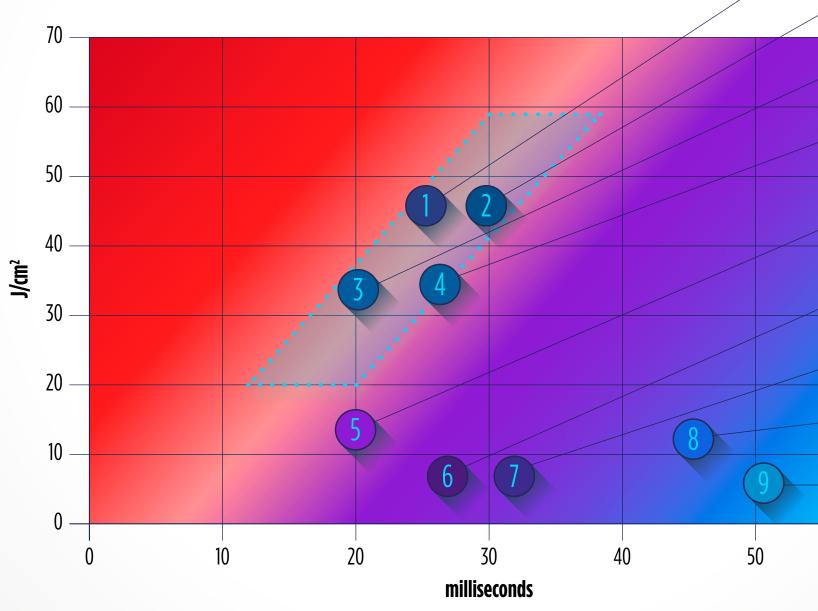
Clinical studies prove that a certain energy is necessary applied over a certain period of time to permanently remove hair.







Laser fluences per brand







PRICE vs Results By Brands

RESULTS







ABOUT TREATMENT



About treatment



Body Site	Depth of Follicle	Follicle Density
Scalp	5-7 mm	350/sq.cm
Beard	2-4 mm	500/sq.cm
Upper Lip	1-2.5 mm	500/sq.cm
Axilla (armpit)	4-5 mm	65/sq.cm
Chest/Back	2-5 mm	70/sq.cm
Breasts	2-4 mm	70/sq.cm
Arm	2-4 mm	80/sq.cm
Legs	2-4.5 mm	60/sq.cm
Bikini/Pubic	4-5 mm	70/sq.cm





The handpiece should be placed on the skin at a **90° angle during the entire treatment** to ensure that the spot is fully protecting the skin







B

It's wrongly placed as there are parts of the tip not in direct contact with the skin.

If the sapphire is not in contact with the skin, **there is no cooling protection**, and the laser beam impact against the skin without any cooling, therefore the risk of burning dramatically increases



The handpiece should move at the **correct pace**, that is: $2Hz \rightarrow 2$ cm per second, $3Hz \rightarrow 3$ cm per second and so on.

- If the handpiece is moved faster than this, some areas will not be treated.
- If the handpiece is moved slower than this, some areas will be over treated.

It's recommended to practice and learn to get the right pace.

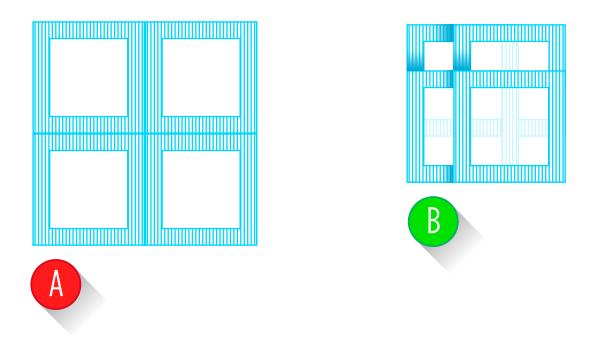
If in doubt, it's better to move the handpiece slower than the indicated repetition rate than to go faster because it's better firing twice in an area than no firing



™milesman



It's **important** to consider that **not all the mirror is a laser window**. The spot of the compact is 15 mm x 15 mm, out of this size, the external perimeter (15 mm x 15 mm x 2.5 mm) lies over a cold frame just to get cold. The internal square of 10 mm x 10 mm is the real window where laser goes through and that treats the area.





The spot has to be **OVERLAPED** as in Figure B.



If the spot is placed like Figure A, the area on the frame (area with stripe lines) will not be treated by the laser, and hair will grow after 2-3 days.



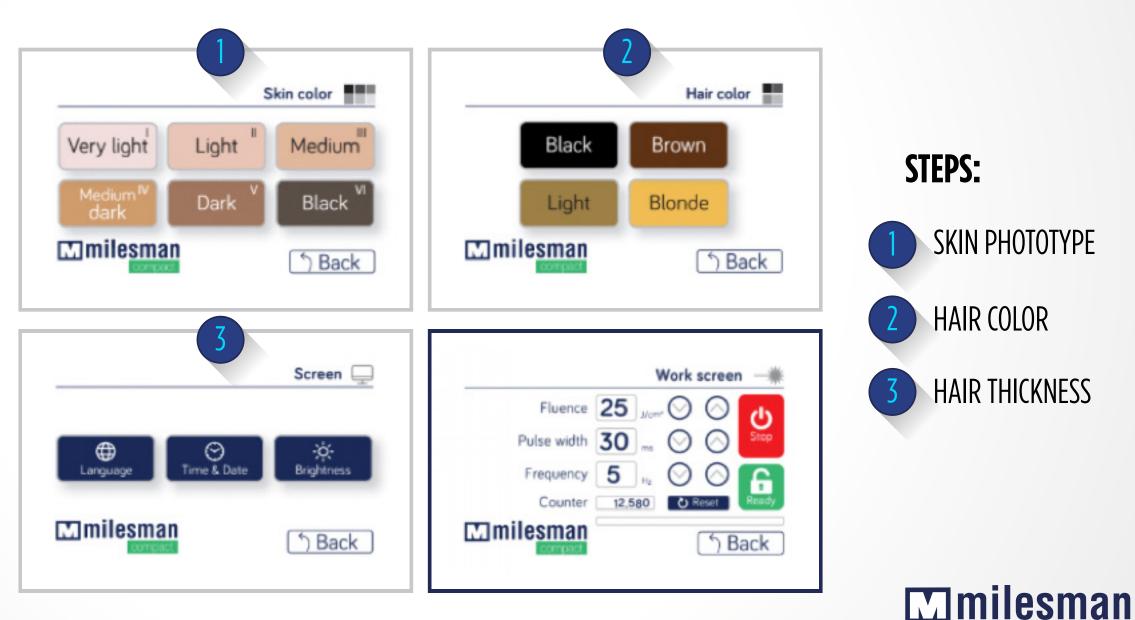


• **Do not stop moving the handpiece** while the laser is firing. • With light skin clients (I-III), it is possible to pass 3 times over the same area. With darker skin type, only 1 maximum 2 (depends on the client's reaction).





The parameters indicated on the preset screens are a good recommendation to **work** with, nevertheless, if the patient tolerates higher fluences or shorter pulses, carefully proceed with them, little by little, to ensure the safety of the patient.







Before starting a series of treatments on a new client, it is mandatory to perform a **PATCH TEST**.

Patch Tests simulate the "real" treatment and should give a clear indication about the Skin Type and possible sensitivity of the client.

THE PRACTICE

The test should be performed on a concealed area like the inner side of the forearm.

Set the parameters and follow the treatment guidelines.

Remove the gel, wait 20 minutes and check the treated area.

If no contraindications are visible, the actual treatment can be started with the approved settings.



Solar exposure and tanned of the skin.

- Capture of other medicines.
- Neurological affections like epilepsy and others.
- Oncologic affections and its treatments.
- Contraceptive hormonal oral.
- Having a pacemaker.



- Active infections of the skin (Herpes Zoster or simple, chicken pox, contagious Impetigo, etc...)
 - Disorders that suppose an important deterioration of the state of health.
 - Treatment near the eye that could allow the entry of laser in the eyeball and its impact in pigmented structures as the iris and the retina.
 - Patients with oral treatment with **ROACUTAN, TIGASON NEOTIGASON** (oral isotretinoin) or treated with CO₂ laser, Erbium Yag or dermabrasion over the last 6 months.





- In case of solar or UV beams exposure, tell your treatment provider prior to starting every session to fit the parameters of the treatment.
- Do not depilate the zones, wax or tweezer a month before the treatment; use, if you wish it, other methods that shave the hair but do not extract it.
- Do not apply self tanning products the week prior to the treatment.
- - Do not color the hair that is going to be removed 15 days before the treatment.
- - Do not use make-up or lotion the day of the treatment in the areas that is going to be treated.
- - Do not use cosmetics containing either Glycolic Acid or Retinoic Acid three days before the treatment and three days after.
 - Do not use deodorant before or after the laser session if you are going to remove the hair of the axilla.

- ErbioYag or Dermabrasion.
- - same day of the treatment.

If your skin suffers cloasma or trend to the hyperpigmentation, use a local depigmentation product that will be applied two weeks before the treatment.

In case you suffer persistent labial herpes (more than 1 time per month), contact your doctor to initiate a preventive treatment plan the day before your laser session.

The treatment is contraindicated in persons who in the last 6 months have been put under oral treatment with **ROACUTAN**, TIGASON, NEOTIGASON or ACCUTANE (oral isotretinoine).

The treatment is contraindicated in persons who in the last 6 months have submitted the treatment area with a CO₂ Laser,

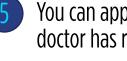
Come with the treatment area perfectly shaved, except the facial area which will be shaved by the treatment provider the





There is an usual appearance of a slight redness and inflammation in the treated areas. It is a sign that the treatment has been effective. This can last up to 72 hours as a maximum.

- You can go back to your normal activities, such as physical exercise, douche and washing the treated areas. You should be careful to not increase the inflammation and redness that takes place due to the treatment. Avoid the sauna or very warm water in the bath for at least 24 hours.
- Some patients (generally dark skin or tanned) can observe small bumps or blisters that disappear. Rarely can they leave a change in the skin color.
- After several days, the treated hair will part easily from your follicles. This fact can be interpreted by erroneous way by the patient deducing that the hair turns to grow and the treatment is not efficient. Do not be alarmed, the treatment has been safely efficient and it implies simply that the rest of the treated hair with laser has to be eliminated and the only route of exit and elimination is the follicle, giving the impression that it grows again when really it is falling down definitively. The local hydration favors the fall of the eliminated hair.



You can apply treated areas with gels or creams that your doctor has recommended after the treatment.

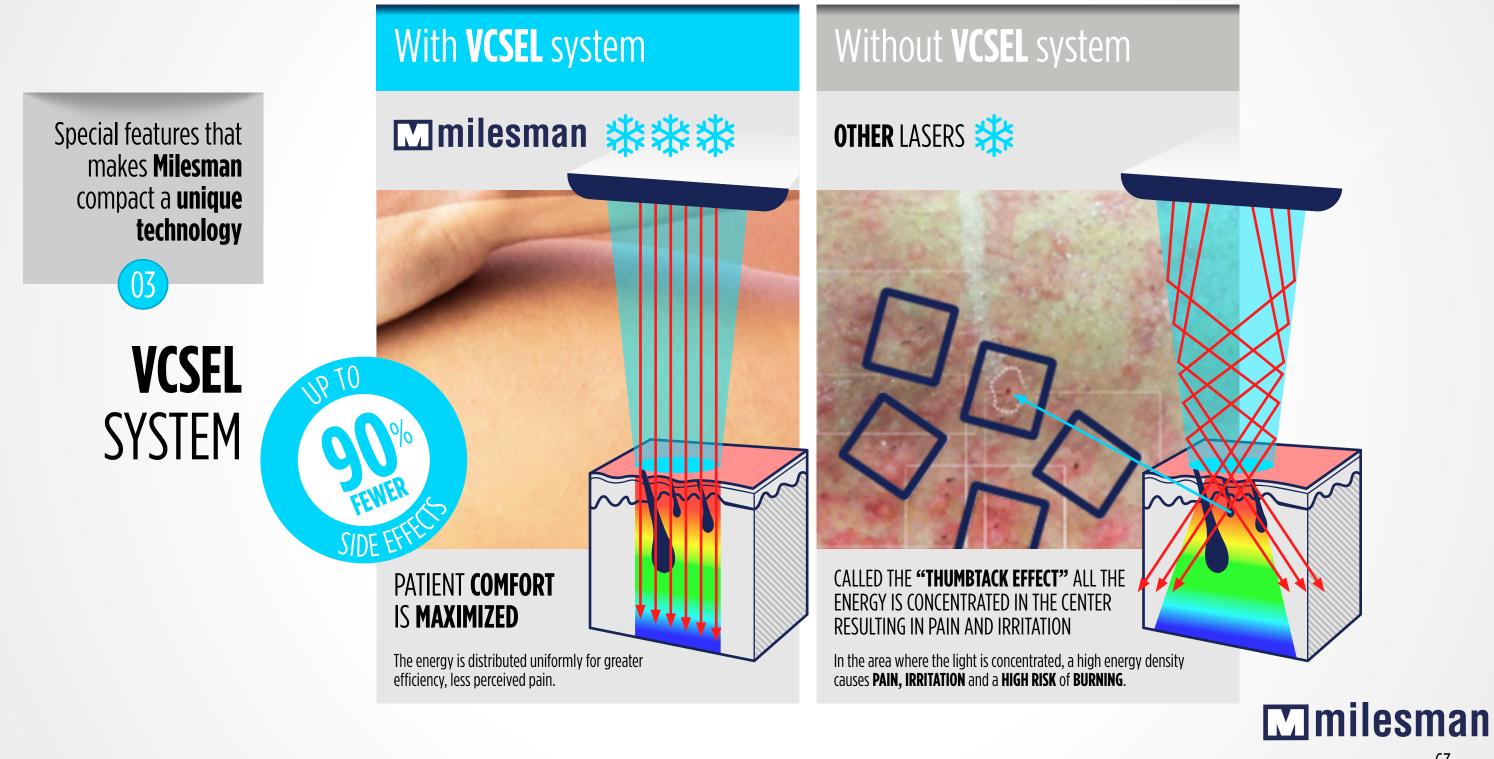
In case of exposing the skin to the sun, a solar minimal protector SPF 30 or higher should be used.





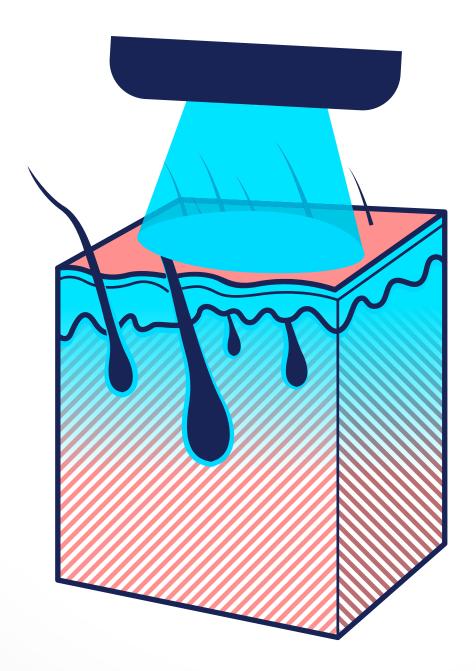
SPECIAL FEATURES THAT MAKES **MILESMAN** COMPACT **A UNIQUE**





Special features that makes **Milesman** compact a **unique** technology 03 LASER **EMISSION** WITH MINIMAL HEAT GENERATION

New laser emitters capable of producing 810 nm laser light with greater efficiency.



ADVANTAGES

Avoids the necessity of a heavy, secondary chiller unit.

Latest generation diodes are 90% more reliable than current diode technology.

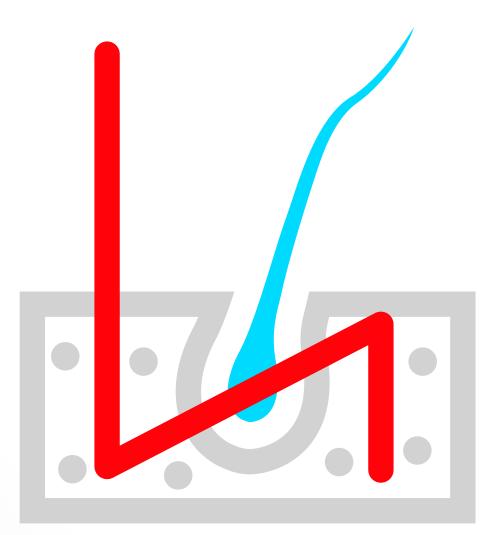


Special features that makes **Milesman** compact a **unique technology**

03

RECOVERY OF REFLECTED **LIGHT**

15% of the laser light is reflected when it comes in contact with the skin. **Milesman has a unique technology for recovering this reflected light**.



ADVANTAGES Nearly 100% of available laser energy is utilized. Produced longer lived diodes.

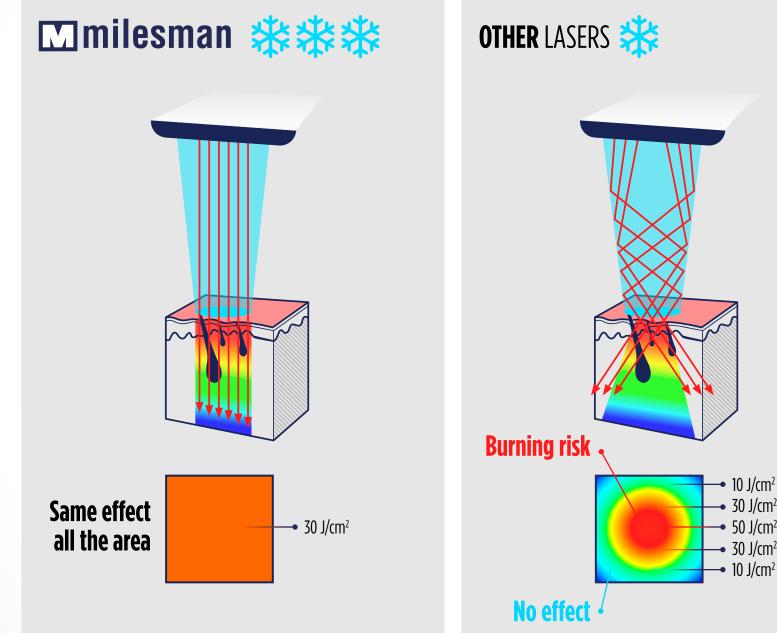
Difference between Milesman Compact and other lasers when 30 J/cm² is set on the screen.

Special features that makes **Milesman** compact a **unique** technology

03



of laser light. Deeper and better penetration in the skin and more homogeneous energy distribution



• 30 J/cm² 50 J/cm²
30 J/cm² • 10 J/cm²

The mean is **30 J/cm²**

Special features that makes **Milesman** compact a **unique technology**

03

ULTRA-Powerful Cold Tip



New cooling system located in the handpiece tip achieves a stable low temperature.

ADVANTAGES

Virtually eliminates discomfort during treatment. Protects the skin more effectively.





HAIR Removal **Market**







