

Alexandrite Laser Hair Removal: Everything you need to know

If you're looking into hair removal methods, it's important to consider all of your options. No doubt you've done your research and determined that laser hair removal is your best pick. But what is the difference between the lasers that are on the market?

Alexandrite Laser Hair Removal

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Where is the Alexandrite Laser Used?

Alexandrite lasers are powerful equipment and should only be used by a trained practitioner, therefore they are often used in hair removal salons. There are currently No FDA approved home laser hair removal devices that contain the Alexandrite laser

What is the Alexandrite Laser?

An Alexandrite Laser is a type of LASER (light amplification by stimulated emission of radiation) that emits high energy light through an alexandrite crystal. As the light passes through the alexandrite crystal, a beam of light 755 nm long is produced.

Note: The length of the beam of light determines how far into the skin the laser penetrates.

The color of the laser light is red.

Alexandrite Lasers can be set on Q-switching mode, which causes the laser to produce a high-energy beam of light in short pulses. This is what makes it effective for hair removal.

In addition to hair removal, Alexandrite Lasers are used for:

- Treating age spots
- Treating spider veins
- Treating vascular birthmarks
- Tattoo removal



How is it Different from Other Lasers?

What is the difference between the Alexandrite Laser and other lasers? Aside from the color, the wavelength of the light is the only thing that changes.

For example, the Alexandrite Laser emits a red beam of light that is 755 nm. A diode laser, on the other hand, emits a 810 nm laser beam and a YAG laser emits a beam at 1064 nm.

Wavelength Comparison of the Different Lasers

Laser Type	Wavelength	Suitability
Argon	488 nm or 514.5nm	No longer used for hair removal - the device was tedious and ineffective for hair removal
Ruby Laser	694.3nm	Effective and safe on patients with light, pale skin
Alexandrite	755nm	Safe and effective on all skin types (from 1-7 on the Fitzpatrick scale)
Pulsed Diode Array	810nm	Effective on pale to medium skin (I up to IV on the Fitzpatrick scale)
Nd:YAG Laser	1064nm	Specifically made for darker skin types, though effective on all skin types
Intense Pulsed Light	810nm	For pale to medium type skin (this is not a laser but is still used for hair removal)

Advantages of the Alexandrite Laser

It is considered the most efficient laser for use with all hair and skin types, as the laser does not affect darker skin types as much as other lasers. As with all other lasers, it is best with white and very light skin, and has proven most effective with the fine, thin hairs that many of the other types of laser cannot eliminate.

The wavelength of light emitted from the Alexandrite Laser is easily absorbed by the melanin (pigment cells) in your hair, which causes those cells to be heated and ultimately destroyed.

Note: For very dark skin types, the best option is the Nd:YAG laser, as the beam's extra length will penetrate the hair follicles without affecting the skin pigment as much.

Alexandrite Laser Effectiveness

With the Alexandrite Laser, there is a hair clearance rate of roughly 70% after the recommended number of treatments--usually between 6 and 8 for thinner hair, or 8

to 12 for thicker, darker hair. See [clinical studies](#) for more information on hair reduction effectiveness.

It is also considered the fastest of the lasers, removing large swaths of hair in fewer sessions. For patients interested in treating larger body areas (such as the stomach, chest, back, shoulders, or legs), it's often recommended to use the Alexandrite Laser.

Alexandrite Lasers are one of the only lasers recommended for treating hypertrichosis, also known as "Ambras syndrome".

Alexandrite vs. Diode Lasers

One of the most popular types of lasers for laser hair removal is the pulsed diode laser, which has a beam only slightly longer than the Alexandrite Laser.

[In a 2001 study](#) [1], the two lasers were compared to see which produced the best long-term results. Alexandrite Lasers caused hair growth to be reduced by 85%, while diode lasers only produced an 84% reduction. Four treatment sessions with both lasers caused a 90% reduction in hair growth for up to 12 months.

In 2006, a study was done into the effectiveness of the two lasers, and it was found that both lasers did the job with equal efficiency. However, diode lasers were more likely to cause side effects, with a 28.9% chance of problems compared to the 9.5% chance with Alexandrite Lasers.

Side Effects



Are there side effects of using the Alexandrite Laser? Unfortunately, as with all lasers, there are some side effects.

For those with very dark skin, there is a risk of hypopigmentation (skin lightening in patches that are treated by the laser). The Alexandrite Laser is NOT the most effective for dark-skinned patients, as mentioned above.

Even among those with lighter skin, there is a risk of the pigment being destroyed from the skin. On the flip side, there is even a risk that the skin will OVER-produce melanin as a result of the light, which could lead to dark patches on your skin.

Pain is common during the treatment, though it's usually fairly minimal. A cooling gel is often applied once the area is treated, helping to reduce pain and prevent swelling.

There is often a bit of swelling and itching following the procedure, but that should go away after a few days. The skin may turn red, but it will only burn if the laser is incorrectly used.

There is a very small chance (10%) that there will be bruising, but the bruises will fade on their own.

Is the Alexandrite Laser FDA Approved?

If you're considering laser hair removal with an Alexandrite Laser, you need to make sure that the laser being used has been approved by the FDA. Alexandrite laser hair removal was approved "clear to market" in 1997.

There are three brands of FDA-approved "permanent hair reduction" Alexandrite lasers popular on the market today:

- EpiTouch Plus
- GentleLASE
- Apogee

If your dermatologist recommends another brand of Alexandrite Laser, it's worth doing your research to make sure that it is an FDA-approved device.

Manufacturers MUST receive FDA clearance before marketing their devices, and you can find out which brands have received approval by checking out the FDA's 510(k) database. Follow [this link](#) to find out more.

Alexandrite Laser Clinical Data

Having been cleared by the FDA for marketing in 1997, the Alexandrite laser has had a number of studies done to determine its efficacy. Studies universally conclude that the Alexandrite laser as an effective method of hair removal.

Here are three main studies as reference:-

Dark Skin Side Effects Study

98%

Side Effect Free

150 patients (18 men and 132 women) with skin type from IV to VI were treated with the Alexandrite laser - side effects occurred in just 2% of cases. [Link to study.](#)

This result is consistent with another study of side effects in lighter skin types, suggesting that you are no more statistically likely to have side effects from the Alexandrite laser if you have darker skin colour than if you have pale skin.

Pulsed Alexandrite Laser Hair Removal Efficacy Study

126 patients went through a 15 month period of treatment with pulsed Alexandrite technology. Time between sessions during the treatment ranged from 4 weeks to 3 1/2 months.

The results of the study showed an average drop in hair amount of greater than 88% 3 months after the final treatment. [Link to study](#)

88%

Reduction in Hair Count

Comparison of Alexandrite and Electrolysis for Hair Removal

74%

Reduction in Hair Count

After 3 sessions of Alexandrite laser hair removal at 4 week intervals, patients showed a reduction of hair at 6 months after treatment of 74%. [Link to study](#)

[Electrolysis](#) showed a reduction in hair count of only 35%. It should be pointed out that the method of electrolysis was galvanic as opposed to thermolysis.

Galvanic is an older outdated version of Electrolysis and not comparable with the speed and effectiveness of modern day electrolysis methods.