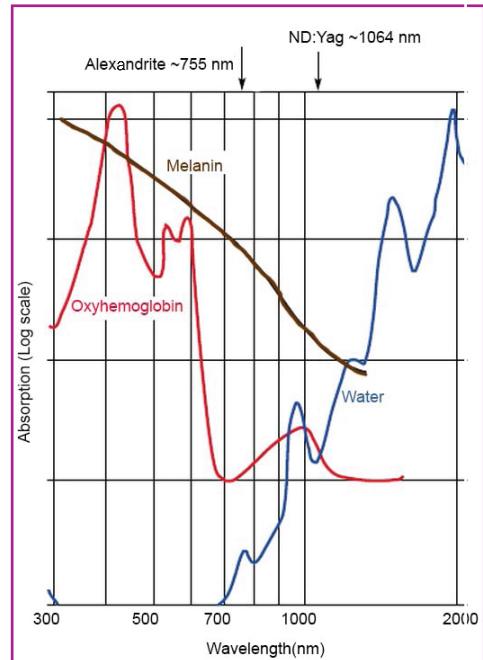


# Gentle Pro Hair Removal Mechanism of Action

The GentleMax Pro, is the Gold Standard for Laser Hair Removal in all Fitzpatrick skin types. It is a dual wavelength laser platform that combines the fastest and most powerful 755 nm Alexandrite laser with an equally powerful 1064 nm Nd:YAG laser for high performance treatment capabilities in terms of speed, efficacy, ease-of-use, performance, safety and patient satisfaction.

Laser hair removal is based on preferred absorption in the chromophore melanin, which is mainly found in the hair shaft, and in a smaller amount in the skin, depending on the Fitzpatrick skin type. The target is the pigment in the hair follicle which absorbs the heat that destroys the cells lining the hair follicle specifically around the bulb, bulge, and vascular supply. The hair shaft should be treated at the Anagen (active) phase of the hair growth cycle.

**Wavelengths** between 700-1000 nm are used as the absorption coefficient of melanin is much higher than water and Oxyhemoglobin. At these wavelengths light is primarily absorbed by the hair shaft, and the generated heat is diffused to the follicular epithelium. In general, melanin absorption decreases as wavelength increases (Figure 1). Short wavelengths with higher absorption are more efficient but less safe in darker skin types. Longer wavelengths, increase penetration depth, allowing a larger variety of hair to be treated and are also safer for dark skin. In longer wavelengths, because the absorption of light by melanin decreases, higher fluence levels are needed to achieve thermal damage.



**Pulse Duration** - The thermal relaxation time is the time required for the targeted structure to cool to half its peak temperature immediately following laser exposure. The pulse duration should be shorter than the TRT of the target, to confine the thermal damage and spare surrounding skin structures. Pulse durations that are too long will lead to insufficient heating of the targeted chromophore and may result in suboptimal treatment (1), and if too short may lead to side effects such as pigment changes, burning, blistering and scarring.

**Spot size** - Light scattering causes the laser beam to spread rapidly outward as it penetrates into the skin. The impact of spot size on fluence is such that

the delivered fluence at the surface of the skin is the same for all spot sizes but a larger spot size will deliver therapeutic energies deeper. The standard spot sizes for the Gentle Pro hair removal systems are 6, 8, 10, 12, 15 and 18 mm.

**Epidermal cooling** - reduces pain and side effects, especially in darker skin. Gentle Pro laser systems allow you to choose from two cooling systems—Air Cooling Compatible (ACC), which offers high air flow at a specified temperature, or Dynamic Cooling Device (DCD). Candela's patented DCD is operator independent and delivers low-temperature cryogen almost simultaneous with the laser pulse.

The Gentle Pro family includes two lasers to treat all skin types with extremely high efficiency and safety:

A flash lamp-excited, 755nm long pulsed Alexandrite laser is the Gold Standard for hair removal and the treatment of superficial vascular anomalies and pigmented lesions such as sun-damaged skin, age spots and freckles. With a choice of pulse duration that ranges from 0.250-100 ms, this wavelength is high on the absorption curve for melanin, and very effective in treating Fitzpatrick skin types I-V. With caution and reduced energies it can be used to treat all skin types. A flash lamp-excited, 1064 nm long pulsed Nd:YAG laser is the safest laser for hair removal in darker skin types and also for the treatment of spider veins, telangiectasia and telangiectatic matting on the face and /or legs. Two factors contribute to the safety of the long pulsed Nd:YAG in darker skin types: First, the wavelength is at the low end of the absorption spectrum of melanin,

making this wavelength sufficient to achieve significant thermal injury in dark coarse hairs while sparing epidermal pigment. Second, the adjustable Nd:YAG pulse width (0.250-100 ms) allows the laser energy to be delivered over a longer period of time allowing for the heat to dissipate and sufficient epidermal cooling to occur. The long pulsed Nd:YAG laser is the treatment of choice for hirsutism and Pseudofolliculitis barbae in African Americans with Fitzpatrick skin types V and VI, due to the typically coarse dark hair in this patient population

**NEW!** A 20/22/24 mm Large Spot Delivery System available in DCD or ACC configurations makes the GentleMax Pro the highest powered, fastest dual wavelength hair removal laser in the market.



Dynamic Cooling Device (DCD) Large Spot Delivery System Handpiece

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