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State of the art and comparison of four phototepilation devices

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Background

Unwanted hair growth remains a therapeutic challenge. There is need for safe and effective treatment modalities. Photoepilationsystems allow a good management of dark and coarse hair. All available lasers work, but there are specialities for the different devices.

The long pulsed ruby laser has a wavelength of 694 nm and therefore a rather superficial penetration depth. Therefore hair removal is not the best job for this device. The alexandrite laser seems to be the best laser as the penetration depth reaches up to the hair follicle at a wavelength of 755 nm. Diode laser devices are superior in white skin and dark coarse hair. They are superior in the bikini line and axilla. The penetration depth of the Nd:YAG laser is far to deep so there is danger to get scarring of the skin.

Method

To evaluate the different photoepilationsystems we compared four devices: two alexandrite lasers (EpiXan™, Baasel and EpiLase™, ESCSharplan), a diode laser (Light Sheer™, Lumenis) and a flashlamp (EpiLight™, ESC Sharplan). All patients treated in our office were divided into 4 groups

Percental hair loss	< 25 %	to < 50 %	To < 75 %	Up to 100 %
group	1	2	3	4

The number of hair was counted before the first treatment and before every following treatment. These data formed the percental hair loss. Patients were allocated to the different groups.

Results

The evaluation showed that there was an increasing hair reduction with increasing number of treatments in every treatment modality. Statistical evaluation did not show a significant difference between treatment methods.

Conclusion

In our investigation all methods were similarly successful. Therefore all Epilation devices have their warranty and are somehow specialists in special situations.