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COMPARISON OF DIFFERENT METHODS OF PHOTO EPILATION

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Photo epilation (hair removal by laser or intense pulsed light (IPL)) became generally accepted in the last years as method for extensive and effective hair removal. In the present clinical study the effectiveness of different methods of hair removal was compared during the treatment, as well as 3 and 6 months after treatment. 12 volunteers (9 women, 3 men, mean age 32.2 years) were treated in 4 test areas at symmetrical body areas with hypertrichosis (arm, stomach, bikini zone, back, legs) in 4 and 6 weeks intervals with two intense pulsed light systems (IPL), a diode laser and an alexandrite laser. The hair density was determined before each treatment as well as 3 and 6 months after the last treatment. The hair reduction was calculated for each device (test field) in relation to the base values. For statistical evaluation (p) the Fried-

man test for multiple paired groups was used. The treatments of hair removal were performed with following devices and parameters: (Tab. 1). In average 4.5 repeated treatments were needed until a satisfying hair reduction was obtained at least in one test area. With multiple photo epilation treatments (number of repeated treatments = n #) hair reduction rates between 67 and 86% could be achieved depending on the specific device used: (Tab. 2). The 3 months follow up examination could be evaluated in 7 women and 1 man (mean age: 33.0). After 6 months follow up the evaluation was possible in 5 women and 1 man (mean age: 32.9 years): (Tab. 3) Even if those preliminary results and the 6 months follow up period could not be evaluated for permanent hair removal, the results represented effective methods for epilation, except the first generation IPL (EpiLight™). The best results were obtained with the second generation IPL system (Ellipse™), the least regrowth after 6 months follow up was seen with the diode laser (LightSheer™). Though these results had not been statistically significant, more cases could help to prove the obvious differences in the degree of hair reduction and the percentage of regrowth.

Table 1.

Device	Type	Company	Wavelength (nm)	Pulse width (ms)	Interval (ms)	Spotsize (mm)	Fluency (J/cm ²)	Cooling
Ellipse™	IPL	DDD	600–950	4–8×1.5	5	10×50	12–22	Gel
EpiLight™	IPL	Lumenis/ESC	645/695–1200	2–3×3.2–6.9	10–80	10×45	30–40	Icegel
LightSheer™	Diode	Lumenis	800	30		9×9	15–40	Gel
EpiXan XL™	Alexandrite	Wave Light	755	10–38		7–10	15–25	Air cooling Cryo 5 (Crio)

Table 2.

n #	N	p	Hair reduction (%)			
			EpiLight™	LightSheer™	Ellipse™	EpiXan XL™
1 #	12	0.296	63.1	75.0	66.5	67.5
2 #	12	0.423	74.4	78.7	77.3	76.8
3 #	8	0.440	67.5	75.4	81.0	74.0
4 #	7	0.034	61.4	74.7	73.4	56.8
5 #	3	0.532	69.0	78.9	86.3	66.9

Table 3.

		End of	after	after
		treatment	3 months	6 months
n		8	8	6
p		0.522	0.027	0.087
Hair reduction (%)	EpiLight	71.5	64.0	46.6
	LightSheer	77.0	86.2	79.9
	Ellipse	80.4	82.5	74.8
	EpiXan XL	77.2	77.9	68.4