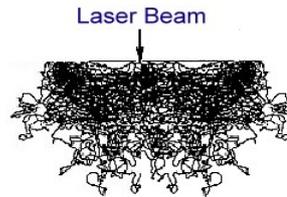


Low Level Laser Therapy (LLLT) Protocol Calculation: Dose-Time Table

Condition:	Alopecia		
LD Wavelength:	655 ~ 660 nm		
LD Power:	P	17.3 ~ 250 mW	
Frequency:	Continuous		
Target Dose:	D	3 J/cm ²	Bald Area
		1.5 J/cm ²	Risky Area
		0.5 J/cm ²	Normal Area
Treatment Sessions:	3	Time/Week (1st 4 weeks)	
	2	Time/Week (After 4 weeks)	
Power Density:	I	I (W/cm ²) = P (mW) / 1000 / A (cm ²)	
Irradiated Energy:	E	E (Joule) = P (mW) / 1000 x T (Second)	
Cal. Treatment Time:	Tc	Tc (Second) = D (J/cm²) x A (cm²) / P (mW) x 1000	

The Monte Carlo method for simulating photon migration in biological tissue



Device:		Aculas-HB-850A								
LD Wavelength:		660 nm								
LD Power:		100 mW								
Energy Irradiated in 15 Minutes:		90 Joule								
Estimated Scalp Area:		150 cm²								
Area	Scalp Area		Laser Effective Area	CW Power	Power Density	Target Dosage	Target Energy	Calculated Treatment Time		Calculated Total Treatment Time
	%	(cm ²)	A	P	I	D	E	Tc	Ta	
Bald	25%	37.5	22	100	0.00455	3	113	660	11.0	18.8
Risky	25%	37.5	22	100	0.00455	1.5	56	330	5.5	9.4
Normal	50%	75.0	22	100	0.00455	0.5	38	110	1.8	6.3
Total Treatment Time										34.4

Device:		Aculas-HB-850B								
LD Wavelength:		660 nm								
LD Power:		250 mW								
Energy Irradiated in 15 Minutes:		225 Joule								
Estimated Scalp Area:		150 cm²								
Area	Scalp Area		Laser Effective Area	CW Power	Power Density	Target Dosage	Target Energy	Calculated Treatment Time		Calculated Total Treatment Time
	%	(cm ²)	A	P	I	D	E	Tc	Ta	
Bald	25%	37.5	22	250	0.01136	3	113	264	4.4	7.5
Risky	25%	37.5	22	250	0.01136	1.5	56	132	2.2	3.8
Normal	50%	75.0	22	250	0.01136	0.5	38	44	0.7	2.5
Total Treatment Time										13.8

Device:		HairMax								
LD Wavelength:		655 nm								
LD Power:		17.3 mW								
Energy Irradiated in 15 Minutes:		15.57 Joule								
Estimated Scalp Area:		150 cm²								
Area	Scalp Area		Laser Effective Area	CW Power	Power Density	Target Dosage	Target Energy	Calculated Treatment Time		Calculated Total Treatment Time
	%	(cm ²)	A	P	I	D	E	Tc	Ta	
Bald	25%	37.5	0.42	17.3	0.04119	3	113	73	1.2	108.4
Risky	25%	37.5	0.42	17.3	0.04119	1.5	56	36	0.6	54.2
Normal	50%	75.0	0.42	17.3	0.04119	0.5	38	12	0.2	36.1
Total Treatment Time										198.7