

**Laser Hair Removal
Post-Test Registration Form, v071906**

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Please complete this form and return with your test answer sheet (not the test itself) for grading. A score of 70% or higher is required to pass, and a Certificate and Credits will be mailed to you at the address you list here. An email notification will be sent as well. You can fax these back to us at 305-946-0232 (Use this Registration form as your cover sheet), or you can scan it and email it to us at info@LaserTraining.org. Please call at 305-851-8081 if you have any questions. If required you can retake this test without limit at no additional charge.

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Registration # on CD-ROM Manual _____

* Certificates and Credits for two people are included in the price of the CD-ROM manual. Your registration number on the CD allows you to take advantage of these free certificates, but must be listed for the additional certificates as well. Additional Credits and Certificates are available for **\$85 each up to a maximum of 5 issued Certificates.**

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1. How does Laser Hair Removal work mechanically?
 - a. Laser erases the hair shaft with radiation
 - b. It has a photo-effect on the hair to retard growth.
 - c. It heats the hair follicle to severely damage or destroy it.
 - d. It vaporizes the hair shaft.

2. What is “permanent” hair reduction, according to the FDA?
 - a. No hair growth will ever reoccur at the treated site.
 - b. A long term stable reduction in the number of hairs regrowing after a treatment regime.
 - c. An 85% reduction in hair regrowth with each treatment
 - d. A 50% reduction in hair regrowth with each treatment

3. What are terminal hairs?
 - a. The coarser hairs such as scalp, armpits, eyebrows
 - b. The hairs which have been laser treated and will die
 - c. The finer peach-fuzz type hairs all over our bodies
 - d. The outer portion of any hair shaft

4. What are velus hairs?
 - a. The coarser hairs such as scalp, armpits, eyebrows
 - b. The hairs which have been laser treated and will die
 - c. The finer peach-fuzz type hairs all over our bodies
 - d. The outer portion of any hair shaft

5. What is the usual target of Laser Hair Removal?
 - a. Velus Hairs
 - b. Terminal Hairs
 - c. Light Hairs
 - d. Dark Hairs

6. Which is the correct sequence of skin structures starting from the outside?
 - a. Dermis, Epidermis, Derma-Subcutaneous interface, Subcutaneous tissues
 - b. Epidermis, Dermis, Subcutaneous tissues, Derma-Subcutaneous interface
 - c. Derma-Subcutaneous interface, Subcutaneous tissues, Dermis, Epidermis
 - d. Epidermis, Dermis, Derma-Subcutaneous interface, Subcutaneous tissues

7. From where does hair growth arise, and is the laser target for destruction?
 - a. Dermis
 - b. Terminal Hair Shaft
 - c. Hair Follicle
 - d. Eccrine glands

8. In which layer of our skin is the stratum corneum?
 - a. Dermis
 - b. Epidermis
 - c. Basement Membrane
 - d. Subcutaneous tissues

9. What best describes the term chromophore, in terms of laser use?
 - a. Glands in the skin that produce hair color
 - b. The object that absorbs the light
 - c. An instrument used to prepare skin prior to laser use
 - d. Pigment in the hair shaft itself

10. What chromophore in the skin primarily competes with the hair follicle in absorbing light?
 - a. Sebaceous glands
 - b. Melanin
 - c. Oxyhemoglobin in capillaries
 - d. Dermis

11. What can happen with excess heating of the skin?
 - a. Scarring
 - b. Hypopigmentation
 - c. Hyperpigmentation
 - d. All of the above

12. What are the adverse consequences of excess heating in the skin deeper than the Dermal-Subcutaneous interface?
 - a. All hair will be removed.
 - b. No adverse consequences since it's deeper than dermal structures.
 - c. Third degree burn, resulting scarring & possible Keloid scars.
 - d. Redness and inflammation which disappears in about an hour.

13. What chromophore in the skin primarily gives it its color?
 - a. Melanin
 - b. Blood vessels
 - c. Dermis
 - d. Epidermis

14. The Fitzpatrick skin classification system takes into account:
 - a. Skin Color only
 - b. Hair Color only
 - c. Skin color and sensitivity to sunlight
 - d. Hair & Skin color, and sensitivity to sunlight

15. Which Fitzpatrick skin type has the darkest colored skin?
 - a. I
 - b. II
 - c. IV
 - d. VI

16. Which Fitzpatrick skin type would be the hardest to achieve laser hair removal because of competing chromophores?
 - a. I
 - b. II
 - c. IV
 - d. VI

17. Which hair color would be the easiest to remove by laser, ignoring skin color?
 - a. White
 - b. Gray
 - c. Red
 - d. Black

18. Which hair color is the most difficult if not impossible to remove by laser?
 - a. White
 - b. Gray
 - c. Red
 - d. Black

19. What is the Anagen phase of hair growth?
 - a. The growth phase
 - b. The regression / atrophy phase
 - c. Dormant or resting stage – where hairs fall out.
 - d. A stage induced by abnormal hormonal levels

20. What is the Catagen phase of hair growth?
 - a. The growth phase
 - b. The regression / atrophy phase
 - c. Dormant or resting stage – where hairs fall out
 - d. A stage induced by abnormal hormonal levels

21. What is the Telogen phase of hair growth?
 - a. The growth phase
 - b. The regression / atrophy phase
 - c. Dormant or resting stage – where hairs fall out
 - d. A stage induced by abnormal hormonal levels

22. What stage of hair growth is most amenable for laser treatment (removal)?
 - a. Anagen
 - b. Catagen
 - c. Telogen
 - d. Any phase

23. What happens to the hair shaft at the end of the growth cycle?
 - a. It stops growing, then resumes in the new cycle.
 - b. It falls out (sheds)
 - c. It starts growing from the other end
 - d. It continues growing through all phases

24. Are all of our hairs in any one body area in the same phase simultaneously?
 - a. Yes
 - b. No

25. What is the primary reason that multiple treatment sessions are required for successful laser hair removal?
 - a. Injury to the hair follicle is progressive and takes several treatments
 - b. Not all hair follicles are in the correct growth phase at the same time
 - c. Some hair shafts are just more resistant
 - d. It generates more revenue for the hair removal center

26. Aside from the scalp area, what range is typical for the hair growth cycle in most other body areas:
 - a. 4-6 weeks
 - b. 4-12 months
 - c. 2-6 years
 - d. 3-7 days

27. Even though the Fitzpatrick scale does not include hair color, because of sun sensitivity Red-Heads would always be considered a Fitzpatrick Type:
 - a. I
 - b. III
 - c. IV
 - d. VI

28. The wavelength of a laser is also its:
- a. Color
 - b. Power output
 - c. Type of Laser
 - d. Fluence
29. Visible light occurs in which general wavelength range:
- a. 400-700 angstroms
 - b. 400-700 nanometers (nm)
 - c. 4-10 microns (u)
 - d. 1064-2100 nanometers (nm)
30. The Alexandrite laser produces light at:
- a. 532nm
 - b. 1064nm
 - c. 755nm
 - d. 694nm
31. The Nd:Yag laser produces light at:
- a. 532nm
 - b. 1064nm
 - c. 755nm
 - d. 694nm
32. The Ruby laser produces light at:
- a. 532nm
 - b. 1064nm
 - c. 755nm
 - d. 694nm
33. Power output in watts measures:
- a. How much energy is delivered
 - b. The rate of energy delivery, but not the amount
 - c. The concentration of energy within a given spot size
 - d. How quickly the treatment can be given
34. Energy output in Joules measures:
- a. How much energy is delivered
 - b. The rate of energy delivery, but not the amount
 - c. The concentration of energy within a given spot size
 - d. How quickly the treatment can be given

35. Power Density of the laser beam indicates:
- How much energy is delivered
 - The rate of energy delivery, but not the amount
 - The concentration of energy within a given spot size
 - How quickly the treatment can be given
36. Treatment parameters for laser hair removal are usually (but not always) given in:
- Watts
 - Joules
 - Watts / cm²
 - Joules / cm²
37. The term Fluence, as commonly used in laser hair removal, is expressed in:
- Watts
 - Joules
 - Watts / cm²
 - Joules / cm²
38. Which beam shape would be more desirable for laser hair removal?
- TEM00 fundamental mode, sharply sinusoidal
 - TEM01 "doughnut" mode
 - Flat top type mode (ie Top Hat)
39. What type of nonlaser light source is also used for hair removal?
- Laser Diodes
 - Light Emitting Diodes (LED's)
 - Intense Pulsed Light System (IPL)
 - Arc Lamps
40. Does a Q-Switched Nd:Yag laser produce longer or shorter pulses than a millisecond pulsed Nd:Yag laser?
- Longer
 - Shorter
 - Same pulse lengths
41. What is the wavelength range of a typical diode laser for hair removal?
- 755nm
 - 810nm
 - 2.1 u
 - 10.6 u

42. Which laser(s) would probably be best suited to treating very dark skin for hair removal?
- Ruby or Argon lasers
 - Diode or Nd:Yag lasers
 - Er:Yag laser
 - CO₂ laser
43. All other things being equal (including fluences), which size spot seems to be more effective at laser hair removal with any laser?
- Larger Spots
 - Smaller Spots
44. What hair/skin combination is best suited for laser hair removal?
- Dark Skin & Light Hair
 - Light Skin & Blonde Hair
 - Dark Skin & Dark Hair
 - Light Skin & Dark Hair
45. Thermal relaxation time (trt) refers to:
- The time it takes to make tissues soft by warming
 - The time it takes to dissipate heat from any structure
 - The interval between laser pulses
 - The time it takes to build up destructive temperatures
46. Ideally we'd like to apply a "terminal" dose of light for hair removal in a pulse time that:
- Is longer than the thermal relaxation time (trt) for skin, but shorter than the hair follicle.
 - Is shorter than the trt for skin, but longer than the hair follicle
 - Is longer than the trt for both skin and hair follicle
 - Is shorter than the trt for both skin and hair follicle
47. The thermal relaxation time of hair is in the 40-100 millisecond (msec) range, contrasted with that of the epidermis which is in the range of:
- 100-1000 msec
 - 40-100 msec
 - 1-10 msec
 - 10-100 msec
48. Which skin cooling method is least effective?
- Contact Cooling
 - Cooling Gels
 - Cryo Spray (Dynamic Cooling Device)
 - Cold Air

49. Cooling methods provide what benefit?
- a. Reduce the risk of burns
 - b. Reduce patient pain and discomfort
 - c. Reduce incidence of post treatment swelling and inflammation
 - d. All of the above
50. Sapphire crystal “windows” are an example of:
- a. Contact Cooling
 - b. Cooling Gels
 - c. Cryo Spray (Dynamic Cooling Device)
 - d. Cold Air
51. Which has the larger spot sizes available for hair removal?
- a. Laser Devices
 - b. Intense Pulsed Light Systems (IPLs)
52. Provided that clinically effective fluences are achieved, which is more sparing to skin during laser hair removal:
- a. Shorter pulse widths
 - b. Longer pulse widths
53. Clinical end points (desirable) in laser hair removal include:
- a. Redness around the hair shaft (perifollicular edema)
 - b. Blistering
 - c. Hair from follicle is ejected or vaporized
 - d. A&C
54. Potential Contra-Indications to laser hair removal (reasons not to do it) include:
- a. History of keloidal scarring
 - b. Active infections (herpes, cold sores)
 - c. Sun sensitivity (not extreme)
 - d. A&B
55. Potential Contra-Indications to laser hair removal (reasons not to do it) include:
- a. Gray or White hair to be treated
 - b. Black skin
 - c. Very dark tan
 - d. A&C
56. Laser Hair removal can be enhanced by pretreating the area with electrolysis, plucking or waxing shortly before the laser treatment.
- a. True
 - b. False

57. The role of the Laser Safety Officer (LSO) is to:
- a. Manage the entire Laser Safety Program
 - b. Operate the laser
 - c. Prevent patients or staff from entering a laser room inadvertently
 - d. LSO's are not required in office type settings.
58. The Nominal Hazard Zone (NHZ) around the laser is:
- a. The entire room where the laser is operated
 - b. The area where skin or eye injury may result from the laser
 - c. Determined by the Laser Safety Officer
 - d. B&C
59. The Laser Treatment Controlled Area(LTCA) is:
- a. The entire room where the laser is operated
 - b. Where laser safety glasses must be worn
 - c. Limited to access by only laser trained and authorized personnel
 - d. A&C
60. Laser Safety Eyewear must be worn within the:
- a. Nominal Hazard Zone
 - b. Laser Treatment Controlled Area
61. Laser Safety Eyewear should:
- a. Match that for the wavelength(s) of laser(s) used
 - b. Have color coded frames to meet ANSI requirements
 - c. Have colored plastic filters that are the same color as the wavelength of the laser
 - d. A&B
62. Laser Safety Eyewear should:
- a. Be labeled with the wavelength and Optical Density (OD)
 - b. Be available at entry to the Laser Treatment Controlled Area
 - c. Be worn within the Nominal Hazard Zone
 - d. All of the above
63. Laser beams are collimated so can ricochet around the room as a tight beam of light.
- a. True
 - b. False
64. Laser Safety Eyewear will protect the wearer from even direct laser impacts into their eyes.
- a. True
 - b. False

65. Which organization publishes the recommended standards for Safe Use of Lasers in Health Care Facilities?
- OSHA Occupational Safety & Health Administration
 - ASLMS American Society for Laser Medicine & Surgery
 - NCLE National Council for Laser Excellence
 - ANSI American National Standards Institute
66. Who “Certifies” Laser Physicians and Operators (as laser operators, not specifically for hair removal authorization) according to ANSI?
- Each facility sets their own internal certification requirements
 - The American Society for Laser Medicine & Surgery
 - Each State’s Medical Board
 - The Laser Training Institute
67. Who determines licensing or authorization to perform laser hair removal by non-physicians:
- Each facility sets their own internal certification requirements
 - The American Society for Laser Medicine & Surgery
 - Each State’s Medical Board
 - The Laser Training Institute
68. Keys to the laser must be stored in a secure location away from the laser when not actually in use.
- True
 - False
 - Laser don’t have keys – irrelevant
69. What is the key medical risk to patients when laser hair removal is performed solely by nonmedical personnel?
- The skill of the operator will not be as good as that of the physician and outcomes will not be as good.
 - The nonmedical operator may misdiagnose a skin condition, or miss a skin condition entirely.
 - More treatments will be required because the nonmedical operator can’t work as effectively.
 - There are no risks to patients that are different between physician and nonmedical laser hair removal practitioners.
70. Infrared lasers typically used for Laser Hair removal are in what general range:
- 400-700 nm
 - 700-1400 nm
 - 194-400 nm
 - 1400-10,000 nm

END.