

CLO/A Exam review, v1906

Correct choice marked with an X or checkmark

1. Which is true of the Apocrine Glands?

- A. Lubricates the skin
- B. Forms an effective barrier against foreign bodies & infection
- C✓ Excrete pheromones, which add to sexual attraction**
- D. Excrete sweat to stay cool

2. How often does the Epidermis renew itself?

- A. 3-5 Days
- B✓ 3-5 weeks**
- C. 3-5 Years
- D. Never renews itself

3. What is the Thermal Relaxation Time range (trt) of a terminal hair follicle?

- A✓ 40-100 milliseconds**
- B. 4-10 seconds
- C. 100-1000 milliseconds
- D. 40-100 microseconds

4. What is a benefit to the patient of slowing the repetition rate of laser pulses (longer time between each pulse), assuming effective radiant exposures are achieved?

- A. has fewer complications associated with the lower rate
- B✓ Is more comfortable for the patient – less discomfort.**
- C. It is more effective at eliminating the hair follicle.
- D. Maintenance costs for the laser are lower when you lower the repetition rate.

5. The Ruby laser emits light at:

- A. 755nm
- B. 594nm
- C✓ 694nm**
- D. 810nm

6. How does the concept of “Aversion Response” time relate to Laser eye safety?

- A✓ If a visible light laser cannot achieve the MPE limit within that aversion response time, then the laser is considered “eye-safe”.**
- B. The aversion response is not used in any Laser Eye Hazard Classification**
- C. The aversion response provides a level protection only from Infrared lasers.**
- D. The aversion response provides a level of practical protection against inadvertent eye damage from both infrared and visible light lasers, and this partly determines the Laser Hazard Classification.**

7. Which Fitzpatrick skin type shows the greatest sun sensitivity?

- A✓ I**
- B. II**
- C. IV**
- D. V**

8. Laser Safety Glasses will provide adequate protection from eye damage, even if the beam is fired directly through the glasses to the eye.

- A. True**
- B✓ False**
- C. True only for visible light lasers**
- D. True only for infrared lasers**

9. When treating a tattoo with green pigment by laser, which laser would be the LEAST effective on that pigment?

- A✓ Q-Switched frequency doubled Green Nd:Yag laser**
- B. Q-Switched Infrared Nd:Yag laser**
- C. Q-Switched Red Ruby laser**
- D. Q-Switched Yellow Dye Crystal**

10. Which is the correct sequence of skin structures starting from the deepest layer, going to the most superficial layer?
- A✓ Subcutaneous tissues, Dermis, Epidermis
 - B. Epidermis, Subcutaneous tissues, Dermis
 - C. Epidermis, Dermis, Subcutaneous tissues
 - D. Dermis, Epidermis, Subcutaneous tissues
11. Irradiance (Power Density) is determined by;
- A. It's wavelength and power setting in Watts
 - B✓ It's setting in Watts, and focused spot size
 - C. It's focused spot size and setting in Joules
 - D. It's wavelength and setting in Joules/CM²
12. How is hair growth synchronized (phased) in different body areas?
- A✓ Hairs are not in phases in the same body area at the same time
 - B. Every individual is unique and different
 - C. Hair growth is always in synchrony together.
 - D. In females they are all synchronized because of hormonal influence
13. ANSI Z136.3 laser safety standards apply to:
- A. Large medical facilities such as hospitals
 - B. Individual physician offices
 - C. MediSpas or Cosmetic centers which use lasers.
 - D✓ All of the health care settings listed here.
14. Who is considered the "Father" of Lasers in Medicine.
- A. Theodore Maiman PhD
 - B. Gordon Gould PhD
 - C. Albert Einstein PhD
 - D✓ Leon Goldman MD

15. The wavelength and color band of the Nd:Yag laser is;
- A. 2,900 nm Infrared
 - B. 10,600 nm Far Infrared
 - C✓ 1,064 nm near infrared
 - D. 2,100 nm Infrared
16. What does the term “Chromophore” mean, when discussing laser use
- A. The color of hair pigment.
 - B. Pre-procedure cooling ointment applied to the skin
 - C✓ The object that absorbs that laser wavelength the best.
 - D. The color of the skin.
17. Which laser presents a Corneal burn hazard?
- A. The Nd:Yag laser used for hair removal
 - B✓ The Er:Yag laser used for fractional skin resurfacing
 - C. The infrared diode lasers used in photobiomodulation for skin rejuvenation.
 - D. The KTP laser used for red vascular lesions.
18. Visual skin color is derived primarily from:
- A✓ Melanin
 - B. Balance of blue vs red blood vessels in skin
 - C. Dermal thickness
 - D. Hair density in that area
19. What would be the wavelength of a typical diode laser used for laser hair removal?
- A. 755 nm
 - B✓ 810 nm
 - C. 1064 nm
 - D. 904 nm
20. Which laser(s) are used for nonablative laser skin rejuvenation?
- A. CuBr or Pulsed Dye Lasers
 - B. Diode Lasers at 810nm to 1400nm
 - C. Nd:Yag Lasers
 - D✓ Any of these lasers

21. The optimum pulse time, relative to the trt (thermal relaxation time) of the hair follicle and skin (the melanosomes) for laser hair removal, is:
- A. Shorter than the trt for both skin and hair follicle
 - B. Longer than the trt for both skin and hair follicle
 - C✓ Longer than the trt for skin, but shorter than the follicle
 - D. Shorter than the trt for skin, but longer than the follicle
22. With lasers that use separate but coincident treatment and aiming beams, what is the operator's responsibility prior to each patient treatment, according to the ANSI standards?
- A✓ Confirm that the aiming beam is functional and coincident with the treatment beam. (doing a test shot)
 - B. Service people are responsible for beam alignments – not the operator.
 - C. Confirm that the aiming beam goes off, as the treatment beam comes on.
 - D. Checking an aiming beam like this is only applicable to surgical lasers that vaporize or incise – not to the aesthetic/cosmetic laser systems.
23. MPE refers to what, regarding laser safety?
- A. Maximum Pulse End – the maximum pulses a head emits before requiring a rebuild.
 - B. Maximum Power Emission of any laser – referring to Pulse peak powers.
 - C. A technical term for excess current in a power supply, resulting in an overcurrent fault.
 - D✓ The maximum exposure to eye or skin that may occur before a burn occurs.
24. The preferred method of patient eye safety, when using the laser around the face (but not close to the eye), is:
- A. Use regular laser safety glasses.
 - B. Use plastic eye shields, such as used in tanning booths.
 - C. Cover the eyes with moistened sponges or towels.
 - D✓ Use the metallic eye shields made for laser eye protection.

25. A very strong contra-indication to aesthetic laser use that is listed here is (best answer of those listed):
- A. Slight sun sensitivity
 - B. Taking any type of medication
 - C✓ Dark Tan in skin type III
 - D. Type VI skin
26. The Nominal Hazard Zone (NHZ) is considered by ANSI 136.3 to be (best answer):
- A. The whole room where a laser is used.
 - B. The area where a skin burn or fires could occur from the laser output.
 - C. The area of the operative field which must be protected to prevent damage from stray laser beams.
 - D✓ The area in which the level of laser energy exceeds the applicable MPE (Maximum Permissible Exposure) during normal operation.
27. Why does laser hair removal require more than one effective treatment?
- A✓ Not all follicles are in the correct phase at the same time
 - B. Thicker hairs are harder to treat and require more treatments
 - C. Hair color in any given area varies slightly with each individual.
 - D. The heat injury to each follicle is progressive over time, so takes many treatments.
28. When performing ablative skin resurfacing (not fractional), what does the operator use as an indicator of the deepest level they should ablate?
- A. The operator does not choose. Depth is always preset on the laser.
 - B. Ablation is always superficial as long as char doesn't form, so depth is of no concern.
 - C. Stop ablating when a pinkish color of the dermis is seen.
 - D. Ablation should be stopped when seeing the yellowish color of the ✓ reticular dermis. You can go here, but no further.
29. What hair/skin combination would do best for laser hair removal?
- A. Black Skin & Dark Hair
 - B✓ Light Skin & Black Hair
 - C. Light Skin & Blonde Hair
 - D. Black Skin & Gray Hair

30. Growth of hair originates from?

- A. Eccrine glands**
- B. Terminal hair shaft**
- C. Dermis**
- D✓ Hair Follicle**

31. Which Optical Density (O.D.) provides the greatest degree of eye protection from an Alexandrite laser;

- A. 755 nm**
- B. 5.0**
- C✓ 7.0**
- D. none of the above**

32. What are potential complications/injury of the skin from excessive heating?

- A. Darkening of the skin**
- B. Scars**
- C. Lightening of the skin**
- D✓ All the answers listed here**

33. Failure of the device skin cooling system, or forgetting to turn it on, can result in:

- A✓ Burns or Blistering from the treatment**
- B. The pulse repetition rate must be slowed to allow for the heat.**
- C. The output window of the laser/device will be damaged.**
- D. Energy levels must be lowered to prevent burns, compared to levels used with cooling.**

34. By what mechanism does Photobiomodulation (PBM) work? Otherwise called Low Level Laser Therapy (LLLT).
- A. A gentle deep heating of tissue is provided by the light.
 - B. Rapid pulsing creates an effect which increases blood flow to that area.
 - C. Organelles and cell membranes are photostimulated to mediate healing and ✓ pain relief mechanisms, including initiation of enzyme cascade effects to create chemical reactions that repair cells and restore balance.
 - D. The light pulses are focused so precisely in tissue that they destroy nerve centers and eliminate conduction of pain sensations.
35. Which Fitzpatrick skin type is the most difficult to treat (but not impossible) for laser hair removal, considering competing chromophores?
- A. I
 - B. II
 - C. III
 - D. ✓ VI
36. Which wavelengths will not transmit through fluid in the eye to the retina.
- A. 755 nanometers
 - B. 532 nanometers
 - C. 810 nanometers
 - D. ✓ 1540 nanometers
37. The Pulsed Dye yellow light laser targets what specific chromophore when treating red vascular lesions?
- A. ✓ Oxygenated hemoglobin (red)
 - B. reduced hemoglobin (blue)
 - C. Vessel wall of the capillary
 - D. Vessel walls of the underlying feeders of the capillary

38. When performing any aesthetic laser procedure, which skin cooling method is adequate, but probably least effective compared to other methods?
- A. Cryogens (DCD)
 - B. Cold Air Chiller
 - C. Cold sapphire plates
 - D✓ Topical cooling gels
39. If the primary physician or manager of a facility does not assume the role of Laser Safety Officer (LSO), then how is one selected?
- A. A list of Certified Laser Safety Officers is available from OSHA and the facility chooses from that list.
 - B. Small offices, clinics and spas do not require that an LSO be appointed.
 - C✓ Anyone can serve as LSO once trained, and the facility appoints the person.
 - D. Each laser operator assumes the role of Laser Safety Officer as they utilize the laser.
40. Aesthetic lasers generally have their outputs set with this parameter:
- A. Power in watts
 - B. Energy in joules
 - C. Energy in millijoules
 - D✓ Radiant Exposure in joules/cm²
41. What is the yellow wavelength of the CuBr laser?
- A. 511nm
 - B✓ 578nm
 - C. 594 nm
 - D. 1,064nm
42. When must windows and open portals to the laser room (LTCA) be covered according to ANSI 136.3.
- A✓ When the window or opening is within the designated Nominal Hazard Zone (NHZ), AND the wavelength transmits through glass.
 - B. Anytime a laser is being used that transmits through glass.
 - C. For all laser cases, except for CO₂ laser use.
 - D. For all laser cases, all the time.

43. Although one can get results in Laser Hair Removal without an observable sign, one of the desired clinical endpoints would be:
- A✓ Immediate ejection of the hair follicle
 - B. Immediate Blistering
 - C. Immediate Redness of the skin
 - D. Immediate Purpura of the skin
44. LSO's may use informed judgement. Using your judgement which of the following laser scenarios presents the greatest risk of retinal eye injury?
- A. Indirect impacts into the eye, reflected from the patient's skin, from a collimating laser handpiece from a CO2 or Er:Yag laser.
 - B. Indirect impacts into the eye, reflected from the patient's skin, from an IPL (Intensed Pulsed Light) device.
 - C. Direct impacts into the eye from an IPL (Intensed Pulsed Light) device.
 - D✓ Direct impacts into the eye from a collimating laser handpiece from an Alexandrite laser.
45. "Permanent" laser hair removal is defined by the FDA as ?
- A. An 20% reduction in hair regrowth with each successive treatment
 - B. A 70% reduction in hair regrowth with each successive treatment
 - C. Hair reduction occurs to a level where the patient is satisfied with the results.
 - D✓ A long term stable reduction in the number of hairs regrowing after a treatment regime.
46. Laser Hair Removal, or Skin Rejuvenation, may also be performed with this type of non laser light.
- A. Laser Diodes 800-1400nm
 - B. Light Emitting Diodes (LED's) 800-1400nm
 - C. Arc Lamps
 - D✓ Intensed Pulsed Light (IPL)
47. What describes Anagen phase of hair growth?
- A. Atrophy
 - B✓ Growth
 - C. Death phase after laser treatment
 - D. Shedding

48. The wavelength which is most highly absorbed by water is:
- A. 2100 nm
 - B. 1064 nm
 - C. 10,600 nm
 - D✓ 2,900 nm
49. Of the lasers listed here for ablative skin resurfacing, choose the sequence, starting from the left, of the most depth to the least depth on the right.
- A. YSGG - CO2 - Er:Yag
 - B✓ CO2 - YSGG - Er:Yag
 - C. Er:Yag - YSGG - CO2
 - D. Er:Yag - CO2 - YSGG
50. Compared to full surface ablative resurfacing of the skin, what is "Fractional" skin resurfacing?
- A. Multiple treatments are required on the skin surface because you treat only a fraction of it in any one setting.
 - B. Fractional is the same as full surface ablative, except that it ablates only to a fraction of the depth of the CO2 laser ablations.
 - C. The Er:Glass laser used for fractional has a wavelength which is a "fraction" of the original CO2 laser wavelength used.
 - D✓ Fractional applies small "micro-dots" of coagulation or vaporization of varying depths in the skin surface, instead of the entire surface, resulting in only a fraction of the skins' surface being treated.
51. Although good results in laser hair removal can be obtained without a visual indicator, one desirable clinical end point in laser hair removal includes:
- A. Immediate redness of the skin
 - B✓ Delayed redness around the hair follicle
 - C. A "Graying" of the skin in the treatment area.
 - D. All the answers listed here
52. A strong contra-indication to aesthetic laser use for hair removal is (best answer):
- A. Red hair
 - B. Older, wrinkled skin
 - C✓ Gray Hair on black Skin
 - D. Black Hair on black skin

- 53. What color of non-laser light is most often used in Photodynamic therapy (PDT) for skin treatments such as acne or actinic keratosis to activate the photosensitizer, as compared to the cancer treatments which PDT has been historically used for?**
- A. Red light, same used for deeper cancer treatments.**
 - B. Infrared light**
 - C. Yellow light**
 - D✓ Blue light**
- 54. Which laser works best for freckles and age spots, based on the color of the laser and color of the target? (recall the absorption spectrum of melanin)**
- A. 810 nm Diode**
 - B. 10,600 nm CO2 far infrared**
 - C. CuBr or Pulsed Dye yellow 578 & 595nm**
 - D✓ KTP, CuBr green 532 & 511nm**
- 55. Which of the following is most true regarding pregnant women?**
- A. Pregnant women are at risk during the first trimester and should not be around lasers.**
 - B. Pregnant women are at risk during their entire term of pregnancy and should not be around lasers.**
 - C✓ Medical/Aesthetic lasers present no risks to women in any stage of pregnancy.**
 - D. The exact type of medical laser determines the risk to pregnant women, and they're all different.**
- 56. Sebaceous glands have which function?**
- A. produce sweat**
 - B. form a barrier against foreign bodies & infection**
 - C. emit pheromones for sexual attraction.**
 - D✓ lubricate the skin & help retain fluid**

57. Where is the P. Acne bacteria found in skin?

- A. Eccrine Glands
- ☒ B. Sebaceous Glands
- C. Apocrine
- D. Sweat glands

58. At the end of a hair growth cycle, what happens to the hair shaft?

- A. It continues growing, but just slows down
- B. It starts growing from its other end
- C. It stops, then resumes growing in the next cycle.
- ☒ D. It sheds (falls out)

59. Which laser(s) would be best suited for laser hair removal on black skin?

- A. Ruby
- B. Alexandrite
- ☒ C. Nd:Yag
- D. 810 nm diode

60. When a patient is in the middle of a series of laser or IPL procedures, and experiences unexpected harsh reactions that did not occur in earlier treatments with identical parameters, the most likely reason may be:

- A. Test shots should have been performed before every treatment because settings must be changed for every treatment.
- ☒ B. Recent sun exposure
- C. Skin reaction changes as the number of hair follicles decrease during the course of treatment.
- D. Medication or diet supplement changes.

61. Terminal hairs are what?

- A. Laser treated hairs which are in the process of dying
- B. Very fine hairs – “peach fuzz” - all over our bodies
- C. Outer covering of the hair shaft.
- ☒ D. Coarse hairs such as on the scalp, eyebrows & armpits

62. Select the laser which can present a retinal burn hazard:

- A. CO2 laser
- B✓ Alexandrite laser
- C. Er:Glass laser
- D. Er:Yag laser

63. TRT (Thermal Relaxation Time) refers to:

- A. time required to heat soft tissues to coagulation
- B. time of a laser pulse before a burn occurs
- C. time in between laser pulses for cooling to occur
- D✓ time for any structure to dissipate heat

64. No eye protection is required for IPL's (Intense Pulsed Light), because they are not lasers and present no hazards to the operator or patient.

- A. True – they are not lasers and present no eye hazards
- B✓ False – they are not lasers but do present some eye hazards
- C. True only for the cutoff filters from 1064nm infrared and higher
- D. Varies with each manufacturer of the IPL.

65. The potentially strongest contra-indication most types of aesthetic laser use listed here is (best answer):

- A. Moderate Sun Sensitivity
- B✓ Active Viral Infections (i.e. herpes, cold sores)
- C. Taking any prescription medication
- D. Blond hair

66. When performing deep skin resurfacing on very dark skin types, what would be a more common complication?

- A. Keloid scarring
- B✓ Long lasting hypo or hyperpigmentation
- C. 2nd Degree Burns
- D. Increasing the likelihood of skin malignancies.

67. Which variable changes irradiance (power density) the quickest?
- A. Change in Joules of pulse energy
 - B. Changing wavelength
 - C. ☒ Changing the focused spot size
 - D. Changing the Watts output of laser power
68. Conventional laser hair removal has a very difficult time with this hair color.
- A. Brown
 - B. ☒ Red
 - C. Black
 - D. Dyed of any color
69. The CW Nd:Yag laser wavelength & color band is;
- A. 755 nm red
 - B. 10,600 nm Far Infrared
 - C. ☒ 1064 nm near infrared
 - D. 532 nm green
70. The Fitzpatrick skin classification system considers which variables?
- A. Sunlight sensitivity, and Skin & Hair color
 - B. ☒ Sunlight sensitivity and Skin Color
 - C. Only skin color
 - D. Ethnic background
71. When treating very dark skin, which laser would be “safer” during ablative laser skin resurfacing?
- A. CO2
 - B. ☒ Er:Yag
 - C. Nd:Yag
 - D. YSGG

- 72. What are the benefits of skin cooling during aesthetic laser procedures such as laser hair removal, skin rejuvenation, etc.?**
- A. Enhanced patient comfort**
 - B. Minimize swelling and inflammation**
 - C. Reduce burn risk**
 - D. ✓ All of the answers listed here**
- 73. Sapphire, and other crystal “windows” on aesthetic lasers are an example of:**
- A. ✓ Contact cooling**
 - B. Contact tips hemostatic dissections**
 - C. DCD (Dynamic Cooling Device) spray**
 - D. Handpiece protective covers for the lenses.**
- 74. The major difference between a Medical Laser Safety Officer governed by ANSI 136.3, and an Industrial Laser Safety Officer governed by ANSI 136.1 is:**
- A. Medical Laser Safety Officers require clinical application training, in addition to Laser Safety Training.**
 - B. ✓ The preclassification of Laser Hazard Class one through four is designed to minimize the need for measurements and calculations for Medical Safety Officers, which otherwise must be made by the Industrial Safety Officer.**
 - C. Requirements and duties for both medical and industrial laser safety officers, in both ANSI 136.1 and 136.3 standards, are identical.**
 - D. Industrial Laser Safety Officers have more stringent requirements because the high powered industrial lasers are in a higher ANSI laser hazard class than most medical/surgical laser systems.**
- 75. Diode lasers can be found in many wavelength ranges, but the most common range for medical systems is:**
- A. 300-400 nm**
 - B. 30-40 microns**
 - C. ✓ 530-1500 nm**
 - D. 480-690 nm**

76. What is the best definition of a true laser pulse?
- A. an automatic timer which emits light consistently in controlled bursts, like 0.2 second pulses.
 - B.✓ a compression of laser energy which momentarily emits power at a higher rate than the laser otherwise could in the continuous wave mode.
 - C. Shock waves created by this burst of laser energy
 - D. Timed (gated) pulses from any CW laser.
77. Some of the aesthetic laser handpieces use sapphire (or similar crystal) plates to contact the skin and fire the laser through. What is the purpose of the circulating fluid that flows through/around some of these plates?
- A. Changing the fluid used can provide differential filtering of wavelengths through the plate for laser and IPL.
 - B. The fluid cools the handpiece lens to protect from damage
 - C. Dyes can be added to the fluid to create appropriate wavelengths for Photodynamic Therapy.
 - D.✓ The fluid cools the plate, which in turn cools the skin during treatment.
78. The ANSI Z136.3 recommendation on Laser Safety Eyewear is: (best answer);
- A. use frames of differing colors for the various lasers to differentiate them.
 - B.✓ have the wavelength and optical density (OD) both labeled on the glasses
 - C. spell out by name the type of laser for which they are used
 - D. be tested annually to ensure that they still work.
79. Administrative Controls in your Laser Safety Program would include:
- A.✓ Establish standard policy's & procedures (SOP's or P&P's).
 - B. Using the laser "standby" button during cases.
 - C. Confirming that the laser panel interlock switches are functional
 - D. All of these are administrative controls for laser safety.
80. What does "R" in the acronym L-A-S-E-R stand for?
- A. Refractory
 - B. Refraction
 - !C. Radiation
 - D. Radiant

81. The Dermis is comprised of how many layers?

- A. 1
- B. ✓ 2
- C. 3
- D. 4

82. Which laser best targets red vascular lesions?

- A. Q-Switched Nd:Yag
- B. Alexandrite
- C. ✓ Pulsed Dye or CuBr Yellow
- D. KTP

83. The visible (to the eye) portion of the Electromagnetic Spectrum includes:

- A. 40 nm - 70 nm
- B. ✓ 400 nm - 700 nm
- C. 4000 nm - 7000 nm
- D. 40.0 um - 70.0 um

84. What are the requirements for wearing Laser Safety Eyewear for personnel entering the laser room (LTCA) according to ANSI Z136.3?

- A. The glasses must be worn immediately upon entry to the room (LTCA)
- B. ✓ The glasses must be made available, but need not be worn until actually within the Nominal Hazard Zone (NHZ)
- C. Glasses must be worn immediately upon entry to the room for open cases (non endoscopic) regardless of any NHZ designation.
- D. Laser glasses are not required by personnel in the room if they are wearing their own prescription glasses.

85. The difference in protection (attenuation) from an Optical Density (O.D.) of 3 compared to 6 is a factor of;

- A. 3
- B. 10
- C. ✓ 1000
- D. 100

86. Anodized laser instruments have reduced reflectivity because:
- A. Anodization creates changes in electrical conduction on its surface
 - B. ✓ The dulled, roughened surface that anodization creates
 - C. The black color of the instrument
 - D. A special process which changes the nature of the metal so that it absorbs all of the incident laser energy.
87. In which skin structure is the stratum corneum located?
- A. Subcutaneous tissues
 - B. ✓ Epidermis
 - C. Dermis
 - D. Basement Membrane
88. The proper term for Joules/CM² is:
- A. Irradiance
 - B. ✓ Radiant Exposure
 - C. Energy
 - D. Power
89. ANSI Z136.3 lists which time period as the Aversion Response time of humans to strong light?
- A. 1.0 seconds
 - B. ✓ 0.25 seconds
 - C. 0.10 seconds
 - D. 2.5 seconds
90. In what stage of hair growth does laser hair removal work best?
- A. Telogen
 - B. Catagen
 - C. Any phase
 - D. ✓ Anagen

91. What are Vellus hairs?
- A. ✓ Very fine, peach fuzz type hair
 - B. Coarse hairs on the scalp, armpits, etc.
 - C. The outer sheath of the hair shaft
 - D. Treated hairs which are dying
92. A longer wavelength laser such as 810nm Diode or Nd:Yag laser would be considered over an Alexandrite laser for hair removal starting with what skin type?
- A. II
 - B. III
 - C. ✓ IV
 - D. VI
93. NO additional window coverings would be required in a treatment room for which laser listed here?
- A. ✓ Er:Yag laser
 - B. Q-Switched Nd:Yag laser
 - C. Alexandrite laser
 - D. 810nm Diode laser
94. During laser hair removal, what is the other major competing chromophore in skin?
- A. Oxyhemoglobin
 - B. Sebaceous glands
 - C. Dermis
 - D. ✓ Melanin
95. Non-Ablative Laser & IPL Skin Rejuvenation (vs Resurfacing) works by what primary mechanism?
- A. Red light creates a bio-stimulative effect
 - B. Yellow light photochemically stimulates collagen production.
 - C. Lasers create deep dermal heating to induce inflammatory changes and resulting "skin rejuvenation" during the natural healing.

96. The legal requirement for laser manufacturers or distributors to provide detailed laser service manuals to laser owners and any others upon request, at the reasonable cost of reproduction, comes through:
- A. ANSI Z136.3, Manufacturer's Procedures requirements
 - ✓ B. Code of Federal Regulations (CFR's)
 - C. Individual State laws on registration and calibration of laser equipment
 - D. OSHA requirements for calibration of medical laser equipment
97. Of the choices here, the strongest contra-indication to most aesthetic laser use would be: (best answer):
- A. Moderate Sun Sensitivity
 - B. Black skin
 - C. Taking prescription medication of any type
 - ✓ D. History of Keloidal scarring
98. When aesthetic laser procedures are performed solely by non-medical personnel, what is the major risk?
- A. Non-medical personnel cannot perform these procedures as safely as physicians.
 - B. There is no difference in risk to patients whether the procedure is performed by the physician or trained non-medical personnel.
 - ✓ C. The non-medical operator may miss or misdiagnose a skin condition that is detrimental to the patient if they are not screened first by the physician.
 - D. Well trained non-medical personnel are still more likely to burn a patient versus physician treatment.
99. What do the eccrine glands in the skin do?
- ✓ A. Regulate body temperature by making sweat.
 - B. Forms an effective barrier against foreign bodies & infection
 - C. Excrete Pheromes
 - D. Lubricate the skin & help it retain fluid
100. Which laser presents a Corneal rather than a retinal eye burn hazard:
- A. The alexandrite laser
 - B. The green light pulsed dye laser
 - C. The yellow light pulsed dye laser
 - D.xx The Ho:Yag laser