

Anterior Segment Laser Procedures

“Study Guide”

1. Longer wavelengths of light penetrate _____ into ocular media.
2. Light that consists solely of 300 nm wavelength radiation is classified as UV? Visible? Infrared?
3. The neodymium-YAG laser emits energy at what wavelength? _____ nm How would this energy be classified? UV? Visible? Infrared?
4. If the wavelength of a nd:YAG laser is doubled the resulting wavelength would be _____ nm and would be classified as UV? Visible? Infrared?
5. Based upon the ANSI classification scheme, ophthalmic lasers, as routinely used in clinical situations, are categorized as what class:
6. What type of tissue reaction occurs with the nd:YAG used for capsulotomy? Is this reaction pigment dependent?
7. TRUE or FALSE The occurrence of IOP “spiking” CANNOT be predicted with any high degree of certainty (i.e. no clear cut predisposing factors have been statistically correlated with IOP spikes)
8. TRUE or FALSE Selective Laser Trabeculoplasty is laser therapy indicated for the management of acute angle closure attack.
9. What are the two most common complications associated with anterior segment laser procedures?
10. When is the most common time for an IOP spike if it is going to happen? When will it normally dissipate?
11. What is the most common time frame for CME to be observed?
12. TRUE or FALSE Current practice dictates that a successful laser capsulotomy is accomplished only after a very large (6mm+) “window” is created through the opacified membrane.
13. TRUE or FALSE YAG laser capsulotomy is indicated when visual function is compromised.
14. Which form of intraocular lens is easiest to “pit” with a YAG laser: PMMA, Acrylic, Silicon
15. TRUE or FALSE Argon laser trabeculoplasty is classified as a “filtering procedure” since it involves the creation of a hole through the thickness of the sclera.
16. The absolute maximum number of laser pulses that should be applied to perform a capsulotomy is:
17. TRUE or FALSE Pain during a YAG capsulotomy would be considered highly atypical of an uncomplicated procedure.
18. What is the desired tissue response when performing an ALT? SLT?
19. TRUE or FALSE Argon Laser Trabeculoplasty is a thermal laser procedure and is influenced by pigmentation within the angle.
20. TRUE or FALSE Alphagan is a topical beta-blocker indicated for purposes including the “blunting” of IOP “spikes” following anterior segment laser procedures.
21. What is the mechanism of Alphagan?
22. TRUE or FALSE Once a patient has undergone ALT, an SLT CANNOT be performed over the ALT.
23. TRUE or FALSE SLT is most effective when performed while the pupil is widely dilated.
24. TRUE or FALSE All patients on prostaglandin glaucoma meds should be taken off their medications at least 4 weeks prior to anterior segment laser surgery.
25. What Pre-Op meds are used for Capsulotomy? Post Op meds? Laser Settings? Indications? Contraindications? Possible Complications?

26. What Pre-Op meds are used for SLT? Post Op meds? Laser Settings? Indications? Contraindications? Possible Complications?
27. What Pre-Op meds are used for ALT? Post Op meds? Laser Settings? Indications? Contraindications? Possible Complications?

Procedure	Laser	Tissue Reaction	Initial Energy/Power	Spot Size		Follow-up	Pre-Op Meds	Post - Op Meds	
YAG Capsulotomy	Nd:YAG (1064 nm)	Photodisruption Pigment Independent	1.3 - 1.8 mJ	Fixed	Fixed	1 hr, 1 wk	Alphagan, Dilate	Alphagan in office, Steroid gtts QID x 1 wk	Cruciate Pattern; normal 40 shots or less caution with more - watch total energy
ALT	Argon or FD YAG (532 nm)	Photocoagulation Pigment Dependent	600 mW	50 micron	0.1 sec	1 hr, 1 wk, 6 wk	Alphagan, 1% pilocarpine if needed to view angle	Alphagan in office, Steroid gtts QID x 1 wk	□Pigment then □Power, 50 - 55 burns per 180°, 1 - 2 spot sizes between burns, Aim for junction of Pigmented/Non Pigmented TM, patient to stay on all glaucoma meds
SLT Argon Laser	FD YAG with 3 nsec burn (532 nm)	Photocoagulation Pigment Dependent	0.8 - 1.0 mJ	400 micron	3 nsec	1 hr, 1 wk, 6 wk	Alphagan, 1% pilocarpine if needed to view angle	Alphagan in office, topical NSAID PRN X 2 days	□Pigment then □Power, 50 - 60 burns per 180°, burns right next to each other - treat entire TM, patient to stay on all glaucoma meds

