

Component III: Clinical

Module B: Specialty Procedures

Topic 8: Assisting with Laser Surgery/Electrosurgery

Statement of Purpose

To prepare the learner with basic knowledge and skills necessary to assist the Physicians during electrosurgical and laser surgery.

Student Learning Outcomes

Upon completion of this topic, the learner will be able to:

1. Spell and define key terms.
2. List the advantages of using electrosurgery.
3. List and describe the procedures considered to be electrosurgery.
4. List the Medical Assistant's responsibilities in electrosurgery.
5. List the safety measures followed when assisting during electrosurgery.
6. Describe the care of the electrosurgical equipment.
7. List and give the function of the different types of lasers.
8. List the types of surgery performed using a laser
9. List the safety measures followed when assisting with laser surgery.

Terminology

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| 1. Cautery | 7. Fulguration |
| 2. Coagulate | 8. Laser |
| 3. Dressing | 9. Lesions |
| 4. Electrosurgery | 10. Polyp |
| 5. Electrosurgical unit (ESU) | 11. Traumatic |
| 6. Electrodesiccation | |

References

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Content Outline Theory Objectives	Suggested Learning Activities
Objective 1 Spell and define key terms. <ul style="list-style-type: none"> A. Review the terms listed in the terminology section. B. Spell the listed terms accurately. C. Pronounce the terms correctly. D. Use the terms in their proper context. 	<ul style="list-style-type: none"> A. Games: word searches, crossword puzzles, Family Feud, Jeopardy, bingo, spelling bee, hangman, and concentration. B. Administer vocabulary pre-test and post-test. C. Discuss learning gaps and plan for applying vocabulary.
Objective 2 List the advantages of using electrosurgery. <ul style="list-style-type: none"> A. Cautery effect produces seals of small bleeding vessels. B. Coagulates cells to reduce bleeding and loss of cell fluid. C. Used to destroy granulations and small polyps. 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings
Objective 3 List and describe the procedures considered to be electrosurgery. <ul style="list-style-type: none"> A. Electrosurgery is the application of a high-frequency electric current to biological tissue as a means to cut, coagulate, desiccate or fulgurate tissue. B. Fulguration destroys tissue using controlled electric sparks; sparks destroy superficial cells. C. Electrodesiccation dries and separates tissue using electric current, electrode placed directly on site. D. Electrocautery (also referred to as electrocoagulation) causes quick coagulation of small blood vessels with heat created by electric current. E. Electrosection is used for incision or excision of tissue. 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings
Objective 4 List the Medical Assistant's responsibilities in electrosurgery. <ul style="list-style-type: none"> A. Ensure the safety and comfort of the patient B. Pass electrode to Physician, tip in downward position 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings
Objective 5 List the safety measures followed when assisting during electrosurgery. <ul style="list-style-type: none"> A. Patient must be grounded with a pad supplied by manufacturer B. Ensure that all working parts (pad and cable) are in good repair C. Ensure that all metal is removed from the patient D. Ask patient if they have a pacemaker E. Place grounding pad firmly and completely against the patient's skin 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings

<p>Objective 6 Describe the care of the electrosurgical equipment.</p> <ul style="list-style-type: none"> A. Reusable tips are disinfected and processed in an autoclave B. Reusable tips may be polished with steel wool if they become dull C. Disposable tips are discarded after each use D. Perform preventive maintenance on machine according to instruction manual E. Surfaces need to be clean and dry F. Cover machine when not in use 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings C. Take a field trip to an office providing electrosurgical/laser options or invite a guest speaker to discuss and procedures.
<p>Objective 7 List and give the function of the different types of lasers.</p> <ul style="list-style-type: none"> A. Lasers are devices that focus high intensity light in a narrow beam to create extreme heat and energy B. Lasers are used to cut tissue and coagulate small bleeding vessels C. Argon laser is used for coagulation D. Carbon dioxide laser is used for cutting tissue E. Yttrium-aluminum-garnet/YAG is used for coagulation and to separate warts and moles from surrounding tissues 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings
<p>Objective 8 List the types of surgery performed using a laser</p> <ul style="list-style-type: none"> A. Lasers are used in many types of surgical procedures. Some examples include <ul style="list-style-type: none"> 1. Cosmetic surgery (to remove tattoos, scars, stretch marks, sunspots, wrinkles, birthmarks, spider veins or hair) 2. Refractive eye surgery (to reshape the cornea in order to correct or improve vision as in LASIK or PRK) 3. Dental procedures (such as endodontic/periodontic procedures, tooth whitening and oral surgery) 4. General surgery (such as tumor removal, cataract removal, breast surgery, plastic surgery and most other surgical procedures) 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings
<p>Objective 9 List the safety measures followed when assisting with laser surgery.</p> <ul style="list-style-type: none"> A. Always read and follow the manufacturer's recommended maintenance procedures from the instruction manual B. Goggles for eye protection should be used by everyone in the room with the laser, including the patient. C. Keep flammable liquids away from the laser's path D. Have wet sponges ready as well as a bowl of sterile normal saline solution and a filled irrigating syringe ready E. Assist in suctioning the plume to maintain a clear visual 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings

field

- F. Laser training programs for health care workers are recommended to ensure safety
- G. A Medical Assistant should be specially trained to operate a laser before assisting with laser surgery