



BASIC OPEN SKILLS

I. OBJECTIVES

By the end of this laboratory session participants should be able to . . .

- 1) Identify basic surgical instruments and sutures.
 - 2) Correctly hold and use these instruments.
 - 3) Tie knots (left and right hand and instrument ties).
 - 4) Understand how to close an incision with suture.
 - 5) Understand the technique used to ligate a vessel.
 - 6) Practice sterile technique.
 - 7) Understand the techniques of central line placement.
 - 8) Understand the basic principles of electrosurgery/cautery*.
 - 9) Understand the basic principles of ultrasonic cutting and coagulation* and safely use these devices*.
- (* Optional)

II. ASSUMPTIONS

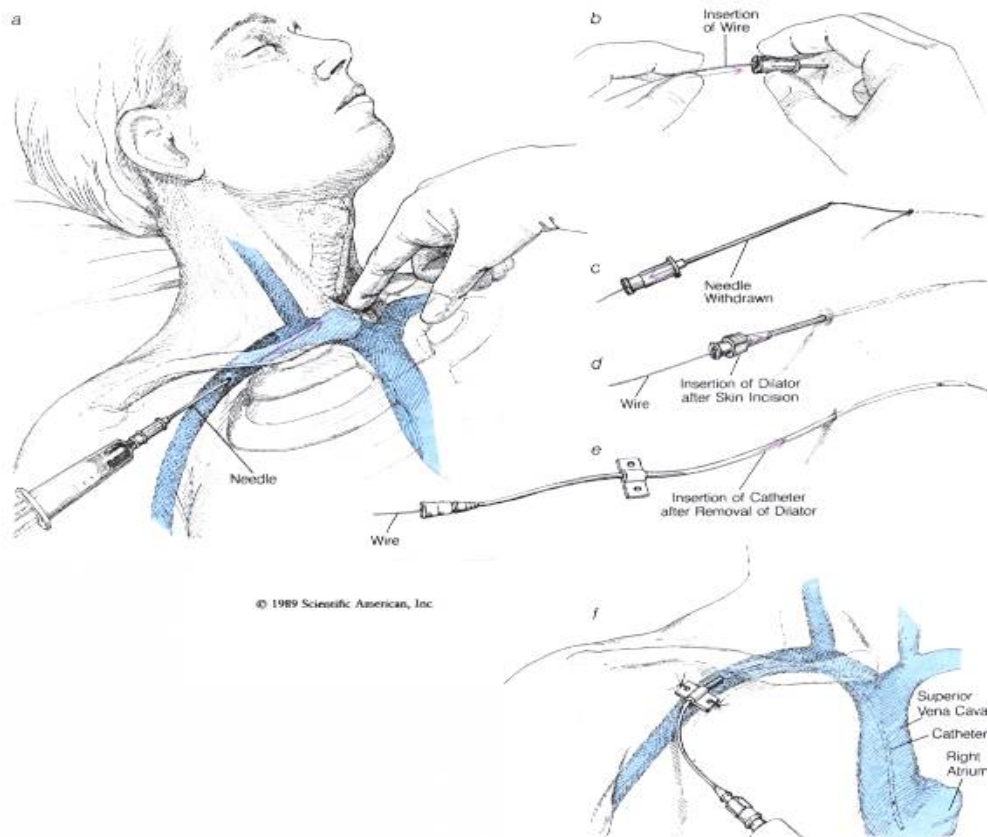
This session assumes that the residents are not very familiar with surgical instruments and techniques.

III. SUGGESTED READING

Basic surgical skills from any textbook or the Surgical Skills Manual.

IV. ANATOMICAL CONSIDERATION

Central venous line (Subclavian) placement (See below):



V. DESCRIPTION OF LABORATORY MODULE

- (1) After demonstration of ligature material and selected knots, residents will practice on knot-tying boards.
- (2) After demonstration of selected surgical instruments and suture material, residents will practice suturing on pig feet or artificial skin.
- (3) After reviewing handouts & cd-rom, residents will use electrocautery & Harmonic scalpel on artificial tissue. (Optional).
- (4) After didactic description, residents will practice insertion of central venous lines on task trainer.
- (5) Residents will practice sterile technique including surgical scrub sink procedures, gowning and gloving.

VI. DESCRIPTION OF TECHNIQUE/PROCEDURE

A. Knot-tying

Using braided and monofilament ligature material, tie square knots on board-hooks (open and enclosed) and also ligate tubing "arteries". Practice one- and two-handed ties.

B. Suturing

Using skin marker and #10 scalpel, mark a 6cm line on artificial skin or pig foot and make incision. Close incision using running and/or interrupted stitches. Using hemostats and forceps, practice instrument ties.

C. Electrosurgery/Harmonic scalpel (Optional)

- (1) Review electrosurgery handout and view Harmonic Scalpel cd-rom.
- (2) Use both instruments on artificial tissue (lunchmeat).

D. Central Line placement

After a short didactic introduction, use sterile technique to open CVL kit and insert subclavian and femoral central line catheters in Laerdal task training torso and/or Blue Phantom ultrasound-guided trainer.

VII. EQUIPMENT NEEDED

Surgical Skills manuals

Ethicon knot-tying boards

Ligature material (silk, prolene or nylon, vicryl, chromic; 0, 2-0, 3-0)

Pigs feet, lunchmeat

Surgical instruments including needle drivers, toothed forceps, #10 scalpels

Skin-marking pens

Suture material (silk, prolene or nylon, vicryl, chromic; cutting & taper needles)

Valleylab Electrosurgical generators with various electrodes and grounding pads

Ethicon Harmonic Scalpels with short handpieces and training cd-rom

Laerdal central line torso task trainer, Blue Phantom ultrasound-guided trainer and central line kits

Sterile gowns, gloves, hats, masks, shoe covers and scrub brush/sponge kits

VIII. REFERENCES

1. Ethicon. Wound Closure Manual. Somerville, NJ. 1999.
2. McGregor, A. IA McGregor. Fundamental Techniques of Plastic Surgery and Their Surgical Applications. Tenth Edition. Churchill Livingstone. New York. 2000.
3. Nealon, TF. WH Nealon. Fundamental Skills in Surgery. Fourth Edition. W.B. Saunders. Philadelphia. 1994.
4. Surgical Skills Laboratory Manual