

15. Lower bottle/bag and I.V. tubing to floor level so that lavage fluid can drain freely by gravity due to siphoning effect. Note: If no fluid return occurs, reinsert spring wire guide and again check for fluid return after wire guide removal. If fluid return still does not occur, flush catheter with saline solution. If fluid return still does not occur, exchange old catheter with new utilizing wire guide (see Figure 6).

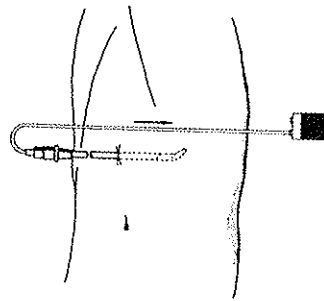


Fig. 6

16. Analyze fluid for red blood cells or other material as indicated using standard hospital technique.

17. After lavage has been accomplished, remove catheter and dress puncture site as required.

CONTRAINDICATIONS:

Diagnostic peritoneal lavage may be both difficult to perform and unreliable in certain circumstances.

(1) A pregnant woman probably should not have a diagnostic peritoneal lavage unless the attending physician feels that it can be done safely.

(2) If the patient has had multiple prior operations or is known to have multiple adhesions, it may be difficult to introduce an adequate volume of fluid into the peritoneal cavity. Likewise, it may be difficult to remove an adequate amount of fluid once it has been instilled. In such patients there appears to be compartmentalization of the peritoneal cavity so that fluid return is not necessarily a reliable indication of intraperitoneal pathology as there is no free admixing.

(3) If the attending physician feels that this percutaneous technique of peritoneal lavage is contraindicated in a patient, he should resort to the open cutdown method of introducing the catheter directly into the peritoneal cavity.

ARROW®

AMPLIFIED SUGGESTED PROCEDURE USING THE ARROW SPRING WIRE GUIDE TECHNIQUE FOR PERITONEAL LAVAGE

INTRODUCTION:

Peritoneal lavage is based on the simple concept that the presence of intraperitoneal blood indicates intraperitoneal injury. This procedure can be rapidly and accurately performed in the emergency room as a diagnostic tool in the assessment of seriously injured patients with blunt abdominal trauma. This new Arrow kit utilizes a "J" tipped spring wire guide for catheter placement obviating the older complication-prone trocar technique.

A volume of approximately one liter of normal saline or Ringer's lactate is instilled into the peritoneal cavity then recovered and analyzed for blood content.

The physician using the Arrow Peritoneal Lavage Kit is provided with everything needed to diagnose intraperitoneal bleeding with increased safety, reliability, and convenience. A 20 ga. short bevel introducer needle is the largest sharp object to enter the peritoneum. The very soft "J" tip of the spring wire guide minimizes the potential for complications.

A SUGGESTED PROCEDURE - USE STERILE TECHNIQUE:

1. Place patient in supine position making sure that the patient has voided or urinary catheter is in place. Insert nasogastric tube to decompress stomach.
2. The preferred site for catheter insertion is the midline, midway between the umbilicus and symphysis pubis. Avoid insertion through or immediately adjacent to a previous abdominal incision.
3. Remove prep swabsticks and prep shaved skin in area of puncture site.
4. Remove wrapped tray from outer package and open to create sterile field and expose kit components for use.
5. Place fenestrated drape over puncture site.
6. Use 18 ga. T.W. needle to aspirate anesthetic into 5cc syringe.
7. Perform skin wheal using 25 ga. or 22 ga. needle.
8. Make 3mm skin incision using #11 blade scalpel. Note: Do not proceed until skin and subcutaneous hemostasis is observed.

9. Insert catheter/needle assembly through incision into peritoneum aiming toward the pelvic hollow. Note: 18 Ga. T.W. needle (without catheter) can be alternately used to puncture peritoneum and pass wire guide if desired. If desired, the catheter/needle assembly can be connected to I.V. tubing and bottle/bag of saline or Ringer's lactate solution. The penetration into the peritoneum will usually be recognized by a distinct "pop" and confirmed by a free flow of solution. Advance tip of catheter an additional 2-3mm into peritoneal cavity. Remove introducer needle (see Figure 1). **Caution: If needle is used instead of introducer catheter, do not withdraw spring wire guide against needle bevel to avoid possible severing of spring wire guide. Caution: Do not reinsert needle into catheter.**

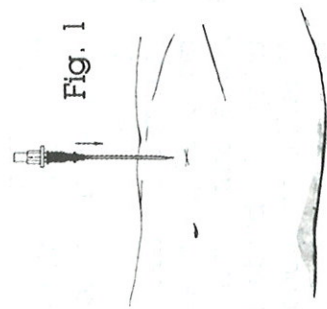


Fig. 1

10. Insert desired end of spring wire guide through 16 ga. catheter into peritoneal cavity. If "J" tip is used, prepare for insertion by sliding plastic tube over "J" to straighten it. Advance spring wire guide into peritoneum to required depth. Note: If wire does not initially advance with ease, catheter most likely has not been placed properly within peritoneal cavity (see Figure 2).

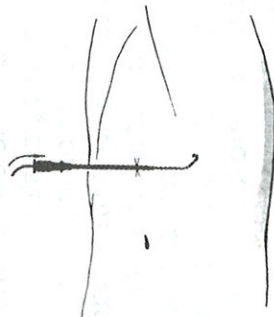


Fig. 2

11. Remove introducer catheter and thread tip of 8 Fr. catheter over spring wire guide (be certain that sufficient wire guide length remains exposed at hub end of catheter to maintain firm grip on wire guide). Grasping near skin, advance catheter to required depth in peritoneal cavity (see Figure 3). **Caution: Maintain firm grip on spring wire guide at all times.**

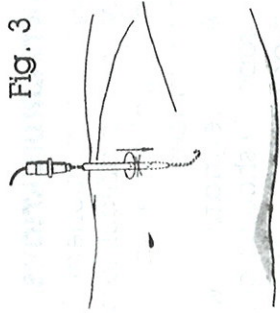


Fig. 3

12. Hold catheter at required depth and remove spring wire guide. Aspirate using 5cc syringe. **Caution: Potential for spring wire guide breakage. Although the incidence of spring wire guide failure is extremely low, physicians should be aware of the potential for breakage if undue force is applied to the wire.** The Arrow catheter included in this product has been designed to freely pass over the spring wire guide; if resistance is encountered when attempting to remove the spring wire guide after catheter placement, the spring wire may be kinked about the tip of the catheter. (Refer to Figure 4). In this circumstance, pulling back on



Fig. 4

the spring wire guide may result in undue force being applied resulting in spring wire guide breakage. If resistance is encountered, withdraw the catheter relative to the spring wire guide about 2-3 cm and attempt to remove the spring wire guide; if resistance is again encountered remove the spring wire guide and catheter simultaneously.

13. If aspiration is non-diagnostic, connect I.V. tubing to catheter and bottle/bag of saline or Ringer's lactate (20 ml/kg up to 1000 ml).

14. Run solution into peritoneal cavity. Gently manipulate patient as required to insure proper intermixing of fluid. Suggested time to allow for intermixing is 10 minutes (see Figure 5).

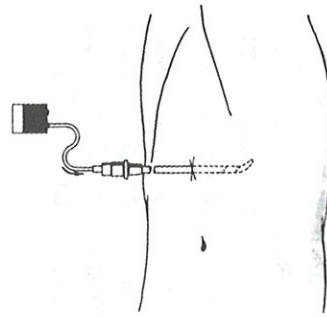


Fig. 5