MITS™

(MULTI-INJECTION TRAINING SYSTEM)

NSN 6910-01-656-7061

ASSEMBLY & SET-UP

1. Unscrew endcaps A and remove contents from body B (Fig. 1).

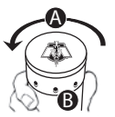

Fig. 1 - Unscrew End Caps

2. Find 6 foot-pegs C and insert slotted ends into large holes D at each end of body B. Snap pegs C firmly into place (Fig. 2).

Fig. 2 - Insert Foot Pegs

3. Place gel-like tissue patch E on body B surface, and center lengthwise over decompression slot F (Fig. 3).

4. Place foam flesh pad G over tissue patch E, and center in recessed middle section of body B. (Fig. 3).

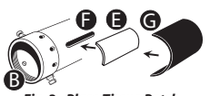

Fig. 3 - Place Tissue Patch and Flesh Pad

VEIN ASSEMBLY

"WET STICK" (Fig. 4) - Snip both ends of RED vein tubing I at a sharp angle. (Fig. 4 inset a). Thread one end of tubing I through both openings of a double clip J and snug tight (Fig. 4 inset b); thread other end UP through small hole H1 from inside body B and extend across top of flesh patch G; thread into opposite end of body B DOWN through small hole H2. Adjust tubing I and clip J as necessary to allow tubing I to extend several inches out of body B from hole H2 and pull clip J snug against inside of body.

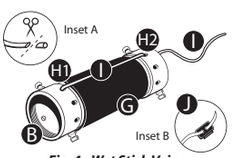

Fig. 4 - Wet Stick Vein Installation

"DRY STICK" (Fig. 5) – Snip both ends of NON-RED vein tubing K at a sharp angle. (Fig. 5 inset a). Thread one end of tubing K through both openings of a double clip J (Fig. 5 inset b); thread opposite end of tubing K UP through small hole H3 from inside body B and extend across top of flesh pad G (Fig. 5); thread into opposite end of body B DOWN through small hole H4; thread from inside body B UP through small hole H5; extend back across top of flesh pad G; thread into opposite end of body B DOWN through small hole H6 and thread through both openings of a second double clip J. Tighten clips J against inside of body B to snug tubing K against top of flesh pad G. DO NOT OVER-TIGHTEN.

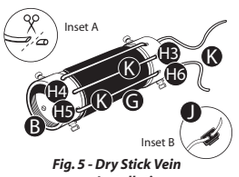

Fig. 5 - Dry Stick Vein Installation

SKIN PATCH ASSEMBLY

Stretch skin patch L (textured side UP) over veins (I and K) and flesh pad G. Secure corner loops M to foot-pegs C (Fig. 6).

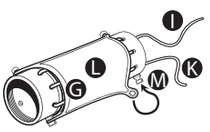

Fig. 6 - Skin Patch Installation

NEEDLE DECOMPRESSION INSERTION

1. Locate and set within reach: 14-gage catheter needle N1 with plastic catheter (sheath) O1 and cap P1. Remove cap P1 and set aside. Inspect catheter O1 for any damage or imperfections. Replace needle N1 and catheter O1 if catheter O1 is defective or damaged.

2. Position MITS™ on horizontal surface with decompression slot F facing UP (Fig. 7).

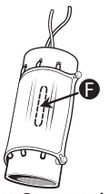

Fig. 7 - Locate Decompression Slot

3. With the fingers of one hand, locate and palpate the simulated "intercostal space" between 2nd and 3rd ribs (i.e., slot F at the center of skin patch L between the pair of NON-RED veins K) (Fig. 8).

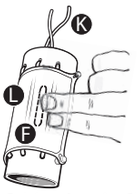

Fig. 8 - Palpitate Insertion Site

4. Firmly pinch needle N1 between index finger and thumb of opposite hand so that the point is facing down towards the intercostal space (Fig. 9). Note that needle N1 must be positioned directly above and centered on the intercostal space. Hold needle N1 at 90 degrees to skin patch L and push through skin patch L, flesh pad G, tissue patch E, decompression slot F, and into body B (Fig. 9, white arrow). This simulates insertion through the ribs into the chest.

Fig. 9 - Position/Insert Needle

5. Cautiously remove needle N1 from its catheter O1 while leaving catheter O1 in place (Fig. 10). Place needle N1 inside body B for sharps protection, and secure catheter O1 to the MITS™ with tape.

Fig. 10 - Remove Needle

STORAGE

When not in use, foot-pegs C, tissue patch E, flesh pad G, vein tubing I and K, and skin patch L can all remain on the surface of the MITS™. Place all "Sharps" in safety container in body B. Roll these instructions into a tube, and put inside body B with all other unattached components. (Fig. 11)

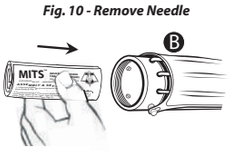

Fig. 11 - Store Items in MITS™ Unit

"DRY STICK" INSERTION

1. Locate and set within reach: saline lock Q, IV line R, and 18-gage catheter needle N2 having plastic catheter (sheath) O2 and safety cap P2. Remove cap P2 and set aside. Inspect catheter O2 for any damage or imperfections. Replace needle N2 and catheter O2 if catheter O2 is defective or damaged.

Fig. 12 - Position MITS™ Unit

2. Position body B horizontally on table top or other suitable surface with one end facing your body and veins K facing UP (Fig. 12).

3. Form a letter "C" with the thumb and index finger of one hand. Position index finger over one of NON-RED veins K above intended injection site for that vein near edge of skin patch L (Fig. 13). Position thumb below intended injection site and apply a small amount of downward pressure to pull skin taut (Fig. 13 arrow).

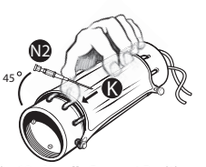

Fig. 13 - Needle Support Position

4. Position needle N2 at 45 degree angle to the vein K with needle's bevel edge facing UP. You may use thumb as an angle guide for inserting needle N2 (Fig. 13). Slowly insert needle N2 into vein K. Slight resistance will be felt as needle N2 advances through skin patch L and vein wall (Fig. 13). Once needle N2 pierces vein wall, reposition thumb and rotate needle N2 down to just above skin patch L (Fig. 14). Slowly advance needle N2 a quarter inch into center of vein K (Fig. 14 arrow).

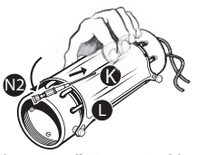

Fig. 14 - Needle Support Position

5. Without moving needle N2, slowly advance catheter O2 further into center of vein K (Fig. 15). Continue to apply pressure with your index finger above injection site and remove needle N2, leaving catheter O2 in place (Fig. 16).

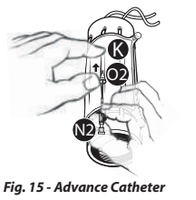

Fig. 15 - Advance Catheter

6. Attach saline lock Q or IV line R to catheter O2 and secure catheter O2 to MITS™ with tape (Fig. 17).

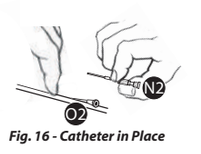

Fig. 16 - Catheter in Place

"WET STICK" INSERTION

1. Position body B horizontally on table top or other suitable surface with one end facing your body and vein I facing UP (Fig. 18).

Fig. 17 - Secure Catheter

2. "Wet" Vein Preparation - Before proceeding, the vein I must be pressurized with simulated blood.

   a. Locate and set within reach: syringe S with shutoff valve T; simulated blood pack V; and O-rings W or clips.

   b. Pull unsecured end of vein I to snug against flesh pad G.

   c. Open valve T.

   d. Mix water with simulated blood V and draw into syringe S until full and close valve T (Fig. 19).

   e. Use an O-ring W or clips to secure intake end of valve T to end of "wet stick" vein I extending from body B (Fig. 20, Inset A).

   f. Open valve T and push syringe plunger until fluid slightly pressurizes vein I (Fig. 20).

   g. Close valve T. You now have a pressurized vein I.

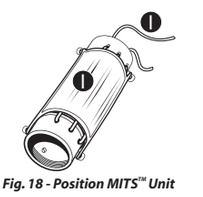

Fig. 18 - Position MITS™ Unit

Fig. 19 - Filling the Syringe

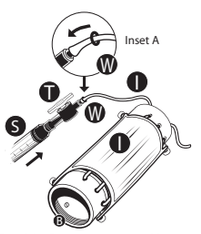

Fig. 20 - Pressurizing the Vein

3. Follow Paragraphs 1, 3, and 4 under "DRY STICK INSERTION" above, using vein I instead of veins K.

4. Upon completion, a "flash" of blood in the flash chamber of needle N2 indicates a successful insertion (Fig. 21). Proceed with Paragraphs 5-6 under "DRY STICK INSERTION" and complete IV insertion, using vein I instead of veins K.

5. Once vein I has been punctured, a new vein I will need to be threaded onto body B before performing another "Wet Stick" (see "ASSEMBLY" Paragraph 5 "Wet Stick").

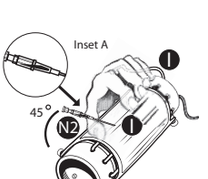

Fig. 21 - Needle Flash Chamber