miniiSED® NEEDLE REPLACEMENT PROCEDURE

PURPOSE:

The purpose of this procedure is to describe the process for replacing the Sampling Needle in the miniiSED Automated ESR analyzer.

SCOPE:

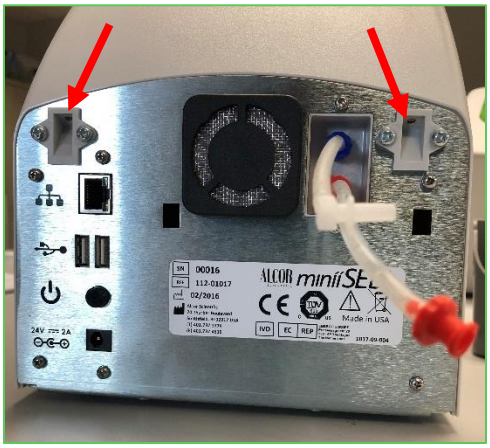
This document describes the procedure to be followed when any of the tubing connectors between the Syringe and the Primary Pump have been loosened and retightened, and/or the any of the following parts have been replaced: Needle tip, Reading Cell, Needle to Reading Cell tubing, Reading Cell to Primary Pump tubing or Primary Pump tubing have been replaced.

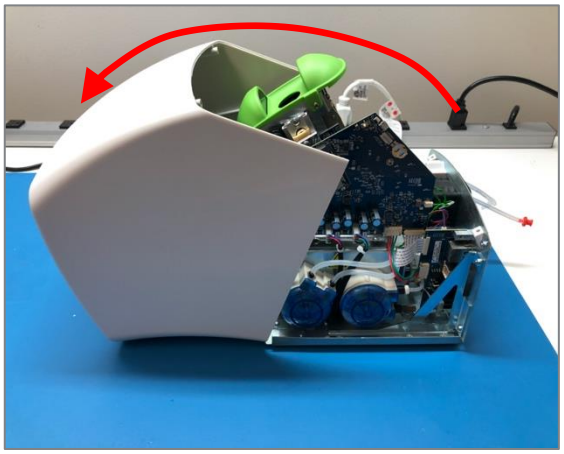
MATERIALS:

1. Protective rubber gloves
2. Replacement Needle Tip (ALCOR 112-13-010)
3. Two of any combination of the following:
    a. 8mm Combination Wrench (recommended)
    b. 8mm deep socket with associated socket handle
    c. Small adjustable wrench
4. Sharps or Biohazard disposal as required by facility

PROCEDURE:

1. Wear protective rubber gloves
2. Power on the miniiSED and run 2 Quick Clean wash cycles to flush the system and remove any biohazardous material from the tubing system.
3. Power off the miniiSED and disconnect the power supply from the power input at the rear of the device.
4. Disconnect the miniiWASH and miniiWASTE connectors from the bottle caps. Lift up and remove the tray from the device and set aside.
5. Remove the two screws from the rear of the device holding the enclosure in place. (Figures 11A) Open the enclosure by rotating the housing towards the front of the device. (Figures 11B)





Figures 11A & 1B

6. Remove the Wash Pump Tubing from the tubing clip to the side of the Piercing System (**Error! Reference source not found.**)

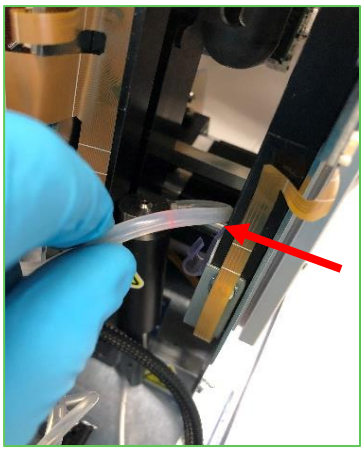


Figure 22

CAUTION! The Needle sharp point is exposed during the following operation

7. Release the Piercing Module by unscrewing the long thumb screw. Remove Piston Assembly carefully from the mounting block. (Figure 3) Disconnect the Wash Pump tubing from the Needle Tube barbed fitting (Figure 3).

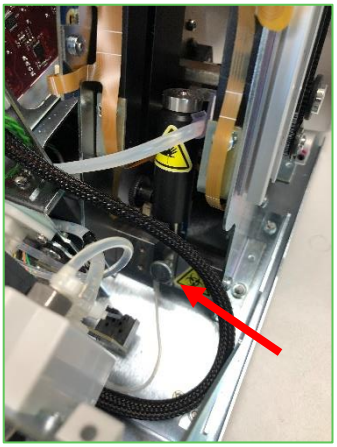
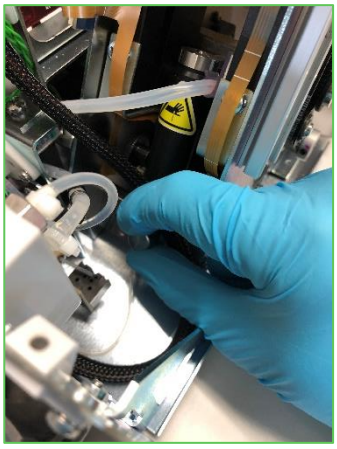



Figure 33

8. Remove the current Needle Tube Sub Assembly by carefully unscrewing the short thumbscrew (Figure 4 and Figure 5). Set aside the thumbscrew, Needle Tube and the Spring.
   NOTE: It is recommended to clean each of these parts with Isopropyl alcohol while the device is disassembled).


Figure 44


Figure 55

9. Using the 8mm wrench (or alternative) unscrew the Needle Tip from the Piston. A second tool may be needed to turn both the Piston and the Needle. (Figure 6)


Figure 66

10. Dispose of the Needle Tip in proper Sharps or biohazard disposal container.

11. While keeping the yellow ferrule connector seated in the piston, install the replacement Needle Tip into the Piston. Tighten the Needle Tip completely using the 8mm wrench. Place the Spring over the Needle, then place the Needle Tube Assembly over the Spring and Needle. (Figure 7)

Figure 77

12. Replace the thumbscrew on the Needle Tube port as shown. You will need to compress the Spring and Needle Tube Housing slightly in order to tighten the thumbscrew.

CAUTION! Compressing the assembly will cause the Needle tip to become exposed from the assembly. Be aware of possible piercing injury.

The thumbscrew should tighten completely down; be careful to prevent stripping out the plastic of the Needle Tube Housing.

13. Reconnect the Wash Pump tubing to the Needle Tube barb fitting. (Figure 8)
14. Install the piston assembly back into the Piston Mounting Block, using the pin located on the mounting block as a guide. (Figure 9)

Figure 8

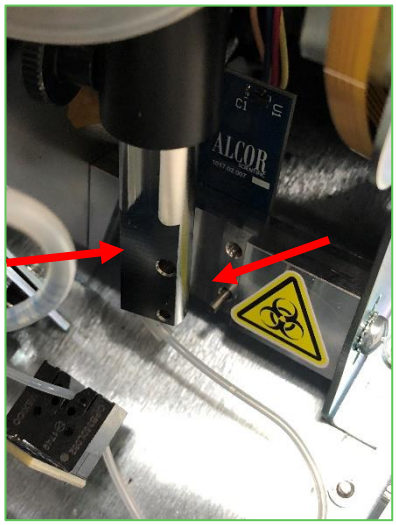


Figure 9

15. Secure the Piston Assembly to the mounting block with the long thumbscrew. (Figure 10)
16. Re-secure the Wash Pump tubing to the tubing clip to the side of the Piston Assembly. (Figure 10)

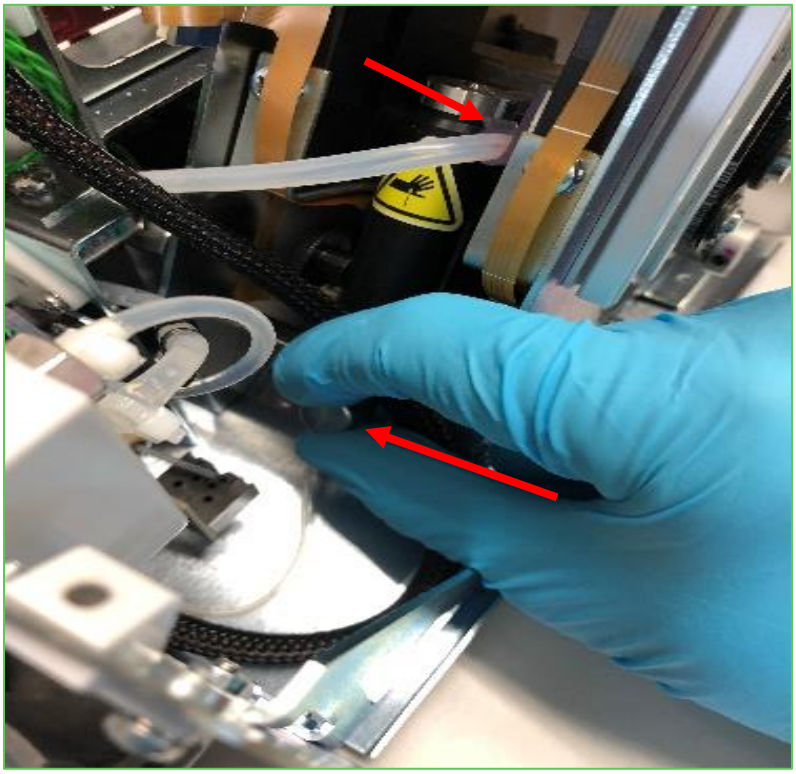


Figure 10

17. Rotate the housing back into its normal position. Secure with the two screws from Step 5.
18. Reattach the tray to the rear of the device. Reconnect both the miniiWASH and miniiWASTE bottles to their respective tubing according to the Operator's Manual.
19. Power on the miniiSED and perform a Quick Clean.
20. After the wash is successful, the miniiSED is now ready for routine operation and testing of patient samples and/or controls.