

**OLIVE VIEW-UCLA MEDICAL CENTER
DEPARTMENT OF NEPHROLOGY
POLICY & PROCEDURE**

**NUMBER: 11771
VERSION: 1**

SUBJECT/TITLE: DIALYSIS: DIALYSIS: CRIT-LINE IV: USE OF

POLICY: May be used for monitoring of volume status (specifically change in intra-vascular volume measured and change in hemoconcentration) by a Hemodialysis RN.

In-Line Diagnostics recommends that the monitor be verified for accuracy at least once per month.

The verification filter, a specially modified blood chamber attached to the sensor clip, is included with each instrument and **can only be used on that specific instrument.**

PURPOSE: The Crit-Line IV is a noninvasive, optical technology that uses a sterile blood chamber inserted into the dialysis extracorporeal blood tubing which monitors the patient's hematocrit, percent change in blood volume and oxygen saturation.

The data given by the Crit-Line IV helps to monitor safe fluid removal during dialysis treatment.

DEPARTMENTS: ALL

DEFINITIONS:

PROCEDURE: Equipment:

Fresenius Medical Care Crit-Line IV system:
Crit-Line Clip Monitor (CLiC device)
Crit-Line IV Blood Chamber

Procedure:

(Also see Fresenius Medical Care Crit-Line IV User's Guide)

1. CLiC Device Verification Procedures:
 - a. In most cases, it is not necessary to perform a manual verification. If the sensor clip is placed onto the verification filter, the CLiC monitor will automatically perform a verification test once a day and the date of the

SUBJECT/TITLE: DIALYSIS: CRIT-LINE IV: USE OF

Policy Number: 11771

Page Number: 2

most recent successful verification will be displayed below the Verify Accuracy button. If the verification fails two or more times, the option is given to perform a field calibration. Manual verification may be done as outlined below:

- b. Place CLiC on verification filter
- c. Press Verify Accuracy button
- d. If successful, a “Verify passed” message will appear on screen. Press Ok button to proceed.
- e. If the verification failed, “Verify failed” message will appear. Read and follow instructions on screen. Follow these basic steps to address a failed verification of accuracy:
 - Ensure the CLiC is properly seated on the verification filter.
 - Ensure the verification filter is clean of any foreign material and the surface is not scratched or damaged.
 - Press the Verify button to repeat the verification of accuracy. If verification fails again, repeat above steps. If failure continues, may perform one of the following:
 - Perform a field calibration. See section below.
 - Change the CLiC device.
 - Cancel the verification process by pressing the Cancel button.

II. Calibration Procedures:

- a. Selecting the **Field Calibration** button from the Verify failed menu screen allows the user to perform a field calibration on the CLiC. This option will only be made available if the verification of accuracy fails multiple times.
- b. Press **Field Calibration** button
- c. Press the **Filter ID** button
- d. Enter Filter ID using the onscreen keypad. The filter ID is located in the middle of the verification filter.
- e. Press the **Save** button
- f. Press the **OK** button. Once the **Ok** button is pressed, a verification of accuracy will be performed.
- g. If the verification of accuracy continues to fail, the CLiC is no longer suitable for clinical use and should be replaced.

III. *Connecting the Crit-Line Blood Chamber*

- a. Inspect Crit-Line Blood Chamber and packaging.
 - Ensure that the blood chamber sterilization has not expired.
 - Do not use the Crit-Line Blood Chamber if its package has been opened or its sterility has otherwise been compromised prior to use.

SUBJECT/TITLE: DIALYSIS: CRIT-LINE IV: USE OF

Policy Number: 11771

Page Number: 3

- b. Connect Crit-Line Blood Chamber to dialyzer:
 - Remove the blood chamber from its sterile package and aseptically attach it to the arterial port of the dialyzer.
 - Make sure the connection is tight. PUSH and TWIST. Use the wings and not the lens to tighten.
- c. Continue setting up the bloodlines per instructions provided by the hemodialysis machine's operators manual.
- d. When connecting the arterial bloodline to the Crit-Line Blood Chamber (not the dialyzer), hold the Crit-Line Blood Chamber securely in one hand and aseptically attach the dialyzer end of the arterial bloodline with the other hand. Be careful that you do not cross-thread the connection. The connection of the Crit-Line Blood Chamber to the arterial bloodline must not leak.
- e. Make sure there is NO air in the Crit-Line Blood Chamber after priming. Air in the Crit-Line Blood Chamber may cause the hematocrit and oxygen saturation readings to be inaccurate.

IV. Connecting the CLiC Device to the Blood Chamber

- a. Pinch open the CLiC device
- b. Clip CLiC device on Blood Chamber

V. Monitoring the Patient:

- a. Go to **Main Menu** screen
- b. Manually enter patient ID information (Select **Patient List** allows the user to view the patient ID list for all patients entered into the system within 30 calendar days)
- c. Press **Start Run** to initiate patient treatment monitoring
- d. Enter hematocrit limit. Note you cannot enter a hematocrit that is lower than the starting hematocrit.
- e. **Crit-Line Parameters:** Ultrafiltration should not exceed a rate at which the crit-line hematocrit increases by more than 5% per hr or 20% in 4 hrs.
- f. Monitor patient and chart interventions.
- g. Press **End Run** button to end treatment monitoring session
- h. Remove the CLiC device from the Crit-Line Blood Chamber. Store the CLiC device by clipping it to its verification filter, which is attached to its USB cable. Discard the disposable Crit-Line Blood Chamber with the rest of the bloodlines in a red biohazardous trashcan located inside the room where the dialysis treatment is being done

SUBJECT/TITLE: DIALYSIS: CRIT-LINE IV: USE OF

Policy Number: 11771

Page Number: 4

VI. *Crit-Line IV monitor Care:*

- a. Cleaning and disinfecting the Crit-Line IV monitor:
 - The exterior of the CLiC device, verification filter, and the Crit-Line IV monitor should be cleaned after every treatment.
 - Freshly prepared dilute bleach solution (1:100) is currently recommended by the Center for Disease Control as a suitable disinfectant for the hepatitis virus.
- b. CLiC Device disposal: If the CLiC device continues to fail verification of accuracy, even after recalibration, the device is no longer suitable for clinical use. Disinfect the CLiC device before disposing of it according to U.S. federal regulations 29CFR1910.145, 1910.1030.

References:	
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