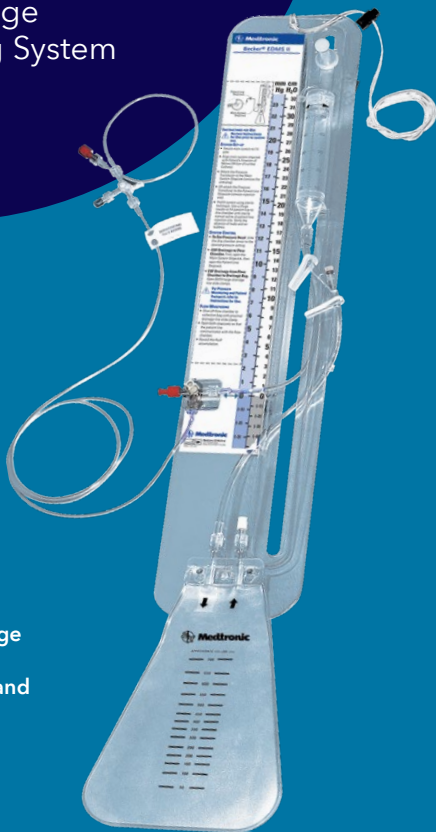


Medtronic

Quick reference guide

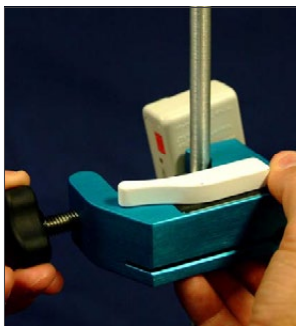
Becker™

External Drainage and Monitoring System



Refer to product package insert for instructions, warnings, precautions and complications.

Attach Becker™ Laser pole clamp to IV pole



- The Becker™ system can be rigidly mounted to an IV pole using the Becker™ EDM pole clamp, by securing the pole clamp to a standard IV Pole



Refer to product package insert for instructions, warnings, precautions and complications.

Secure the Becker™ system to the IV pole



- The Becker™ system is secured into the IV pole clamp, by inserting into the slot

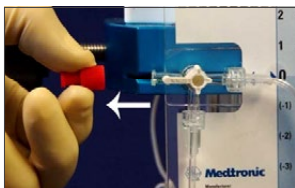
OR



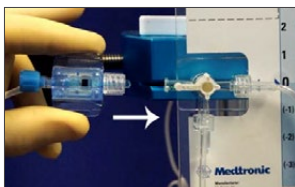
- Alternatively, the Becker™ system may be hung on an IV pole by the cord with cord-lock

Refer to product package insert for instructions, warnings, precautions and complications.

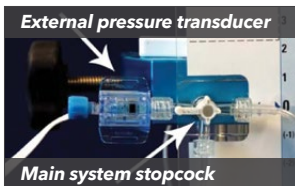
Attach the external pressure transducer to the main system stopcock



- Remove the red cap



- Attach the pressure transducer

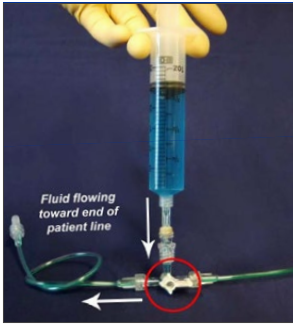


- Attached transducer

Note: Medtronic does not provide or sell external pressure transducers. Please refer to your transducer manufacturer's instructions for use.

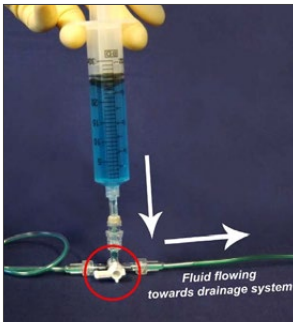
Refer to product package insert for instructions, warnings, precautions and complications.

Priming the patient line



- Using a 30 cc syringe and preservative-free normal saline, access the patient line stopcock and prime the patient line towards the short section of tubing (the end that connects to ventricular catheter)

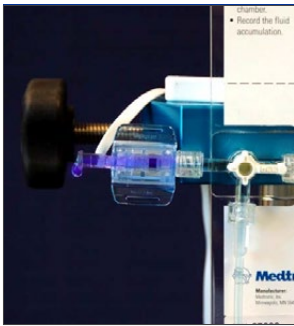
- *Be sure line is fully primed and all air bubbles are out of the line*



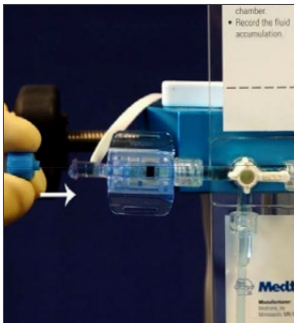
- Rotate the stopcock 180° so it is oriented as shown in the picture to the left
- Continue priming the patient line all the way through to the drip chamber
- *Be sure all air bubbles are out of the line*

Refer to product package insert for instructions, warnings, precautions and complications.

Prime the external pressure transducer*



- If using a pressure transducer, prime it at this time
- Using sterile technique, loosen or remove the end-cap on transducer
- Rotate the main system stopcock as show in the images below
- Push saline solution through the inner tubing of the transducer and insure that all air bubbles have been removed.

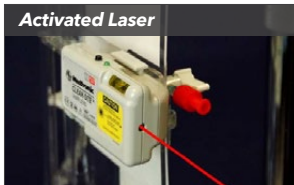


- *Note: Fluid is being injected from syringe connected to patient line stopcock*
- Reapply cap to transducer
- Once priming is complete, empty drip chamber, and close fluid pathway between the drip chamber and the drainage collection bag.

* Please refer to your transducer manufacturer's instructions for use.

Refer to product package insert for instructions, warnings, precautions and complications.

Level the drainage system to the patient's head



- If supplied, the Clear-Site™ laser level can be used to level the drainage system to the patient's head
- The Clear-Site™ laser would be used instead of the Becker™ laser pole clamp
- Clip the laser level onto to the bracket on the back of the Becker™ system
- Turn on laser by pressing and releasing black power button (green LED indicates the laser is turned on)

Refer to product package insert for instructions, warnings, precautions and complications.

Level the drainage system to the patient's head



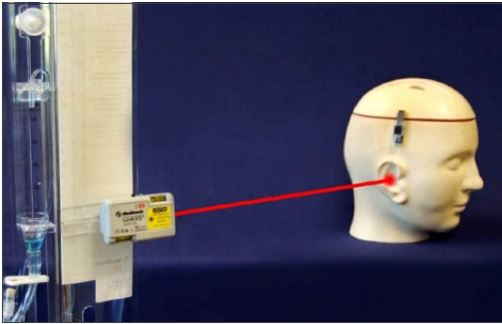
- Rotate laser so it generally points towards the patient's head
- Ensure the laser is horizontally level by using the yellow bubble level on the top of the laser



- Bubble should rest evenly between the two black lines on the bubble level

Refer to product package insert for instructions, warnings, precautions and complications.

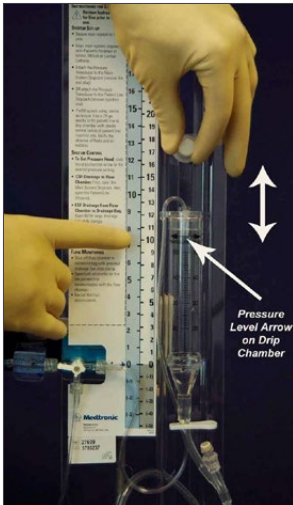
Level the drainage system to the patient's head



- Using the laser level, raise or lower the drainage system until the laser light points to the correct landmark on the patient's head.
- A commonly used landmark is the:
EXTERNAL AUDITORY CANAL

Refer to product package insert for instructions, warnings, precautions and complications.

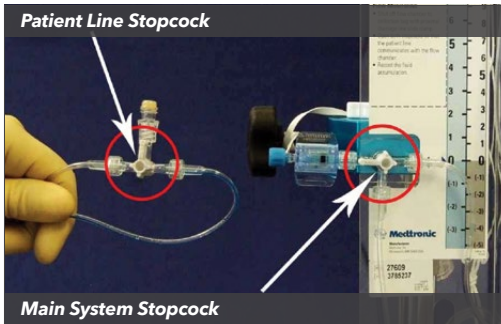
Set a system pressure threshold



- Raise or lower the drip chamber to the pressure setting described by the doctor
- The prescribed pressure number should be aligned to the double arrow on the top of the drip chamber
- Tighten the drip chamber locking screw

Refer to product package insert for instructions, warnings, precautions and complications.

Open the system for drainage



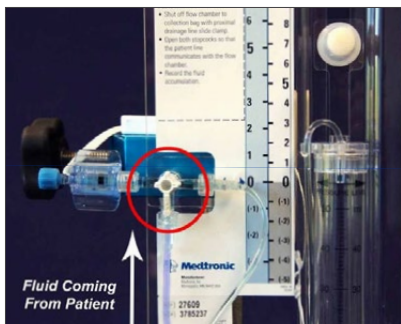
- Once the system has been completely set up, the stopcocks can be opened to allow drainage of CSF
- The main system stopcock and patient line stopcock should be set as shown in this photo to allow fluid drainage from the patient into the drip chamber

Refer to product package insert for instructions, warnings, precautions and complications.

“Zeroing” the pressure transducer* to atmospheric pressure



- Lower the drip chamber until the “Pressure Level” arrow on the top of the drip chamber is set at the “0” level on the pressure scale.

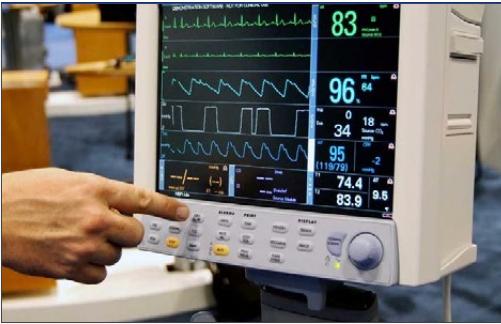


- Rotate the knob on the main system stopcock so that it is turned off to fluid coming from the patient (see photo)

* Please refer to your transducer manufacturer’s instructions for use.

Refer to product package insert for instructions, warnings, precautions and complications.

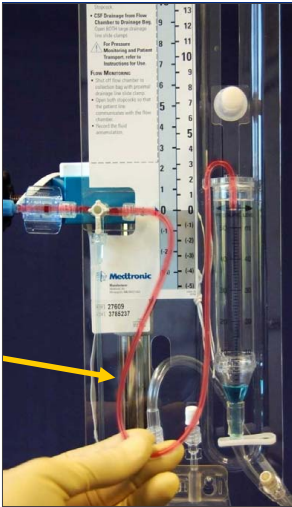
“Zeroing” the pressure transducer to atmospheric pressure



- The clinician then pushes the zero button on the bedside monitor and the transducer is now “zeroed” to atmospheric pressure

Refer to product package insert for instructions, warnings, precautions and complications.

“Zeroing” the pressure transducer to atmospheric pressure

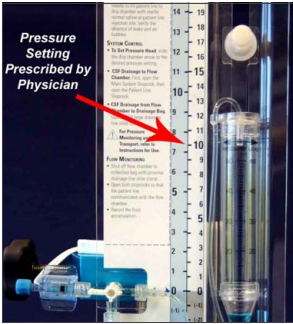


IMPORTANT NOTE!

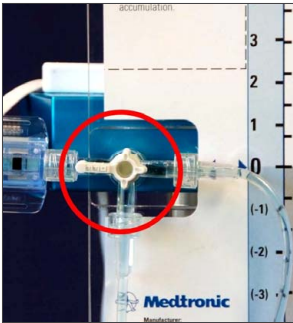
- The section of tubing located between the drip chamber and the transducer must be completely filled with fluid from end to end
- This section of tubing is highlighted in red in this photo
- If the tubing is not completely filled with fluid, you will not accurately “zero” the transducer to atmospheric pressure

Refer to product package insert for instructions, warnings, precautions and complications.

“Zeroing” the pressure transducer to atmospheric pressure



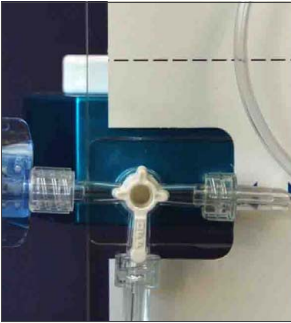
- Once the pressure transducer has been “zeroed,” the drip chamber needs to be adjusted back to its original setting.



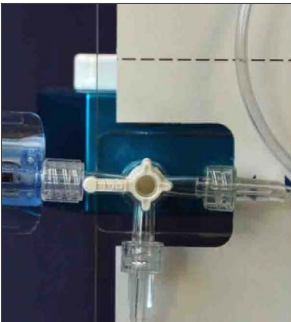
- Also adjust the main-system-stopcock so it is turned “off” to the transducer, thus allowing fluid flow from the patient into the drip chamber.

Refer to product package insert for instructions, warnings, precautions and complications.

Main-system stopcock positions



- 6 o' clock position - off to patient - safe position for patient transfer



- 9 o' clock position - off to transducer - patient will drain into drip chamber

Refer to product package insert for instructions, warnings, precautions and complications.

Main-system stopcock positions



- 12 o' clock position - open to drainage and obtaining ICP reading



- 3 o' clock position - off to drip chamber and obtaining an ICP reading

Refer to product package insert for instructions, warnings, precautions and complications.

Becker™ system's hydrophobic filter



- The Becker™ system is designed with a hydrophobic filter/vent that helps prevent clogging if the system is laid in a horizontal position.

Refer to product package insert for instructions, warnings, precautions and complications.

Refer to product package insert for instructions, warnings, precautions and complications.



For more information, contact your Medtronic sales representative or refer to www.Medtronic.com.

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