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|  | Policies & Procedures Title: BLADDER PRESSURE MONITORING FOR INTRA-ABDOMINAL PRESSURE (IAP) - ADULT RN Specialty Practice: RN Procedure: I.D. Number: 1135 |
| Authorization: [x] Tri-Hospital Nursing Practice Committee | Source: Nursing Date Effective: June 2017 Scope: Saskatoon City Hospital Royal University Hospital St. Paul's Hospital |

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DEFINITIONS

Intra-abdominal pressure (IAP) – is measured indirectly by using an indwelling urinary catheter to measure the pressure in the bladder. It has been found to correlate with IAP.

Abdominal compartment syndrome-occurs when the pressure within the abdomen becomes elevated (sustained at > 20 mm Hg), capillary perfusion can be compromised and tissue ischemia may develop.

Intra-abdominal hypertension – is sustained elevation of intra-abdominal pressure \geq 12 mm Hg.

IAP monitoring- is used to guide possible treatment decisions when severe abdominal distention is present. It is utilized to measure trends in potential changes in pressure of the intra-abdominal compartment

AbViser®: for the purpose of this policy we will be referring to the AbViser® AutoValve® intra-abdominal pressure monitoring system.

ROLES

Registered Nurses (RNs) - RNs identified by their manager in targeted practice settings will be certified in the Registered Nurse Specialty Practice (RN Procedure): Bladder Pressure Monitoring for Intra-Abdominal Pressure (IAP) - Adult.

1. PURPOSE

- 1.1 To minimize complications associated with bladder pressure monitoring.
- 1.2 To obtain intra-abdominal pressure (IAP) measurements.

2. POLICY

- 2.1 Registered Nurses certified in this RNSP: (RN Procedure) Bladder Pressure Monitoring for Intra-abdominal Pressure will have first completed the following learning modules/activities:
 - Reviewed the policy and procedure,
 - Successfully completed the learning module for Bladder Pressure Monitoring for Intra-abdominal Pressure,
 - Be deemed competent in Foley catheter care and pressure transducer set up and monitoring (See Appendix B),
 - Successfully demonstrate the competencies to a Clinical Nurse Educator or Registered Nurse preceptor proficient in these competencies skills.
- 2.2 A physician's order is required to initiate and measure bladder pressures (IAP).
- 2.3 Obtain readings with patient supine. If patient unable to tolerate being supine, a physician's order must be obtained to obtain readings with head of bed elevated.
- 2.4 Maintain aseptic technique when accessing the monitoring system and the urinary catheter drainage system. Only disconnect bladder pressure monitoring system from the patient upon a physician's order to discontinue monitoring.
- 2.5 Level the transducer to the level of the iliac crest in the mid-axillary line.
- 2.6 Zero the transducer at the beginning of each shift, if the system is disrupted or if the validity of the measurement is suspect.
- 2.7 Obtain bladder pressures (IAP) q2-4hr and prn unless otherwise ordered.

3. PROCEDURE

- 3.1 Supplies:
 - Face mask with shield
 - Clean gloves
 - Indwelling foley catheter
 - Bladder pressure monitoring system (e.g. AbViser® AutoValve®)
 - 500mL bag Normal Saline
 - Alcohol swab
 - Transducer cable / module
 - Bedside monitor capable of pressure monitoring

Note: cardiac monitoring is not required for this procedure

- 3.2 Identify patient and explain procedure to patient/family as appropriate
- 3.3 **Set-up:** See package insert

3.3.1 Perform hand hygiene.

3.3.2 Spike bag of NS.

Note: a pressure bag is not required

3.3.3 Prime saline through tubing, transducer and valve according to package insert.

3.3.4 Connect the transducer cable to the bladder pressure monitoring system.

- 3.3.5 Label the pressure wave as UAP on the monitor.
 - 3.3.6 Set the scale on the monitor to 30 mmHg.
 - 3.3.7 Perform hand hygiene and don PPE.
 - 3.3.8 Aseptically insert the bladder pressure monitoring valve between Foley catheter and drainage tubing.
 - 3.3.9 Mount transducer to IV pole or patient at the level of the iliac crest in the midaxillary line.
 - 3.3.10 Zero the transducer by turning stopcock off to patient and aseptically removing cap on transducer stopcock. Press "zero" button on monitor and confirm system "zeroed".
 - 3.3.11 Aseptically recap, turn stopcock open to patient.
- 3.4 **To measure bladder pressure (IAP):** See Appendix A
- 3.4.1 Ensure patient supine if tolerated or at same bed elevation as previous readings.
 - 3.4.2 Ensure transducer is zeroed and leveled to the iliac crest in the midaxillary line.
 - 3.4.3 Retract the AbViser® syringe to withdraw 20 ml of saline in syringe and briskly inject it into the bladder within 10 seconds.
 - 3.4.4 Allow the system to equilibrate and obtain the IAP reading at the end expiration.
 - 3.4.5 The reading will display for about 2 minutes then the valve will open and allow the instilled volume and urine to drain. Ensure instilled volume is subtracted from urinary output.
 - 3.4.6 Observe and record the pressure.
 - 3.4.7 Ensure the valve has opened and urine/saline drains.
 - 3.4.8 Remove PPE and wash hands.
 - 3.4.9 Report the bladder pressure (IAP) to the MRP or designate.
- 3.5 **Removal:**
- 3.5.1 When bladder pressure monitoring is no longer required, aseptically disconnect it from the Foley catheter and drainage set and reconnect the Foley to the drainage set.
- 3.6 **Document:**
- 3.6.1 Nurses notes: Patient tolerance of procedure, unexpected outcomes and related treatment.
 - 3.6.2 Care plan:

- Date AbViser® initiated.
 - HOB elevation to be used for each measurement.
- 3.6.3 Flow sheet/ Vital sign record:
- HOB elevation during measurement.
 - Bladder pressure (IAP) measurement on appropriate record.
 - Subtract amount of saline instilled from urinary output.

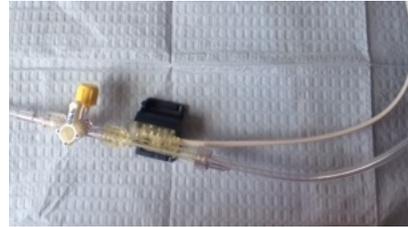
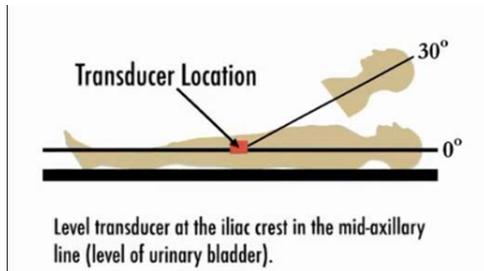
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Appendix A

How to Measure Bladder Pressure

1. With patient supine, secure the pressure transducer on the hip at the level of the bladder (level of the iliac crest in the mid-axillary line). Keep Foley and tubing between patient legs. (If pt cannot tolerate supine position, do all measurements at the same HOB elevation.)



2. On the monitor, tap **Main Setup**; tap **Measurements**
3. In the new window, tap **UAP** (if **UAP** not there, tap **CVP** or **ABP**, then tap **Label**, then tap **UAP**).
Note: UAP is used because there is no Bladder Pressure or Intra-Abdominal Pressure function in the monitor.
4. In the UAP window, tap **Scale** and set to **30 mmHg**
5. Zero the transducer as follows:
 - a. Turn the stopcock off towards the patient
 - b. Remove the dead ender and tap Zero UAP on the monitor. There will be two beeps and the monitor will show that it is complete
 - c. Attach new dead ender
 - d. Turn stopcock off towards the dead ender
6. Aspirate 20 mls of NS from the bag into the syringe and briskly inject it into the bladder within 10 seconds.
7. Allow the pressure reading on the monitor to equilibrate and record the pressure at the end of exhalation. (The pt should just breathe normally.) The reading will last only 1-3 minutes and then the green valve at the Foley connection will open automatically to drain the fluid into the drainage bag. Confirm that the valve opens and the fluid drains; it will remain open until the next measurement is done.
8. Tap on the pressure reading on the screen and tap **Off** in the **UAP Setup** window to turn the measurement off between readings.