

Institutional Policy Manual

Policy Title: Care of the Patient with an Intra Aortic Balloon Pump (IABP) - Adult

Policy Summary: It is the policy of *** to safely utilize an intra aortic balloon pump to increase coronary artery perfusion, increase systemic perfusion, decrease myocardial workload, and decrease afterload.

Policies:

1. Registered nurses from cardiac and CT surgery ICUs, the Cath Lab and Cath Lab technicians may care for patients with an IABP.
2. The RN may assist the physician with insertion of the IABP catheter. Insertion may take place at the bedside or under fluoroscopy.
3. Blood samples are not withdrawn through the IAB central lumen.
4. The nurse will notify the physician:
 - a. Of prolonged or new onset of chest pain
 - b. A platelet count less than 100,000.
5. Discontinue any intravenous heparin infusions at least two (2) hours prior to IABP removal.
6. The RN weans IABP therapy per physician/Nurse Practitioner (NP) /Physician's Assistant (PA) prescription. Monitor/trend all hemodynamic parameters during weaning process which may include cardiac output/cardiac index.
7. When transporting patient with an IABP, plug in to AC outlet when destination reached.
8. The RN will ensure a replacement helium tank is with the IABP daily.
9. **The RN does not remove the IABP catheter.**
10. The six hours of bedrest following IAB removal is by physician/NP/PA prescription.

Procedure:

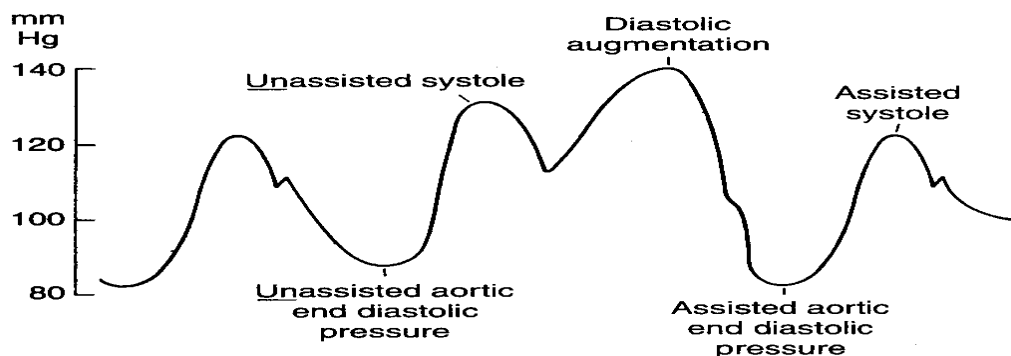
1. Refer to the AACN Procedure Manual for Critical Care on general management of the IABP.
2. Prepare the femoral access sites for IAB insertion according to the policy for preparing skin for preoperative and invasive procedures.
3. Mark pedal pulses bilaterally with surgical marker, and document results.
4. The IABP console is obtained from the *** and returned to ***

Care following IAB Insertion:

1. Select an appropriate ECG lead to maximize R wave identification for IABP trigger.
2. Document in electronic medical record:
 - a. Every **15 minutes X 4, every 30 minutes X 2 and every hour until IAB removal**
 - b. Temperature, color, dorsalis pedis and posterior tibial pedal pulse of the cannulated extremity, bleeding and/or hematoma at insertion site and left radial pulse. Heart rate, respiratory rate, and from the balloon console: the balloon mean arterial pressure, balloon diastolic augmentation pressure

and balloon assisted systolic arterial pressures. More frequent vital signs may be obtained from the bedside monitor. Assess IABP helium tubing for presence of blood and/or brown flecks.

3. Daily chest x-ray is recommended to confirm IAB position.
4. Note a decrease or loss of the left radial pulse or decreased urine output are signs of IAB migration from insertion position.
5. Change dressing as per Central Venous Access Policy.
6. Waveform documentation to be completed post-insertion and every six hours:
 - a. dual recording with ECG and balloon pressure waveform
 - b. dual recording with ECG and arterial pressure on 1:2 balloon frequency/ratio
7. Label the timing waveform strip as illustrated below:



8. All arterial lines will be transduced, and attached to an alarm. One arterial pressure will be monitored via patient bedside monitoring equipment to allow for central alarm documentation, trending and patient safety.
9. To troubleshoot a dampened arterial waveform, fast flushing of fluid through the central lumen is only done with due consideration of the catheter tip. The proximal tip of the inner lumen is located at the level of the left subclavian artery. Dislodging a thrombus at the lumen tip is a concern. To proceed:
 - a. **PLACE THE IABP IN STANDBY.**
 - b. **Aspirate blood back through the central lumen. If blood cannot be aspirated through the lumen, notify the physician. DO NOT FAST FLUSH.**
 - c. **If blood can be aspirated through the lumen, flush lumen with pigtail until visible blood clears the lumen.**
 - d. **CONTINUE FLUSHING FOR AN ADDITIONAL 15 SECONDS.**
10. **The IAB catheter should not remain inactive for more than 15 minutes because there is a potential for thrombus formation.** If balloon pumping cannot be resumed, and troubleshooting is unsuccessful, or console replacement is unavailable, and manual inflation of the IAB becomes necessary, utilize the following procedure:
 - a. Detach the catheter extender from the IAB catheter's male luer fitting, and connect a three-way stopcock between balloon catheter and male luer fitting.
 - b. Aspirate with a syringe through IAB catheter (not the central lumen) to assure blood is not returned.
 - c. Inflate the IAB with the amount of air or helium appropriate to balloon size, and immediately aspirate. Repeat every 5 minutes while the IAB is inactive

- d. If the balloon requires removal for any of the above, it is recommended the balloon be removed within 30 minutes.
- 11. For cardiopulmonary resuscitation, the “trigger” of choice is the AP/arterial pressure.
- 12. Manual compression is required to the IAB catheter removal site for a total of 30-45 minutes ensuring hemostasis is established. **The RN does not perform the first 20 minutes of manual compression following catheter removal.** After the first 20 minutes of manual compression and hemostasis is established, the RN will then hold pressure for a minimum of 15 minutes.
 - a. The RN will assess the IAB removal site every 5 minutes for bleeding/hematoma development for the first 15 minutes once hemostasis is achieved.
 - b. It is recommended the head of bed remain flat for the first hour, and may be elevated to 30 degrees during the second hour.
 - c. Assess vital signs, balloon removal site, and pedal pulses of cannulated limb every 15 minutes X4, every 30 minutes X2, and then hourly until the six hours of bedrest are complete.
- 13. If the IABP console requires servicing between uses, it is to be sent to clinical engineering with an orange tag explaining the malfunction.
- 14. Helium tanks will be changed when the “Low Helium” alert message appears. (This indicates that the helium supply has gone below the 24-fill reserve). Helium tank replacements are to be obtained from clinical engineering. On evenings, weekends and nights they are to be obtained from ***

References:

- 1. ARROW AutoCAT 2 WAVE IABP Operator’s Manual, Arrow International, 2005.
 - 2. Lynn-McHale Wiegand, D.J. 5th edition 2011. Intraaortic Balloon Management. In AACN Procedure Manual for Critical Care. Philadelphia, PA: W. B. Saunders.
 - 3. Policy: Central Venous Access.
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