

**Percutaneous Ventricular Assist Device: Impella**

**Purpose:**

To provide a cardiac output support up to 2.5 L in cardiac patients needing some assistance. This assist device does not support full cardiac function.

**Policy:**

1. A LSUHSC – S interventional cardiology attending, CV surgery attending or Intensivist shall perform the placement of the device.
2. An informed consent shall be obtained prior to insertion from the patient or immediate relative. If a life threatening emergency exists, the physician may perform the procedure without consent.

**Equipment:**

Percutaneous Ventricular Assist Device  
 Impella console system (including Braun Vista Purge System)  
 Hemochron Jr and Cuvettes  
 D<sub>20</sub> 500cc/Heparin 25,000 units (Heparin 50units/cc)

**Procedure:**

<b>Responsible Party</b>	<b>Action</b>
MD	1. Obtain informed consent
Perfusionist/Cath Lab	2. Place Introducer and Impella via sterile technique 3. Responsible for the pump’s initial set up and initial functioning of pump.
RN	4. Assists in transport to ICU. 5. Monitor intake and output. 6. Check capillary refill and temperature and color of skin at least every 4 hours. 7. Assess central nervous system state (i.e., mentation) at least every 4 hours. 8. Assess peripheral pulses initially every 15 minutes x 1 hour, then every 30 x 1 hour, then hourly. 9. Assess vital signs every 15 minutes x 1 hour, then every 30 x 1 hour, then hourly. 10. Hourly monitors and documents: Performance level, Flow, Placement Signal, Motor Current, Speed, Pump Position, Purge Pressure 11. Purge Flow Rates shall be documented on the I & O page hourly. 12. Assess hemodynamic parameters at least every 4 hours.

13. Adjust inotropes to maintain blood pressure and cardiac output, nitroprusside to adjust the systemic vascular resistance, and prophylactic antibiotics as ordered.
  14. Monitor for dysrhythmias and intervene per unit standard.
  15. Monitor for complications associated with the use of VAD (thromboembolism, hemolysis) and other signs of complications, such as, bleeding, renal, respiratory, and ventricular failure; infection; air emboli; and thrombi.
  16. While patient is bedridden, provide measures to prevent the hazards of immobility.
  17. Maintain Performance Level at ordered rate. Performance rate shall be lowered in the face of decreased flow while the nurse is assessing situation and obtaining orders from the MD.
  18. Performance Level shall not be decreased lower than P2 while the device is in the ventricle.
  19. Performance Level shall not be maintained at P9 for longer than 5 minutes.
  20. Maintain Purge Pressure between 300 – 700 mmHg.  
 If < 300 mmHg Bolus 0.5 – 1cc then increase Purge rate 1cc/hr.  
 If < 300 mmHg and Purge rate > 12 bolus 1cc and notify MD.  
 If > 700 mmHg inspect tubing for kinks or clamps. If Purge rate  
 ≤ 4cc/hr; notify MD. If Purge rate ≥ 4cc, decrease by 1cc/hr.
  21. Notify MD or Abiomed clinical support if pressure alarms remain unresolved after 5 attempts to correct
- \*\*Note Chest compressions and defibrillation can be administered during Impella support. During Chest compressions, decrease the performance to P2. Do not stop or unplug device for compressions or defibrillation.