

TRANSPORT PROTOCOLS

FOR PATIENTS ON AN

INTRA-AORTIC BALLOON PUMP

Courtesy of Datascope Corp.
Clinical Support Services Department

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These protocols are designed to serve as guidelines and are not recommendations from Datascope Corp.

PROTOCOL FOR TRANSPORT OF PATIENTS ON AN INTRA-AORTIC BALLOON PUMP

Objectives of the Transport Team:

Provide skilled personnel and the equipment necessary to deliver the specialized care needed to stabilize, maintain and transport a critically ill patient on the Intra-aortic Balloon Pump.

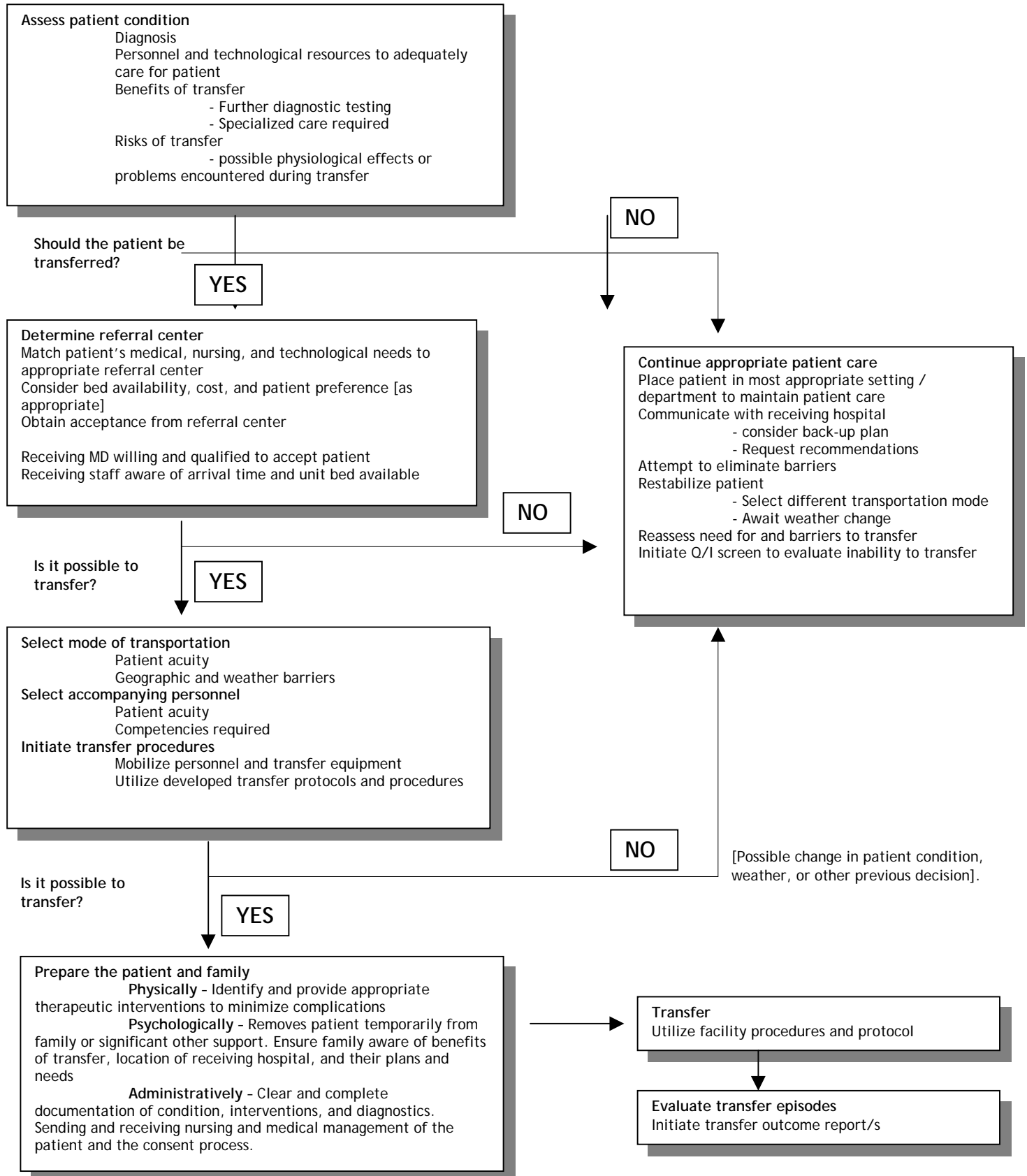
It is imperative that all members of the team communicate, cooperate and collaborate with one another and all others involved in the transport procedure to insure optimal care of the patient during all aspects of the transport process.

All members of the transport team must:

- Be familiar with the **Guidelines for the Transfer of Critically Ill Patients*** [Critical Care Medicine from the American College of Critical Care Medicine, Society of Critical Care Medicine and American Association of Critical Care Nurses].
- Be skilled in the set-up, operation and troubleshooting of the intra-aortic balloon pump.
- Possess a strong background in all aspects of acute coronary care.

* Please contact Datascope for your copy of the **Guidelines for the Transfer of Critically Ill Patients**.

INTERFACILITY TRANSFER ALGORITHM



ACTIVATION OF THE INTRA-AORTIC BALLOON PUMP TRANSPORT TEAM

RETRIEVAL FROM A REFERRAL HOSPITAL

Pre-transport coordination and communication to include:

- Obtain information from the referral hospital:
Patient name, referring physician's name and phone number, name of attending physician upon admission at referral hospital.
Referring hospital's name and city, patient location within the hospital.
Contact person at the referring facility and phone number.
- Notify team members of impending transport
- Secure a bed in the admitting unit and arrange staffing for the new admission.
- Obtain a status report on the patient, record the Pre-Transport Information Checklist and communicate this information to other team members involved in the transport.
- If the referring physician is different from the physician who will be attending the patient upon admission, contact the receiving physician to confirm he/she is aware of the impending admission and if necessary provide him/her with the name and phone number of the referring physician for consultation.
- Notify the referring facility of the estimated time of arrival of the intra-aortic balloon pump team.
- Identify the type [Manufacturer] of Intra-aortic balloon catheter [IAB] being used. May require an adapter to connect the IAB to the transport pump.

REFERRAL TO A RECEIVING HOSPITAL

Pre-transport coordination and communication to include:

- Secure a bed in the admitting unit at the receiving hospital.
- Notify team members of the impending transport.
- Provide information to the receiving hospital:
Patient name, referring physician's name and phone number, name of the physician who will be attending the patient upon admission to the receiving hospital.
Referring hospital's name and city, patient location within the hospital.
Contact person at the referring facility and phone number.
- Secure the availability of the transport vehicle and determine departure location from the hospital and the estimated time of departure.
- If the referring physician is different from the physician who will be attending the patient upon admission, contact the receiving physician to confirm that he/she is aware of the impending admission, and if necessary, provide him/her with the name and phone number of the referring physician for consultation.
- Notify the receiving facility of the estimated time of arrival of the patient and the transport team.
- Have copies made of the chart and all necessary aspects of the medical records [include cath records etc.].
- If necessary, arrange to have staff at the receiving facility meet the transport team upon arrival.

RETRIEVAL FROM A REFERRAL HOSPITAL

Upon arrival at the referring facility, the Transport Team will:

- Identify themselves to the nurse caring for the patient and assist in preparing the patient for transport.
- Confirm that consent forms have been completed.
- Explain the transfer procedure to the patient's family if they are available, provide the patient's family with information regarding the receiving facility; how to get there, what unit the patient will be admitted to, who they can contact at the receiving facility, and the phone number for the admitting unit.
- Confirm that the chart has been copied and that all necessary aspects of the medical record are available.

The Balloon Pump Operator will:

- Set-up the transport pump, attach electrodes and arterial line transducer and prepare to switch the patient to the transport pump.
- Switch the patient to the transport balloon pump and assure optimal operation.
- Check that there is enough battery time available with the balloon pump for the journey to the receiving hospital.
- Manage the balloon pump operation for optimal therapeutic effect.
- Assist the nurse with the changing and arranging of intravenous lines, drips, invasive lines and assist in the transfer of the patient from the bed to the stretcher.
- Secure the availability of the transport vehicle for the return trip, provide them with an estimated time of departure and departure location. If necessary, arrange for additional personnel to help load the patient and pump into the waiting transport vehicle.

REFERRAL TO A RECEIVING HOSPITAL

In preparation for the transport, the Transport Team will:

- Confirm that consent forms have been completed.
- Explain the transfer procedure to the patient and the patient's family if they are available, provide the patient's family with information regarding the receiving facility; how to get there, what unit the patient will be admitted to, who they can contact at the receiving facility, and the phone number for the admitting unit.
- Confirm that the chart has been copied and that all necessary aspects of the medical record are available.
- Gather the necessary supplies and equipment for the transport.
- Inform the receiving hospital of the Intra-aortic balloon catheter type, [manufacturer].

The Balloon Pump Operator will:

- Prepare the balloon pump for transport, confirm the ECG lead cable and transducer are directly connected to the pump and in working order.
- Check that there is enough battery time available with the balloon pump for the journey to the receiving hospital.
- Manage the balloon pump for optimal therapeutic effect.
- Assist the nurse with the changing and arranging of intravenous lines, drips, invasive lines and assist in the transfer of the patient from the bed to the stretcher.
- Secure the availability of the transport vehicle for the return trip, provide them with an estimated time of departure and departure location. If necessary, arrange for additional personnel to help load the patient and pump into the waiting transport vehicle.

RETRIEVAL FROM A REFERRAL HOSPITAL

The Transport Nurse will:

- Maintain an ongoing assessment of the patient's condition and intervene as necessary.
- Assist with the changing and arranging of all intravenous lines, drips, invasive lines and assist in the transfer of the patient from the bed to the stretcher.
- Call report to the receiving unit and provide them with an estimated time of arrival, request the balloon pump to be used at the bedside be set-up and ready for the patient on arrival.
- Contact the receiving physician for transfer orders.

When the Patient is ready for transport, the Transport Team will:

- Transport the patient to the waiting transport vehicle and load the patient into the transport vehicle. Plug in and secure.
- Make sure no supplies and equipment have been left behind.
- Assess the patient and balloon pump operation and intervene if necessary.

During the transport from the receiving facility, the Transport team will:

- Maintain an ongoing assessment of the patient's condition and maintain optimal operation of the balloon pump.
- The transport nurse will document the ongoing assessment and interventions during the transport.
- The balloon pump operator will intervene as necessary to maintain optimal balloon pump operation.

REFERRAL TO A RECEIVING HOSPITAL

The Transport Nurse will:

- Maintain an ongoing assessment of the patient's condition and intervene as necessary.
- Contact the physician for any further orders.
- Assist with the changing and arranging of all intravenous lines, drips, invasive lines and assist in the transfer of the patient from the bed to the stretcher.
- Call status report to the receiving unit, record on the Pre-Transport information checklist and provide them with an estimated time of arrival. Request the balloon pump to be used at the bedside be set-up and ready for the patient on arrival.

When the Patient is ready for transport, the Transport Team will:

- Transport the patient to the waiting transport vehicle and load the patient into the transport vehicle. Plug in and secure.
- Make sure all necessary supplies and equipment are available.
- Assess the patient and balloon operation and intervene if necessary.

During transport to the receiving facility, the Transport Team will:

- Maintain an ongoing assessment of the patient's condition and maintain optimal operation of the balloon pump.
- The transport nurse will document the ongoing assessment and interventions during the transport.
- The balloon pump operator will intervene as necessary to maintain optimal balloon pump operation.

Protocol for Insertion of the Intra-Aortic Balloon by the Retrieval Team

The Transport Team will:

- Explain the insertion procedure to the patient and the patient's family if they are available.
- Set up insertion supplies, prep and drape the patient.
- Set up the balloon pump.
- Assist the physician with the insertion of the intra-aortic balloon catheter. [Please refer to Instructions for Use]

The Balloon Pump Operator will:

- Set up the balloon pump. [Please refer to the Manufacturer's operators manual]
- Following catheter placement, attach the balloon catheter to the balloon pump, initiate counterpulsation and manage the balloon pump for optimal therapeutic effects.

AT THE RECEIVING FACILITY

The Transport Team will:

- Transport the patient from the transport vehicle to the bedside and the patient will be changed from the transport balloon pump to the waiting balloon pump, unless the transport balloon pump is to be utilized at the bedside.
- Assist with the transfer of intravenous lines, drips, invasive lines, and assist with transfer of the patient from the stretcher to the bed.

The Transport Nurse will:

- Complete all documentation of the transport and place on the patient's chart.

Following the completion of the transport, the Transport Team will:

- Complete the Post Transport Check List.
- Check, charge, and replace all used supplies.
- Store all supplies in there designated location and confirm that the balloon pump is plugged in and battery charging and the Helium tank is closed.

SUGGESTED PAPER WORK:

Consents

For Transport

Pre-Transport Information Check List

Transport Record

The hospital patient care record will be used to document all aspects of patient care delivered during the transport and all events of the transport.

Post-Transport Check List

Equipment Check Lists

Intra-Aortic Balloon pump

Airway and Ventilation

Cardiac

Vascular Access

Medications

TRANSPORT EQUIPMENT CHECK LIST

Intra-Aortic Balloon Pumping Equipment

- _____ Intra-Aortic Balloon Pump with Transport Support Module
- _____ Lead Cable
- _____ Skin Electrodes
- _____ Transducer
- _____ Arterial Pressure Set-up
- _____ Balloon Catheters
 - _____ 8 Fr. With insertion kit
 - _____ 9.5 Fr. With insertion kit
- _____ Extender Tubing
- _____ Adapters - to adapt other brands of balloon catheters to a Datascope Balloon pump
- _____ Spare Helium Cylinder
- _____ Operators manual
- _____ Stopcocks
- _____ 60cc Syringe

Airway and Ventilation Equipment

- | | |
|---|----------------------------|
| _____ Portable Oxygen Equipment | _____ Laryngoscope Handles |
| _____ Portable Suction Apparatus | _____ Laryngoscope |
| _____ Oxygen Administration Equipment | _____ Straight Blade |
| _____ ET Tubes [various sizes] | _____ Curved Blade |
| _____ ET Tube Stylet | _____ Pocket Mask |
| _____ Spare Batteries and Lightbulbs | _____ Bag-Valve System |
| _____ Oral Airways | _____ Oxygen Masks |
| _____ Magill Forceps [various sizes] | _____ 10cc Syringes |
| _____ Lubricating Jelly [water soluble] | _____ Pulse Oximetry |

Cardiac Equipment

- _____ Portable, Battery-operated Monitor/Defibrillator [to include:]
 - _____ Paper / Recorder
 - _____ Defibrillator Pads / gel
 - _____ Quick-look Paddles or Hands-free Patches
 - _____ ECG Leads
 - _____ Chest Attachment Electrodes
 - _____ Paddles with capability to provide electrical discharge below 25 watts/second

- _____ Transcutaneous Cardiac Pacemaker

Vascular Access Equipment

- _____ Intravenous Administration Equipment
- _____ Intravenous Administration Sets
 - _____ Microdrip and Macrodrip
 - _____ 3-way stopcocks with extensions
 - _____ Y-Blood tubing drip sets
- _____ Crystalloid Solutions
 - _____ 1,000 ml Normal Saline
 - _____ 1,000 ml Ringers Lactate
 - _____ 500 ml Normal Saline
 - _____ 500 ml Dextrose 5% [in water]
- _____ Intravenous Catheters 14G - 24G
- _____ Tourniquet
- _____ Needles 19G - 25G
- _____ Antiseptic Solution [alcohol wipes, povidine-iodine wipes]
- _____ Tape / Band-aids
- _____ IV Pole
- _____ Syringes of various sizes

Medications:

Medications should be compatible with current standards as indicated by the American Heart Association's Emergency Care Committee.

In general medications should include:

Cardiovascular Medications:

- _____ 1:10,000 Epinephrine
- _____ Atropine
- _____ Lidocaine
- _____ Bretylium Tosylate
- _____ Adenosine
- _____ Diltiazem
- _____ Hydrochloride
- _____ Propranolol
- _____ Nitroglycerin tablets / intravenous
- _____ Aspirin
- _____ Dopamine

Cardiopulmonary/respiratory medications:

- _____ Albuterol
- _____ Furosemide
- _____ 1:1,000 Epinephrine
- _____ Aminophylline

Other Medications:

- _____ Morphine
- _____ Calcium Chloride
- _____ 50% Dextrose solution
- _____ Diazepam
- _____ Midazolam
- _____ Magnesium
- _____ Potassium Chloride
- _____ Naloxone
- _____ Sterile water for Injection

Pre-Transport Information Checklist

Name _____ Age _____ Date _____ Time _____
Referring Hospital _____ Unit _____ Phone # _____
Contact Person _____ Phone # _____
Referring Physician _____ Phone # _____
Consulting Physician _____ Phone # _____
Diagnosis _____
Vital Signs: BP _____ HR _____ Rhythm _____ Temp _____ RespRate _____
Spont/Mech Vent _____ PA _____ Wedge _____ RA _____

Current Medications:

<u>Drips</u>	<u>Dose</u>	<u>Other Medications</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Invasive Lines - Site and Insertion Date:

Intra-Aortic Balloon Catheter _____
Balloon Pump Model _____ Catheter Size _____ IAB Volume _____
Arterial Line _____
Swan Ganz _____
Central Line _____
Pacing Lead _____ IV's _____
ETT _____ Vent Settings _____
Foley Catheter _____ Nasogastric Tube _____

Team Members:

Team Leader _____ Nurse _____
Balloon Pump Operator _____
Others _____

Equipment:

_____ Intra-Aortic Balloon Pump	_____ Extra Helium Cylinder
_____ IAB Supplies	_____ Emergency Medications
_____ Infusion Supplies	

Time Departed to Referral Hospital _____
Time Arrived at Referral Hospital _____
Time Departed from Referral Hospital _____
Time Arrived at Retrieval Hospital _____

Additional Information:

Post-Transport Checklist

_____ Documentation completed and records placed in the patient's chart

Supplies and Equipment

Intra-Aortic Balloon Pump

_____ Helium Tank closed

_____ Helium Tank changed if necessary

_____ Balloon Pump plugged and charging

_____ Battery charge Light
Illuminated

Intra-Aortic Balloon Pump Supplies

_____ Checked

_____ Replaced

Respiratory Supplies

_____ Checked

_____ Replaced

Intravenous Supplies

_____ Checked

_____ Replaced

_____ Infusion Pumps plugged in and charging

Medications

_____ Checked

_____ Replaced

TRANSPORT CONSIDERATIONS FOR DATASCOPE INTRA—AORTIC BALLOON PUMP SYSTEMS 97/97e/98/98XT

If it is necessary to disconnect patient connections or to detach the battery from the console to facilitate movement into a transport vehicle or aircraft, the IABP consoles will hold the settings in memory for **15 minutes**. Once, the patient and pump are reattached, turn the power **ON**, verify timing settings, press **ASSIST/STANDBY** to Auto Fill the IAB and resume pumping.

Portable Operation:

- To switch from **AC power** to battery operation, unplug the power cord from the **AC outlet**. The IABP Console switches automatically to battery operation.
- The message “**Battery in use**” will be displayed in the **ADVISORIES** section of the monitor. For the IABP Console **98/98XT** the **BATTERY INDICATOR** will be displayed on the monitor screen.
- The batteries recharge whenever the Console is plugged into an **AC outlet** with the **MAINS** switch **ON**. To maintain batteries at full charge and maximize battery life, it is recommended that the Console be **plugged in at all times even when not in use**.
- When approximately **30 minutes** of battery operation time remains, the following occurs: The message, “**Low Battery**”, is continuously displayed in the **ADVISORIES** section and a **double beep alarm** is activated for **30 seconds**.
- To return to **AC power**, plug the AC power cord into an **AC outlet**. The Console automatically switches to AC operation and the internal batteries will recharge. Verify **BATTERY CHARGING LED** indicator on the front of the pump is either continuously illuminated or is flashing when the Console is plugged in.
- If the unit is stored for an extended period and AC power is unavailable, disconnect the Console battery pack from the console. Refer to the Operating Instructions for additional detail.

Portable Operation from a Vehicle Inverter:

- The AC power for the Console can be supplied from an emergency vehicle inverter.
- The inverter should be checked for proper operation.
- Refer to the Operating Instructions for vehicle inverter specifications.
- The message “Battery in use” will not be displayed during proper AC inverter operation.
- Interruption of the vehicle inverter AC power will result in internal battery operation.

Portable Operation from External DC Source:

- The Console can be powered from an External DC power source such as may be available from an ambulance, helicopter, or external battery pack.
- Connect a voltage compatible external 24-volt DC power source to the External DC Input Connector. [Refer to the Operating Instructions for additional detail].
- The message, “Battery in use (EXT)” will be displayed in the ADVISORIES section of the monitor when the Console is operated from the External DC power source.
- Interruption of the External DC power source will result in internal battery operation.

Altitude changes during Air Transport:

- For proper operation during air transport, the IABP Console balloon pressure must adapt to local atmospheric pressure.
- In the Auto Fill mode, the Console will automatically purge and fill the IAB when local atmospheric pressure decreases or increases by 25 or 50 mmHg respectively. These pressure changes occur approximately every 1,000 feet of rise in altitude or 2,000 feet of drop in altitude.
- The Auto Fill mode should be used during air transport. If the Auto Fill mode cannot be used and the Manual Fill mode is required, a Manual Fill must be performed at the same intervals that an Auto Fill would occur. When in the manual fill mode, direct communication with the pilot for altitude changes is mandatory.

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