CLINICAL SUPPORT SERVICES
DEVELOPING AN IABP TEACHING STRATEGY
Caution: U.S. Federal Law restricts this device to sale by or on the order of a physician. Refer to package insert for current indications, warnings, contraindications, precautions and instructions for use.
Datascope is now MAQUET Cardiovascular

In early 2009, the purchase agreement between Datascope and Getinge AB was completed. As a result, Datascope's innovative cardiovascular product portfolio will be integrated into MAQUET Cardiovascular, a global leader representing the Medical Systems Business area of Getinge AB.

Cardiac professionals have always relied on gold-standard Cardiac Assist products from Datascope, helping them to feel confident that they are delivering the highest quality of care to their patients. Now, as a part of MAQUET Cardiovascular, Datascope is even better positioned to focus on the future advancement of Cardiac Assist products and seeks to explore the full potential of this technology through our continued dedication to innovation, service and clinical excellence.

Quality Products:
Expect the same great quality products you have relied on over the years with names you are familiar with like: Fidelity, Linear and Sensation IAB’s, CS300 balloon pumps, SafeGuard and StatLock.

Quality Service:
Rest assured that you will receive the same amazing service and clinical support you have become accustomed to from Datascope. We are still here for you 24/7 with technical support, loaner equipment and clinical help.

Worldwide:
MAQUET ranks among the leading providers of medical products, therapies and services for Surgical Workplaces, Critical Care and Cardiovascular applications. Since its foundation more than 170 years ago, MAQUET has stood for innovation and the advancement of patient care technologies in the field of medicine. The portfolio of MAQUET products is extensive, providing a comprehensive solution that is designed for efficient workflows, safety and the improvement of patient lives and outcomes.

Welcome to MAQUET Cardiovascular:
With a fresh vision of the future, this new, combined organization is committed to providing the highest quality patient care solutions for cardiologists, interventional radiologists, cardiothoracic and vascular surgeons, critical care clinicians and their teams.

For further information please visit www.datascope.com
Developing an IABP Teaching Strategy

Course Description
The program will provide lectures on the importance of in-house resources and specifies the important points to incorporate into programs to ensure effectiveness. Methods for teaching the technical components of the equipment will be demonstrated with time provided for hands-on. Support materials available from Datascpe, such as presentations, teaching manuals, etc. will be reviewed. Methods of maintaining clinical proficiency will also be discussed.

Behavioral Objectives
1. Describe the importance of strategic pre-planning for an intra-aortic balloon pump course.
2. List the three modules that comprise a complete intra-aortic balloon pump course.
3. List two components of a technical presentation of the intra-aortic balloon pump.
4. Describe two strategies for maintaining expertise.
Program Outline: Train the Trainer

8:30 – 9:00  Registration

9:00 – 9:15  Introduction/Program Review

9:15 – 10:30  I. Developing an IABP Course
              A. Pre-Program Planning

10:30 – 10:45  Break

10:45 – 12:30  B. Technical

12:30 – 1:30  Lunch

1:30 – 2:30  C. Clinical Considerations

2:30 – 3:30  III. Hands-on Workshop

3:30 – 3:45  Break

3:45 – 4:15  IV. Review of Support Materials

4:15 – 4:30  V. Maintaining Expertise

4:30  Evaluation
I. Developing an IABP Course

A. Pre-program Planning

1. Participants
   a. Background
   b. Attitude awareness

2. Institution
   a. Role of the staff with the IABP
   b. Policy/procedure
   c. Usage
II. Program Content

A. Theoretical

1. Review CV anatomy/physiology
   a. Structure/position
   b. Movement of valves in response to pressure gradients
   c. Conduction system
   d. Mechanical cardiac cycle
e. Pressure Waves

f. Normal Arterial Waveform
g. Coronary artery origination and phasic perfusion

h. MVO$_2$ supply/demand determinants

<table>
<thead>
<tr>
<th>Supply</th>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coronary artery anatomy</td>
<td>1. Heart Rate</td>
</tr>
<tr>
<td>2. Diastolic pressure</td>
<td>2. Afterload</td>
</tr>
<tr>
<td>3. Diastolic time</td>
<td>3. Preload</td>
</tr>
<tr>
<td>4. $O_2$ Extraction</td>
<td>4. Contractility</td>
</tr>
<tr>
<td>a. Hgb</td>
<td></td>
</tr>
<tr>
<td>b. PaO$_2$</td>
<td></td>
</tr>
</tbody>
</table>
i. Measurement of Cardiac Performance

Cardiac Output = heart rate x stroke volume
(normal – 4-6 liters/minute)

j. LV Failure
2. Theory of Intra-aortic Balloon Counterpulsation
   a. Balloon structure and position
   b. IAB Inflation – Primary Effects
      1). Augmentation of diastolic pressure
      2). Increased coronary perfusion
   c. IAB Deflation – Primary Effects
      1). Afterload reduction
      2). Decreased left ventricular workload
      3). Increased cardiac output

3. Trigger vs. Timing
   a. Trigger
   
   b. Timing
   
   c. Predictive (Conventional) vs. R-wave deflation timing
d. Waveform Interpretation
   1. Presence of "V" configuration between systolic and diastolic augmentation pressure
   2. Diastolic augmentation ideally greater than systole
   3. Reduction in aortic end diastolic pressure
   4. Decreased assisted systolic pressure
   5. Mean arterial pressure

![Waveform Interpretation Diagram]

- A. One Complete Cardiac Cycle
- B. Unassisted Aortic End Diastolic Pressure
- C. Assisted Diastolic Pressure
- D. Diastolic Augmentation
- E. Assisted Aortic End Diastolic Pressure
- F. Reduced Systolic Pressure

 e. Secondary effects
   1. CO/CI
   2. HR
   3. PAD/PCWP
   4. SVR
   5. B/P:
      - Systolic
      - Diastolic
      - MAP
      - Diastolic augmentation

f. Systemic effects
   1. Neuro
   2. Renal
   3. Vascular
   4. Respiratory
g. Indications
   1) Refractory Unstable Angina
   2) Impending Infarction
   3) Acute MI
   4) Refractory Ventricular Failure
   5) Complications of Acute MI
   6) Cardiogenic Shock
   7) Support for diagnostic, percutaneous revascularization, and interventional procedures
   8) Ischemia related intractable ventricular arrhythmias
   9) Septic Shock
   10) Intraoperative pulsatile flow generation
   11) Weaning from bypass
   12) Cardiac support for non-cardiac surgery
   13) Prophylactic support in preparation for cardiac surgery
   14) Post surgical myocardial dysfunction/low cardiac output syndrome
   15) Myocardial contusion
   16) Mechanical bridge to other assist devices
   17) Cardiac support following correction of anatomical defects

h. Contraindications
   1) Severe aortic insufficiency
   2) Abdominal or aortic aneurysm
   3) Severe calcific aorta-iliac disease or peripheral vascular disease
   4) Sheathless insertion with severe obesity, scarring of the groin, or other contraindications to percutaneous insertion

Please Refer to the Instructions for Use Prior to Insertion of the IAB
B. Technical: Intra-Aortic Balloon Catheter

Designed for sheathless or sheathed insertion

Fiberoptic IAB catheter

Conventional IAB Catheter
B. Technical: Intra-Aortic Balloon Pump

1. Pneumatics
   a. Safety Disk/Safety Chamber (Pediatrics)

b. Helium Supply
2. Electronics  
   a. Monitor Display

<table>
<thead>
<tr>
<th>Alarm Messages</th>
<th>Trigger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisories</td>
<td>Heart Rate Display</td>
</tr>
<tr>
<td>ECG</td>
<td>Pressure Display</td>
</tr>
<tr>
<td>Lead</td>
<td>Systolic</td>
</tr>
<tr>
<td>Gain</td>
<td>Diastolic</td>
</tr>
<tr>
<td>Pressure Source</td>
<td>Mean</td>
</tr>
<tr>
<td>IAB Fill Mode</td>
<td>Diastolic Augmentation</td>
</tr>
<tr>
<td>Slow Gas Alarm Status</td>
<td>Augmentation Alarm</td>
</tr>
<tr>
<td>Operation Mode</td>
<td>Helium Indicator</td>
</tr>
<tr>
<td>IAB Status Indicator</td>
<td>Battery Indicator</td>
</tr>
</tbody>
</table>
b. CS100/CS300 IABP Key Pad Controls

<table>
<thead>
<tr>
<th>Operation Mode Keys</th>
<th>Zero Pressure Key</th>
<th>START Key and Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-Auto</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trigger Source Key</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacer V/AV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacer A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAB Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAB Augmentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alarm Mute Key</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAB Fill Key</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help Key Indicator</td>
<td>Menu Guide</td>
<td>Inflation Interval Key</td>
</tr>
<tr>
<td></td>
<td>Ref Line</td>
<td>Freeze Display Key</td>
</tr>
<tr>
<td></td>
<td>Aug. Alarm</td>
<td>Print Strip Key</td>
</tr>
<tr>
<td></td>
<td>ECG/AP Sources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pump Options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>User Preferences</td>
<td></td>
</tr>
</tbody>
</table>
c. Recorder
1) ECG

2) Pressure

3) Balloon Pressure Waveform
The inflation marker shows the period of inflation. Vertical timing marks located below the arterial waveform are also available to aid with initial timing. The timing markers indicate the point at which the inflate and deflate commands are sent.

A unique automatic timing algorithm allows effective balloon pumping even during atrial fibrillation. Press the Inflation Interval key to observe the period of inflation while pumping. Vertical markers located below the arterial waveform and the highlighted portion indicate the period of balloon inflation.
3. Troubleshooting/CS100
   a. Alarm Messages
      1) Trigger Alarms
         **AUTO Operation Mode**
         a) No Trigger
         b) Poor Signal Persists
         **Semi-Auto or Manual Operation Modes**
         a) No Trigger
         b) No Pressure Trigger
         c) Check Pacer Timing
         d) Trigger Interference
      2) Catheter Alarms
         a) Leak in IAB Circuit
         b) Rapid Gas Loss
         c) IAB Disconnected
         d) Check IAB Catheter
         e) Blood Detected
         f) AutoFill Failure - No Helium
         g) AutoFill Failure
         h) AutoFill Required
      3) Pneumatic Alarms
         a) High Drive Pressure
         b) Low Vacuum
      4) System Surveillance Alarms
         a) Electrical Test Fails Code # ________________
         b) System Failure
         c) Safety Disk Test Fails
   b. Advisory Messages
      1) Alert Messages
         **AUTO Operation Mode**
         a) Poor Signal Quality
         b) No Pressure Source Available
         c) Unable to Update Timing
         **Semi-Auto or Manual Operation Modes**
         a) Irregular Pressure Trigger
         b) Verify Proper Timing
         c) ECG Detected
         d) IAB not Filled
         e) Manual Fill IAB
         **All Operation Modes**
         a) Prolonged time in Standby
         b) Maintenance Required Code # ________________
         c) No Patient Status Available
         d) Low Helium
         e) Low Battery
         f) Low Battery [EXT]
         g) Heart Rate Low
2) Status Messages

**AUTO Operation Mode**
- a) Function Unavailable in the AUTO Operation Mode

**Semi-Auto and Manual Operation Modes**
- a) Automatic Operation Mode is Disabled
- b) Gas Loss and Catheter Alarms Disabled
- c) Auto R-Wave Deflate
- d) R-Wave Deflate

**All Operation Modes**
- a) System Trainer
- b) System Test OK
- c) Autofilling
- d) Leak Testing Safety Disk
- e) Slow Gas Alarm is off
- f) Battery in Use
- g) Battery in Use [EXT]

3) Prompt Messages

- a) Unplug Disk Outlet
- b) Plug Disk Outlet
- c) Manual Fill IAB

**c. Patient Conditions**
1) Atrial Fibrillation
2) Ectopics
3) Cardiac Arrest
4) Cardioversion/Defibrillation

d. Changing Helium Tank

e. Safety Disk Leak Test

f. Manual Fill

g. Manual Timing
4. Troubleshooting/CS300

a. High Priority Alarms:

All Modes:
- Augmentation Below Limit Set *
- No Trigger
- IAB Disconnected
- Check IAB Catheter
- Leak in IAB Circuit
- Rapid Gas Loss
- Blood Detected
- Autofill Failure
- Autofill Failure – No Helium
- High Pressure Drive
- Low Vacuum

AUTO Operation Mode:
- Poor Signals Persist

Semi Auto or Manual Mode:
- ECG Detected *
- No Pressure Trigger
- Trigger Interference
- Check Pacer Timing
- Autofill Required

Other:
- Safety Disk Test Fails

* Pumping NOT suspended

b. Medium Priority Alarms:

All Modes:
- IAB Optical Sensor Failure
- Low Battery

AUTO Operation Mode:
- Poor Signal Quality
- No Pressure Source Available
c. Low Priority Alarm:

**AUTO Operation Mode:**
Unable to Update Timing

d. Technical Alarms:

Electrical Test Fails Code #_____
System Failure
No Patient Status Available

e. Informational Messages:

**All Modes:**
A.P. Optical Sensing Module Failure
Unable to Calibrate IAB Optical Sensor
IAB Optical Sensor Calibration Expired
No Trigger
Prolonged Time In Standby
Autofilling
Auto Zeroing
Autofilling and Zeroing
Function Not Available
Low Helium
Battery in Use (EXT)
Battery In Use
System Test OK
System Trainer
Maintenance Required Code #_____
Slow Gas Loss Alarm is OFF
Leak In IAB Circuit – Overridden
Blood Detected – Overridden

**AUTO Operation Mode:**
Function Unavailable in Auto Operation Mode

**AUTO or SemiAuto Operation Mode:**
Auto R-Wave Deflate
R-Wave Deflate

**SemiAuto:**
Irregular Pressure Trigger
**SemiAuto or Manual:**
- Verify Proper Timing
- IAB Not Filled
- Manual Fill IAB
- Auto Operation Mode is Disabled
- Gas Loss and Catheter Alarms Disabled

**Manual Mode:**
- Manual Timing Selected – See Help

**Other:**
- Install Safety Disk
- Unplug Disk Outlet
- Plug Disk Outlet
- Leak Testing Safety Disk

f. Patient Conditions
   1) Atrial Fibrillation
   2) Ectopics
   3) Cardiac Arrest
   4) Cardioversion/Defibrillation

g. Changing Helium Tank

h. Safety Disk Leak Test

i. Manual Fill

j. Manual Timing
5. Factors Affecting Diastolic Augmentation
   a. Patient Hemodynamics
      1) Heart Rate
      2) Stroke Volume
      3) Arterial Pressure
      4) System Vascular Resistance
   b. Intra-Aortic Balloon
      1) IAB in Sheath
      2) IAB Not Unfolded
      3) IAB Position
      4) Kink in IAB Catheter
      5) IAB Leak
      6) Low Helium Concentration
   c. IABP
      1) Timing
      2) Position of IAB Augmentation Control
6. Timing errors

**Early Inflation**

Inflation of the IAB prior to aortic valve closure

**Waveform Characteristics**
- Inflation of IAB prior to dicrotic notch
- Diastolic augmentation encroaches onto systole (may be unable to distinguish)

**Physiologic Effects:**
- Potential premature closure of aortic valve
- Potential increase in LVEDV and LVEDP or PCWP
- Increased left ventricular wall stress or afterload
- Aortic Regurgitation
- Increased MVO$_2$ demand

**Late Inflation**

Inflation of the IAB markedly after closure of the aortic valve

**Waveform Characteristics:**
- Inflation of the IAB after the dicrotic notch
- Absence of sharp V
- Sub-optimal diastolic augmentation

**Physiologic Effects:**
- Sub-optimal coronary artery perfusion
Early Deflation
Premature deflation of the IAB during the diastolic phase

**Waveform Characteristics:**
- Deflation of IAB is seen as a sharp drop following diastolic augmentation
- Sub-optimal diastolic augmentation
- Assisted aortic end diastolic pressure may be equal to or less than the unassisted aortic end diastolic pressure
- Assisted systolic pressure may rise

**Physiologic Effects:**
- Sub-optimal coronary perfusion
- Potential for retrograde coronary and carotid blood flow
- Angina may occur as a result of retrograde coronary blood flow
- Sub-optimal afterload reduction
- Increased MVO$_2$ demand

Late Deflation

**Waveform Characteristics:**
- Assisted aortic end-diastolic pressure may be equal to the unassisted aortic end diastolic pressure
- Rate of rise of assisted systole is prolonged
- Diastolic augmentation may appear widened

**Physiologic Effects:**
- Afterload reduction is essentially absent
- Increased MVO$_2$ consumption due to the left ventricle ejecting against a greater resistance and a prolonged isovolumetric contraction phase
- IAB may impede left ventricular ejection and increase the afterload
7. Normal Balloon Pressure Waveform
Variations in Balloon Pressure Waveforms

**Heart Rate**

**Bradycardia**
Increased duration of plateau due to longer diastolic phase.

**Tachycardia**
Decreased duration of plateau due to shortened diastolic phase.

**Rhythm**

Varying R-R intervals result in irregular plateau durations.

**Blood Pressure**

**Hypertension**
Increased height or amplitude of the waveform.

**Hypotension**
Decreased height or amplitude of the waveform.
**Gas Loss**

Leak in the closed system causing the balloon pressure waveform to fall below zero baseline. This may be due to a loose connection, a leak in the IAB catheter, H$_2$O condensation in the external tubing, or a patient who is tachycardic and febrile which causes increased gas diffusion through the IAB membrane.

---

**Catheter Kink**

Rounded balloon pressure waveform, loss of plateau resulting from a kink or obstruction of shuttle gas. This may be caused by a kink in the catheter tubing, improper IAB catheter position, sheath not being pulled back to allow inflation of the IAB, the IAB is too large for the aorta, the IAB is not fully unwrapped, or H$_2$O condensation in the external tubing.

---

**Sustained Inflation**

Theoretical possibility if the IAB remains inflated longer than 2 seconds. The Datascope intra-aortic balloon pumps will activate the System Failure alarm and deflate the IAB.
# Datascope IABP Performance Checklist CS 100

<table>
<thead>
<tr>
<th>Name: ___________________________</th>
<th>Date ___________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital policy and procedures review:</strong></td>
<td>Date _______ Initials _______</td>
</tr>
<tr>
<td><strong>Basic Intra - aortic balloon pump course:</strong></td>
<td>Date _______ Initials _______</td>
</tr>
<tr>
<td><strong>Technical Seminar / Advanced Troubleshooting:</strong></td>
<td>Date(s) _______ / _______ Initials _______</td>
</tr>
<tr>
<td><strong>Challenge Exam (if applicable):</strong></td>
<td>Date _______ Score: _______ (P/F)</td>
</tr>
</tbody>
</table>

**Directions for Instructor:** Place your initials next to the skills the participant is able to perform. Leave blank the skills requiring repeat performance. Clarify learning needs if necessary in the comment section. The “Clinical Setting” column is an optional checklist for use by a preceptor or resource person for reinforcement of skills acquired on system trainer.

## Skills

<table>
<thead>
<tr>
<th><strong>Skills</strong></th>
<th><strong>System Trainer</strong></th>
<th><strong>Clinical Setting</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INITIAL SET UP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Establish Power: Main power switch &amp; IABP On/Off switch ⇒ ON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Open helium tank and verify helium pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Establish ECG and Pressure connections</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ZERO TRANSDUCER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Open the transducer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Press the zero pressure key for 2 seconds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Close the transducer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CONFIRM OPERATION MODE – AUTO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INITIATE PUMPING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Attach IAB catheter &amp; appropriate extender to safety disk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Press the Start key and observe the Auto Filling message</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Verify optimal diastolic augmentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If desired, IAB deflation can be fine tuned using the IAB deflation control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VERIFY AUG. ALARM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Verify Aug. Alarm setting is approximately 10mmHg less than the patient’s augmented diastolic pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Adjust, if necessary by pressing Aug. Alarm key and using the up and down arrow keys, in the navigation circle, to change value displayed on the screen</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ASSESS HEMODYNAMIC BENEFITS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ensure optimal augmentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ensure optimal afterload reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RECORD Pressures: ASSISTED &amp; UNASSISTED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Press Print Strip key to record waveforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Use Printer Menu in User Preferences to change printer settings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Datascope IABP Performance Checklist

<table>
<thead>
<tr>
<th>Skills</th>
<th>System Trainer</th>
<th>Clinical Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auto Operation Mode</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe ECG and pressure source selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe Trigger source selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe automatic timing and CardioSync 2 with R-Trac</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Semi-Auto Operation Mode</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe ECG and pressure source selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe Trigger source selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe automatic timing and CardioSync 2 with R-Trac</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Troubleshooting</strong></td>
<td>System Trainer</td>
<td>Clinical Setting</td>
</tr>
<tr>
<td><strong>Demonstrates Ability to Identify Variable Trigger Selection Criteria and Appropriate Use of Each Trigger</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Atrial Fibrillation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Demand Ventricular Pacemaker, Rate 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• AV sequential pacemaker, demand mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Unobtainable ECG signal, regular rhythm, BP 100/50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cardiac arrest with good chest compressions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sinus Tachycardia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sinus Rhythm with frequent PVC'S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Fixed rate AV sequential pacemaker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Atrial pacemaker - 100% paced</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Evaluates Situations That May Cause an IAB Catheter Alarm and Describes Appropriate Intervention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Kink in the catheter or tubing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Patient sitting straight up in bed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• IAB has not exited the sheath</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Identifies and Recommends Appropriate Action for Potential Loss of Helium (“Gas Loss”)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Blood in the IAB catheter shuttle gas tubing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• IAB catheter disconnected from the console</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Discusses the Following Alarm and Advisory Messages</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Poor Signal Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Poor Signal Persists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No Pressure Source Available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Unable to Update Timing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**DATASCOPE IABP PERFORMANCE CHECKLIST  CS 100**

<table>
<thead>
<tr>
<th>Skills</th>
<th>System Trainer</th>
<th>Clinical Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Discusses the hemodynamic relationship between the patient and IABP therapy in regards to diastolic augmentation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Increased heart rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Decrease in patient stroke volume</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ectopy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Increase in patient BP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Decreased SVR</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Demonstrates appropriate intervention for the following errors in timing and verbalizes potential clinical implications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Early inflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Late inflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Early deflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Late deflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Portable Operation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Initiates and terminates portable operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identifies location of battery charge light</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interface (Slave) Cables (if applicable):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identifies location and use of ECG and/or pressure cables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describes proper use of ECG slave cable in the presence of pacemakers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Datoscope IABP Performance Checklist**  
**CS300**

Name: _______________________________  Date ____________________

**Hospital policy and procedures review:**  
Date ________  Initials ________

**Basic Intra-aortic balloon pump course:**  
Date ________  Initials ________

**Technical Seminar / Advanced Troubleshooting:**  
Date(s) ________ / ________  Initials ________

**Challenge Exam (if applicable):**  
Date ________  Score: __________ ( P / F )

**Directions for Instructor:** Place your initials next to the skills the participant is able to perform. Leave blank the skills requiring repeat performance. Clarify learning needs if necessary in the comment section. The “Clinical Setting” column is an optional checklist for use by a preceptor or resource person for reinforcement of skills acquired on system trainer.

<table>
<thead>
<tr>
<th>Skills</th>
<th>System Trainer</th>
<th>Clinical Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INITIAL SET UP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Establish Power: Main power switch &amp; IABP On/Off switch ⇒ ON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Open helium tank and verify helium pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Establish ECG and Pressure connections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If using a sensor IAB:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ensure the IAB Sensor Cable is connected to the sensor module and clipped to helium extender tubing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If using conventional IAB/Transducer:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Open transducer to air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Press zero pressure key for 2 seconds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Close transducer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CONFIRM OPERATION MODE – AUTO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INITIATE PUMPING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Attach IAB catheter &amp; appropriate extender to safety disk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Press the Start key</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If using a sensor IAB:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Observe for the “Autofilling &amp; Zeroing” message</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If using conventional IAB/ transducer:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Observe for the “Autofilling” message</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Verify optimal diastolic augmentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VERIFY AUG. ALARM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Verify Aug. Alarm setting is approximately 10mmHg less than the patient’s augmented diastolic pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Adjust, if necessary by pressing Aug. Alarm key and using the up and down arrow keys, in the navigation circle, to change value displayed on the screen</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ASSESS HEMODYNAMIC BENEFITS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ensure optimal augmentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ensure optimal afterload reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If desired, IAB deflation can be fine tuned using the IAB deflation control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RECORD PRESSURES: ASSISTED &amp; UNASSISTED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Press Print Strip key to record waveforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Use Printer Menu in User Preferences to change printer settings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

31
# Datascope IABP Performance Checklist CS300

<table>
<thead>
<tr>
<th>Skills</th>
<th>System Trainer</th>
<th>Clinical Setting</th>
</tr>
</thead>
</table>

## Auto Operation Mode
- Describe ECG and pressure source selection
- Describe Trigger source selection
- Describe automatic timing and CardioSync 2 with R-Trac

## Semi-Auto Operation Mode
- Describe ECG and pressure source selection
- Describe Trigger source selection
- Describe automatic timing and CardioSync 2 with R-Trac

## Pressure Source - Describes understanding of how pressure source is originated and calibrated
- Fiberoptics
- Conventional IAB/Transducer

## Troubleshooting

### Demonstrates Ability to Identify Variable Trigger Selection Criteria and Appropriate Use of Each Trigger
- Atrial Fibrillation
- Demand Ventricular Pacemaker, Rate 60
- AV sequential pacemaker, demand mode
- Unobtainable ECG signal, regular rhythm, BP 100/50
- Cardiac arrest with good chest compressions
- Sinus Tachycardia
- Sinus Rhythm with frequent PVC’s
- Fixed rate AV sequential pacemaker
- Atrial pacemaker - 100% paced

### Evaluates Situations That May Cause an IAB Catheter Alarm and Describes Appropriate Intervention
- Kink in the catheter or tubing
- Patient sitting straight up in bed
- IAB has not exited the sheath

### Identifies and Recommends Appropriate Action for Potential Loss of Helium (“Gas Loss”)
- Blood in the IAB catheter shuttle gas tubing
- IAB catheter disconnected from the console

### Discusses the Following Alarm and Informational Messages
- Poor Signal Quality
- Poor Signals Persist
- No Pressure Source Available
- Unable to Update Timing
- IAB Optical Sensor Failure
- AP Optical Sensing Module Failure
- Unable to Calibrate IAB Optical Sensor
- IAB Optical Sensor Calibration Expired
<table>
<thead>
<tr>
<th>SKILLS</th>
<th>System Trainer</th>
<th>Clinical Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCUSSES THE HEMODYNAMIC RELATIONSHIP BETWEEN THE PATIENT AND IABP THERAPY IN REGARDS TO DIASTOLIC AUGMENTATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Increased heart rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Decrease in patient stroke volume</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ectopy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Increase in patient BP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Decreased SVR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEMONSTRATES APPROPRIATE INTERVENTION FOR THE FOLLOWING ERRORS IN TIMING AND VERBALIZES POTENTIAL CLINICAL IMPLICATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Early inflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Late inflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Early deflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Late deflation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PORTABLE OPERATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Initiates and terminates portable operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identifies location of battery charge light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERFACE (SLAVE) CABLES (IF APPLICABLE):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identifies location and use of ECG and/or pressure slave cables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describes proper use of ECG slave cable in the presence of pacemakers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW LEVEL OUTPUT CABLE (IF APPLICABLE):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identifies location and use of low level output cable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Frequently asked questions
   a. What adjustments do I need to make with:
      sinus tachycardia
      ventricular tachycardia
      atrial fibrillation
      pacemakers
      asystole
   b. Can I alter weaning settings if a patient’s condition deteriorates?
   c. What happens with a balloon leak?
   d. Where are the helium tanks stored and who is responsible for changing them?
   e. How can we bring in ECG and pressure signals from our monitor?
   f. How does the modem work?
   g. How do I change the recorder paper and where is extra paper stored?
   h. When can I view the help screens?
   i. Other questions?
C. **Clinical Considerations**

Goal: Stress the **similarities** between the IABP patient and the critical cardiovascular patient while highlighting the **differences**.

1. Potential side effects/complications
   
   a. Limb ischemia
   
   b. Excessive bleeding from insertion site
   
   c. Thrombocytopenia
   
   d. Immobility of balloon catheter
   
   e. Balloon leak
   
   f. Infection
   
   g. Aortic dissection
   
   h. Compartment syndrome (may develop after IAB removed)

2. Review of care plan for the IABP patient

3. Care of the inner lumen

4. Weaning and removal

5. Transport
III. Hands-On Workshop

Set-up and use of the Datascope Intra-Aortic Balloon Pump Trainer

- Trainer plugs into the direct ECG and Pressure input connectors on back of pump.
- The short phono plug cable connected to the trainer plugs into the Trainer Input jack on back of pump.
- Pump must be turned on in order for trainer to function.
- The SYSTEM TRAINER message will appear in the upper left corner of the monitor screen.
- Not all alarms and trainer simulations are listed.
- **Trainer is NOT to be used while pump is being used for patient therapy.**

<table>
<thead>
<tr>
<th>Functions</th>
<th>To Simulate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeroing - Conventional IAB</td>
<td>Press the “Pressure” key on trainer until “Vent” is highlighted, then press the “Zero” button on IABP keypad for 2 seconds. Once zeroed, press the “Pressure” key on trainer until “Normal” is highlighted.</td>
</tr>
<tr>
<td>Zeroing - Fiberoptic IAB</td>
<td>If a Sensation catheter is connected to the fiber-optic sensor module, calibration is automatic on start-up and every 2 hours thereafter. To initiate a calibration anytime after start-up, WHILE PUMPING simply press the “Zero” button on the IABP keypad for 2 seconds. The message “Auto Zeroing” will be displayed in the advisory section of the monitor.</td>
</tr>
<tr>
<td>Loss of arterial pressure waveform</td>
<td>Press the “Pressure” key until “Vent” is highlighted to simulate the loss of the pressure waveform (doesn’t require user to zero again). Can also press the “BP Disconnect” key once. Press again and pressure waveform will reappear (user will have to zero again). In Auto Operation Mode, the message “No Pressure Source Available” will be displayed.</td>
</tr>
<tr>
<td>ECG artifact</td>
<td>While in Auto Operation Mode, press the “Noisy ECG” key. Pump will cycle through all available leads, then switch to pressure trigger. Press the “Noisy ECG” key again and artifact will disappear. Pump will switch back to ECG trigger in 2 min. if rhythm is regular, 1 min. if rhythm is A-fib. While in Semi-Auto Operation Mode, the pump will NOT automatically make changes. To return to ECG Trigger more quickly, press the “Pressure” key on the trainer until “Vent” is highlighted and pump will return to ECG Trigger.</td>
</tr>
<tr>
<td>ECG lead disconnect</td>
<td>While in Auto Operation Mode, press the “ECG Lead Fault” key once and a flat line ECG will appear and pump will switch to Pressure Trigger. Press “ECG Lead Fault” key again and rhythm will reappear and pump will switch back to ECG Trigger. While in Semi-Auto Operation Mode and in ECG Trigger, this will cause a “No Trigger” alarm.</td>
</tr>
<tr>
<td>Sinus Rhythm</td>
<td>Normal Sinus Rhythm with a heart rate of 80 is the default “Mode”.</td>
</tr>
<tr>
<td>Heart rate changes</td>
<td>When “Sinus Rhythm” mode is selected, press the “Rate” key to simulate various heart rates: the choices are 60, 80, 100, and 130 when highlighted.</td>
</tr>
<tr>
<td>Atrial fibrillation</td>
<td>Press the “Mode” key until “Atrial Fib” is highlighted. Press the “Mode” key twice to return to Sinus Rhythm.</td>
</tr>
<tr>
<td>Functions</td>
<td>To Simulate</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>100% V paced rhythm</td>
<td>Press the “Mode” key until “Pacer Fixed 80bpm” is highlighted.</td>
</tr>
<tr>
<td>Various pacer settings</td>
<td>First, press the “Mode” key until “Pacer Fixed 80bpm” is highlighted. Next, press the “Pacer” key, which will allow you to cycle through the following choices: V paced, A-V paced, A paced, and A-V demand pacing. To stop simulating any of the paced rhythms, press the “Mode” key once to return to Sinus Rhythm.</td>
</tr>
<tr>
<td>Ventricular arrhythmias</td>
<td>First, make sure you are in Sinus Rhythm (any rate is fine). Next, press the “Ventric. Rhythms” key, which will allow you to cycle through the following choices: PVC (1 PVC every 6 to 10 beats), Couplets (1 couplet every 10 to 12 beats), Bigeminy (short run of bigeminy every 10 to 12 beats), and V-Tach (15 beat run of v-tach every 15 to 20 beats). To stop simulating any of the arrhythmias, press the “Mode” key once.</td>
</tr>
<tr>
<td>No augmentation</td>
<td>Press the “Pressure” key until “No Aug.” is highlighted. The IABP monitor screen will display an arterial pressure waveform with no augmentation.</td>
</tr>
<tr>
<td>Cardiac arrest</td>
<td>While in Auto Operation Mode, press the “ECG Lead Fault” key, then press the “Pressure” key until “Vent” is highlighted. The pump will stop pumping and alarm “No Trigger”. Press the “Pressure” key until “Normal” is highlighted, which will bring back the arterial pressure waveform (this demonstrates that the CS100/300 will start pumping automatically when an adequate arterial pressure waveform appears, which is similar to what would happen if adequate chest compressions are being done in a code).</td>
</tr>
<tr>
<td>Alarm: “Augmentation Below Limit Set”</td>
<td>Set the Aug. Alarm to a level higher than current augmentation pressure or decrease the IAB Augmentation control setting.</td>
</tr>
<tr>
<td>Alarm: “IAB Disconnected”</td>
<td>Disconnect the catheter extender tubing from the safety disk while pumping.</td>
</tr>
<tr>
<td>Alarm: “Rapid Gas Loss”</td>
<td>While pumping, slowly loosen the extender tubing where it connects to the catheter (may be difficult to simulate).</td>
</tr>
<tr>
<td>Alarm: “Leak in IAB circuit”</td>
<td>While pumping, slowly loosen the extender tubing where it connects to the catheter. (may be difficult to simulate).</td>
</tr>
<tr>
<td>Alarm: “Check IAB Catheter”</td>
<td>While pumping, kink the extender tubing.</td>
</tr>
<tr>
<td>Alarm: “No Trigger”</td>
<td>While in Auto Operation Mode, the ECG and Pressure signal are lost by pressing the “ECG Lead Fault” key and “Pressure” key until “Vent” is highlighted.</td>
</tr>
<tr>
<td>Alarm: “No Pressure Source Available”</td>
<td>While in Auto Operation Mode with an adequate ECG signal, press the “BP Disconnect” key.</td>
</tr>
<tr>
<td>Alarm: CS300 “No Pressure Source Available”</td>
<td>If a Sensation catheter is connected to the fiber-optic sensor module, remove the sensor connector from the fiber-optic sensor module while pressing the “BP Disconnect” key. To resume pressure waveform, reconnect sensor connector to sensor module and press “BP Disconnect” key once. CS300 will auto-calibrate after 1 min. or WHILE PUMPING simply press the “Zero” button on the IABP keypad for 2 seconds.</td>
</tr>
<tr>
<td>Functions</td>
<td>To Simulate</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Alarm: “Poor Signal Quality”</td>
<td>While in Auto Operation Mode, press the “Pressure” key until “Vent” is highlighted, then press the “Noisy ECG” key. This will alarm once a minute for 3 minutes while the CS100/CS300 continues to pump.</td>
</tr>
<tr>
<td>Alarm: “Poor Signals Persist”</td>
<td>While in Auto Operation Mode, after the “Poor Signal Quality” alarm has been displayed for 3 minutes, the “Poor Signals Persist” alarm will sound and the CS100/CS300 will stop pumping.</td>
</tr>
<tr>
<td>Alarm: “Unable to Update Timing”</td>
<td>While in Auto Operation Mode while pumping, press the “Semi-Auto” Operation Mode key on the IABP keypad, then press “ECG Lead Fault” and “No Aug.” on the trainer. Next, switch to Auto Operation Mode on the IABP keypad, then press the “Start” key. The alarm will sound in approximately 30 seconds.</td>
</tr>
<tr>
<td>Alarm: “Irregular Pressure Trigger”</td>
<td>While in Semi-Auto Operation Mode in Pressure Trigger, press the “Mode” key until “Atrial Fib” is highlighted.</td>
</tr>
<tr>
<td>Alarm: “ECG Detected”</td>
<td>While in Semi-Auto Operation Mode, establish an adequate ECG signal while in Internal Trigger.</td>
</tr>
<tr>
<td>Alarm: “Autofill Failure”</td>
<td>If already pumping, put the pump on standby, disconnect the extender tubing from the safety disk, then push the “Start” key. The CS100/CS300 will automatically attempt to perform an autofill and will fail since the catheter is not connected.</td>
</tr>
<tr>
<td>Alarm: “Autofill Failure – No Helium”</td>
<td>Close the helium tank and then attempt to perform an autofill. This may take 3 or 4 autofills to simulate because there will be residual helium in the line.</td>
</tr>
<tr>
<td>Alarm: “Sensor IAB Failure”</td>
<td>If a non-functional sensor connector is connected to the fiber-optic sensor module while pumping, completely disconnect the trainer from the back of the pump. The alarm will go away when the trainer is re-connected.</td>
</tr>
</tbody>
</table>
IV. Review of Support Materials

- Pre-inservice Self-Study Guide*
- Course Outlines*
- Theory CD
- Website / E-learning modules*
- Abbreviated Operator's Guides*
- Timing Pocket Reference Guide*
- Case Studies
- Performance Checklist
- Inservice Videos
  - IAB catheter insertion
  - IABP operation
- PowerPoint presentations
- Journal article reprints
- Policies and Procedures*
- Transport Protocols*

V. Maintaining Expertise

A. Suggested Resources
B. Inservice Videos
C. Theory CD-ROM
D. E-Learning Modules
E. Hands on with performance checklist
F. Case studies
G. Website
H. Written Test
I. Combination of all of the above
REFERENCE LIST


Benchmark Counterpulsation Outcomes Registry 2005.


Ohman EM. Counterpulsation and thrombolysis together improve survival after cardiogenic shock – the TACTICS results. Presented at the 22nd Congress of European Society of Cardiology on August 27, 2000 in Amsterdam, the Netherlands.


BIBLIOGRAPHY

THEORY


INDICATIONS


George BS. Thrombolysis and intra-aortic balloon pumping following acute myocardial infarction - Experience in four TAMI studies. Cardiac Assists 1988 October;4(3).


COMPLICATIONS


**INSERTION**


**PEDIATRICS**


**TRANSPORT**


**NURSING CARE**


Shoulders O. Managing the challenge of IABP therapy. Critical Care Nurse 1991 Feb;11(2):60-76.

PROGRAM AND SPEAKER EVALUATION

Developing an IABP Teaching Strategy

Program Code 07

Date: ______________________

Please rate the program and speaker items by placing a mark in the appropriate column.

<table>
<thead>
<tr>
<th>Program Evaluation</th>
<th>1 Poor</th>
<th>2 Fair</th>
<th>3 Good</th>
<th>4 Very Good</th>
<th>5 Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program met the stated objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Content covered topic adequately</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Overall quality of this program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Overall quality of speaker(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Quality of the program facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Program met my personal objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I can incorporate program content into my practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Speaker Name: _______________________________________________________

<table>
<thead>
<tr>
<th>Speaker Evaluation</th>
<th>1 Poor</th>
<th>2 Fair</th>
<th>3 Good</th>
<th>4 Very Good</th>
<th>5 Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Objectives – Stated learning objectives met</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Audiovisual – Contributed to presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Content – Relevance of content to objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Presentation – Speaker qualified and held interest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Effectiveness – Speaker was organized and effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Practice – Validated and/or changed practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Participant Name: _______________________________________________________

51