

Skills evaluation worksheet

Impella CP® with smartassist® and Impella 5.5® with smartassist® Position Assessment and Repositioning Competency Checklist

This form provides an observation checklist of the trainee's knowledge and skill for managing a patient with the **Impella CP® with SmartAssist®** and **Impella 5.5® with SmartAssist®** heart pumps. Please provide your acknowledgment signature when complete.

Name:		Date of Initial Training:	
Placement/position assessment		Initial Training (date/initials)	Reposition #1 (date/initials)
<p>Obtain echo to verify Impella catheter position</p> <p>Recommended view: Utilize parasternal long axis view on TTE; mid-esophageal on TEE</p> <p>Confirm catheter orientation; freedom from intracardiac structures via apical or 4-chamber view</p> <ul style="list-style-type: none"> • Impella CP with SmartAssist will measure ~ 3.5cm from AV annulus to mid-inlet • Impella 5.5 with SmartAssist will measure ~ 5.0cm from AV annulus to mid-inlet <p>Caution: If Impella is not in ventricle or Impella is ensnared in intra-cardiac structures, do not attempt repositioning without notifying attending/implanting provider</p>			
<p>Repositioning Indicated Y/N?</p> <ul style="list-style-type: none"> • Ensure Impella console is facing provider during repositioning • Utilize echo during procedure to confirm placement 			
<p>Identify, expose, and loosen Tuohy-Borst valve on Impella CP catheter. For Impella 5.5 depress the catheter lock blue button</p>			
<p>Verify current cm marker on catheter hub (under sterile sleeve)</p>			
<p>Advancement required:</p> <ul style="list-style-type: none"> • Drop Impella to P-2 • Advance slowly in 1 cm increments • Verify cannula movement under echo guidance • Monitor intracardiac structures, may require catheter torquing to avoid impingement and allow for advancement • Measure catheter level prior to resuming previous P-level <ul style="list-style-type: none"> ○ Impella CP with SmartAssist will measure ~ 3.5cm from AV annulus to mid-inlet ○ Impella 5.5 with SmartAssist will measure ~ 5.0cm from AV annulus to mid-inlet 			

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<ul style="list-style-type: none"> • Increase P-level in increments of 2 P levels until desired P level is achieved, while observing under echo to avoid Impella catheter movement • Pull back gently on catheter and remove any potential slack, observe under echo; stop if catheter moves • Tighten Tuohy-Borst valve to lock Impella on Impella CP catheter. For Impella 5.5 release the catheter lock blue button • Document cm marking on Impella flowsheet • Document in procedure note <p>Caution: If Impella is not in ventricle or Impella is ensnared in intra-cardiac structures, do not attempt repositioning without notifying attending/implanting provider</p>			
<p>Pulling Back required:</p> <ul style="list-style-type: none"> • Drop Impella to P-2 • Pull back slowly in 1 cm increments • Verify cannula movement under echo guidance • Monitor intracardiac structures, may require catheter torquing/rotation • Measure catheter level prior to resuming previous P-level <ul style="list-style-type: none"> ○ Impella CP with Smart Assist will measure ~ 3.5cm from AV annulus to mid-inlet ○ Impella 5.5 with Smart Assist will measure ~ 5.0cm from AV annulus to mid-inlet • Increase P-level in increments of 2 P levels until desired P level is achieved, while observing under echo to avoid Impella catheter movement • Tighten Tuohy-Borst valve to lock Impella catheter on Impella CP catheter. For Impella 5.5 release the catheter lock blue button. • Ensure occlusive dressing is applied to site • Document cm marking on Impella flowsheet • Document in procedure note <p>Caution: If Impella is not in ventricle or Impella is ensnared in intra-cardiac structures, do not attempt repositioning without notifying attending/implanting provider</p>			
<p>Identify the Clinical Support Center as a 24/7 resource: 1-800-422-8666</p>			

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TROUBLESHOOTING ALARMS:

Impella position in aorta	YES	NO	J&J MedTech Clinical Initials
Verify aortic placement signals and flattened motor current			
Reduce to P-2			
Obtain echocardiogram to verify placement. Note: Proper Impella catheter placement should be from the mid inlet is approximately 3.5cm for the Impella CP® with SmartAssist®, and 5cm for the Impella 5.5® with SmartAssist® from the aortic annulus			
Do Not Attempt to reposition, notify implanting provider to determine next steps.			

Impella position in ventricle	YES	NO	J&J MedTech Clinical Initials
Verify LV placement signals and flattened motor current			
Reduce to P-2			
Utilize the Repositioning Guide <ul style="list-style-type: none"> Select Menu soft button Select Repositioning Guide and follow the prompts Press Start Loosen the Tuohy-Borst valve on Impella CP catheter and select OK. For Impella 5.5 depress the catheter lock blue button and select OK Pull back slowly 1 cm at a time until the red AO placement signal transitions from LV to AO, select DONE Pull back an additional 3 cm and select OK Tighten the Tuohy-Borst valve on Impella CP and select OK. For Impella 5.5 depress the catheter lock blue button, select OK Ramp up to desired P-level and select DONE 			
Verify pulsatile motor current, LV placement signal and AO placement signal after repositioning			
Obtain echo when reasonable to verify position			

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Reviewed and Understood

"Impella flow reduced" or "suction"	YES	NO	J&J MedTech Clinical Initials
The main causes of suction are: (1) low volume (preload), (2) incorrect Impella position and (3) RV failure			
In AUTO mode <ul style="list-style-type: none"> ▪ "Impella Flow Reduced" white advisory alarm <ul style="list-style-type: none"> - If the controller detects suction it displays this alarm and automatically reduces motor speed to reduce flow ▪ "Suction" audible yellow alarm <ul style="list-style-type: none"> - If suction is not resolved automatically, the controller will display this alarm 			
In P-Level <ul style="list-style-type: none"> ▪ "Suction" audible yellow alarm <ul style="list-style-type: none"> - If suction is detected, the controller displays this alarm ▪ Reduce Performance level by 1-2 P-levels until suction is broken ▪ Consider giving volume if CVP or PCWP (PAD) < 10 mmHg with low diastolic Impella flows and increased negative LV Placement Signal diastolic value ▪ Check placement of the Impella catheter if Impella flows are low during both systole and diastole and the LV placement signal is uncoupled from the AO Placement signal ▪ Perform echo (parasternal long axis (TTE) or mid-esophageal long axis (TEE)) for positioning; the mid-inlet area should be approximately 3.5cm for the Impella CP with SmartAssist, and 5cm for the Impella 5.5 with SmartAssist below the aortic valve annulus ▪ If echo reveals need for repositioning, reposition the Impella catheter using imaging guidance; it should be floating freely in the mid-ventricular space ▪ Assess RV function when using echo for repositioning; RV dysfunction can contribute to low preload ▪ Hyperdynamic left ventricular contractility can result in competition for volume ▪ Determine presence of cardiac tamponade and/or adequate ventricular filling 			
	Reviewed and Understood		
Placement signal low alarm	YES	NO	J&J MedTech Clinical Initials
Verify AO diastolic pressure signal is not low on patient hemodynamic monitor			
Obtain echo to verify optimal placement of Impella catheter			

Additional Comments:

Trainee Signature

Date

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Johnson & Johnson
MedTech

J&J MedTech Heart Recovery Clinical Team Signature(s)

Date

Hospital Designee/Proctor Signature

Date

** Please note that skills evaluation is to be completed by a hospital/institution designee.

*** Checklist is to be completed and submitted for attainment of certificate of training and subsequent approval by hospital credentialing process.