



FIELD MENTORSHIP GUIDE

CARDIOLOGY

ABSTRACT

As you progress through the Philips IGTD Clinical Pathway on the road towards competence and confidence, you will have opportunities to supplement your foundational learnings from the Distance Learning program through Field Mentorship. Use this guide with your field mentor to facilitate and document your field experiences.

- Clinical Sales
Training Team

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REVIEW THE OBJECTIVES BY PRODUCT LINE/TREATMENT AREA WHICH WILL GUIDE YOU AND YOUR MENTOR THROUGHOUT YOUR FIELD MENTORSHIP EXPERIENCE.

DOCUMENT FIELD ACTIVITIES ON THE CASE OBSERVATION FORM, AS IT WILL COMPLIMENT YOUR INDIVIDUAL LEARNING PLAN.

REVIEW THE IPAD SALES APP 2.5 AND SHOWPAD WITH FIELD MENTOR TO IDENTIFY KEY SALES AND MARKETING RESOURCES.

Physiology objectives

Use your field Competency Checklist to enhance system proficiency.

Clinical	Technical	Sales
<ol style="list-style-type: none"> 1. Download and Review FFR and iFR Tutor Apps on the iPad to facilitate discussion with field mentor on <ol style="list-style-type: none"> a. Basic FFR Theory b. Discuss difference between hyperemia in traditional FFR vs wave free period in iFR. Discuss the clinical significance of the wave free period in iFR. 2. Practice performing FFR and iFR cases. Refine confidence with both workflows <ol style="list-style-type: none"> a. Discuss Clinical indication and application of iFR Scout 3. Observe cases for the above. Utilize your field Competency Checklist to enhance system proficiency 	<ol style="list-style-type: none"> 1. Practice System competency and functionality (Use the competency checklist provided in the roadmap) 2. Discuss Common Troubleshooting issues relative to wire, system, hemodynamic waveforms and connections 3. Discuss drift identification, potential impact on physiology results and steps to resolve to ensure confidence in physiology results. 4. Discuss techniques to perform physiologic lesion assessment in the following scenarios: <ol style="list-style-type: none"> a. Serial lesions and multi-vessel disease b. Left Main considerations c. Bypass grafts 5. Review CoreVision iFR Co-Registration workflow and case demonstration with field mentor. 	<ol style="list-style-type: none"> 1. Discuss field mentor’s targeting strategy that drives utilization and adoption 2. Discuss competition and defense strategy. (Include discussion on strategy to leverage CoreVision) <ol style="list-style-type: none"> a. Review and discuss Physiology Competitive Messaging (iFR vs. Pd/Pa and other resting indices) 3. Discuss benefits of Philips physiology platform vs. competitors <ol style="list-style-type: none"> a. Review and discuss key messaging and data points from DEFINE FLAIR & iFR Swedeheart b. Potential cost savings with decreased use of adenosine c. Discuss clinical and economic relevance of iFR outcome data 4. Discuss benefits of Co-Registration with CoreVision <ol style="list-style-type: none"> a. Lesion isolation in diffuse disease <p>Utilize Physiology Objection Handling Guide to enhance customer engagement strategies and refine clinical messaging</p>

Basic IVUS objectives

Use your field Competency Checklist to enhance system proficiency.

Clinical	Technical	Sales
<ol style="list-style-type: none"> 1. Download and Review Coronary IVUS App on the iPad to facilitate discussion with field mentor on basic imaging principles 2. Practice basic image interpretation skills with field mentor using system images. <ol style="list-style-type: none"> a. Identify lumen and vessel borders b. Identify plaque geometry – discuss the impact of key findings on interventional strategy c. Identify plaque morphology and distinguishing characteristics (discuss the impact on interventional strategy) <ul style="list-style-type: none"> • Fibro- Fatty • Fibrous • Calcific – superficial vs. deep wall • Thrombus 3. Observe cases for the above. 	<ol style="list-style-type: none"> 1. Practice System competency and functionality. (Use the competency checklist provided in the roadmap.) 2. Product review – review specifications with field mentor, inclusive of: <ol style="list-style-type: none"> a. EEP b. EEP ST c. Revolution d. Refinity if & when applicable. 3. Practice product demonstration with field mentor. 4. Practice basic system in-service 5. Review CoreVision workflow and case demonstration with field mentor. 	<ol style="list-style-type: none"> 1. Discuss field mentor’s targeting strategy that drives utilization and adoption. 2. Discuss competition and defense strategy. (Include discussion on strategy to leverage CoreVision) 3. Review and discuss IVUS Competitive Messaging. <ol style="list-style-type: none"> a. Phased Array vs. Rotational b. IVUS vs. OCT 4. Discuss benefits of Co-Registration with CoreVision

Therapies objectives

Clinical	Technical	Sales
<ol style="list-style-type: none"> Discuss clinical indications for AngioSculpt, identify cases where it is applicable <ul style="list-style-type: none"> Where regular balloons struggle and/or fail ISR Calcium Type C lesions Review key features of cutting balloon, chocolate balloon, discuss a clinical scenario where AngioSculpt outperforms competition Discuss clinical indications for ELCA, identify cases where it is applicable <ul style="list-style-type: none"> ISR CTO Other indications where applicable Review key features of ablation and directional atherectomy, discuss a clinical scenario where laser outperforms competition 	<ol style="list-style-type: none"> Discuss best practices of AngioSculpt techniques <ul style="list-style-type: none"> “Low and slow” inflation Sizing: compared to RVD Discuss best practices of ELCA techniques <ul style="list-style-type: none"> 5 S’s Settings recommendations using the Bilodeau study guideline Laser science key points Practice CVX-300 in-service 	<ol style="list-style-type: none"> Review a current specialty balloon competition account. Discuss your strategy for selling AngioSculpt. Review a current laser account, discuss your strategy for driving ELCA adoption and utilization. <p>For the following objective, utilize one of these tools: AngioSculpt demo product; AngioSculpt brochure; AngioSculpt mechanism of action video</p> Practice “elevator pitch” for AngioSculpt sales messaging. <p>For the following objective, utilize one of these tools: “Not your grandfather’s laser” brochure; Vapor bubble video</p> Practice “elevator pitch” for Laser sales messaging.

System workflow checklist

Physiology workflow

#	Description	√	Comments
1	FFR/iFR set up		
a	Input pt. data on IVUS screen; switch mode to FFR .		
b	Verify system inputs from hemo (Ao & ECG).		
c	Use Settings Tab to specify correct Lab ID #.		
2	Wire set up		
a	On sterile field, flush wire in hoop.		
b	Connect wire to non-sterile PIMMETTE. (Allow wire to Auto Zero without disturbing wire or hoop.)		
c	Optional: Verify Pa zero with P1 transducer. <i>This step</i> is mandatory when using a SmartMap, LoMap, or Core FM.		
3	Normalization/measurement		
a	Using a wire introducer, insert wire into guide until wire transducer is at distal end of guide. (Guide catheter pressure should not be damped during normalization or measurement.)		
b	Flush contrast. Remove introducer. Close toughy. Press Normalize button and wait for system to verify process at bottom left of screen. (Mean pressures should be equal and white Pd/Pa value should be 1.0.) Renormalize if Pa & Pd values are not equal.		
c	Advance wire through vessel until transducer is distal to lesion. Observe resting gradient.		
d	For FFR, deliver hyperemic agent per lab protocol. Press Record and leave wire and P1 pressure undisturbed during analysis. See below for iFR.*		
e	Once hyperemia has been reached (observation of FFR value and waveforms), press Stop to view final FFR value.		
f	If an additional measurement is desired, press Live and repeat steps d-f.		
g	*For iFR measurements, once transducer is past lesion and pressures are stable, press Record until value is shown in upper left box. Repeat this step, if desired.		

4	iFR Scout Pullback		
a	For iFR Scout Pullback measurements, utilize same FFR/iFR set up & normalization steps listed above.		
b	Once wire and transducer are distal to area(s) of interest, press Pullback , wait for 1 st pressure data point on display then slowly pull wire back through vessel allowing for at least 7 cardiac cycles to elapse during the pullback.		
c	Once pullback is complete, press Stop . Review graphic display of distal iFR and plot of trend line.		
5	Optional: archive of runs		
a	If a DICOM archive of a run is desired, pick the desired run from the list of runs shown at the left of the screen, pick a vessel annotation from the Choose Vessel tab at the top right of the screen, then press Save Frame .		
b	Once all desired runs have been saved, click the Patient tab at the bottom of the screen and choose Archive to send images to desired media (memory stick or DICOM).		

#	Description	√	Comments
1	System/Catheter Set Up (for Revolution- see *below)		
a	Power on the system and enter patient information manually or use Worklist to populate fields. (Pt name and ID # mandatory). Click OK when done.		
b	Open IVUS catheter to sterile field. Plug connector into appropriate PIM connection off of the sterile field and wait for catheter recognition on system.		
c	Optional: Flush distal tip of catheter using flush tool.		
2	Imaging		
a	On LIVE screen if necessary, change the mm field of view (FOV) or image gain by using the Adjust image tab. Each catheter has a range of available field diameters.		
b	Insert the catheter over a 0.014 wire and advance the catheter to just beyond the guide. Click the Ring down tab to perform a ring down. (This is not necessary for Revolution catheter.)		
c	Advance the catheter distal to the area of interest (If ChromaFlo is desired, press the Chroma button prior to recording). Press Record and begin slow, consistent pullback of catheter until the transducer reaches the guide catheter or imaging is no longer needed.		
d	Bookmarks may be added during the recording to note areas of interest along the ILD screen. Press Stop to end recording images.		
3	Playback/Review		
a	Navigate the recent recorded loop by using a number of techniques to the area(s) of interest: Play/Pause, frame bar, keyboard up/down keys, Advanced controller FF/REW buttons, etc.		
b	To review a previously recorded loop or saved frame, hover cursor over Case explorer box at upper right of screen until list appears. Click on desired VL (video loop), FRAME or bookmark.		
c	Once a frame of interest is displayed, choose from the 3 types of measurement tools to measure lumen and/or vessel diameter or area. – Diameter up to 4 caliper diameters per image, Draw allows up to 2 CSA borders per image along the circumferences to be manually outlined. Multiple Dots can be placed along the circumferential borders to allow the system to complete the CSA once the Done button is selected.		
d	To further distinguish lumen border, click rapid review icon (🔄) just below ILD window to rapidly play several frames in succession. Measurements can be made during this mode.		
e	Once any measurement(s) is made on an image, press Save frame to capture that image in the Case explorer for later review, measurement editing or printing.		
f	To edit any measurement, first place the cursor directly over the diameter end or border line you wish to edit, then click to choose it. Click again for diameter and Done when CSA border editing is complete.		

#	Description	✓	Comments
g	To view VH-IVUS plaque composition analysis, press the VH button on the controller. (VH analysis requires an EEP catheter and ECG trigger input during initial recording.)		
4	End Case/Archive/Retrieve		
a	To end each case and save all recorded loops and frames to the hard drive, click the END CASE tab at bottom edge of screen. Verify correct pt. information and click OK .		
b	To archive a case to either DVD media or a DICOM server (PACS), click the Archive tab at the bottom of the screen. Choose appropriate destination resource. Select the desired case(s) from the hard drive. (To select multiple cases, hold the Ctrl key while choosing additional cases). Click the highlighted Archive box.		
c	To retrieve a selected case from the system hard (or DVD) drive, click the Retrieve tab at the bottom of the screen. Select the desired case from the list and then click Retrieve from highlighted box. A copy of the original case will be opened for review, editing and analysis.		

Revolution/SpinVision PIMr set up

#	Description	√	Comments
1	Revolution & PIMr use		
a	Replace system phased array PIM with PIMr via black quick connector. Confirm connection on console display (lower right corner)		
b	Per IFU, flush sterile catheter using included syringes		
c	Using included PIMr sterile drape, cover PIMr motor drive unit and cable ensuring accordion fold and catheter insertion collar are placed appropriately.		
d	Insert Revolution drive hub into PIMr catheter port aligning black arrow and dot. Gently rotate catheter to lock in place		
e	Gently advance sled drive body forward so that telescoping hub on catheter aligns with nose of PIMr and press into retaining fixture.		
f	Reflush catheter at any time if there is possibility of air entry into distal end from movement of telescoping shaft.		
2	Imaging		
a	Prior to inserting catheter into pt., verify motor & image function by pressing Image on the PIMr or screen. There should be displayed a pattern of concentric rings. Press Image again to stop verification.		
b	Under flouro guidance, advance distal imaging segment past the area of interest.		
c	On PIMr or system screen, select type of pullback preferred (0.5mm/sec, 1.0mm/sec or manual)		
d	Press Image , verify placement, then press Pullback to begin catheter pullback and recording (if utilizing a manual pullback, press RECORD to record images during pullback).		
e	Bookmarks may be added during the recording to note areas of interest along the ILD screen. Press Pullback to end recording images (if manual pullback was used, press Stop , then Image to stop recording and imaging).		

CoreVision basics

#	Description	√	Comments
1	Start & Home Screen		
a	Explain each button on the main menu		
b	Begin a new case, enter data & press start		
c	Can patient data be edited after the case?		
d	Explain each tab on the left of the screen		
2	QCA		
a	Perform calibrated QCA		
b	Change landing zones		
c	Lengthen & correct borders		
d	Demonstrate hide vessel analysis		
3	Vessel Enhancement (VE)		
a	Perform single & cumulative VE		
b	Maximize/Minimize stabilized clip		
4	IVUS Co-registration		
a	Enable co-registration wizard		
b	Explain the steps necessary to complete a co-registration		
c	What frame rate should fluoro be set to during the pullback?		
d	Explain why a roadmap is needed		
e	How are length measurements possible with a manual pullback?		
f	Add a bookmark and label		
g	Create area, diameter and length measurements		
h	Set a measurement as reference		
i	Navigate between bookmarks		
j	Demonstrate switching between screens		

#	Description	√	Comments
5	Device detection (DD)		
a	Activate Device Detection		
b	Explain how the system works and captures images		
c	What is the key for DD to work successfully?		
d	What variables can affect DD?		
e	Change the region of interest		
f	Explain how you can troubleshoot DD if the system cannot track the RO markers		
6	iFR Co-registration		
a	What triggers the co-registration process to begin?		
b	Explain the steps necessary to complete a co-registration		
c	When should the operator step on the fluoro pedal?		
d	What frame rate should fluoro be set to during the pullback?		
e	How many seconds of live fluoro are required during the pullback?		
f	What factors can affect the co-registration process?		
g	What does each yellow dot represent?		
h	Create single & multiple length measurements		
i	Explain the iFR Estimate		
j	Demonstrate editing the automatic pathway		
7	End the Case		

CVX-300 in-service

#	Description	√	Comments
1	System set up		
a	Locate and post Laser "Danger" signs		
b	Locate and explain the utility of eye protective goggles		
c	Plug the power cord, notice the "click-n-lock" mechanism		
d	Power up laser system by turning the key switch. Explain the need for a 5-minute warm-up sequence when it appears on the screen		
e	Plug in the foot switch cable at the back of the system, place foot switch at appropriate location		
f	Once warm-up sequence has completed, practice the over-ride step for skipping the warm-up sequence and explain when it can be used		
2	Calibration		
a	Once warm-up sequence has completed, insert the reference or clinical catheter into the catheter coupler. Notice that fluence and rate for calibration is automatically set-up by the laser system.		
b	Aim the catheter at the center of the energy detector, approximately 1-2 inches away (following instructions on the system). Press the "Calibrate" button on the operator screen		
c	Step on footswitch until the system automatically completes calibration.		
d	Set Fluence/Rate settings according to the physician's instruction		
3	Basic Troubleshooting		
a	Laser will not turn on: check the following		
	Power cord connections		
	Interlock plug		
	Circuit breaker		
b	Laser buzzes when plugged in: release the red emergency button		

Name: _____

Trainer: _____

Date: _____

