PCI ASSIST

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ASSIST
Power up your clinical decision making

ACHIEVE CLINICAL EXCELLENCE IN PCI

Greater precision and dose efficiency

POWER UP YOUR CLINICAL CAPABALITIES AND SERVICE LINE

ASSIST lets you create more clinical information so you can precisely plan, guide and assess interventional procedures.

POWER UP PRODUCTIVITY

The portfolio of ASSIST clinical packages provide intuitive planning, designed to make your procedures easier, safer and more efficient.

POWER UP PATIENT CARE

Your patients benefit from greater diagnostic accuracy and therapeutic effectiveness keep minimal dose exposure.

The interventional field is growing with ever-expanding capabilities and is migrating to less invasive, safer and more cost-efficient procedures. With the new generation of GE's advanced interventional imaging solution, ASSIST, you can expand your clinical versatility and successfully plan, guide and assess increasingly sophisticated procedures with greater precision and dose efficiency.

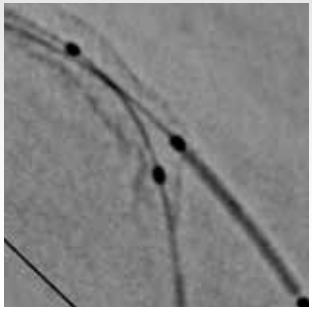
PCI ASSIST

PCI ASSIST. Enables the physician to diagnose and treat all patients, in all angulations. It improve the image quality even in the most complex cases, at no extra X-Ray dose.

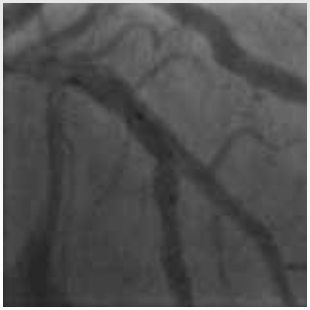
For complex PCI procedures, such as bifurcations, **PCI ASSIST** helps to increase accuracy of stent placement and also helps to evaluate stents underexpansion which contribute to in-stent restenosis[1].

PCI ASSIST can help physicians increase their activity expanding to more complex procedures with confidence, opening also to novel generation of stents such as BVS.

IMAGE QUALITY IMPROVEMENT



GUIDE STENT PLACEMENT



ASSESS STENT DEPLOYMENT

Introduction

Dr. Hakim Benamer is Head of Cardiology Department at Hôpital Foch, and Interventional Cardiologist at Clinique La Roseraie as well as Institut Cardiovasculaire Paris Sud.
He performs 500 angioplasties a year, including complex PCI procedures such as T-Stenting and use of multiple BVS in long lesions.
The typical workflow used by Dr. Benamer during complex PCI procedures is illustrated here on bifurcation T-Stenting on the LAD.
The patient was treated in the Innova IGS 520 room, equipped with PCI ASSIST.
PCI ASSIST is an integrated solution to help plan, guide and assess PCI procedures. It includes StentViz and StentVesselViz

Patient preparation

Before the beginning of the procedure, the staff will prepare the patient.
Most of the time, the radial access is preferred, yet femoral access is also possible.

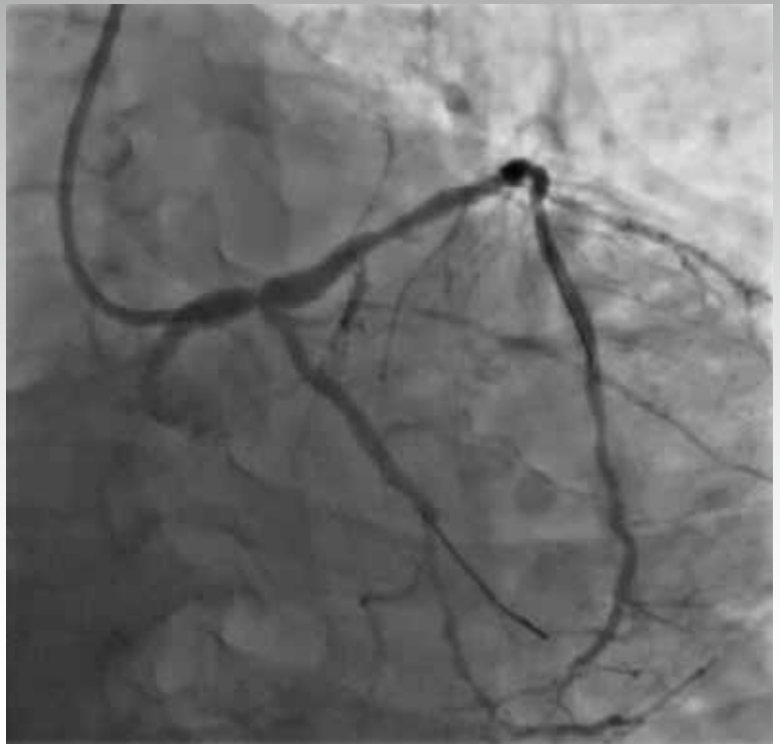
Fast gantry motion

The C-Arm is easily moved in the right angulation, and acquisition parameters setup with a single touch, directly from the user interface available at table side

Image quality

PCI ASSIST helps improve visibility[2] up to +85% in moving anatomy, and up to 75% in larger patients, at the same dose.

CASE 1: Plan, Guide, Assess Bifurcation T-stenting



Patient information

- Male, 72 years old
- **BMI:** 32kg/m^2
- **Cardiac history:** PCI in 2011 of the LAD, the Cx and the right coronary artery with DES
- **Angio:**
  - Stenosis of the LM and LAD
  - Tight and long stenosis on the Cx

Clinical challenges in bifurcation T-stenting

- Precise position of the stent on the ostium
- Precisely open the stent
- Minimize stent overlap between the two stents
- Avoid a gap between the two stents

1

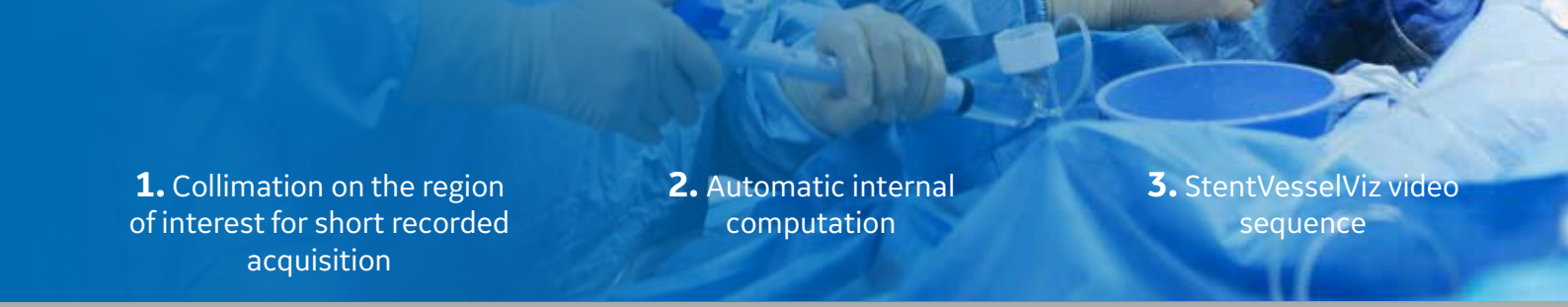
Plan - first stent implantation

Stenting of the left main to the left anterior descending artery while ensuring covering the ostium with StentVesselViz.


60
151/73/105

2 Guide

StentVesselViz was used to guide the procedure before stent deployment, enabled by the enhanced visibility of the stent positioning relative to the vessel



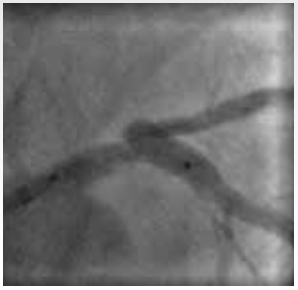
1. Collimation on the region of interest for short recorded acquisition

2. Automatic internal computation

3. StentVesselViz video sequence

acquisition of 30 non-injected images

StentViz Automatically computed StentViz image from 30 non injected images



Automatic selection of an injected image

StentVesselViz

Acquisition workflow

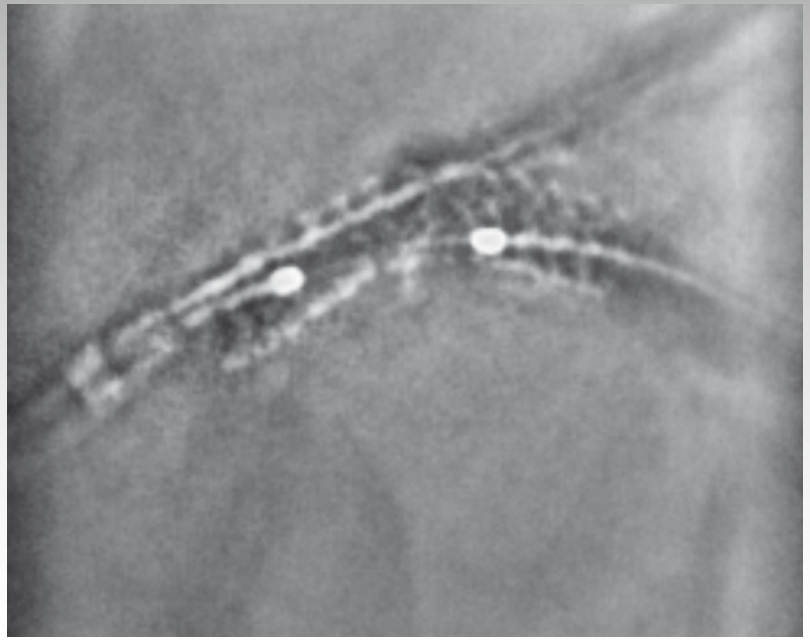
The acquisition workflow is very user friendly as it consists in a single acquisition of 30 frames for both StentViz & StentVesselViz. For the StentVesselViz acquisition, the system will prompt a message on the Large Display Monitor to indicate when to inject the contrast media.

First stent deployment

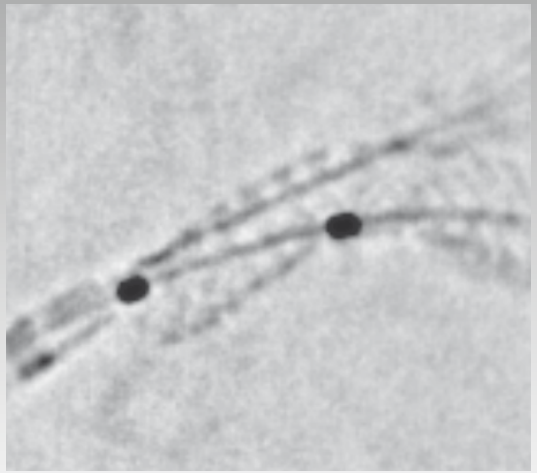
Once the optimal position is reached,
the balloon is inflated to deploy the stent.

3 Assess

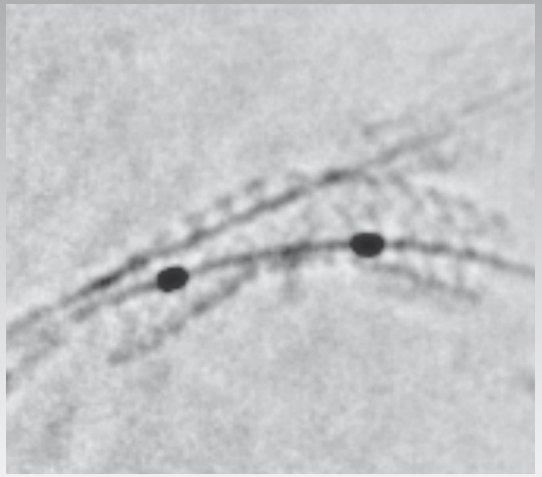
Once the stent is deployed, StentVesselViz was used to asses the correct deployment of the stent relative to the vessel wall.



After stent deployment



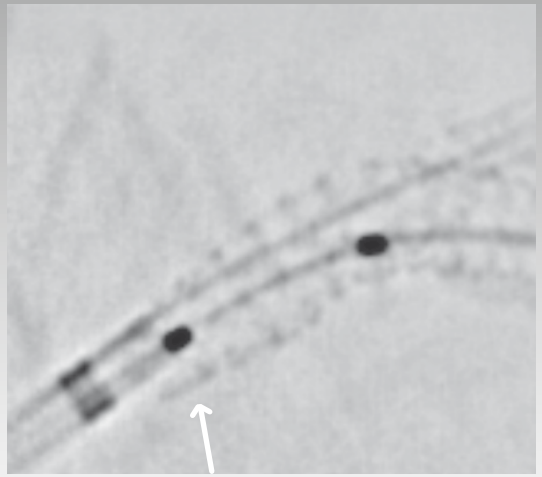
The balloon is too proximal



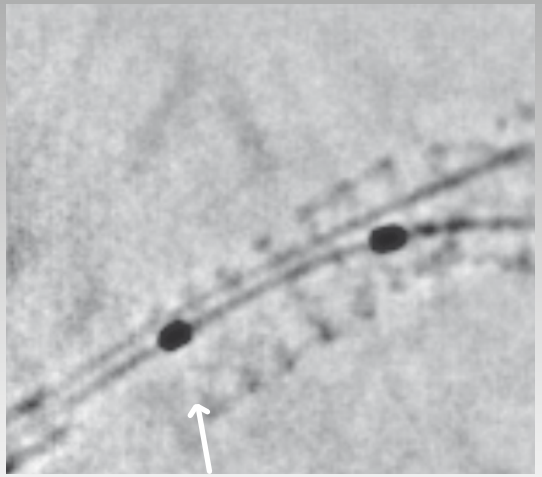
Optimal position for the POT
(Proximal Optimization Technique)

Guiding balloon for Proximal Optimization Technique

The stent is correctly deployed. Yet, the stent has to be further expanded at the proximal part of the Left Main. PCI ASSIST helped find the optimal positioning of the balloon to do the Proximal Optimization Technique to cover the carena.



The stent needs to be further expanded at the proximal part

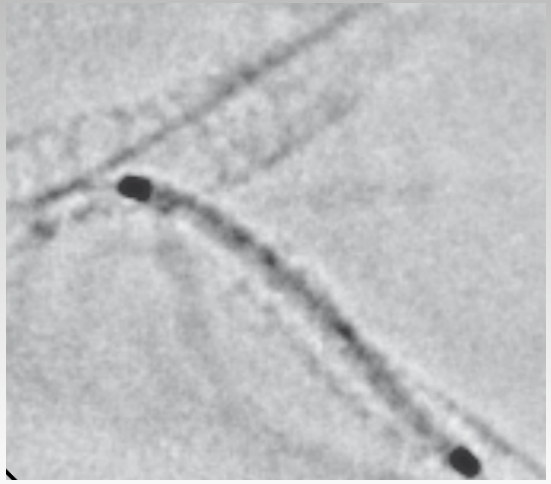


Assessment of correct expansion

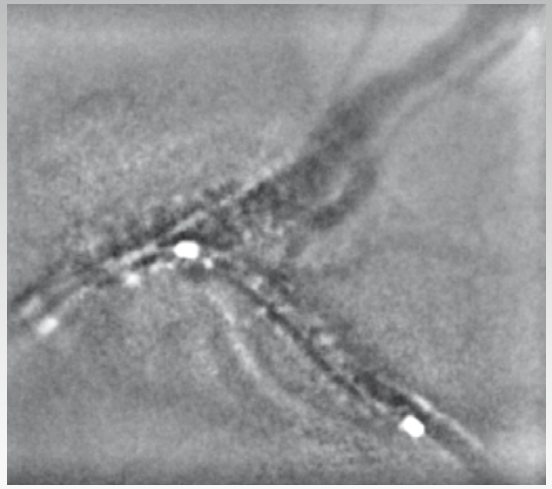
Guiding balloon for Proximal Optimization Technique

The stent has to be further expanded at the proximal part of the Left Main. StentViz image was used to confirm the position of the balloon at the proximal part of the stent in the Left Main to ensure a correct expansion of the stent after the POT.

StentViz



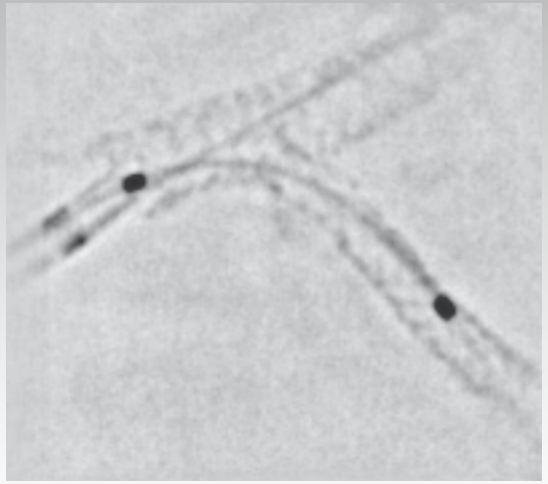
StentVesselViz



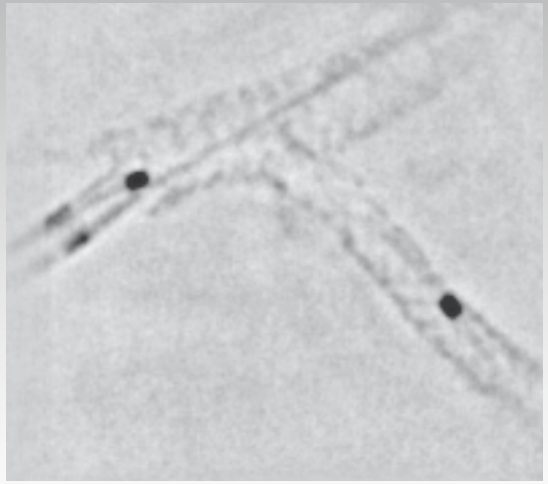
Second stent placement

StentVesselViz was used to open the 1st stent at the ostia level to get an optimal position for the 2nd stent in the circumflex. StentViz was used to guide the stents to reach minimal protrusion.

StentViz with guidewire



StentViz with guidewire subtraction

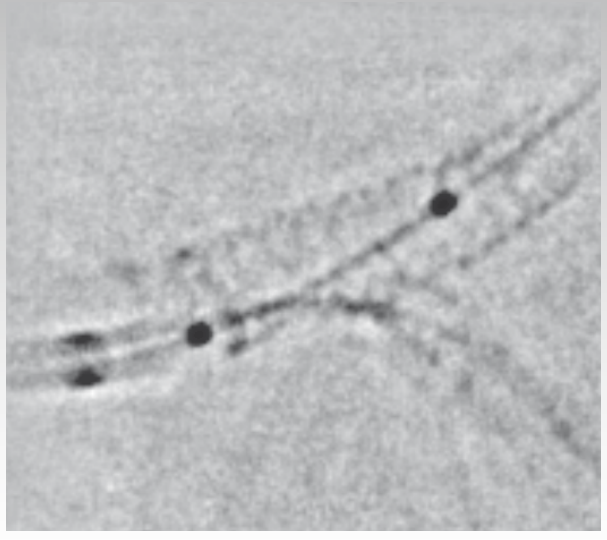


Deployment assessment

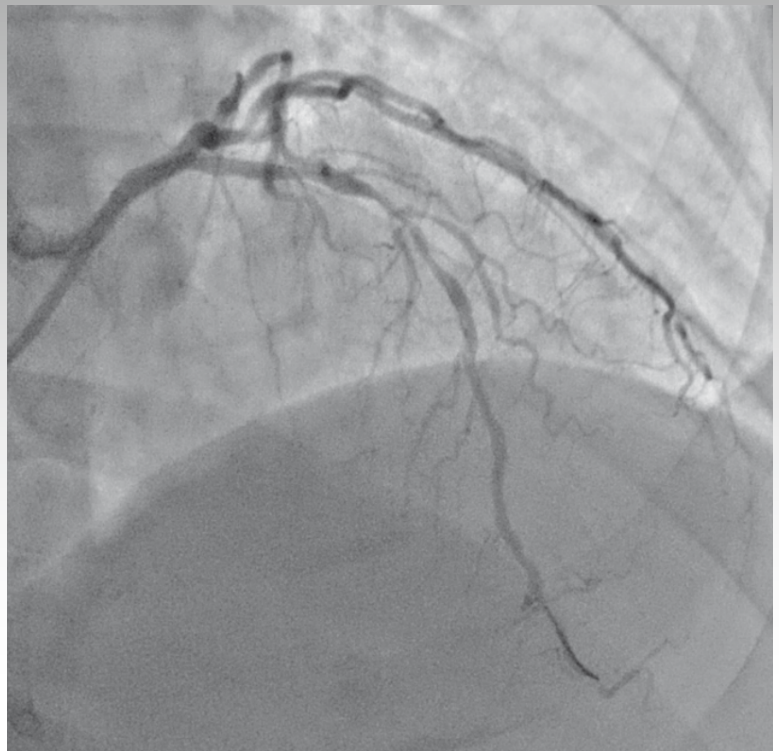
The ostium of the Circumflex is covered.

Final assessment after re-POT

StentViz was used to assess the success of the re-POT. The stent is indeed well opened on the Left main, the proximal LAD and the Cx.



CASE 2: Prepare, Guide BVS on the LAD



Patient information

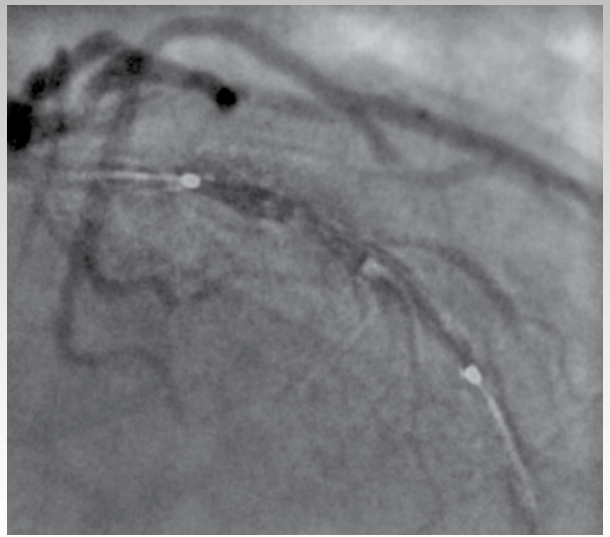
- Male, 61 years old
- **BMI :** 33kg/m2
- **Cardiac history:** angioplasty of the right coronary artery
- **Angiography :** stenosis on the LAD

Clinical challenges in bifurcation T-stenting

- Radio-transparency of the BVS
- Precise positioning of the BVS (size of the BVS = size of the lesion)

Enhanced visualization of the BVS

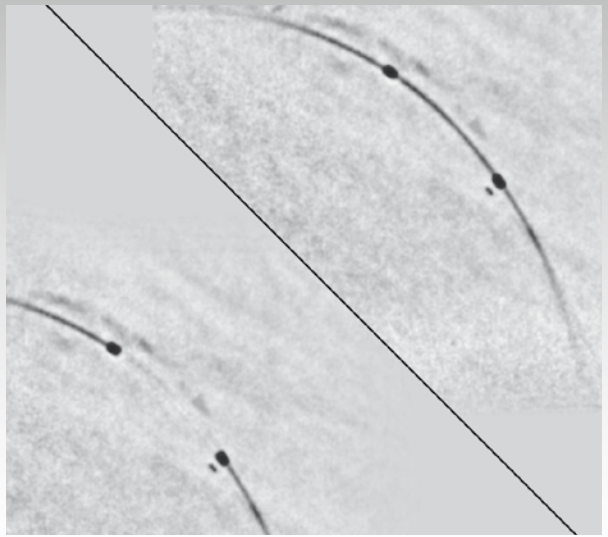
StentVesselViz was used to evaluate BVS' place. It helps to confirm that the BVS is covering the whole lesion. Therefore, deployment can be performed in this position.



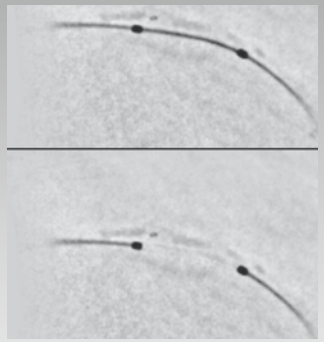
1

Prepare - post-dilatation on distal part

Alignment of balloon's marker relative to BVS' distal marker to ensure proper deployment.

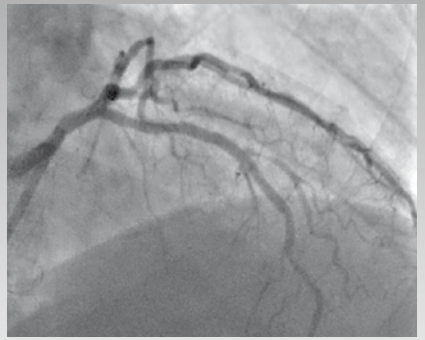


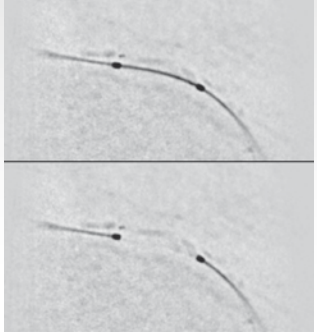
2 Guide - post-dilatation on proximal part



Too proximal

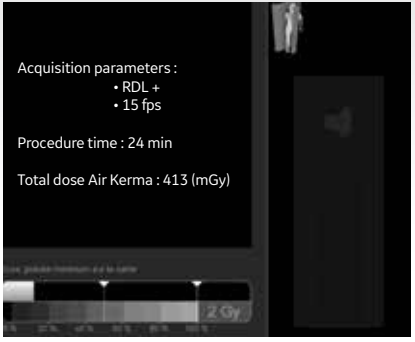
The non-compliant balloon has to be moved more distally to align with the proximal part of the BVS



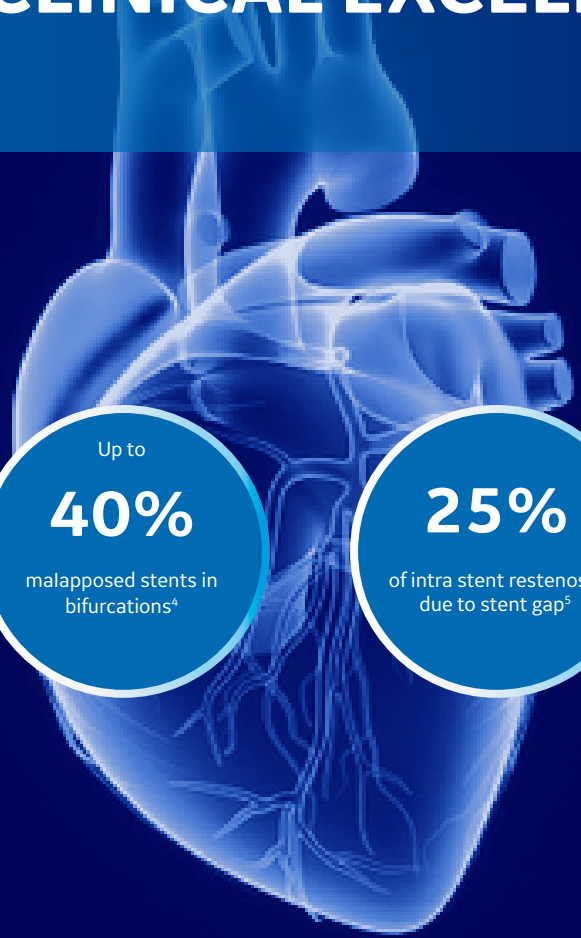


Satisfying placement

The compliant balloon is at the optimal position, it can be inflated.



ACHIEVE CLINICAL EXCELLENCE IN PCI



39%

of ADULTS ≥ 18 years old is overweight[3]

Up to

40%

malapposed stents in bifurcations[4]

25%

of intra stent restenosis due to stent gap[5]

Challenging to

visualize

the BRS scaffold for implantation[6]

PCI ASSIST HELPED[7]

See more than the angiogram In

40%

of cases

Better see the relation stent/vessel in

70%

of cases

Decide the course of the interention in

40%

of cases

CADIOLOGY PORTFOLIO,

A complete solution to meet your needs

Innova IGS 520
Innova IGS 530

Advanced Visualization
Advanced PCI, complex procedures

Innova IGS 620
Innova IGS 630

See the vessels from two different positions with 1 injection in 1 shot

Discovery IGS 730

Rediscover space and movement. Structural heart and Hybrid OR

Built on solid foundations
Same user interface. Same imaging chain

ASSIST, solutions for Interventional procedures

Scan me
to watch the video

EVAR ASSIST 2

EVAR | TEVAR procedures

Vessel ASSIST

Complex IR, INR & CTO procedures

PCI ASSIST

IC procedures

Valve ASSIST 2

Structural Heart procedures

Needle ASSIST

IR & IO Needle procedures

FlightPlan for Liver
(An ASSIST brand)

IR Liver procedures

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2. IQ & visibility improvement is measured on Innova IGS530 with phantoms using various Plexiglas Thicknesses, acquisition parameters and the NEMA spoke wheel tool (ref 1), calculating the ratio of the contrast of the moving wires to the background noise level. The amount of IQ improvement related to HCF depends on the acquisition parameters, clinical task, patient size, amount of motion in the image, anatomical location, and clinical practice.
Ref1: A new tool for benchmarking cardiovascular fluoroscopes; S. Balter, Radiation Protection Dosimetry, Vol. 94, No. 1 -2 pp. 161 -166 (2001)

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https://www.ncbi.nlm.nih.gov/pubmed/23006784

5. Stent Gap by 64-Detector Computed Tomographic Angiography Relationship to In-Stent Restenosis, Fracture, and Overlap Failure Harvey S. Hecht, MD, Sotir Polena, MD, Vladimir Jelnin, MD, Marcelo Jimenez, MD, Tandeep Bhatti, DO, Manish Parikh, MD, Georgia Panagopoulos, PHD, Gary Roubin, MD, PHD
https://content.onlinejacc.org/pdfaccess.ashx?ResourceID=2926481&PDFSource...

6. Bioresorbable Scaffolds: The New Tool in PCI
http://www.acc.org/latest-in-cardiology/aticles/2016/09/19/07/22/bioresorbable-scaffolds

7. DOC1683165 - Clincal evidences generation study based on Columbia images. The Statements by GE's customers described here are based on results that were achieved in the customer's unique setting. Since there is no « typical « hospital and many variables exist i.e..g. hospital size, case med , there can be no guarantee that other customers will achieve the same results. - Method: Assesment of clinical benefit of StentVesselViz: => - Independant assessment of each sequence by 6 experienced interventionalcardiologists; - Assessment done in 2 steps by each reviewer:
1) conventional post-deployment angiogram alone x 11 clinical cases
2) angio + SVV sequence x 11 same clinical cases.
Results are based on - Consensus of 5/6 operators

PCI ASSIST refers to features of Innova IGS 520, Innova IGS 530 and Discovery IGS 730.
PCI ASSIST refers to features of Interventional X-ray system: StentViz, StentVesselViz

The Statements by GE's customers described here are based on results that were achieved in the customer's unique setting. Since there is no " typical " hospital and many variables exist i.e.g. hospital size, case med , there can be no guarantee that other customers will achieve the same results.

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Data subject to change.

gehealthcare.com/interventional