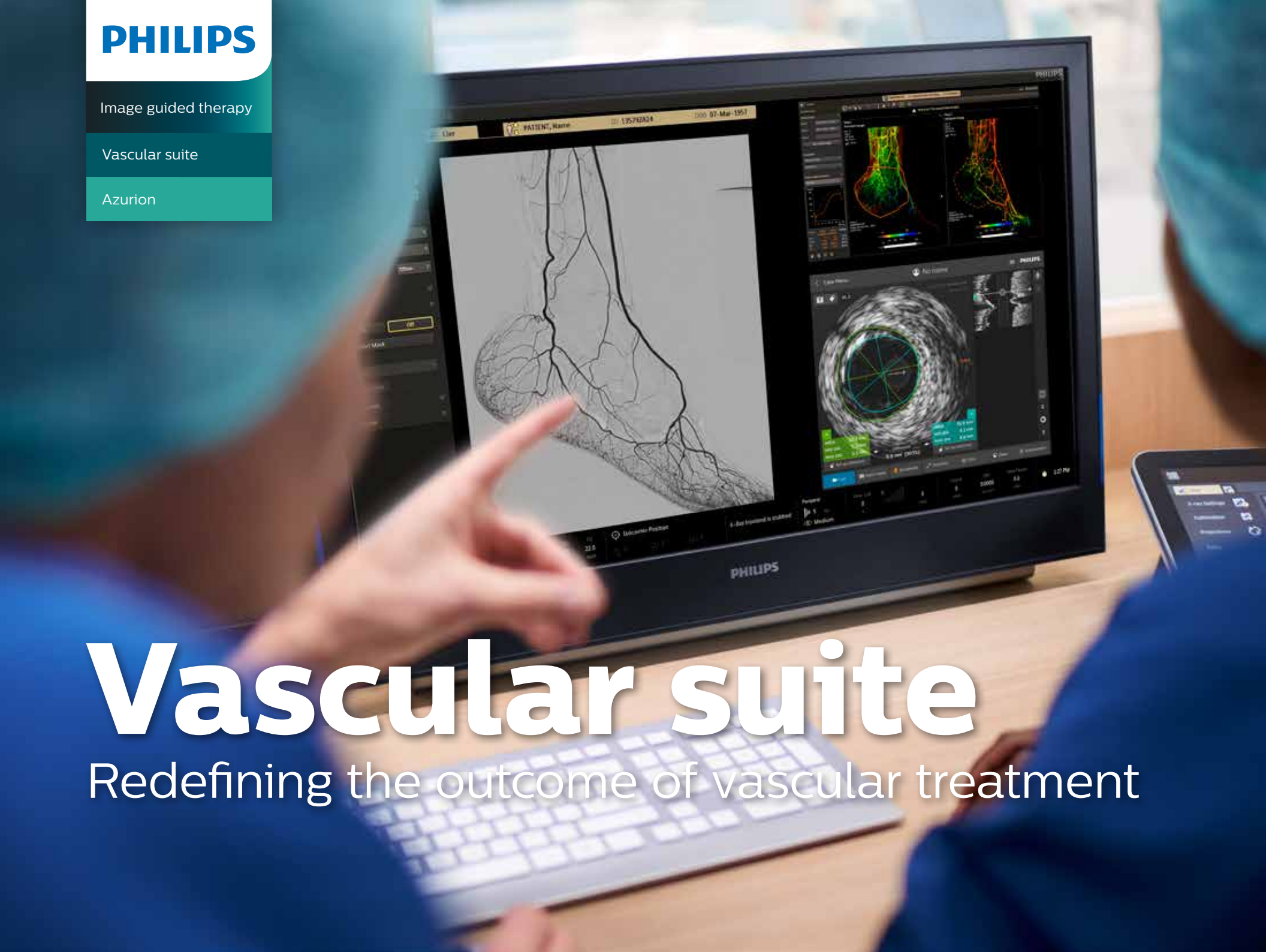
PHILIPS

Image guided therapy

Vascular suite

Azurion



Vascular suite

Redefining the outcome of vascular treatment

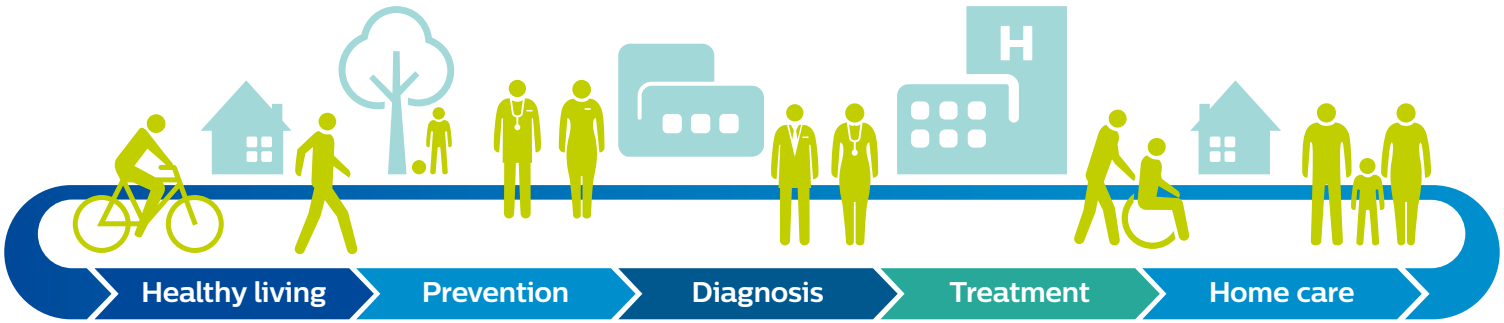
Defining the future
of Image Guided Therapy

Innovative solutions across the health continuum

At Philips, we look beyond technology to the experiences of patients, providers and caregivers across the health continuum, from healthy living to prevention, diagnosis, treatment and home care. We unlock insights leading to meaningful innovations from hospital to home.

Our integrated solutions – packaged suites of systems, smart devices, software and services – combine broad and deep clinical expertise, technology and services, actionable data, consultative new business models and partnerships. Together, with our customers, we can transform how care is delivered and experienced, to deliver upon the Quadruple Aim: improved patient experience, better health outcomes, improved staff experience, and lower cost of care.

At Philips Image Guided Therapy, we have played a pioneering role in image-guided minimally invasive therapy for cardiovascular disease since the inception of the field back in the 1950s, thanks to our expertise in X-ray imaging systems. We aim to both improve existing procedures and introduce new procedures so that more patients can benefit from image-guided therapy. We also develop new business models to cater for new care settings, such as ambulatory surgery centers and office-based labs, and drive improved lab performance. Today our clinical partners benefit from complete procedural solutions to treat a wide range of diseases – from cardiovascular disease to stroke, cancer, and spine conditions.

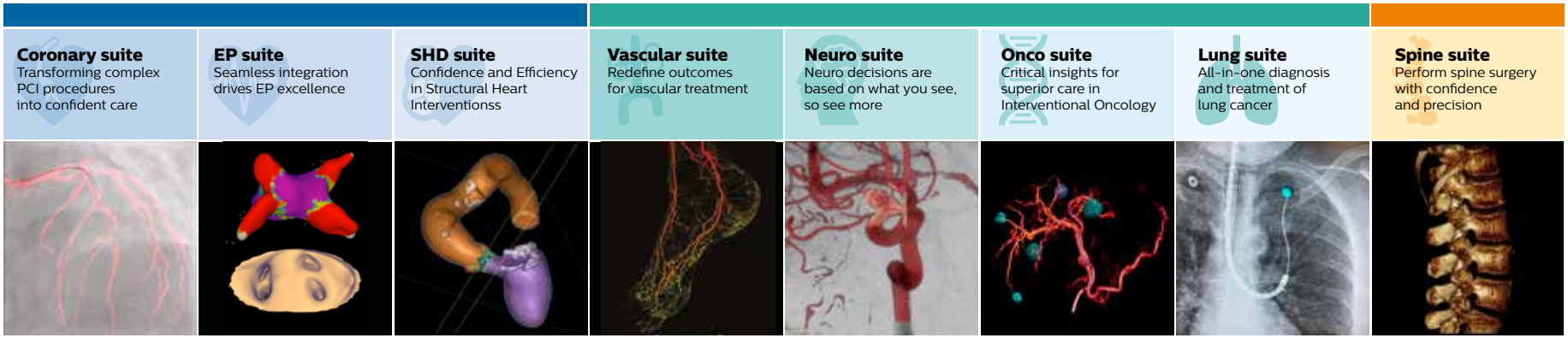


Clinical demands are getting more specific. So are we.
During an interventional procedure you are focused on making the best decisions you can for each patient. Each patient and each disease has very specific challenges, complexities, and needs. As the number of procedures and patients goes up, you can see the need for better forms of image guidance and interventional devices for effective treatment and decision making. At the same time, optimized workflows are key to improving efficiency. That's why we created clinical suites; a flexible portfolio of integrated technologies, devices and services for a broad range of interventional procedures.

Each of our clinical suites offers specific image guided therapy solutions to provide more choice and flexibility for exceptional care. So you can be confident in your performance and in the fact your patients are receiving exceptional care. Together we aim to create the future of image guided therapy.

Introducing Clinical Suites

Helping to bring across our comprehensive clinical propositions



Key benefits

- Making therapy simpler, more informative, and less invasive to promote confident decisions
- Supports standardization and consistency of vascular lab workflow to save time, money and reduce variability
- Excellent visibility at ultra low X-ray dose levels for a comprehensive range of clinical procedures with ClarityIQ technology.

Vascular suite

Redefining the outcome of vascular treatment

As a physician, you are confronted with an increasingly demanding and diverse landscape – inside or outside your treatment room.

To treat the growing epidemic of peripheral artery diseases, we see a clear need for standardization of endovascular treatment strategies. Real-time guidance is imperative during the procedure in selecting the correct vessel, device and pathway, but also to precisely position devices to improve clinical outcomes and expand adoption of these interventions. For aortic disease, radiation exposure and contrast medium are a concern for elderly and otherwise frail patients. These procedures are lengthy and often unpredictable. Shorter procedures could reduce contrast medium and radiation exposure.

The Vascular suite has been designed to support diverse peripheral, aortic, visceral, arterial, and venous procedures. From restoring vessel patency and implanting a device to treating an aneurysm or occlusion – Vascular suite enables clinicians to deliver fast, effective, and simplified procedures.

Based upon the Azurion platform, Vascular suite supports increased confidence in decision-making and deployment of devices through dedicated interventional tools and a rich portfolio of relevant devices.

The tools provide remarkably detailed insights into anatomy, pathology, and perfusion during each phase of procedures as you decide, guide, treat, and confirm. Workflow innovations can support interventional teams in dramatically reducing overall procedure time and our technology enhances staff and patient safety by managing radiation and contrast dose efficiently.

With the Vascular suite, you have the innovations at hand that empower you to redefine outcomes for your vascular patients.

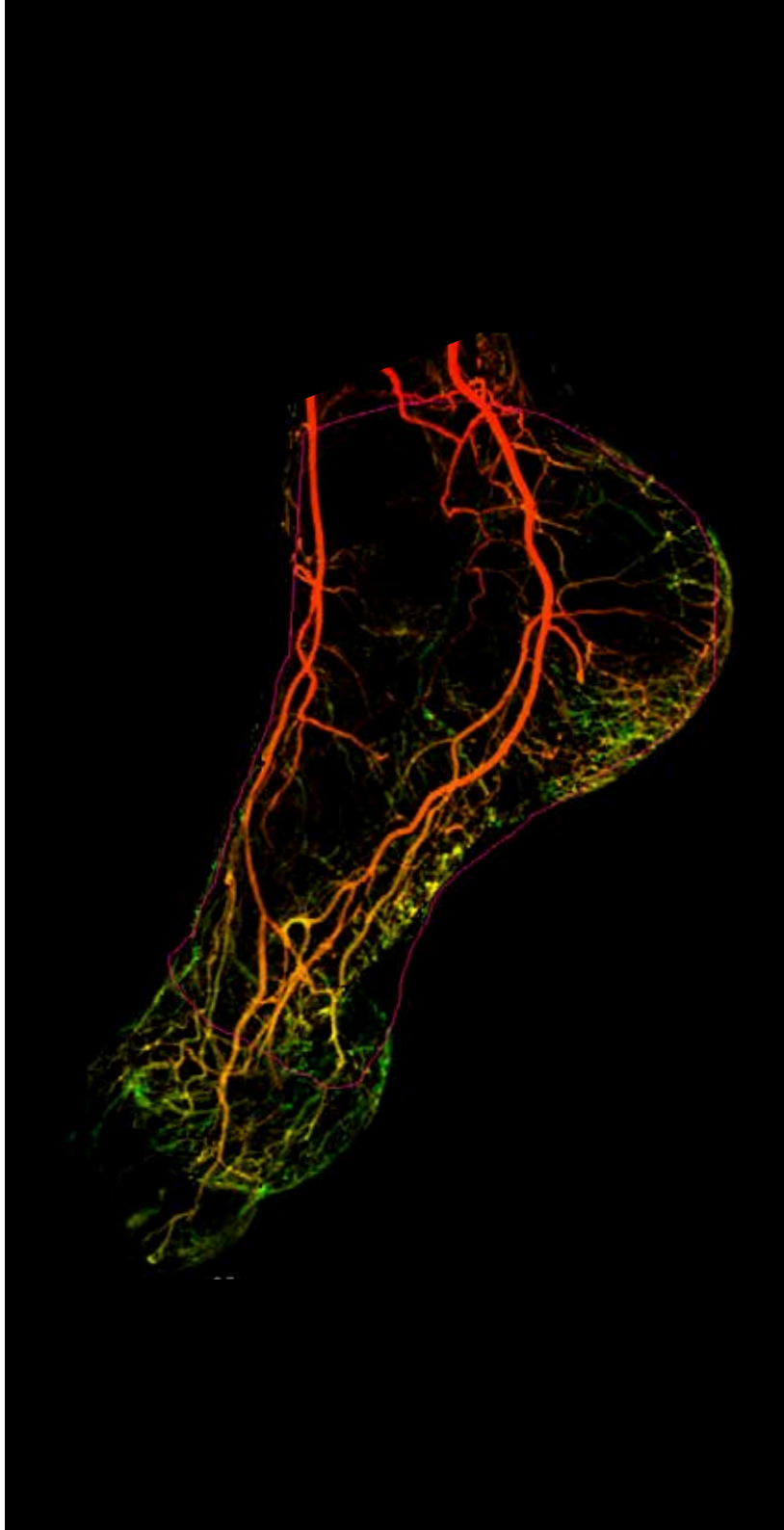
Peripheral artery disease

Focusing on standardization to redefine PAD outcomes

The number of people living with diabetes continues to climb,[1] bringing peripheral artery disease (PAD) and critical limb ischemia (CLI) interventions to epidemic levels. Today patients with PAD and CLI have more options, including endovascular interventions and below the knee procedures. This is in part due to new devices that are designed to make treatment more durable and facilitate retreatment – aspiring to leave nothing behind. To standardize this fast evolving landscape, the medical community and manufacturers are working towards the creation of evidence to answer clinical dilemma's and define novel guidelines. Philips participates actively to further standardization of CLI procedures from both the imaging and device perspectives.

Our Vascular suite provides workflow options, dedicated interventional tools, and relevant vascular devices to support high levels of standardization and redefine outcomes for your PAD patients. They support each step of your procedure – as you decide, guide, treat, and confirm.

Decide Guide Treat Confirm



Workflow options that optimize lab performance and dose management

TSM and FlexVision Pro
Gives you full control of all system inputs including intravascular ultrasound (IVUS) and CX50 vascular ultrasound at tableside to save time and unnecessary walking in and out of the sterile area.

TSM and FlexVision Pro
CT patient information from external source (e.g. PACS database) readily at hand and controllable at table side

ClarityIQ technology
Excellent visibility at ultra low X-ray dose levels for a comprehensive range of clinical procedures with ClarityIQ technology.

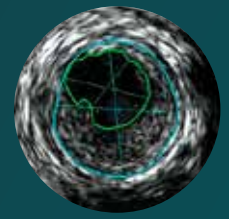
Zero Dose Positioning
Helps you manage dose by positioning the system or table on Last Image Hold so you can prepare your next run without using fluoroscopy.

Roadmap Pro
SmartMask provides a continuous real-time visualization of the leg as you navigate to the region of interest, making efficient use of iodinated contrast media and radiation dose.

With the ever growing number of PAD patients, Azurion offers a number of workflow innovations designed to help vascular teams work efficiently and consistently, while maintaining a single-minded focus on the patient and keeping radiation dose low during peripheral vascular interventions:

Peripheral artery disease

Effective guidance in treatment and decision making

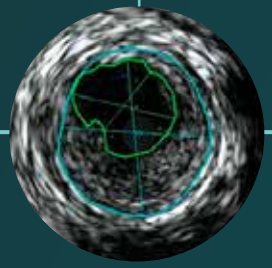


IVUS

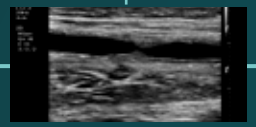
Live X-Ray guidance

Decide

Live X-ray guidance
Live X-ray guidance with ClarityIQ technology creates high definition images of vessels with exceptional vascular detail to support precise treatment strategies, navigation, and follow-up.

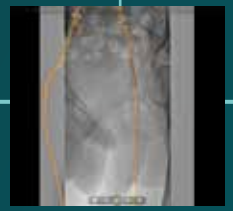


Intravascular ultrasound (IVUS) Identifying the correct vessel to treat is the goal during treatment planning. IVUS cross-sectional images compliment angiography and helps clinicians assess the presence and extent of disease, plaque geometry, and morphology.

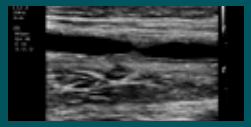


CX50 ultrasound system
Premium image quality Ultrasound at table side to support determination of device location in relation to vessel structure.

Guide

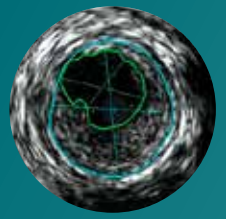


3D image guidance
3D Image guidance provides an intuitive and continuous 3D roadmap based on existing CTA and MRA dataset or a 3D rotational angiograhpy volume acquired in the angio suite overlayed on a live X-ray image. It provides insight into the exact position of the guide wire and catheter within the vessel during navigation. It offers a high level of precision thanks to real-time compensation for gantry, table, and small patient movements.



CX50 ultrasound system

Live X-ray guidance

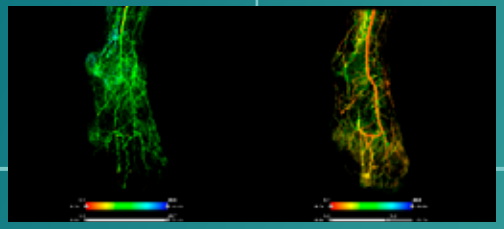


IVUS

Treat

Philips IGT Devices
During treatment, you have to decide if it is safe to treat the lesion, and size and type of device should be used, and where to place the stent for best long term patency. Philips IGT Devices provides a portfolio of peripheral device solutions that allow you to personalize treatment decisions for each patient.

Confirm



SmartPerfusion
How do you know if you have done enough?
SmartPerfusion enables you to obtain stable, reliable, and instant information of the foot perfusion[2] while the patient is still on the table, to assess treatment effect. This image analysis software provides functional information about tissue perfusion based on a digital subtraction angiography (DSA). Compare perfusion characteristics in multiple regions of interest at different moments to quantify the effects of revascularization during and immediately after the procedure. Advanced guidance supports standardized comparisons.[1]

SmartPerfusion

Innovative perfusion technology for superior care

A burning clinical need

When it comes to performing CLI procedures, there are no guidelines for the optimal treatment approach.[3] Restoring vessel patency has not been shown to be a reliable predictor for clinical outcome –e.g., wound healing or less pain.[4,5] Conversely, wound healing is known to also occur in patients that were not treated endovascularly.[5]

SmartPerfusion imaging technology provides interventionalists with an objective understanding of the impact of their treatment to help determine the outcome of perfusion procedures. Advanced guidance supports standardized comparisons and automated functions simplify clinical adoption.

Key benefits

- Supports determination of treatment endpoint[6]
- Supports physicians to assess treatment effect by providing instant perfusion parameter changes
- Seamless and automated guidance
- Standardize pre- and post comparison runs through guided positioning

A usability study showed

92% of the users believe SmartPerfusion supports them in defining the endpoint of the treatment[7]

> “SmartPerfusion angiography is a huge help in deciding when to end endovascular treatments”
>
> **Prof. Jae Kyu Kim, MD & Nam Yeol Yim, MD - Chonnam National University Hospital, South Korea**

A usability study showed

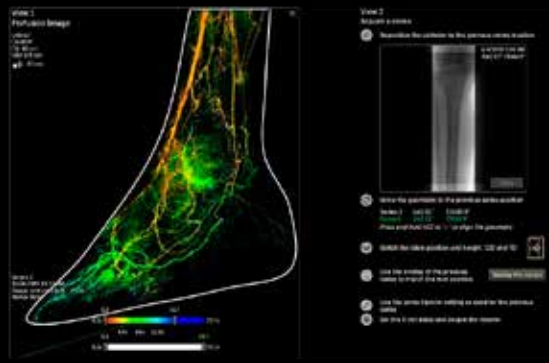
93%

of users agree that SmartPerfusion has all the functions and capabilities for perfusion imaging[7]

SmartPerfusion assists the physician in visualizing the perfusion changes beyond conventional DSA imaging.

- The total contrast distribution of a DSA run is displayed in one color coded image
- Easily visualize the redistribution of arterial flow to the region of interest through time density curve.
- Visualizes the restoration of blood flow to multiple regions of interest

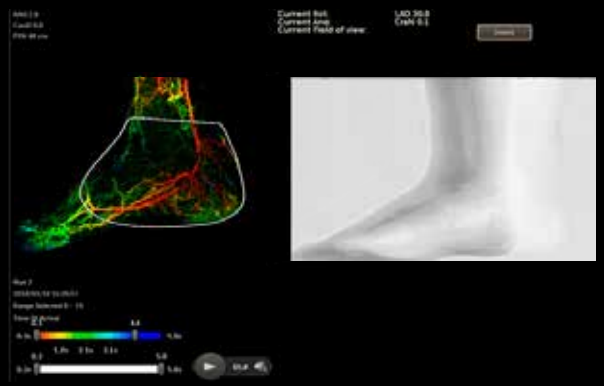
Smart alignment



Guided positioning for standardization of pre-and post-comparison runs

Smart workflow

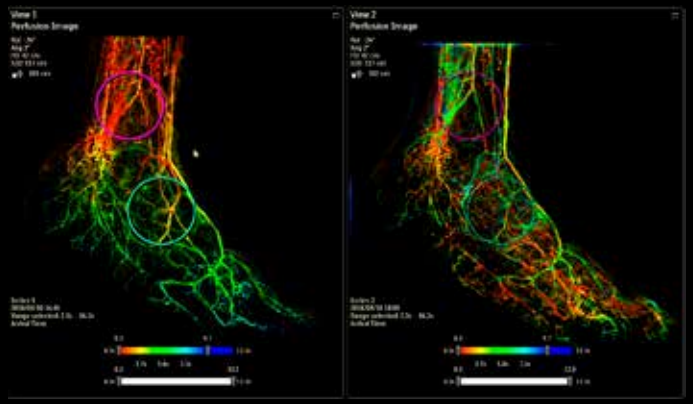
Easy run selection



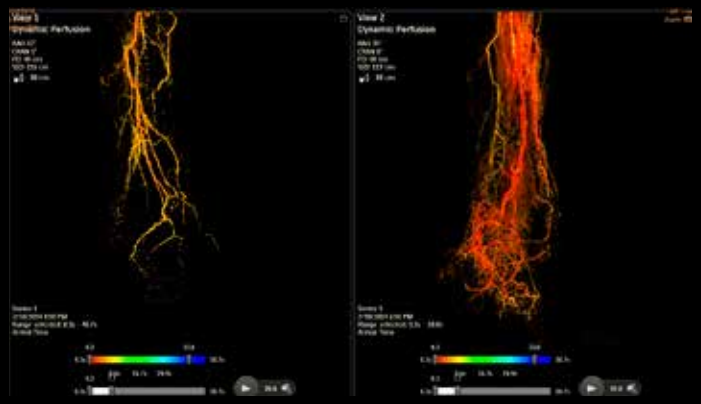
Efficient workflow by easy alignment of foot anatomy pre- and post-procedure (including magnification)[8]

Full table side control via TSM

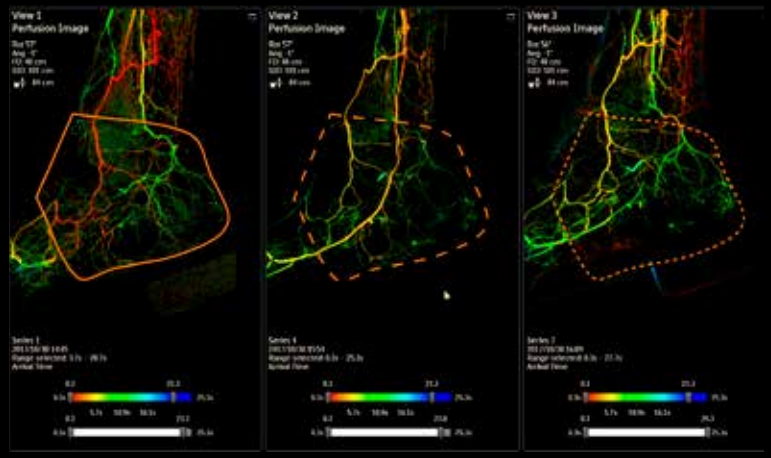
Smart comparison



Evaluate perfusion characteristics in multiple regions of interest on one single image



Facilitate clinical interpretation of the image with Dynamic Perfusion



Compare perfusion characteristics in the micro and macro circulation pre- peri- and post- intervention[9]

Instant overview created automatically – shows all functional parameters, pre- and post-comparison, in one screen (including graph)

Case: Balloon Angioplasty of the Tibioperoneal truncus

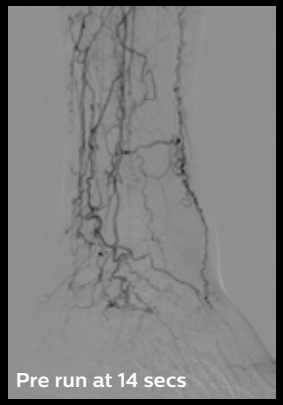
Patient:

- 92 year old male
- Diabetes
- Non healing ulcer dig2

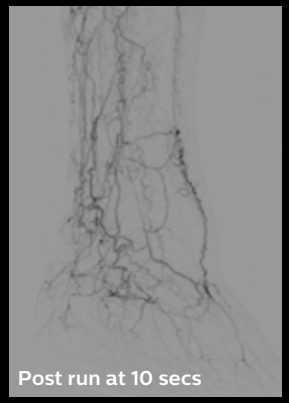
Treatment:

- Balloon angioplasty of the Tibioperoneal truncus (3 mm balloon)

A usability study showed **92%** of the users believe SmartPerfusion supports them in defining the endpoint of the treatment[7]

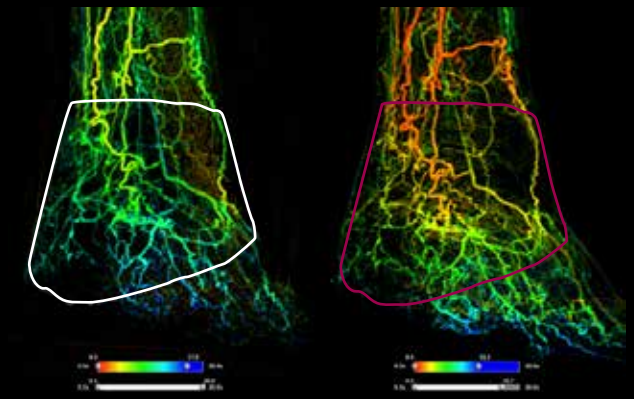


Pre run at 14 secs

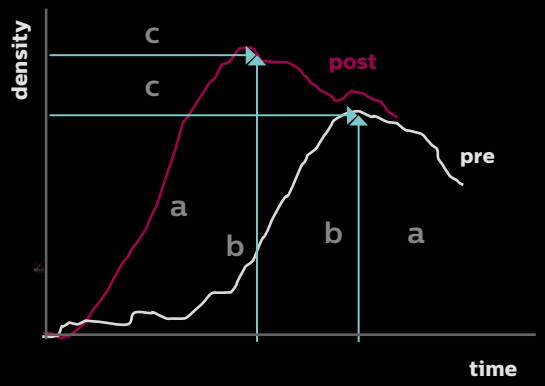


Post run at 10 secs

No significant differences between pre and post DSA runs other than slightly faster inflow on post



The color coded image also shows faster inflow in the post run



Significant increase in contrast passage, as demonstrated by:
- larger Area under Curve (a)
- higher Peak density (b)
- shorter time to peak (c)

Considering the different parameters, the overall perfusion in the foot has increased, which is not clear based on the pre and post DSA's

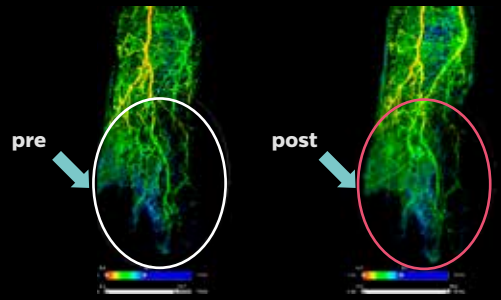
Case: Balloon Angioplasty of the distal Posterior Tibial Artery.

Patient:

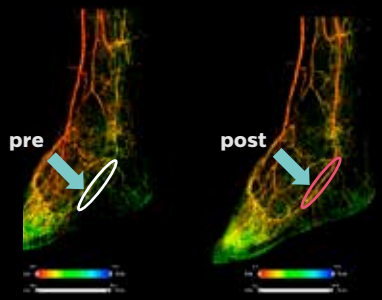
- 55 year old male
- Diabetic
- Critical Limb Ischemia
- Recent amputation of the 3rd toe, bad healing of the wound.
- Posterior tibial artery occluded and fibular (peroneal) artery is fragile but without significant stenoses.

Treatment:

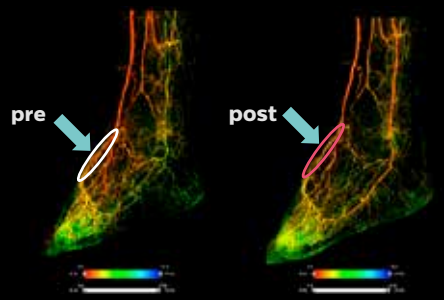
- Balloon Angioplasty of the distal part of the Posterior Tibial Artery.
- Peroneal Artery is too fragile to treat



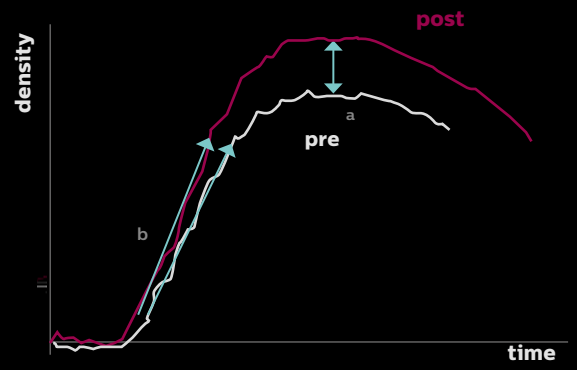
The forefoot is supplied with more blood after treatment



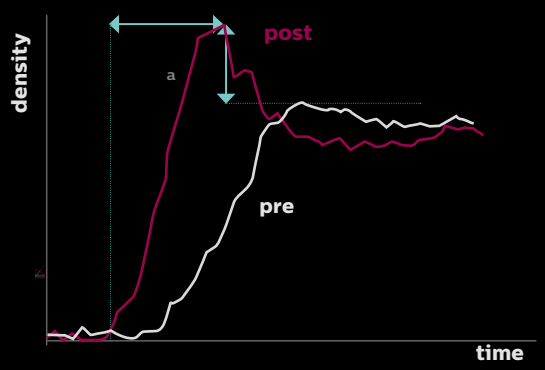
Posterior Tibial Artery (PTA) shows more and faster flow after treatment



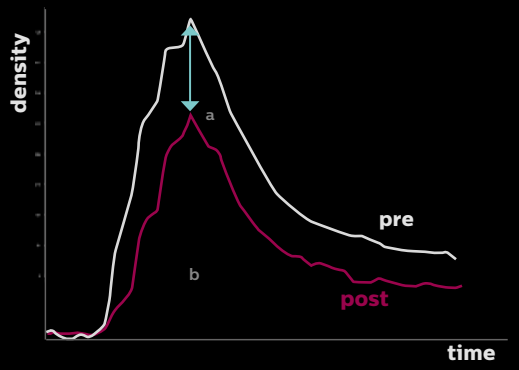
Stealing effect in Dorsalis Pedis Artery (DPA), based on pre and post comparison



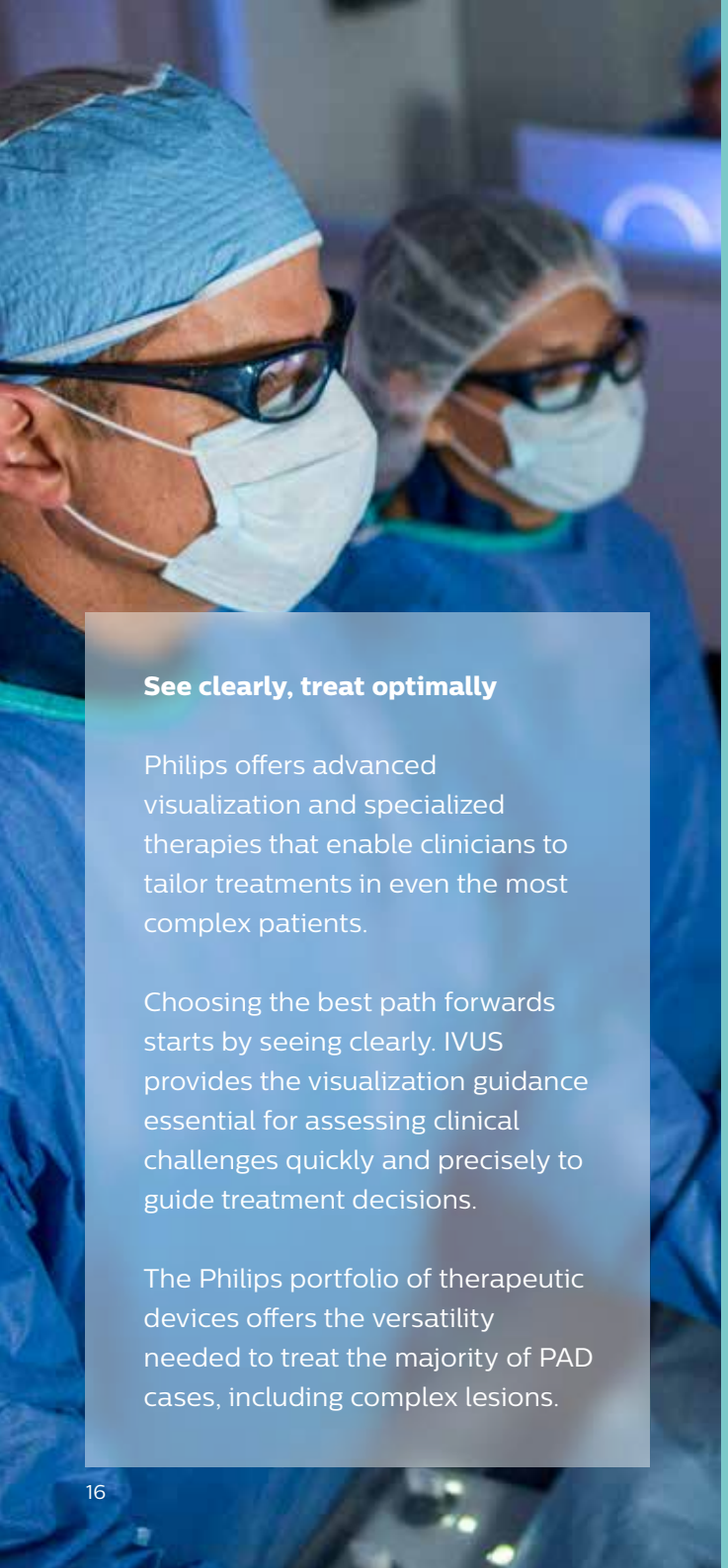
- Considering the whole forefoot, the perfusion characteristics have improved.



- Faster flow and more flow going through the PTA after treatment.



- Stealing effect confirmed by drop in peak density in the DPA after treatment



See clearly, treat optimally

Philips offers advanced visualization and specialized therapies that enable clinicians to tailor treatments in even the most complex patients.

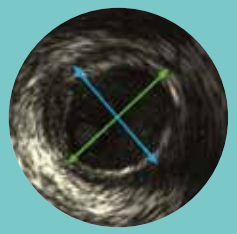
Choosing the best path forwards starts by seeing clearly. IVUS provides the visualization guidance essential for assessing clinical challenges quickly and precisely to guide treatment decisions.

The Philips portfolio of therapeutic devices offers the versatility needed to treat the majority of PAD cases, including complex lesions.

See clearly

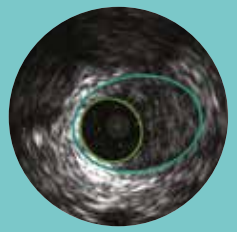
critical lesion characteristics

Vessel size



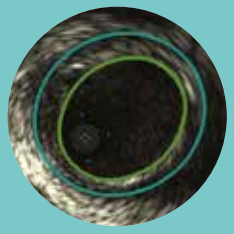
Guides device sizing to ensure precise wall apposition, drug delivery, and placement

Plaque morphology



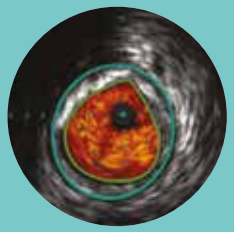
Understand plaque type and severity to help guide proper device selection

Plaque geometry



Visualize plaque burden location for precise treatment

Guidewire position



Confirm true lumen or sub-intimal guidewire location

Treat optimally
with versatility

Crossing

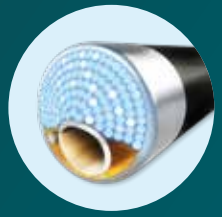
Quick-Cross catheter

Pioneer Plus catheter

Cross your toughest lesions

Vessel prep

Turbo-Elite laser atherectomy



Turbo-Power laser atherectomy

Phoenix atherectomy

AngioSculpt scoring balloon

Prepare multiple lesion morphologies, locations and characteristics, including CTOs, ISR, thrombus, calcium, neo-intimal hyperplasia, mixed morphologies and ostial lesions

Definitive treatment

Stellarex drug-coated balloon

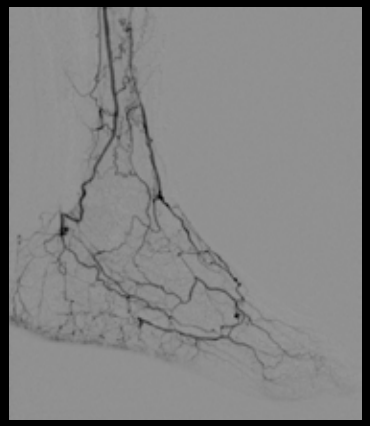
Treat lesions without leaving metal behind

Case: Atherectomy and DEB of Anterior Tibial Artery.

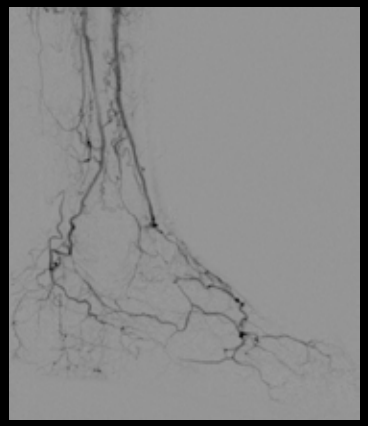
Patient:
- 66 year old male
- Lesion in distal Anterior Tibial Artery, Rutherford 4

Treatment:
- Atherectomy and DEB of Anterior Tibial Artery

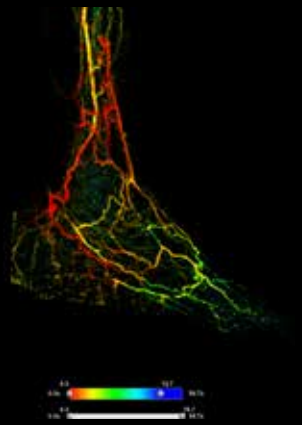
No significant differences appear from the DSA runs or the 2D Perfusion images



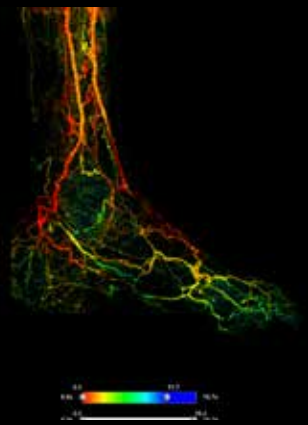
Pre run 10 sec



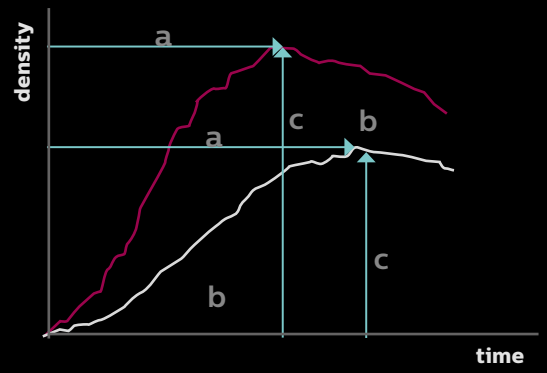
Post run 8 sec



Pre



Post



The SmartPerfusion quantitative analysis shows a strong improvement in perfusion – increased time to peak (a), area under the curve (b) and peak density (c) – which was unclear from DSA, nor from the color-coded images alone.

Adept Medical Lower Leg Support

for optimized positioning and access

The Adept Medical Lower Leg Support provides an ideal accessory to use during DSA, as well as in combination with SmartPerfusion. It is designed to gently immobilize the patient's leg during fluoroscopy guided treatment of critical limb ischemia. The ergonomic design optimally positions the leg for procedural requirements desired during lower limb interventions. Immobilizing the leg can prevent the need for additional fluoroscopy runs due to motion artifacts, compared to imaging procedures without leg supports. By reducing motion artifacts, the Adept Medical Lower Leg Support also supports better comparison of the pre- and post-run with SmartPerfusion.

Resting on top of the table mattress, the Lower Leg Support can be firmly secured with two Table Straps that simply wrap around the cantilevered table and mattress, ensuring device security. The Table Straps are equipped with side release buckles allowing quick release and tensioning. The Carbon Fibre Leg Support is fitted with a clinically designed soft foam Leg Pad, offering pressure management for patients who often suffer from painful ulcerations.

Aortic disease

Targeting efficiency to redefine aortic outcomes

Endovascular treatments of aortic diseases are becoming longer and addressing more complex anatomy. Radiation and contrast medium usage are a concern, specifically for elderly and health-impaired patients.

Contrast-induced nephropathy (CIN), in particular, has been associated with an increase in complications and prolonged hospital stay.[10] At the same time, modular stents are replacing expensive tailored stents to increase availability and cost-effectiveness of suitable grafts. Integrated imaging modalities are driving higher precision in treatment planning, guidance, and follow-up.In this dynamic area, there is a clear need for imaging technologies which improve accuracy, efficiency, and patient safety. Our Vascular suite offers premium workflow improvements and dedicated interventional tools to improve procedural efficiency and redefine outcomes for your patients with aortic disease.

Decide | Guide | Treat | Confirm

Workflow options that optimize lab performance and dose management

TSM and FlexVision Pro
CT patient information from external source (e.g. PACS database) readily at hand and controllable at table side

FlexVision Pro
Gives you full control of all system inputs including intravascular ultrasound (IVUS) and CX50 vascular ultrasound at tableside to save time and unnecessary walking in and out of the sterile area.

Flexible workspots
Allow team members to access all information from any workspot to save time, improve consistency, and decrease delays.

ClarityIQ technology
Excellent visibility at ultra low X-ray dose levels for a comprehensive range of clinical procedures with ClarityIQ technology.

Zero Dose Positioning
Helps you manage dose by positioning the system or table on Last Image Hold so you can prepare your next run without using fluoroscopy.

Hybrid OR solution featuring FlexArm
This innovative surgical environment offers unmatched procedural flexibility and ease of use, while meeting the highest standards for surgical infection control and hygiene.

ProcedureCards
Select the EVAR ProcedureCard and the system is set-up the way you want. Hospital specific protocols and/or checklists can be added to ProcedureCards and displayed on monitors.

With Azurion a breakthrough in workflow improvement has been realized, resulting in proven efficiency.

Aortic disease

Superior care in Aortic procedures

Live X-Ray guidance

Decide

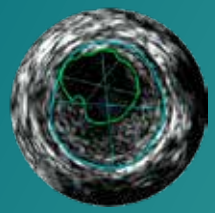
VesselNavigator
Pre-operative CTA or MRA imported into VesselNavigator

Live X-ray guidance with ClarityIQ technology
Each patient has unique requirements when it comes to choosing the right device. 2D DSA with ClarityIQ technology generates high definition images of vessels with outstanding vascular detail to support precise treatment strategies, navigation, and follow-up.

Guide

CX50 ultrasound system
A realistic visualization of vasculature is required to effectively access the arterial system. Our integrated CX50 ultrasound system provides premium quality images of the radial artery and veins to support radial access interventions.

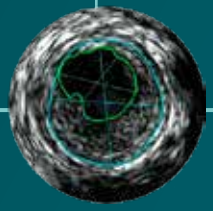
Live X-Ray guidance



IVUS

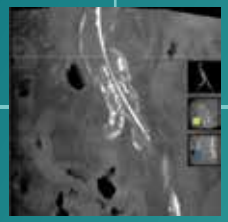
Treat

Confirm



Intravascular ultrasound (IVUS)
IVUS cross-sectional images compliment angiography and helps clinicians assess the presence and extent of disease, plaque geometry, and morphology.

VesselNavigator
The goal during aortic procedures is to place endovascular stentgrafts, quickly and precisely, while using minimal radiation and contrast. VesselNavigator provides an intuitive and continuous 3D roadmap to guide you through vasculature during the entire procedure. This reduces the need for a contrast enhanced run to create a conventional roadmap. One study showed an average of 170 ml contrast reduction during endovascular repair of complex aortic aneurysms with the use of VesselNavigator CTA image fusion guidance.[11] A reduction in average procedure time from 6.3 to 5.2 (1.1) hours during FEVAR/BEVAR with VesselNavigator CTA image fusion guidance has been shown in a recent study.[12]



SmartCT* Soft Tissue
With aortic repair, the detection and management of endoleaks is important while the patient is still on the table. SmartCT Soft Tissue can detect post-EVAR complications, intraoperatively, that cannot be detected on DSA. This allows for immediate intraoperative correction of detected complications.

* SmartCT is 510 (k) pending in the USA. Not available for sale in the U.S.A. This material cannot be distributed in the United States.

VesselNavigator

Reduce your need for contrast medium

VesselNavigator allows image fusion of existing CTA or MRA vascular anatomical information with X-ray, to serve as a live 3D roadmap

VesselNavigator real-time navigation

VesselNavigator can be used for any type of endovascular procedure. It is especially beneficial for complex and tortuous vasculature where it is challenging to accurately navigate and place stents or for procedures where contrast use should be minimized.

Contrast medium usage and procedure efficiency

VesselNavigator's roadmap covers the entire MR or CT volume, so you can navigate through the entire vessel without needing to make contrast runs at each step of the procedure.

A study of 23 patients[12] has shown to reduce average contrast medium usage from 235 to 65 ml (72%) during endovascular repair of complex aortic aneurysms with the use of Philips CTA image fusion guidance. No intraprocedural contrast agent injection was required to create a roadmap.

Besides reducing contrast, VesselNavigator can reduce procedure time significantly. A study of 62 patients[13] showed an average reduction in procedure time from 6.3 to 5.2 hours during FEVAR/BEVAR procedures with the use of Philips CTA image fusion guidance.

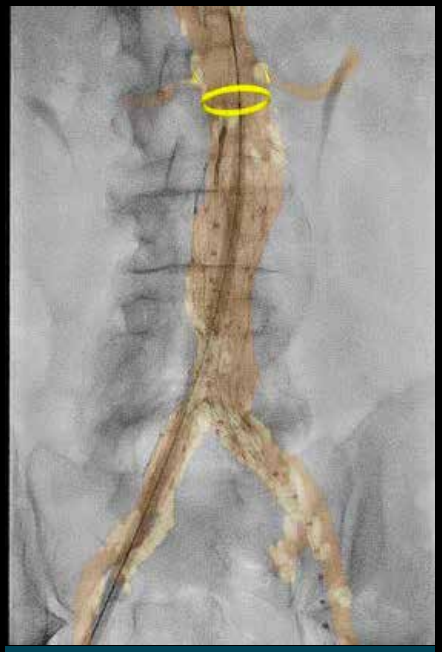
Key benefits

- Supports navigation through complex vessel structures, enhancing clinical outcomes
- A pre-acquired CTA or MRA reduces the need for contrast enhanced runs
- CTA Image Fusion Guidance may lead to shorter procedure times
- Intuitive and easy to use with step-by-step workflow guidance

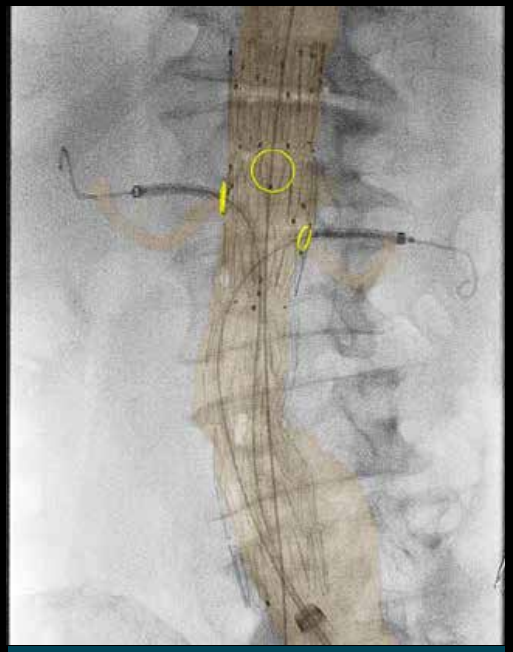
“After one month of usage, we have passed the point where the clinical value of VesselNavigator outweighs the investment we made.”

Prof. Dr. F. Vermassen, University Hospital Ghent.

VesselNavigator provides three dimensional views of vasculature that allow you to easily define the right projection angle[2] for optimal navigation and stent placement. With the use of ring markers you can easily indicate the ostia and landing zones.

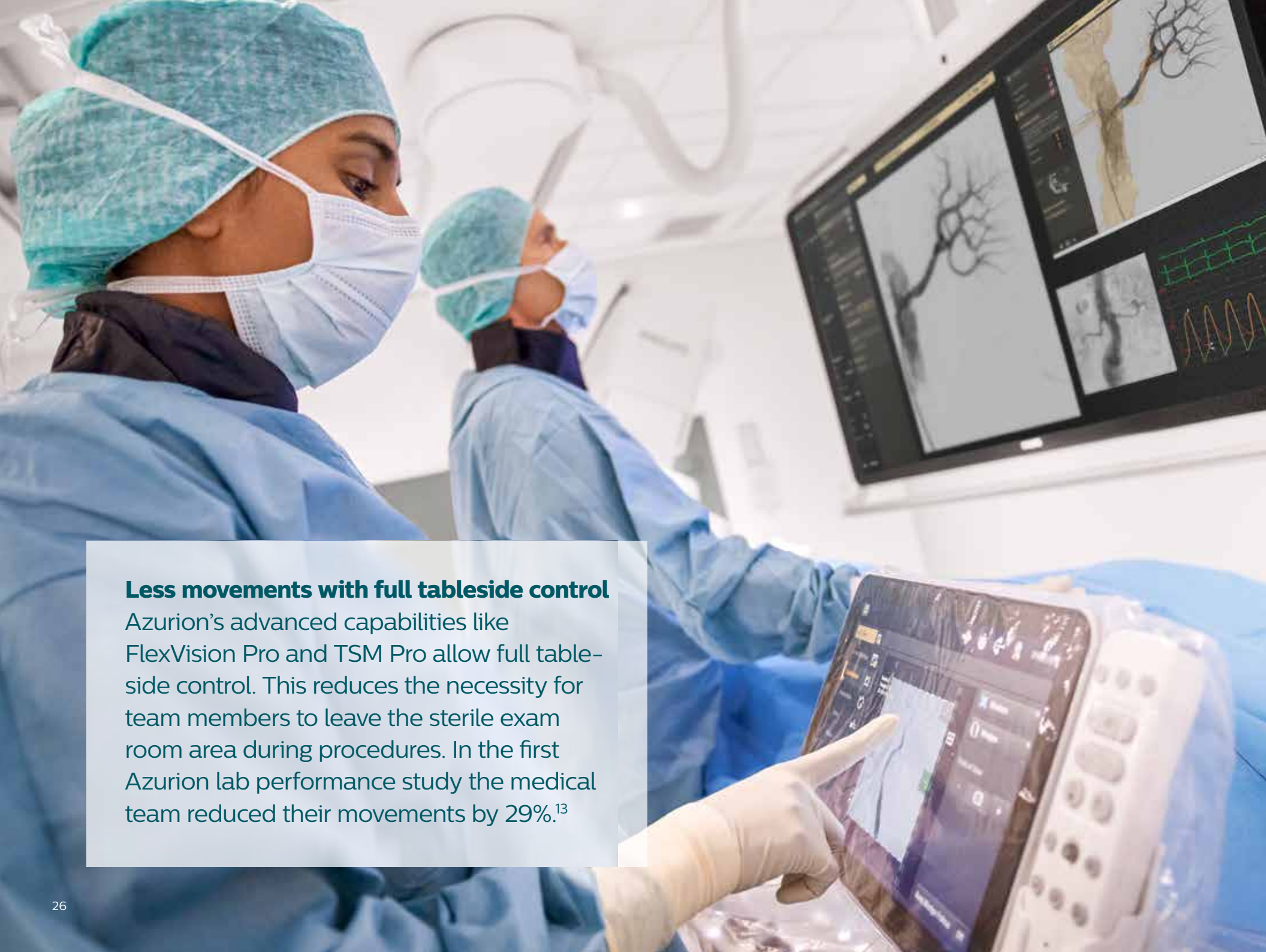


69Y/M, Endovascular aortic aneurysm repair
Contrast medium: 36 ml
Air Kerma: 410 mGy
Fluoro time: 11 min
Procedure time: 45 min
Courtesy of Prof. Dr. M. Schermerhorn



70Y/M, Endovascular repair of juxtarenal abdominal aortic aneurysm
Contrast medium: 115 ml
Air Kerma: 2165 mGy
Fluoro time: 57 min
Procedure time: 2:14 hours
Courtesy of Prof. Dr. M. Schermerhorn

71Y/M, lower left peripheral in stent restenosis
Contrast medium: 40 ml
Air Kerma: 86 mGy
Fluoro time: 7 min
Procedure time: 1:30 hours
Courtesy of Prof. Dr. F. Vermassen



Less movements with full tableside control

Azurion's advanced capabilities like FlexVision Pro and TSM Pro allow full table-side control. This reduces the necessity for team members to leave the sterile exam room area during procedures. In the first Azurion lab performance study the medical team reduced their movements by 29%.[13]

With Azurion, **performance and superior care become one**

Reduction of procedure time by 17% with Philips Azurion in independently verified study with more than 770 procedures[13]

The Interventional Vascular Department of St. Antonius Hospital, a leading interventional institution, has faced the challenge of increasingly complex procedures, unpredictable demand, and growing patient waiting time. When the time came to replace one of their existing labs, their goal was to invest in a solution that would help them improve quality of care, maximize workflow efficiency and drive staff and patient satisfaction.

After installing Azurion, the interventional vascular department of St. Antonius Hospital achieved[13] a:

17% reduction in procedure time

44% increase in usage of supporting software tools

29% reduction in staff movement between exam and control room

12% reduction in patient preparation time

28% reduction in post-procedure lab time

25% reduction in planned cases finished after normal working hours

77% usage of instant parallel working for interventional procedures

Full **flexibility** and **patient access**

Our solutions are based on continuous input and collaborations with stakeholders across the clinical spectrum. Our most recent survey[14] of surgeons around the globe identified their key requirements for a Hybrid OR. The Azurion Hybrid OR with its two unique FlexArm and FlexMove gantry options has been developed to meet these critical issues.

Optimal use of space

Major equipment is mounted on the ceiling, the preferred location for OR equipment. Both the FlexArm and FlexMove gantries have a compact design, developed to maximize use of OR space and help maintain a clean floor.

Easy full body patient coverage

Team members can work at both sides of the table, and the patient can be accessed at any location from head to toe. The imaging system can be easily moved away from the table as needed. Azurion's gantry flexibility also helps to reduce and even eliminate table pivoting or panning which can enhance patient experience and improve catheter control and intubation.

Positioning flexibility and clean floor

Imaging and surgery equipment can be easily positioned for different teams and procedures without touching the floor. The FlexArm C-arm has a 270-degree range of movement to further increase staff and equipment positioning freedom without compromising projection freedom.

Workflow without compromise

The anesthesiologist can stand at the head of the table, and other team members can stand in their preferred working positions for a variety of open and minimally invasive procedures. During radial access and multiple access cases, the transversal movement of the gantries allows you to work in the most ergonomic position.

The Azurion 7 C20 FlexArm benefits diverse procedures

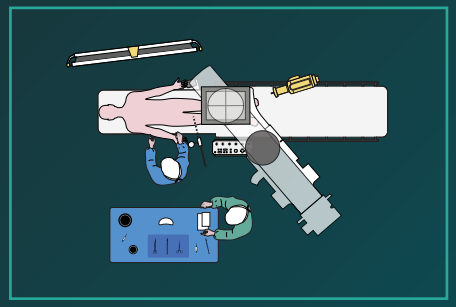


Figure 1: Peripheral procedures
- Unrestricted access over full legs with C-arc positioned at 135°
- Flexibility to position the system on right or left side
- Ergonomic view of display monitor

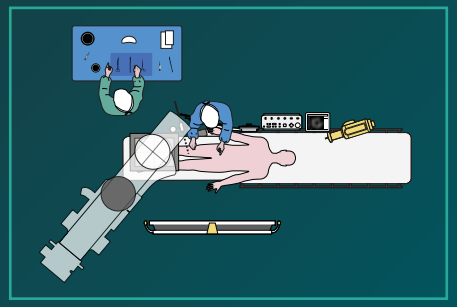


Figure 2: Peripheral procedures with legs at head end
- Full accessibility around foot end to position additional equipment (ultrasound, atherectomy device, etc.) and/or whenever pedal access is needed
- Ergonomic view of display monitor for ultrasound images, FlexSpot images, etc.
- 3D tools can be used from both sides of the table

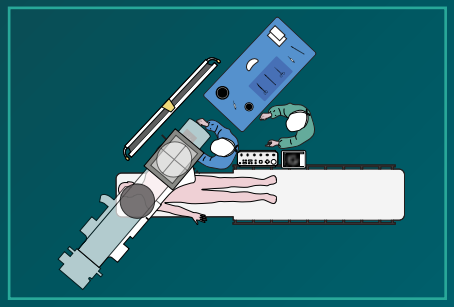


Figure 3: Shunt procedures
- Excellent shunt access with patient-centered imaging
- Ergonomic view of display monitor
- Ample space to position additional equipment when needed

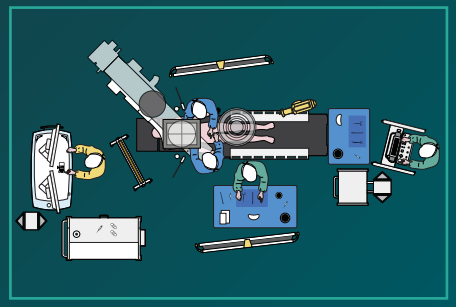


Figure 4: EVAR procedures
- Optimal working position for both anesthesia and physicians
- No need to move the table for sedated patients
- Lead screens can be easily positioned at table side

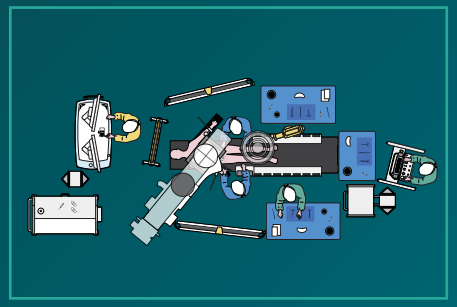


Figure 5: FEVAR procedures
- Flexibility to put the system at patient right side to support optimal working position for anesthesiologist and physicians
- No need to move the table for sedated patients
- Both physicians have a good view of the display monitor

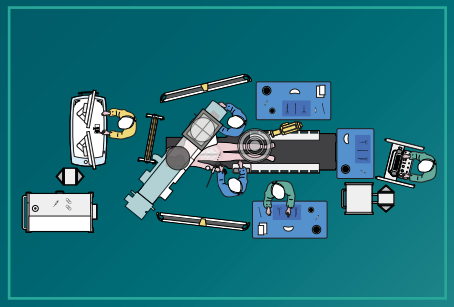


Figure 6: FEVAR procedures with brachial access
- Excellent brachial access with patient-centered imaging
- C-arm can be easily maneuvered from brachial access position to aortic position without hampering workflow

The Azurion 7 C20 FlexMove parking and stand by position

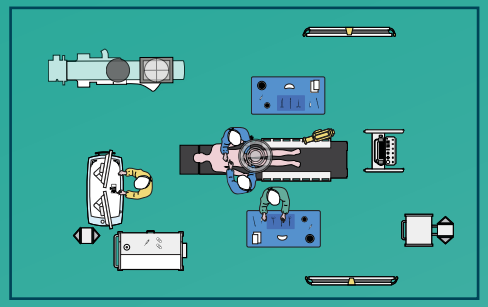


Figure 7: Parking position
- Park system outside treatment area:
  - During open surgery procedures
  - During patient preparation
  - At end of procedure

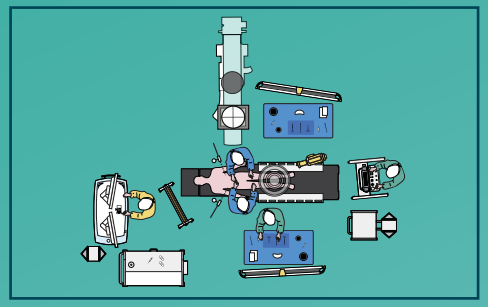


Figure 8: Standby position
- Full patient access with C-arm in stand by position during open surgery phase
- Easy to bring in the C-arm whenever needed without disturbing room set-up

SmartCT- the next leap in simplifying and advancing 3D imaging to enhance interventional confidence

The Philips Image Guided Therapy clinical application software SmartCT*, part of the Azurion image guided therapy platform, enriches our exceptional 3D interventional tools with clear guidance that is designed to remove the barriers to acquiring 3D images in the interventional lab.

Increases clinical confidence

Via the touch screen at the table, you can access clinically tailored 3D acquisition protocols and advanced visualization and measurement tools. These allow you to evaluate the type and extent of disease during peripheral, aortic, visceral, arterial, and venous procedures with great detail. Studies have shown that 3D CT-like imaging in the Angio lab can enhance diagnostic accuracy, improve patient outcomes, and increase procedural efficiency .

Empowers you to easily adopt 3D imaging

SmartCT allows any clinical user** to perform 3D imaging with SmartCT, regardless of their level of experience[15]:

- Easy room preparation to help position equipment and the Azurion system for a 3D acquisition
- Easy protocol selection via pictorials
- Injection protocol suggestion based on literature
- Easy isocentering with visual feedback to confirm your field of view position without using X-ray dose
- Easy 3D acquisition – you know when acquisition is completed and you can release the push button or pedal

* SmartCT is 510 (k) pending in the USA. Not available for sale in the U.S.A. This material cannot be distributed in the United States.
** As described in the SmartCT Instructions for Use.

82% think that the ease of using SmartCT will increase their utilization of 3D imaging in interventional procedures[15]

88% believe they can have more focus on their patient - thanks to full table side control with the touch screen module[15]

Provide superb care
Increases clinical confidence for diverse vascular procedures with advanced 3D imaging, visualization and measurement tools.

Optimize lab performance
Easily control advanced 3D acquisition, visualization and measurements at table side to improve lab flexibility and efficiency.

Oustanding user experience
Acquire 3D images and interact with all SmartCT 3D features in a more natural and effortless way.

Improve visibility of anatomy with clinically tailored acquisition and roadmap protocols

SmartCT Angio

SmartCT Angio generates a complete high-resolution 3D visualization of cerebral, abdominal, cardiac and peripheral vasculature– all controlled via the touch screen at the table. This can improve visibility of tortuous anatomy that may not be seen on a 2D or DSA image, such as angulation, overlap and vessel bifurcations.

SmartCT Roadmap

SmartCT Roadmap provides a live 3D image overlay that can be segmented to emphasize the targeted vessel and lesions, supporting catheter navigation. The SmartCT Roadmap overlays a 3D reconstruction of the vessel tree, vessel segments, or annotations with live fluoro images.

SmartCT Soft Tissue

SmartCT Soft Tissue generates a CT-like visualization of soft tissue (cone beam CT) in relation to other structures during procedures – all controlled via the touch screen at the table. You can use the CT-like images to assess soft tissue, bone structure and stent deployment before, during and after interventional procedures.

Benefits of SmartCT Soft Tissue during EVAR procedures

According to the 2019 guidelines for abdominal aortic and iliac artery aneurysms[16], the use of cone beam CT (CBCT), as generated by SmartCT Soft Tissue, combined with a completion angiogram has been shown to be highly accurate in detecting complications intra-operatively post EVAR[17]. CBCT detected 7% to 18% of complications not detected on DSA[18]. By allowing immediate intraoperative correction of detected complications, cone beam CT can potentially reduce re-interventions[18]. In addition, CBCT uses 40% to 71%* less contrast than a computed tomography angiography which will benefit the patient further, specifically the ones with renal insufficiency.[17, 19 , 20, 21, 22]

Case: EVAR treatment check: Endoleak type 2 detection

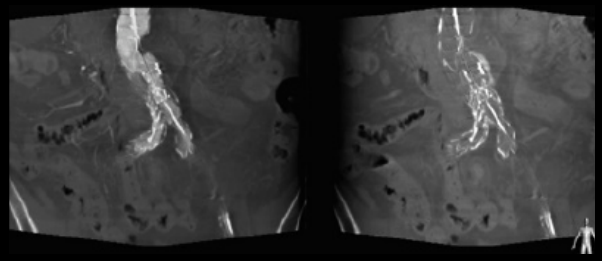
Patient:

- Male 80 years old
- Contrast volume SmartCT: 80 ml (dilution 50:50)
- Flow: 12 ml/sec
- X-ray delay first run: 2 sec; Interval time between the 2 runs: 15 sec
- DAP per SmartCT acquisition: 13 Gy.cm^2

VesselNavigator as guidance for stentgraft placement

First SmartCT: Early phase

Second SmartCT: Late phase



Final check with SmartCT Soft Tissue: Deposition of contrast outside of the stentgraft, only visible on the late phase scan, showing a type 2 endoleak

Merging the two scans clearly shows the late phase contrast filling outside the stentgraft

Up to 18%
CBCT prompted intra-operative interventions

40 to 71%
less contrast with CBCT compared to a CTA

Scan to view feature videos

System platform
Azurion 3 F15, 5 C20, 7 C20,
7 C20 FlexArm
7 C20 FlexMove
ClarityIQ technology

Vascular products
SmartPerfusion
VesselNavigator
SmartCT Angio
SmartCT Roadmap
SmartCT SoftTissue
XperGuide

Vascular devices
IVUS
Visions PV
Pioneer Plus
Phoenix Atherectomy
Turbo-Power laser
Turbo-Elite laser
Turbo-Tandem catheter
Stellarex DCB
AngioSculpt

Integrated tools
CX50x Matrix ultrasound
Xper IM
IntelliSpace CV
DoseWise Portal
DoseAware

Integrated tables

Dedicated solutions to efficiently support your case mix

Azurion 7 C20 FlexArm
- Staff and equipment positioning freedom
- Improved workflow for multiple patient access points
- Enhanced patient care due to reduced table and patient movement
- Make efficient use of lab/OR space

Azurion 7 C20 FlexMove
- Positioning flexibility and clean floor
- Easy full body patient coverage
- Free Laminar Airflow field
- Extended parking options

Azurion 7 C20
- Efficient workflow with Procedure Cards, Parallel Working and Checklists and Protocols
- Broad portfolio of advanced workflow options like FlexVision Pro and TSM Pro
- Full-body coverage
- Superior imaging with ClarityIQ and MRC200+ X-ray tube

Azurion 5 C20
- High performance ceiling mounted image guided therapy solution with a 20" flat detector
- Covers a wide range of cardiac and vascular procedures to offer flexibility for multi-purpose use
- Control all relevant applications via the central touch screen module at table side

Azurion 3 F15
- Perfect fit for mixed application use in one room (cardiac/vascular)
- Same user interface as the Azurion 7 series provides ease-of-use across the whole platform
- Full-body coverage with table swivel
- Advanced dose management with DoseWise and MRC200+ X-ray tube

Increase value

throughout your Vascular suite lifecycle

Stay clinically and operationally relevant with Technology Maximizer

To keep your Image Guided Therapy Suite state- of-art with regards to cyber security, clinical, and operational advancements, subscribe to IGT Technology Maximizer - Plus, Pro or Premium offer – for a standard duration of 4 years at point of sale.

Technology Maximizer secures all your eligible Philips imaging equipment with the same technology release level reducing maintenance complexity and simplifying lifecycle management across hospital departments. Maintain peace of mind with imaging equipment that is always up to date, and enhance patient care knowing you will always be first to take advantage of technology innovations.

Learn more about Technology Maximizer

	Standard offer	Mid-level offer	Premium offer
	Technology Maximizer Plus	Technology Maximizer Pro	Technology Maximizer Premium Cardiac/Vascular
Azurion system SW version upgrade	✓	✓	✓
State-of-the-art security	✓	✓	✓
Latest available Operation System	✓	✓	✓
Computer HW refresh to support software upgrade	✓	✓	✓
Application training for new or enhanced functionality (days)	1	2	2
New version of existing iApps	✓	✓	✓
Future iApps in one clinical suite (Coronary, EP, SHD, Vascular, Neuro, Onco, Spine or Lung)		✓	✓
Future iApps in one clinical domain (Cardiac or Vascular)			✓

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13 Results are specific to the institution where they were obtained and may not reflect the results achievable at other institutions.

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