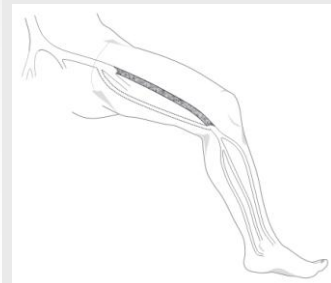
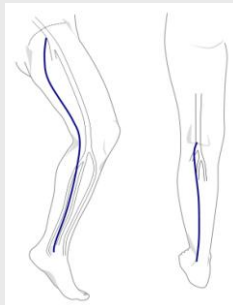
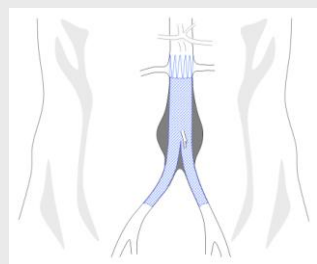
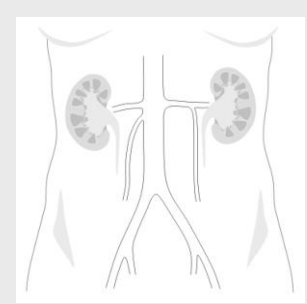
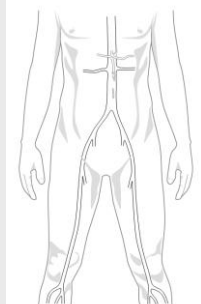
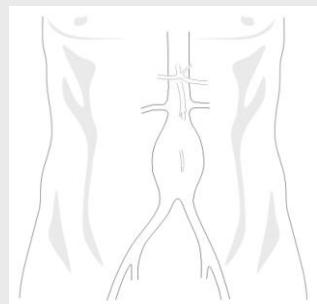
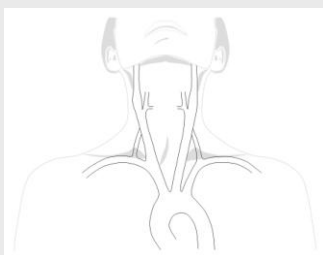


Genesis² System for Reporting of Vascular Laboratory Results

Prospectus



The Philosophy behind Genesis²

Vascular sonographers and sonologists are highly trained medical professionals who work at the forefront of patient diagnosis often liaising directly with vascular surgeons and other specialists. All the complex diagnostic work that vascular sonographers perform needs to be accurately reflected in a clear, concise, high quality vascular worksheet or report. Vascular sonographers know that vascular surgeons are mostly interested in a graphical worksheet, not a typed report. Despite huge leaps of computer information technology in recent years, the remarkable fact is that most vascular worksheets today are still drawn by the sonographer by hand as they were 30 years ago. While some sonographers produce beautiful work-of-art worksheets which are a pleasure to review, others put less effort into the worksheet and produce results which are difficult to interpret. This is a shame because the worksheet is often the only indicator of the quality of the diagnostic work that has been performed. Very few vascular sonologists, radiologists, or vascular surgeons actually review the documented images. For this reason, the sonographer's worksheet or report is the best medium available to the sonographer to showcase the expertise and quality of work which has gone into the diagnosis. Genesis² allows the sonographer to create stunning vascular reports using the friendly, flexible and familiar environment of Microsoft® Word enhanced by powerful graphical tools created for you by vascular specialists who understand your profession.

Examples of Genesis² Reports:



Introduction

Genesis² enables the sonographer to create visually clear, detailed, and accurate vascular report which can be interpreted quickly and easily not just by vascular specialists, but also GPs and other less vascular-savvy medical professionals. The system makes use of widely available hardware and software resources and can be used on any computer running Microsoft® Word 2002 or higher. Clean report layouts, extensive use of true-anatomy graphics, and the ability to store reports in easily accessible formats on any electronic media are some of the highlights of this system. Completed reports can be stored, retrieved, transferred to CD or memory stick, reviewed, e-mailed, faxed, reproduced, or inserted into PowerPoint presentations. The system is easy to use and the amount of time it takes to create a report is no more than it would take to draw it by hand. The average time an experienced user takes to generate a report is 3 minutes.

Getting Away from Hand-written Reports

Radiology information systems (RIS), and picture archiving systems (PACS) have revolutionized the way patient reports and images are managed in the radiology and vascular laboratory settings. However, prior to the release of Genesis², limited electronic tools have been available specifically for vascular sonographers. This is because vascular reports require the use of complex graphics to illustrate vascular anatomy and pathology. Most vascular reports today are still drawn by hand on pre-existing report templates. Hand-drawn vascular reports, however, pose a number of frustrating limitations:

- templates degrade with time as they are usually copied on a photocopier
- reports have an unappealing amateurish look
- reports usually can not contain color-coded items and if they do these can not be effectively photocopied
- reports are difficult to store for a long period of time and are difficult to retrieve
- reports can not be e-mailed or otherwise shared electronically
- reports are inconsistent between different operators
- hand-written notes can be difficult to read

Benefits of Using Genesis²

Genesis² development was motivated by the limitations of paper-based hand-drawn vascular reports. The system was designed by vascular sonographers drawing on many years of experience with clinical vascular sonography, electronic reporting, and PACS. Extensive consultation was sought from vascular surgeons, vascular physicians, computer graphics designers, and other experts. The result is a robust yet simple and flexible system which delivers an exhaustive range of benefits:

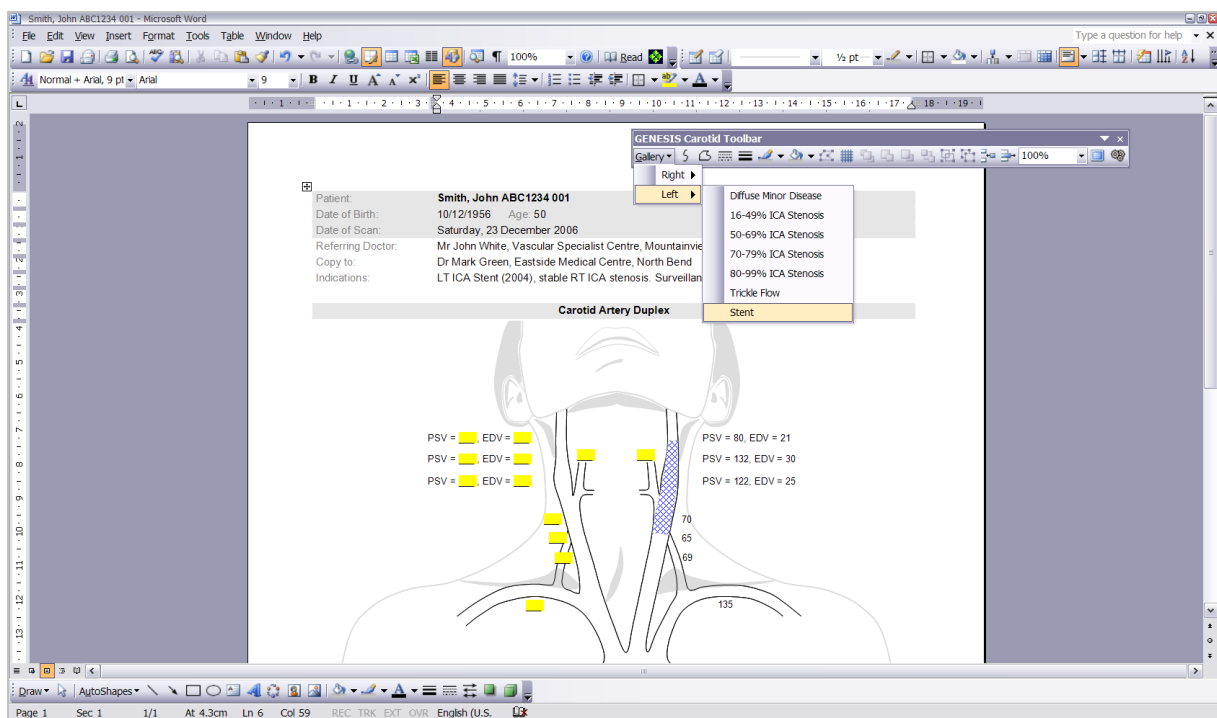
- The reports have a professional, easy-to-read appearance. Clear reports not only increase the referring physician's confidence in the quality of the diagnostic procedure, but more importantly, the reports are easy to read and interpret.
- Reports are more consistent between operators. Each report in the Genesis² System starts as a template with predetermined layout, fonts, graphics, pathology drawings and other settings. Reports produced by different operators deliver a consistent appearance and similar "feel". Differences in wording can also be reduced through use of AutoText items.
- Identical copies of reports are easily reprinted. Many vascular technologists use coloured pens to code information to their reports. Such reports are one-of-a-kind and can not be reproduced on a standard photocopier. Genesis² reports can be reprinted at any time.
- Original report templates never lose quality. Most vascular labs simply photocopy their original worksheets and report templates. This works for a short period of time, but the original quality is eventually degraded. With electronic storage, the original high-definition quality of your templates is retained indefinitely.
- Repetitive tasks can be minimized through automated features including the use of pre-defined graphics and text items.
- Reports are always available and are keyword searchable. It is easy to look up a patient by a wide range of criteria including patient name, date(s) report title, abnormality detected, etc. As such Genesis² can be a powerful research tool as well.
- Reports can be stored forever at no virtually no cost. Genesis² is remarkably economical when it comes to disk space. A typical Genesis² report requires only 50-100kB (inclusive of all color drawings). It is possible to store well over a million patient reports on a disk of an average home computer!
- Reports can be retrieved instantly for reference, for example when looking at prior results before commencing follow-up studies.
- Reports can be shared over a network, saved to storage media (such as USB sticks or CDs), or e-mailed immediately once they are created.
- The graphical nature of Genesis² reports and their compatibility with a wide range of other software including PowerPoint makes it easy to copy the reports or their elements directly into slides for presentations and education.

Genesis², How Does it Work?

A Genesis² template is a Microsoft® Word document template which encodes the layout, fonts, toolbars, drawings, AutoText entries, and other custom features. The user simply fills out the highlighted fields and inserts pathology drawings either by using the extensive built-in image Gallery or by drawing additional items using Word's simple drawing tools.

Over eighty Genesis² templates are available at present and new templates are continually being developed to keep in step with current trends in the field of vascular ultrasound. A complete listing of available templates and their description is provided in Appendix A.

In the example below, patient John Smith presents for a yearly surveillance scan of a left carotid stent. The sonographer has filled out the velocities for the left carotid system and is currently inserting in a predefined stent drawing from a Genesis² toolbar menu.

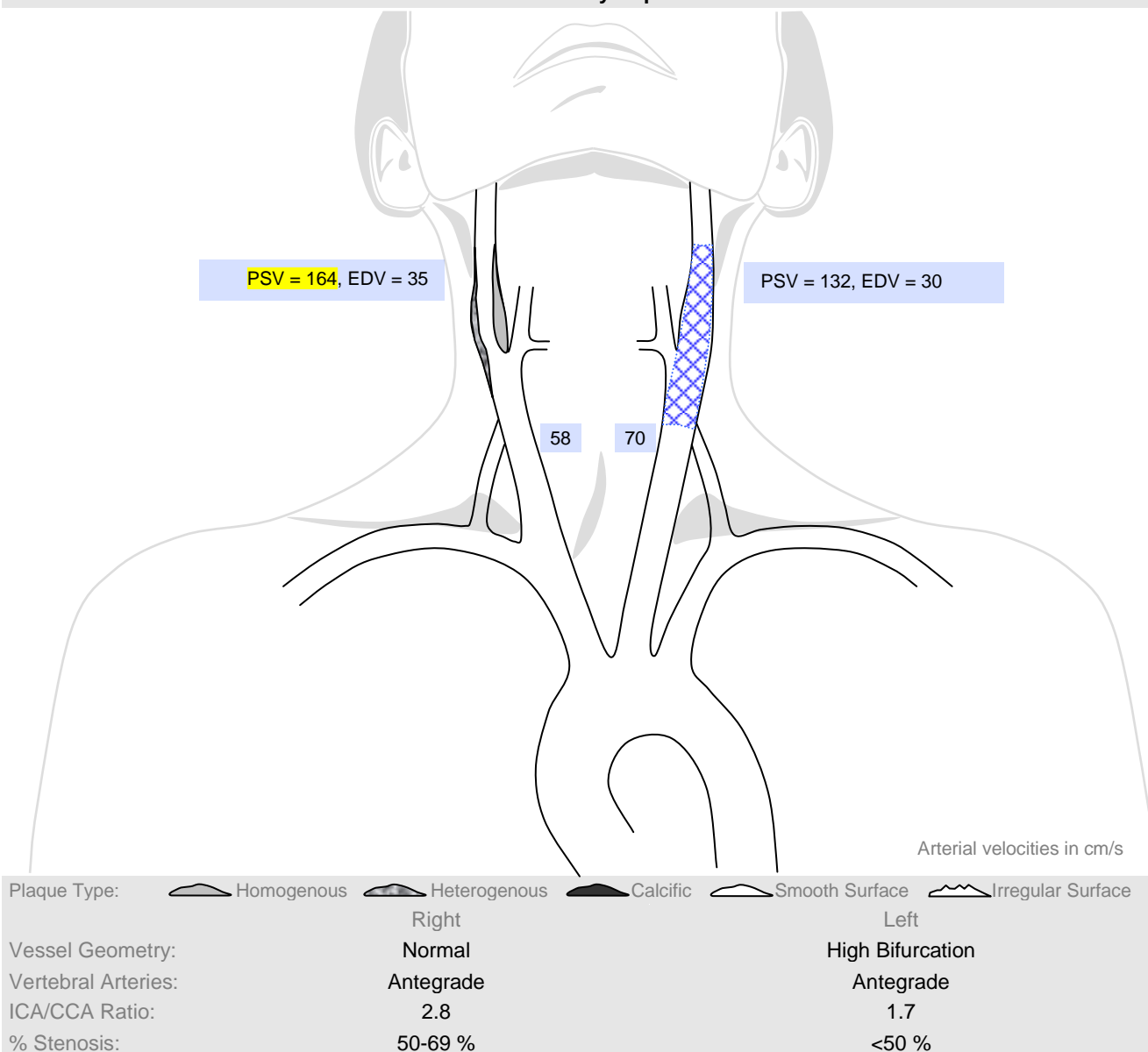


A number of Genesis² report samples can be found on the pages that follow.

CAROTID DUPLEX

Patient: **Smith, John ABC1234 001**
 Date of Birth: 10/12/1956 Age: 50
 Date of Scan: Saturday, 24 February 2007
 Referring Doctor: Mr John White, Vascular Specialist Centre, Mountainview
 Copy to: Dr Mark Green, Eastside Medical Centre, North Bend
 Indications: LT ICA stent (2004), stable RT ICA stenosis 50-69%. Yearly surveillance scan.

Carotid Artery Duplex



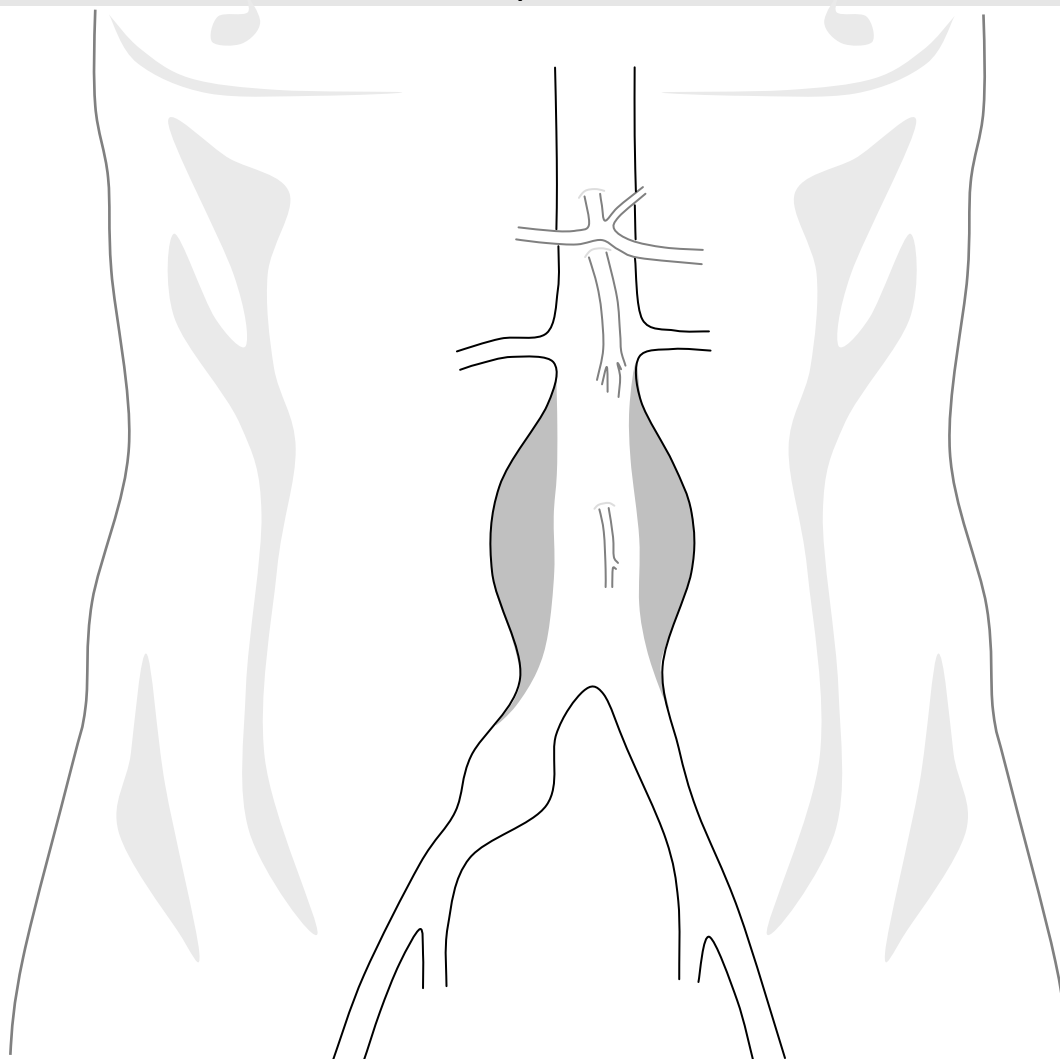
Comments: The left carotid stent is seen in normal position and functions normally. There is no evidence of neointimal hyperplasia or re-stenosis within the stent or the native ICA. On the right, stable 50-69% ICA stenosis was again noted with no change since last investigation 1 year ago.

Scanned by: Jackie Osmond, RVT
 Verified by: Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist

AORTA AND AAA STUDIES

Patient: **Smith, Trevor BCD2345 001**
 Date of Birth: 10/12/1936 Age: 70
 Date of Scan: Monday, 5 March 2007
 Referring Doctor: Mr John White, Vascular Specialist Centre, Mountainview
 Copy to: Dr Mark Green, Eastside Medical Centre, North Bend
 Indications: Pulsatile abdominal mass.

Aortic Duplex



Aortic Wall:	Homogenous Plaque or Thrombus	Heterogenous Plaque	Calcific Plaque
Proximal Aorta =	2.9 cm Ø	Mid Aorta =	2.8 cm Ø
SMA-AAA Distance =	3.0 cm	AAA Length =	7.5 cm
Bifurcation =	3.8 cm Ø	Tortuosity:	Mild
RT CIA=	2.5 cm Ø	LT CIA =	1.2 cm Ø
		Distal Aorta =	5.4 cm Ø
		AAA-Bifurcation Dist. =	0 cm
		Intraluminal Thrombus:	Yes
		Coexisting Pop Aneurysm:	No

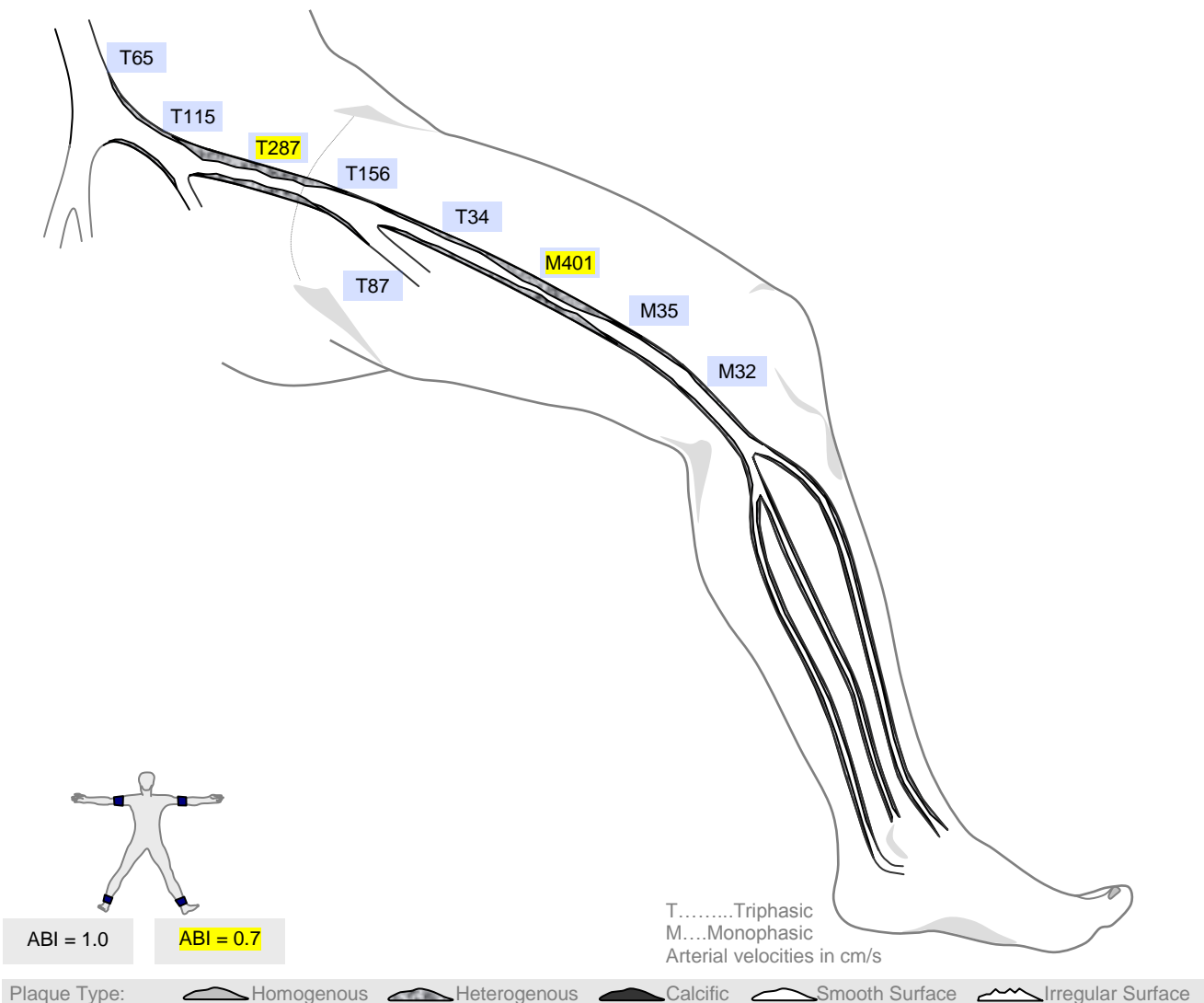
Comments: Large infrarenal abdominal Aortic aneurysm was detected. Further aneurysm was noted in the right Common Iliac Artery (CIA). Left CIA is mildly ectatic at its origin, but is not aneurysmal. No further aneurysms were seen in the Femoral or Popliteal arteries bilaterally.

Scanned by: John Haines, BSc, RDMS, RVT
 Verified by: Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist

LOWER LIMB ARTERIAL DUPLEX

Patient: **Smith, Frank ABC1234 001**
 Date of Birth: 10/12/1946 Age: 60
 Date of Scan: Monday, 5 March 2007
 Referring Doctor: Mr John White, Vascular Specialist Centre, Mountainview
 Copy to: Dr Mark Green, Eastside Medical Centre, North Bend
 Indications: Claudication in the left leg at 50meters. Vasculopath with multiple risk factors. .

Left Lower Extremity Arterial Duplex



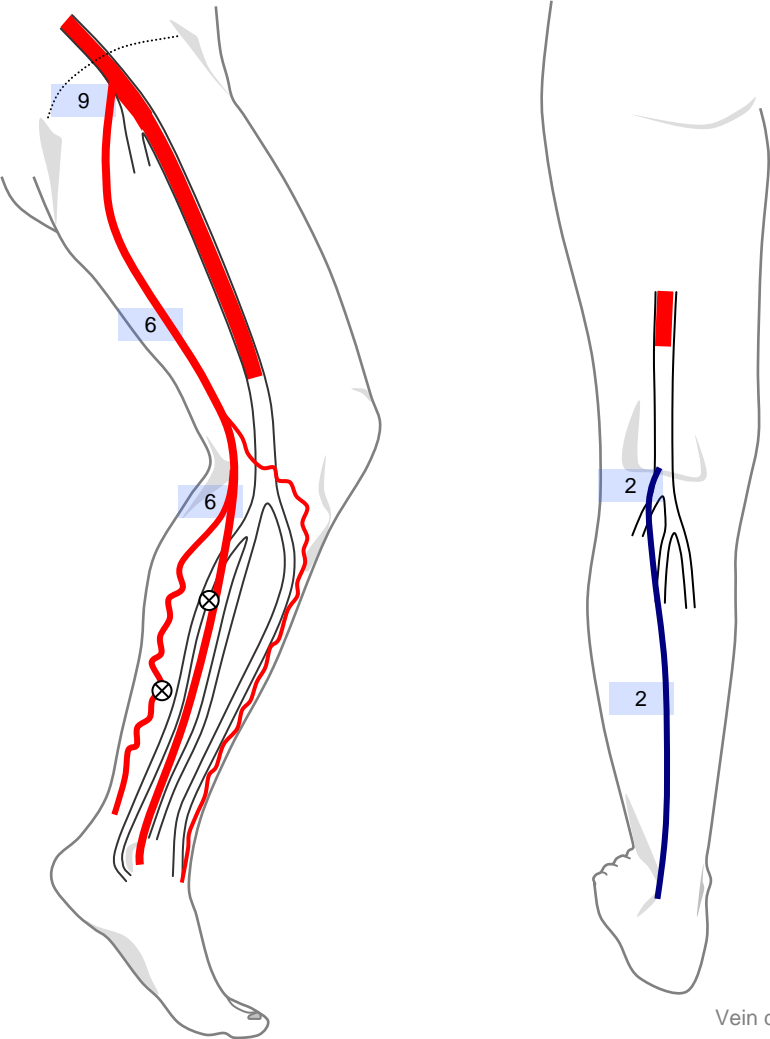
Comments: Diffuse peripheral arterial disease was seen in all lower extremity arteries. Hemodynamically significant (50-75%) stenosis was noted in the EIA. CFA, PFA, and proximal FA appear satisfactory. High-grade (75%+) stenosis was noted in the mid SFA 17cm below the groin. The stenosis extends over approximately 7cm length. Below this level, all arterial waveforms are monophasic. No further hemodynamically significant lesions were detected, but calf arteries are heavily diseased and are small in calibre.

Scanned by: Dennis Fraser, MMedSonography,
 Verified by: Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist






LOWER LIMB VENOUS DUPLEX (VARICOSE VEINS)

Patient:	Smith, Mary	BCD2345 001
Date of Birth:	10/12/1966	Age: 40
Date of Scan:	Monday, 5 March 2007	
Referring Doctor:	Mr John White, Vascular Specialist Centre, Mountainview	
Copy to:	Dr Mark Green, Eastside Medical Centre, North Bend	
Indications:	Long-standing varicose veins. Patient exploring treatment options.	

Left Lower Extremity Venous Duplex



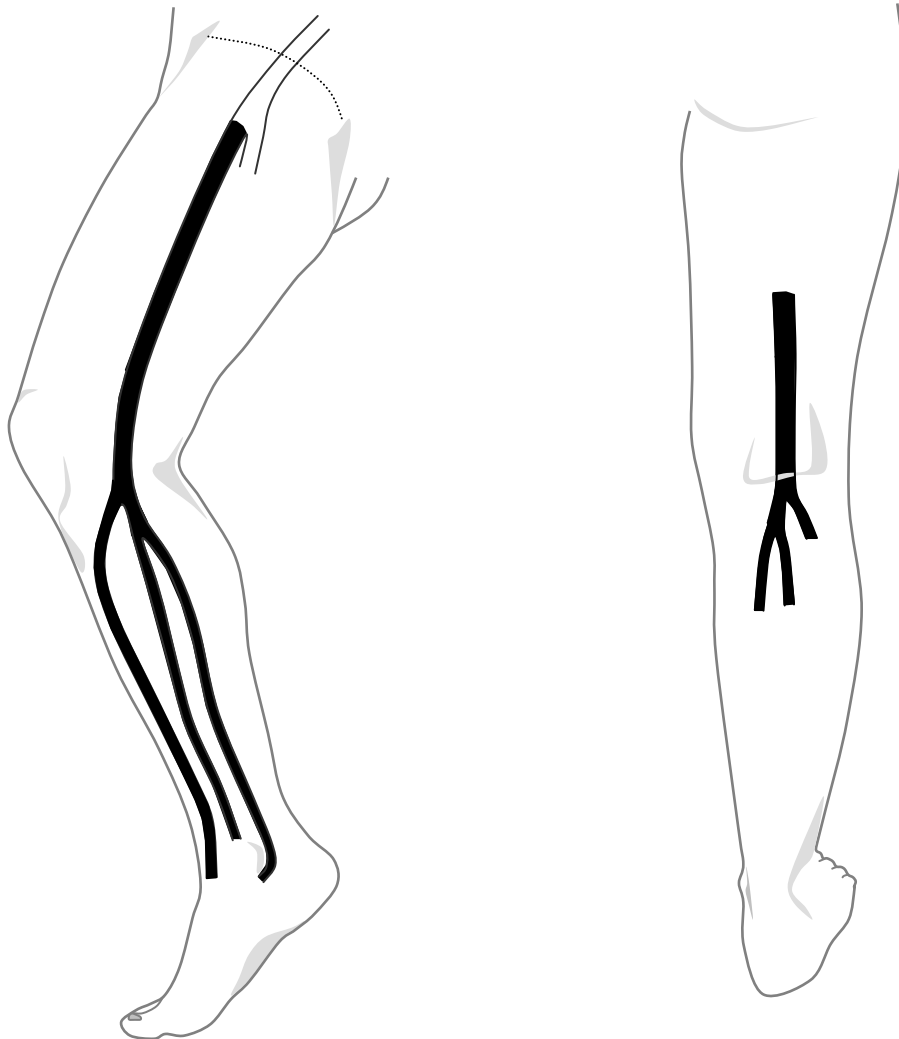
Vein diameters in millimetres

Legend:	 Normal Deep	 Normal Superficial	 Reflux	 Chronic Thrombus	 Acute Thrombus
Deep Veins:	Deep veins reflux to the level of the distal FV. POP vein and deep calf veins are competent.				
Superficial Veins:	SPJ, GSV, and GSV tributaries in the calf reflux as shown. SPJ and SSV are competent.				
Perforators:	Two incompetent perforators were detected.				
	Perforator(s)	Location:	Diameter:	Communication	
	1)	10 cm AMM	5 mm	Posterior Tibial: PASV – PT	
	2)	15 cm AMM	6 mm	Paratibial: GSV - PT	
Other Comments:	This patient is a suitable candidate for endovenous laser ablation.				
Scanned by:	Louise North, AMS, RVT				
Verified by:	Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist				

LOWER LIMB VENOUS DUPLEX (DVT)

Patient:	Smith, Betty	BCD2345 001
Date of Birth:	10/12/1936	Age: 70
Date of Scan:	Monday, 5 March 2007	
Referring Doctor:	Mr John White, Vascular Specialist Centre, Mountainview	
Copy to:	Dr Mark Green, Eastside Medical Centre, North Bend	
Indications:	Recent fall followed by period of immobility. Now pain and swelling in the right leg.	

Right Lower Extremity Venous Duplex



Legend: — Normal Deep ■ Normal Superficial ■ Reflux ■ Chronic Thrombus ■ Acute Thrombus

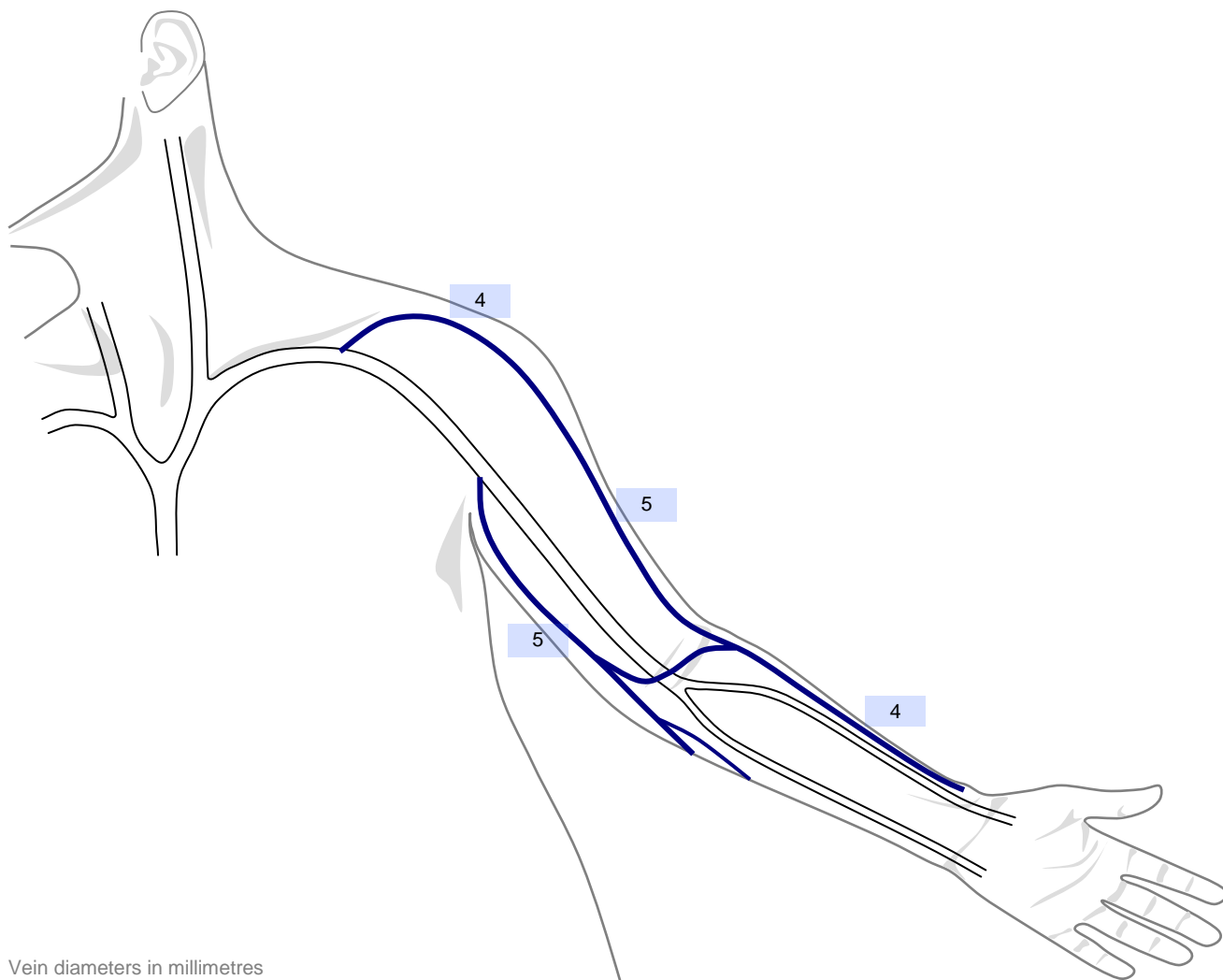
Deep Veins: Extensive DVT was detected in the right lower extremity. The FV, POP, and deep calf veins are thrombosed. The highest extent of the thrombus is the level of the FV-PFV confluence. CFV remains thrombus-free.

Scanned by:	John Haines, BSc, RDMS, RVT
Verified by:	Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist

UPPER LIMB VENOUS MAPPING FOR HARVESTING

Patient: **Smith, Frances ABC1234 001**
Date of Birth: 10/12/1976 Age: 30
Date of Scan: Monday, 5 March 2007
Referring Doctor: Mr John White, Vascular Specialist Centre, Mountainview
Copy to: Dr Mark Green, Eastside Medical Centre, North Bend
Indications: Type 1 Diabetic. Planning of dialysis conduit. Left upper extremity venous assessment.

Left Upper Extremity Venous Duplex



Vein diameters in millimetres

Legend: — Normal Deep ■ Normal Superficial ⚡ Chronic Thrombus ■ Acute Thrombus

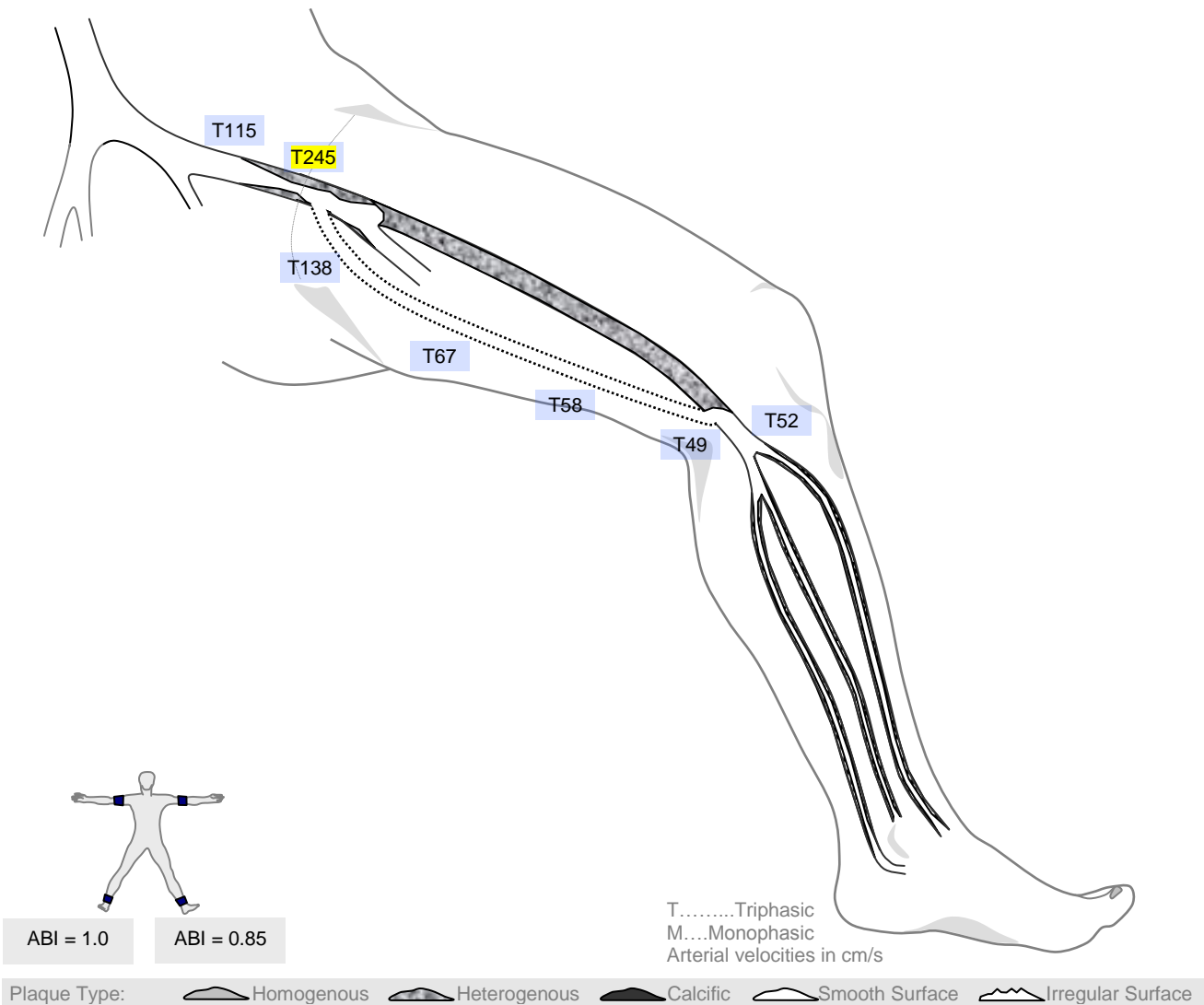
Comments: The deep veins of the left upper extremity are normal. Superficial veins are of good calibre as indicated above. The course of the superficial veins and venous diameters were marked on patient's skin with a permanent marker.

Scanned by: Margaret Stanton, AMS, Vascular Technologist
Verified by: Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist

LOWER LIMB ARTERIAL GRAFT DUPLEX

Patient: **Smith, Colin BCD2345 001**
 Date of Birth: 10/12/1936 Age: 70
 Date of Scan: Monday, 5 March 2007
 Referring Doctor: Mr John White, Vascular Specialist Centre, Mountainview
 Copy to: Dr Mark Green, Eastside Medical Centre, North Bend
 Indications: LT Fem-Pop bypass graft for occlusive femoral artery disease. Known 50-75% stenosis of LT CFA. Surveillance.

Left Lower Extremity Arterial Bypass Graft Duplex



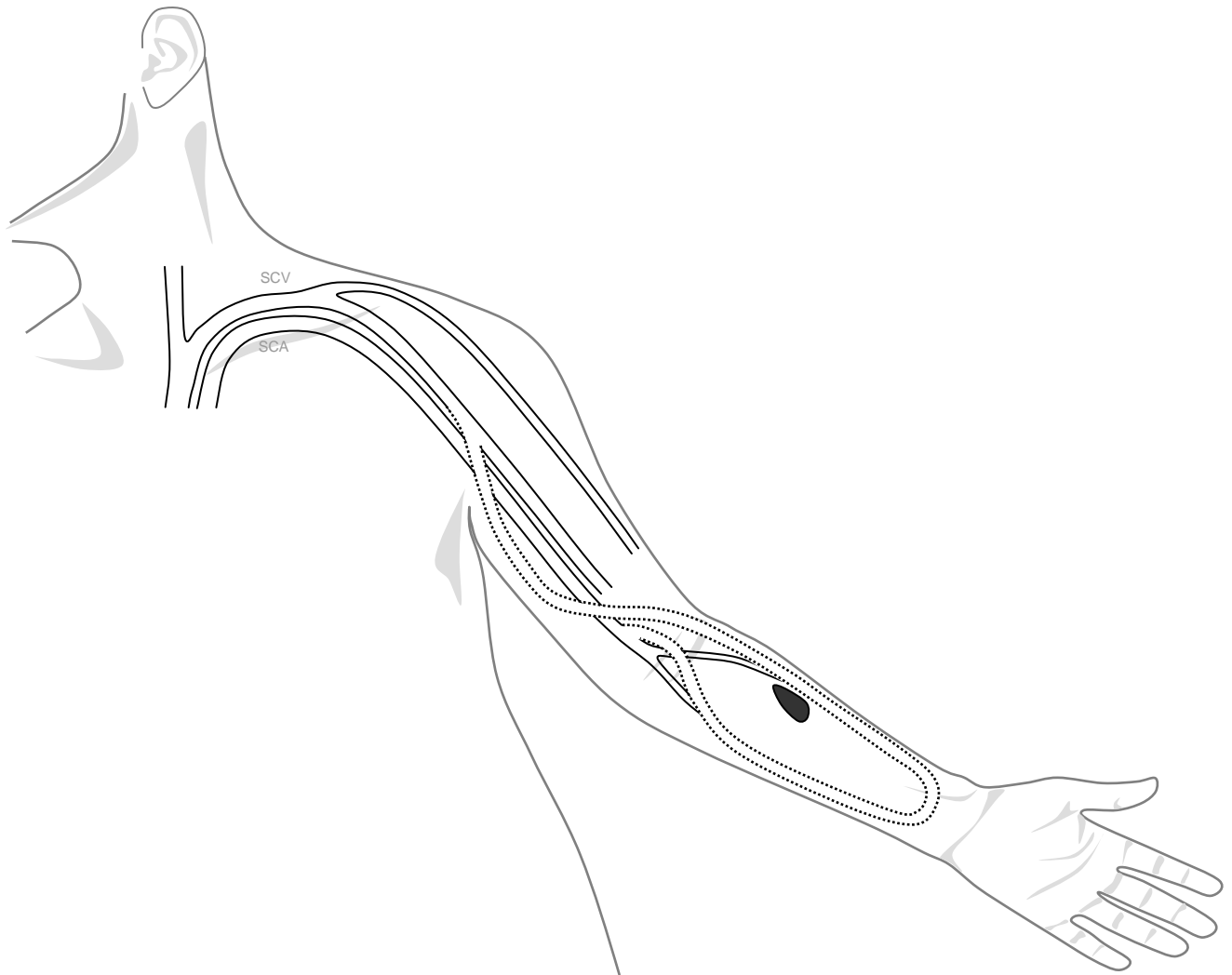
Comments: The Fem-Pop bypass graft is patent and functions normally. Hemodynamically significant (50-75%) stenosis was again seen in the CFA, but this has remained stable since last investigation 6 months ago. Calf arteries are heavily diseased but all remain patent.

Scanned by: John Haines, BSc, RVT
 Verified by: Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist

DIALYSIS LOOP DUPLEX

Patient: **Smith, Wendy DEF3456 001**
Date of Birth: 10/12/1956 Age: 50
Date of Scan: Monday, 5 March 2007
Referring Doctor: Mr John White, Vascular Specialist Centre, Mountainview
Copy to: Dr Mark Green, Eastside Medical Centre, North Bend
Indications: Synthetic dialysis loop. Patient developed painful lump post recent dialysis.

Left Upper Extremity Dialysis Conduit Duplex



Legend:	Homogenous Plaque	Heterogenous Plaque	Calcific Plaque
	Venous Collateral	Occlusive Thrombus	Non- Occlusive

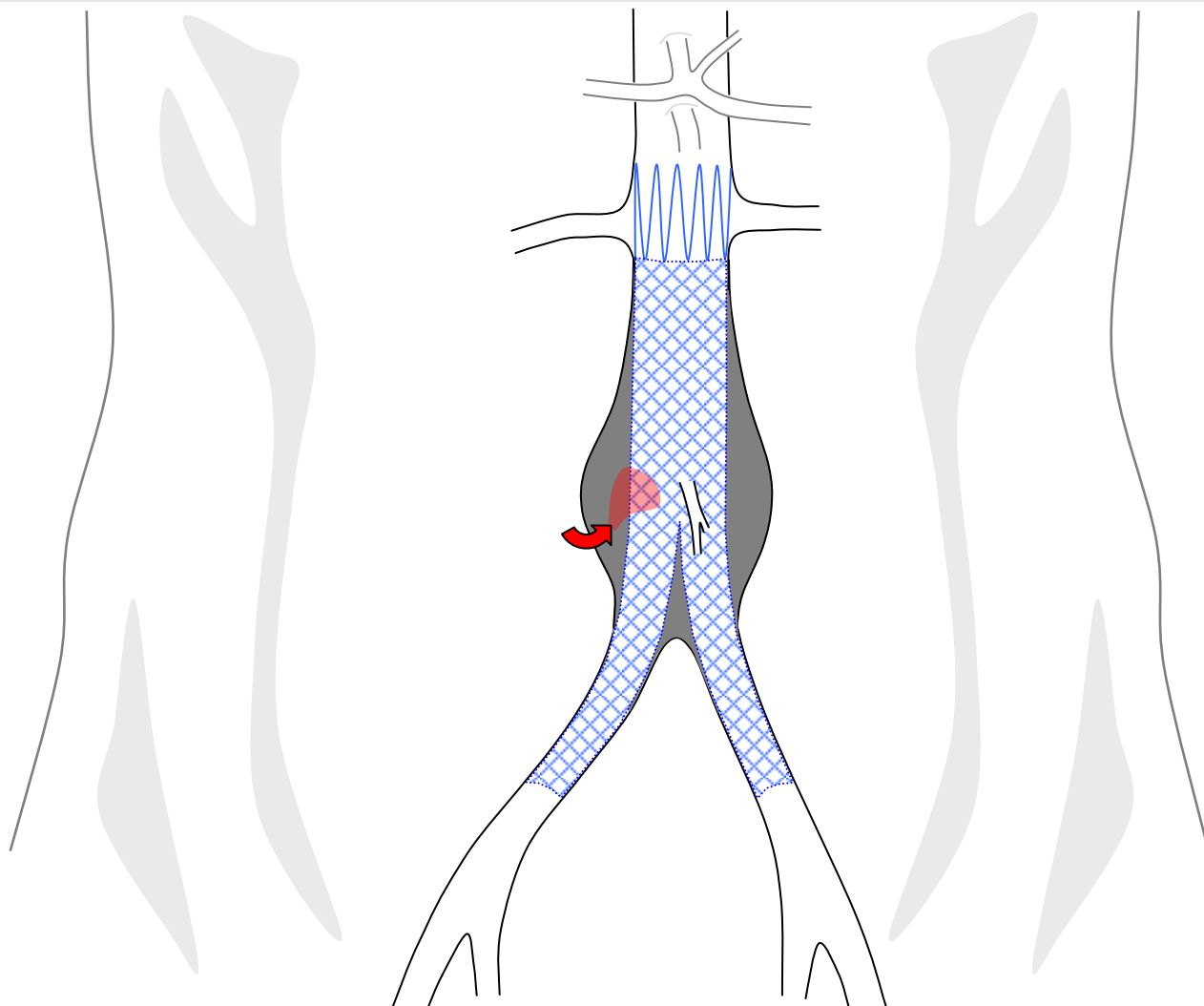
Comments: The synthetic Brachio-Basilic dialysis loop functions normally.
Small hematoma was noted in the area of palpable lump (2.5 x 0.5 x 0.8 cm).

Scanned by: Andrea Forbes, RDMS, RVT, Chief Vascular Technologist
Verified by: Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist

ENDOLUMINAL AORTIC GRAFT DUPLEX

Patient: **Smith, William ABC1234 001**
 Date of Birth: 10/12/1936 Age: 70
 Date of Scan: Saturday, 24 February 2007
 Referring Doctor: Mr John White, Vascular Specialist Centre, Mountainview
 Copy to: Dr Mark Green, Eastside Medical Centre, North Bend
 Indications: Recent Endoluminal Aortic Graft placement for treatment of a 6cm AAA. Baseline assessment.

Aortic Endoluminal Graft Duplex



Legend:	Homogenous Plaque or Thrombus	Heterogenous Plaque	Calcific Plaque
	Patent Graft	Occluded Graft	Endoleak Entry
			Endoleak Exit Point
AAA Diameter AP =	4.8 cm Ø	AAA Trans =	5.4 cm Ø
RT CIA=	1.2 cm Ø	LT CIA =	1.2 cm Ø
			AAA Length = 7 cm

Comments: The Endoluminal graft is seen in normal position and is widely patent. There is a small Type II endoleak originating from the RT postero-lateral aspect of the Aortic wall. The endoleak forms a small flow pocket (12 x 5 x 6 mm) within the otherwise thrombosed AAA.

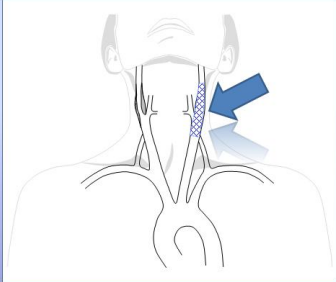
Scanned by: Jackie Osmond, RVT
 Verified by: Mr David Harvey, Vascular and Endovascular Surgeon, Vascular Sonologist

SAMPLE POWERPOINT SLIDES

Microsoft PowerPoint interface showing a slide titled "My Carotid Presentation".

Slide 1 of 1 | Office Theme | English (U.S.) | 75%

My Carotid Presentation



CASE INTRODUCTION:

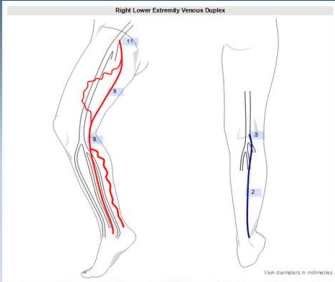
- 65year old man
- L Endarterectomy in 1999
- L ICA Re-stenosis 2000-2005
- Now L Carotid Stent
- R Stable Stenosis 50-69%
- On yearly surveillance.

Click to add notes

Microsoft PowerPoint interface showing a slide titled "My Venous Presentation".

Slide 1 of 1 | Office Theme | English (U.S.) | 76%

My Venous Presentation



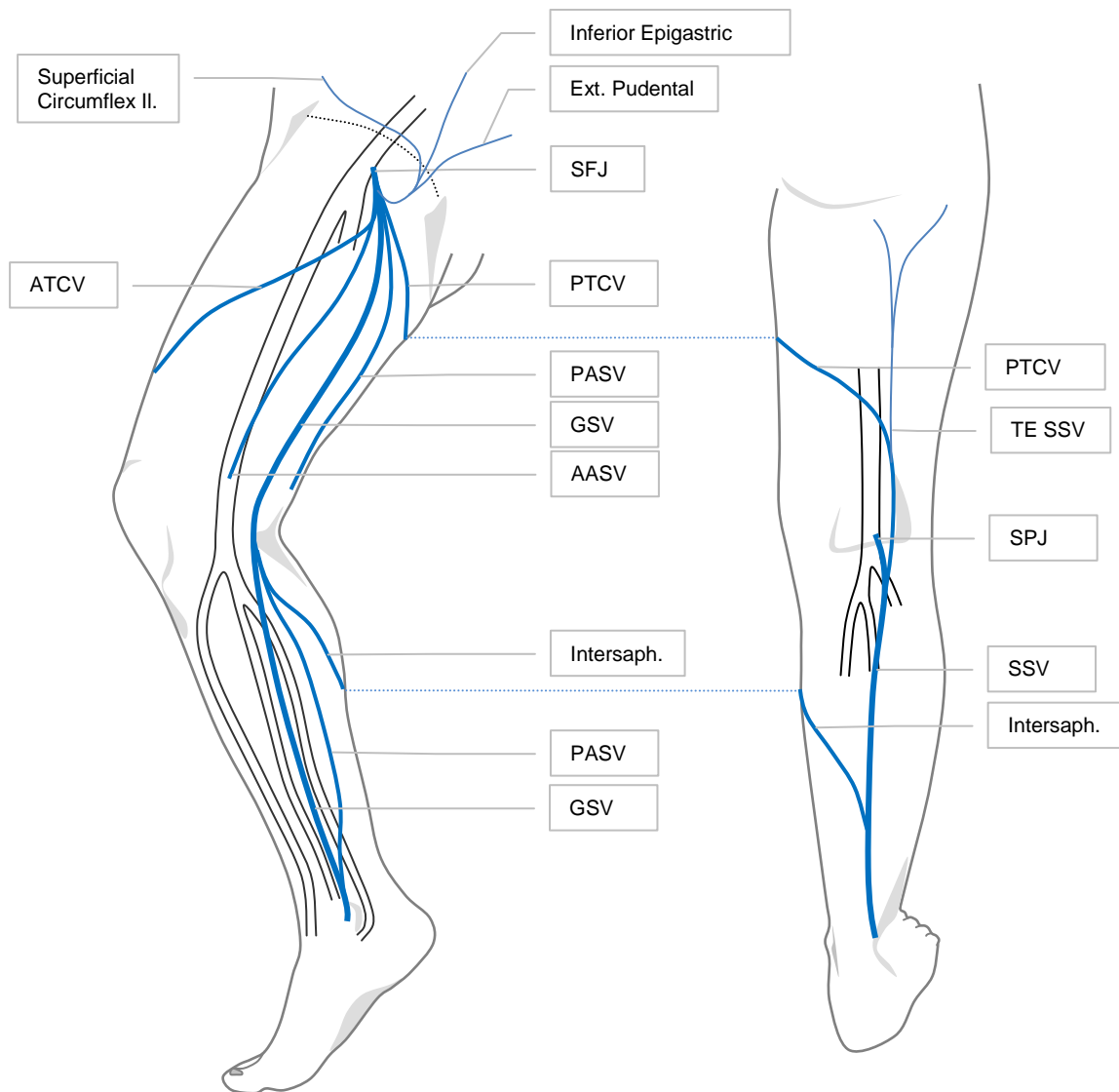
CASE INTRODUCTION

- 46 year old woman
- Primary varicose veins
- Seeking treatment
- Duplex performed

Click to add notes

SUPERFICIAL VEINS OF THE LEG

EDUCATIONAL SUPPLEMENT, DRAWN USING [Genesis²](#)



Abbreviations:

SFJ	Sapheno-Femoral Junction
GSV	Great Saphenous Vein
AASV	Anterior Accessory Saphenous Vein
PASV	Posterior Accessory Saphenous Vein
ATCV	Anterior Thigh Circumflex Vein
PTCV	Posterior Thigh Circumflex Vein
SPJ	Sapheno-Popliteal Junction
SSV	Small Saphenous Vein
TE SSC	Thigh Extension of the Small Saphenous Vein
Intersaph.	Intersaphenous Vein

APPENDIX A

LISTING AND DESCRIPTION OF ALL AVAILABLE GENESIS² TEMPLATES

Region	Study Type	Description		
Cerebrovascular	Carotid Standard	Standard simplified carotid template for everyday carotid scans		
	Carotid Detailed	Highly detailed template for those who want it all		
	Carotid Normal	Standard Carotid report with normal comments		
	Carotid with Arch Standard	Carotid templates containing proximal arch vessels		
	Carotid with Arch Detailed			
	Carotid with Arch Normal			
Abdominal	Aorta	Aorta Normal	Normal aorta survey	
		Aorta Ectatic	Ectatic but not aneurysmal aorta	
		AAA Type A	Type A AAA background drawing and standard AAA report	
		AAA Type B	Type B AAA background drawing and standard AAA report	
		AAA Type C	Type C AAA background drawing and standard AAA report	
		AAA Type D	Type D AAA background drawing and standard AAA report	
		AAA Type E	Type E AAA background drawing and standard AAA report	
		AAA Juxtarenal	Juxtarenal AAA background drawing and standard AAA report	
		AAA Suprarenal	Suprarenal AAA background drawing and standard AAA report	
		Aorta and POP Arteries	Template for reporting of Aorta and Popliteal Artery surveys	
		Aorto-Bi-Iliac Repair	Template for survey of open Aorto-bi-Iliac repair	
	Endoluminal Aortic Graft	Template for reporting of Endoluminal grafts and endoleaks		
	Mesenteric	Mesenteric Arteries	Template for reporting of Mesenteric Artery duplex	
		Bifurcated Mesenteric Graft	Template containing a Bifurcated Mesenteric Bypass graft	
	Renal	Renal Artery Standard	Standard simplified renal artery template for everyday Renal Arteries	
		Renal Artery Detailed	Highly detailed Renal Artery template for those who want it all	
	Ovarian Veins	Ovarian Veins Study	Template for reporting of Ovarian and Internal Iliac Vein duplex	
	Extremity Arterial	RT and LT Leg	Arterial Study	Lower extremity Arterial Duplex template
			Exercise ABI	Template for reporting of Exercise ABI studies
		Bilateral	Aorto-Iliac Study	Aorto-iliac study, stenoses, stents
RT and LT Arm		Arterial Study	Upper extremity Arterial Duplex template	
		Mapping for Radial Art. Harvesting	Template for reporting Radial Artery mapping for harvesting	

LISTING AND DESCRIPTION OF ALL AVAILABLE GENESIS² TEMPLATES (continued)

Extremity Arterial Bypass

RT and LT Leg

Fem-Pop (CFA-POP)	Template for reporting CFA-POP Graft duplex
Fem-POP (SFA-POP)	Template for reporting SFA-POP Graft duplex
POP-POP	Template for reporting POP Aneurysm Bypass duplex
Fem-Tib (CFA-PTA Prox)	Templates for reporting of Fem-Tib Graft duplex studies
Fem-Tib (CFA-PTA Dist)	
Fem-Tib (SFA-PTA Prox)	
Fem-Tib (SFA-PTA Dist)	
Fem-Per (CFA-PER Prox)	Templates for reporting of Fem-Per Graft duplex studies
Fem-Per (CFA-PER Dist)	
Fem-Per (SFA-Per Prox)	
Fem-Per (SFA-Per Dist)	

Extremity Venous

RT and LT Leg

DVT Study	Standard reporting template for DVT scans (normal and abnormal)
CVI Study	Detailed study of lower extremity superficial and deep veins also known as Chronic Venous Insufficiency (CVI) study, varicose vein study, or pre-surgical venous assessment
Mapping for Vein Harvesting	Simple reporting template for venous mapping for harvesting

RT and LT Arm

DVT Study	Standard reporting template for DVT scans (normal and abnormal)
Mapping for Vein Harvesting	Simple reporting template for venous mapping for harvesting

Bilateral

Mapping for Saphenous Harvesting	Simple reporting template for bilateral mapping studies.
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Dialysis Conduits

RT and LT Arm

Cimino-fistula with Basilic Outflow	Native vein radio-cephalic dialysis fistula with Basilic vein outflow.
Cimino-fistula with Cephalic Outflow	Native vein radio-cephalic dialysis fistula with Cephalic vein outflow
Synthetic Loop Brachio-Basilic	Synthetic dialysis loop Brachio-Basilic
Synthetic Loop Brachio-Cephalic	Synthetic dialysis loop Brachio-Cephalic
Synthetic Loop Brachio-Brachial	Synthetic dialysis loop Brachio-Brachial

Mapping for Harvesting

RT and LT Leg

Mapping for Vein Harvesting	Simple reporting template for venous mapping for harvesting
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RT and LT Arm

Mapping for Vein Harvesting	Simple reporting template for venous mapping for harvesting
Mapping for Radial Art. Harvesting	Template for reporting Radial Artery mapping for harvesting

Bilateral

Mapping for Saphenous Harvesting	Simple reporting template for bilateral mapping studies.
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Genesis²

System for Reporting of Vascular Laboratory Results

Elegance and Simplicity



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