

# dopplex®

The NEW Vascular Assessment Range

# HUNTLEIGH



*...performance for life*

# The Dopplex Bi-directional Digital Doppler - A new dimension in sound and vision

## Visual confirmation of sound enhances clinical assessment

With over 30 years' experience in vascular assessment our latest technological innovations have enabled us to develop a new digital platform for our latest range of Dopplers. Designed to improve efficiency and effectiveness in clinical diagnosis, the DMX offers unrivalled value and quality.

Our bi-directional waveform is uniquely generated from the digital Doppler spectrum. This gives the clinician objective

evidence to assist in the diagnosis of vascular disease that other Dopplers may find difficult or impossible to achieve.

Our algorithms optimise the presentation of waveforms and enhance the quality of sound using our unique Dynamic Digital Noise Reduction (DDNR) system and gel filter. Doppler sound recording and playback is just one of the many new features in this state of the art digital Doppler unit.

**HD**

### High resolution colour display

- Waveforms displayed in high definition.
- Wide viewing angle.



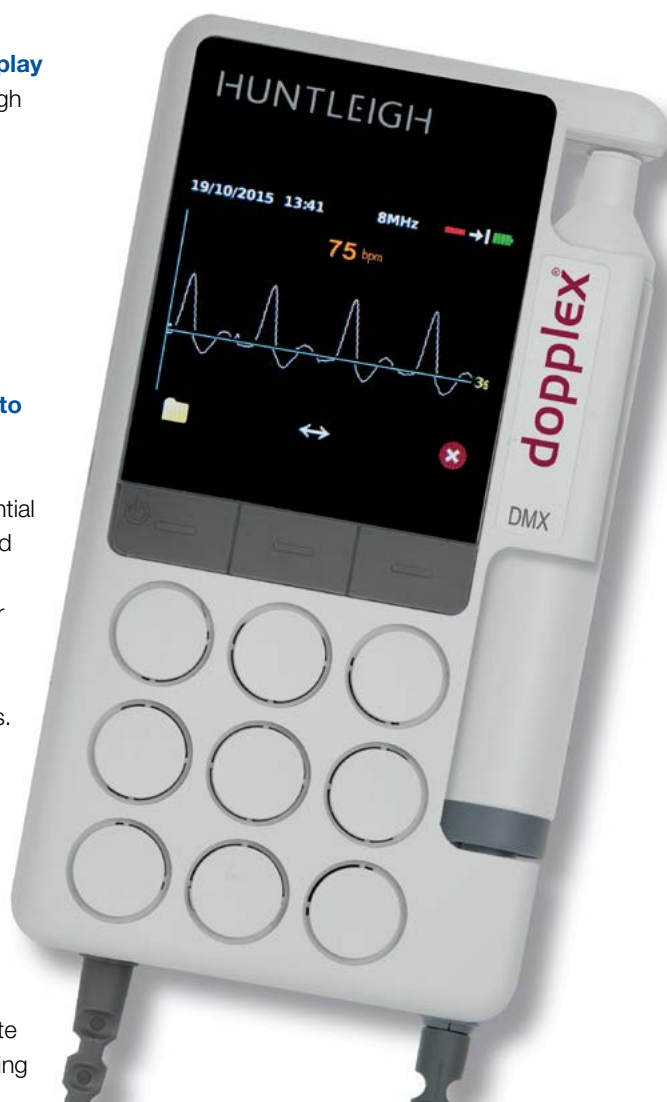
### Bi-directional waveform generated from the digital Doppler spectrum with auto scaling feature

- Maximises accuracy and clarity of waveforms; essential for patients with poor blood flow.
- Scroll facility to review your test and choose the ideal waveforms.
- Arterial and Venous modes.



### Data storage on micro SD card

- Store waveforms and sounds for review or transfer to optional DR5 Lite software package for printing reports and archiving.



### Integrated charging & connectivity

- USB port for convenient charging and communication with our software.
- Bluetooth wireless technology and stereo headphone connection socket.

### High sensitivity interchangeable probes

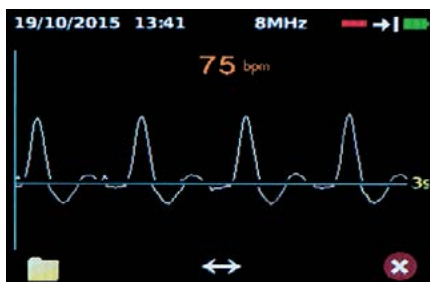
- All new XS probes have been calibrated and fine-tuned for optimum use.
- An optional PPG probe provides easy and accurate measurement of toe pressures.



### Hear the difference

- Digital sound processing enables our new DDNR system to eliminate the background hiss and the gel filter reduces the loud crackle when gel is applied.

Designed to improve efficiency and effectiveness in delivering quality care



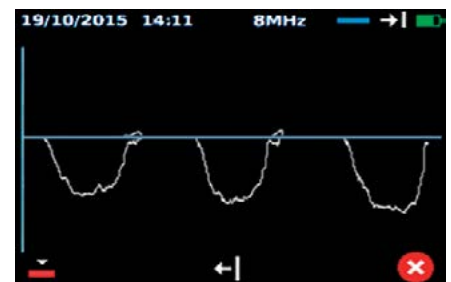
#### Diagnose with confidence

Doppler sounds can be misleading. Now with the accompanying waveform you can visually confirm that you are interpreting the sound correctly.



#### Visually confirm PAD

An early indication of PAD can be seen by the loss of the reverse flow in the Doppler waveform from the lower limb.



#### Venous Testing

A dedicated Venous Mode allows any reflux to be clearly visualised by the flow pattern above the baseline.



#### Instantly visualise waveforms for pictorial evidence

See the difference - the value of visual representation.



#### Improved Sound Quality

Audio purity is enhanced by using our DDNR which completely eliminates background hiss. This clarity aids the clinician in the detection of small vessels or calcified arteries that other Dopplers may find difficult or impossible to locate.



#### Rechargeable

Charged via the USB socket, providing low running costs and negates the need to change batteries.



#### Real Time Clock

Allows the user to store data with a time and date stamp, providing evidence when the test was undertaken.



#### Educational Resource Tool

Pre-stored files on the SD card can be used to demonstrate the relationship between Doppler waveforms and sounds for teaching and training purposes.



## Toe Pressures and TBI made easy



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# Simple and Rapid Measurement of Toe Pressures

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A comprehensive kit for the vascular assessment of the Diabetic foot and Lymphatic limb

## Advanced Ankle & Toe Brachial Index System

The Ankle and Toe Pressure (ATP) kit is a unique combination of the DMX Doppler, probes and accessories providing the Vascular, Diabetic or Lymphatic specialist with a system to aid the assessment of arterial disease and neuropathy. Our Arterial Plethysmography (APPG) probe easily attaches to the DMX Doppler unit by simply swapping your Doppler probe with its adaptor.

Arterial systolic pressure can be rapidly measured in patients with incompressible arteries and can be repeated on the arms to determine the TBI. The internal pressure sensor in the adaptor provides a direct pressure reading on the Doppler display. PPG waveforms and pressures can be stored on the internal memory and reviewed at any time. Additionally the waveforms and pressures can be transferred to the DR5 Lite software package.



Visual aid for optimum deflation rate



Easy determination of systolic pressures



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## Ankle and Toe Pressure Kit

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### ATP Kit includes:

- DMX digital Doppler
- Medical grade recharging kit
- EZ8XS widebeam 8MHz Doppler probe
- APPG probe and adaptor
- Toe cuffs & inflator
- Arm/Ankle cuffs (standard and large: latex free)
- Trigger operated sphyg
- Neuropen & box of tips (includes 10g monofilament)
- Educational CD
- Large carry bag

ABI pressures  
confirmed with  
waveforms



## Ankle Brachial Index Kit

The Ankle Brachial Index (ABI) kit combines a DMX Doppler, Doppler probes and cuffs to provide the wound care or vascular specialist with a system to help in the assessment of arterial disease prior to bandaging.

Doppler waveforms can be stored on the internal memory and reviewed at any time. Alternatively the waveforms can be transferred to the DR5 Lite software package for archiving, reviewing and printing of reports.

### The ABI kit includes:

- DMX digital Doppler
- Medical grade recharging kit
- EZ8XS widebeam 8MHz Doppler probe
- VP5XS Doppler probe
- Trigger operated sphyg
- Arm/Ankle cuffs (standard and large: latex free)
- Educational CD
- Large carry bag





# A Comprehensive Suite of Ankle Brachial Index Solutions

## Dopplex Ability - Automatic Ankle Brachial Index (ABI) System

The Dopplex Ability has revolutionised the ABI process and provides automatic, easy, fast and accurate measurements with an immediate printout of results from the integral printer or optional DR4 software package.

Requires minimal training and provides rapid bilateral ABI measurements in just 3 minutes. Its portability enables measurements to be made more efficiently in the primary care clinic, hospital or patient's home. This can lead to the prioritisation of clinical services by improving clinical pathways.

Dopplex Ability also records the ankle pulse volume waveforms which provide pictorial evidence to aid a clinician's diagnosis; this is of particular value in patients who are prone to arterial calcification, such as diabetics.

### Cost Saving, Time Saving and Improved Efficiencies

The Dopplex Ability offers a cost effective solution for the measurement of ABI:

- Rapid measurements in 3 mins
- No need to rest the patient
- Can be used by healthcare support staff
- Reduces inappropriate referrals
- Immediate printouts
- Printouts and archiving of results with DR4 software package

### CLINICALLY PROVEN

MEASURES BOTH ARM PRESSURES: ESSENTIAL TO COMPLY WITH GUIDELINES FOR ABI

### USES TRUE PLETHYSMOGRAPHY

PROVEN TO BE MORE ACCURATE THAN OSCILLOMETRY, ESPECIALLY IN DETECTING LOW ANKLE PRESSURES



For further details, please refer to our Dopplex Ability brochure



## Dopplex Intraoperative Probe – Reusable surgical 8MHz probe

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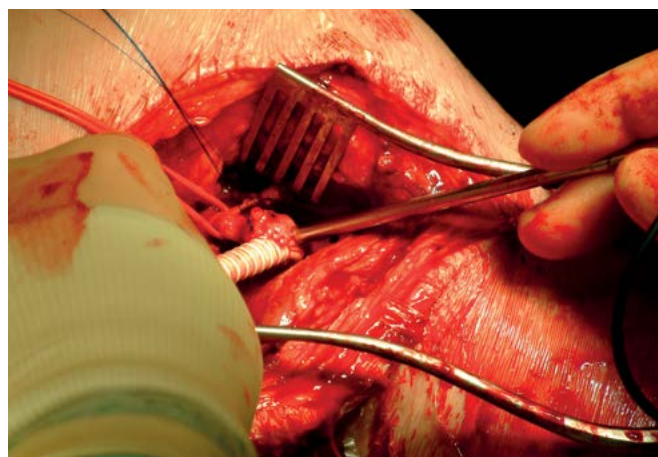
The reusable Dopplex Intraoperative probe can be used to immediately confirm blood flow prior to closing, saving time and costs of a potential re-operation.

The high sensitivity probes are available in packs of three and can be re-sterilised by Autoclave, Ethylene Oxide or Steris System 1. This allows spares to be available in case of contamination.

The probes have been specially designed to be lightweight, easy to hold, and should be used instead of a standard probe placed in a sterile glove.

Probes are compatible with the entire Dopplex range of hand held Dopplers. When used with the new DMX Digital Doppler unit, immediate visualisation of Doppler waveforms can confirm blood flow.

The Dopplers can be mounted onto an IV pole using the specially designed pole clamp or the pole stand.





# Audio, Bi-directional and Desktop Dopplers



The MD200 desktop solution is ideal for clinicians requiring a larger, mains powered Doppler unit. Compatible with the XS range of high sensitivity probes it provides bi-directional indication of blood flow direction. High quality reports can be obtained using the DR4 software package.

- Mains/rechargeable battery operation
- Robust desktop/tabletop design
- Probes are conveniently stored within the unit
- LCD showing flow direction, probe frequency and battery status
- Serial port for connection to DR4 software package
- Two speakers providing flow separated high quality stereo sound

Use any of our handheld or desktop Dopplers with our EZ8 widebeam probe for easy location of brachial and pedal arteries.

The Dopplex D900 is an entry level, audio only, non-directional Doppler, principally used for ABI measurements by community nurses and doctors in their role of leg ulcer management.

- Clear audio sounds of blood flow
- Compatible with all XS high sensitivity vascular probes
- Audio output socket
- Large carry bag



The Dopplex SD2 provides bi-directional blood flow information to the vascular professional including the display of flow direction. It is ideal for clinical specialists wishing to conduct lower limb Doppler studies.

- Provides bi-directional blood flow information
- Compatible with all XS high sensitivity vascular probes
- Stereo audio output socket
- Large carry bag





# Documentation and Archiving

Dopplex DR5 Lite is a unique vascular reporting software package for use in conjunction with the Dopplex DMX.

It allows real time visualisation of waveforms on a PC. An unlimited number of traces can be transferred and stored for reviewing, archiving and printing.

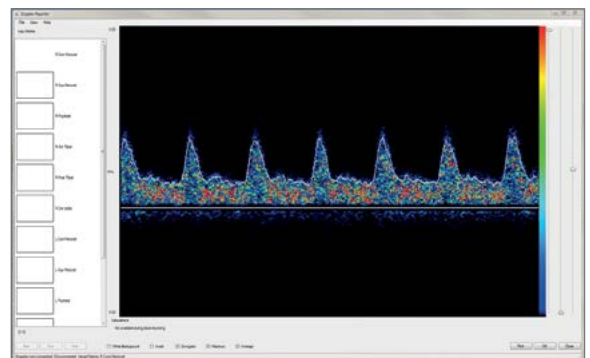
## Key features of DR5 Lite include:

- Displays Doppler colour spectral waveforms in real time
- Replay of Doppler waveforms and flow separated sounds
- An integral database for patient data storage and Doppler sound files
- The facility to package tests together and email them for review
- Storing an unlimited number and length of traces per session
- A PDF generator enables the final reports to be saved and transferred to an external EPR system
- Calculate Doppler indices and flow rate

## Upgrade with ease:

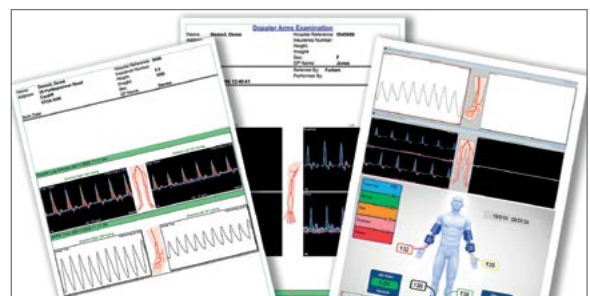
- A database conversion program for DR3/4 data to be transferred to the DR5 Lite database

Dopplex DR4 is also available for display of waveforms and data from the MD200 and Dopplex Ability.



## Doppler Spectral Display

Doppler colour spectral waveforms can be visualised in real time



## Report Style Printouts

Multiple traces can be stored, archived and printed for reports

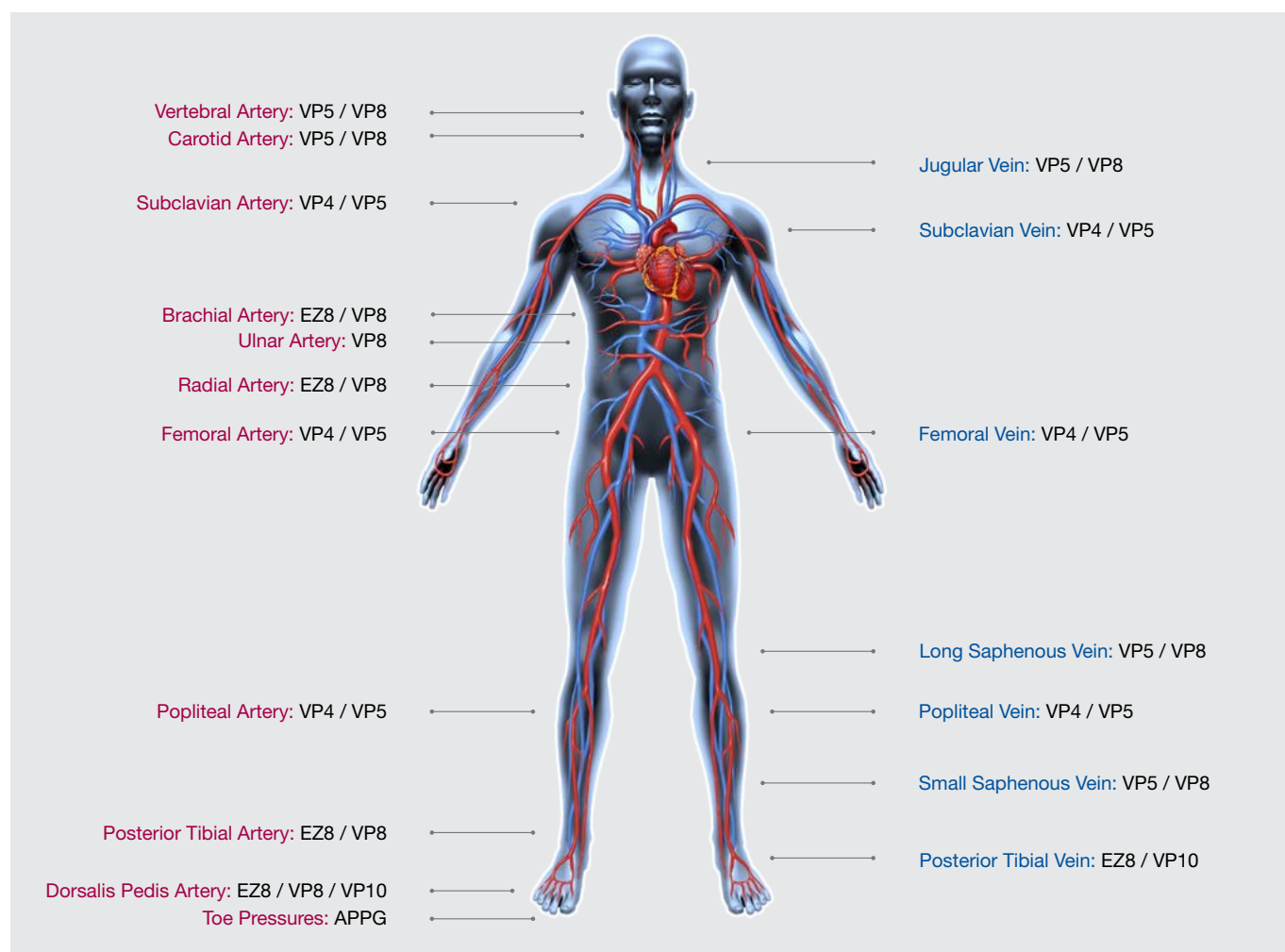
# Dopplex probes **fine tuned** for optimum **performance** in all applications

Huntleigh's precision engineering and fine-tuning of every component produces a sound and sensitivity that gives clinicians clarity and accuracy like no other Doppler.

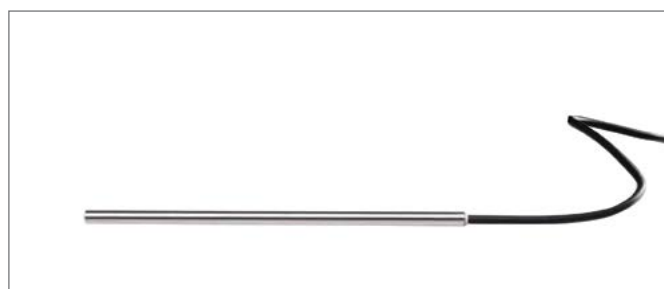
The new range of high sensitivity XS probes have been designed to maximise performance of the DMX Doppler for use in a wide variety of clinical applications and procedures.

These include the 4, 5, 8 and 10MHz options and the unique wide-beam EZ8 8MHz probe. 2MHz and 3MHz probes can also be used for obstetric applications.

Only the new XS range of probes used with the DMX Digital Doppler will allow the full sound and waveform features of the unit to be enabled.\*\*



APPG Probe



Intraoperative Probe



# Technical Specification

Product Features	DMX-R	DMX	ATP Kit	ABI Kit	SD2	D900	MD200	Ability
Product Order Code	DMX-R	DMX	ATP Kit	ABI Kit	SD2	D900	MD200	DA100PB
High Resolution Colour Display	•	•	•	•				
Bi-directional Doppler Waveform Display	•	•	•	•				
APPG Capability	•	•	•	◦				
Noise Reduction	DDNR	DDNR	DDNR	DDNR	Active	Active	Active	
Removable Micro SD Card Storage	•	•	•	•				
Scroll Memory	20 secs	20 secs	20 secs	20 secs				
Timebase	3, 6 & 12 secs	3, 6 & 12 secs	3, 6 & 12 secs	3, 6 & 12 secs				
Compatible with Interchangeable XS Probes	•	•	•	•	•	•	•	
Integrated Loudspeaker	•	•	•	•	•	•	•	
Flow Separated Stereo Headphone Output	•	•	•	•	•		•	
Gain Control	Auto	Auto	Auto	Auto	Manual		Manual	
Obstetric Capability with XS Probes	•	•	•	•	Audio	Audio	•	
Dopplex Software Compatible	DR5 Lite	DR5 Lite	DR5 Lite	DR5 Lite			DR4	DR4
USB Capability	Micro	Micro	Micro	Micro			•	Mini
Bluetooth Capability	•	•	•	•				
Battery Type	2 x AA Rechargeable batteries	2 x AA Alkaline batteries	2 x AA Rechargeable batteries	2 x AA Rechargeable batteries	9 volt alkaline-6LR61, 6LF22 or equivalent recommended (eg. MN1604)		NiMH Integral	NiMH Integral
110 - 240 V Medical Grade Recharging Kit (supplied with country adaptors)	•	◦	•	•				
Battery Life (no. of 1min exams)	500	500	500	500	250	500	Mains / Battery	Mains / Battery
Warranty*	1 year	1 year	1 year	1 year	5 years	5 years	3 years	1 year
Accessories	All handheld models supplied complete with: gel, soft carry bag, user manual. All kits supplied with large carry case. Dopplex Ability: Supplied with one set of standard cuffs, two rolls of paper, pack of sleeves, mains cable and instructions for use.							
Safety Standard Compliance***	IEC 60601-1: Edition 3.1, ANSI/AAMI ES 60601-1:2005, CAN/CSAC22.2 No 60601-1:14, IEC 60601-1:1998+A2:1995 (2nd Edition), JIS T 0601-1:2012, EN 60601-1-11:2015, EN 60601-2-37:2008+A11:2011, IEC 60601-1-2:2014							
Weight	310gms (11oz)	310gms (11oz)	Kit: 1.5kg (53oz)		295gms (10oz)	295gms (10oz)	1.45kg (46oz)	3kg (106oz)
Dimensions	Main unit: Height 140mm (5.5") Width 75mm (3.0") Depth 30mm (1.2")		Kit: Height 350mm (13.8") Width 400mm (15.8") Depth 100mm (3.9")		Height 140mm (5.5") Width 74mm (2.9") Depth 27mm (1.1")		H 240mm (9.5") W 227mm (8.9") D 79mm (3.1")	H 160mm (6.3") D 240mm (9.5") W 260mm (10.25")

• Standard

◦ Option

\* Refer to separate warranty statements

\*\* Using Dopplex HS series of probes will only give audio without waveforms, DDNR or gel filter.

\*\*\* Depending upon model

## HUNTLEIGH ...performance for life

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As our policy is one of continuous improvement, we reserve the right to modify designs without prior notice.

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VASCULAR ASSESSMENT AND TREATMENT



We would like to express our sincere appreciation to the Welsh Wound Innovation Centre for their assistance and for allowing access to their facility and resources.