The Intraoperative Re-usable Probe

...what the experts say

"I find the use of the Huntleigh intra-operative probe a relatively inexpensive, simple and quick solution, to the problem of quality control in distal bypass surgery.

"The sterile intraoperative probe comes into its own when raising very small hand and finger flaps such as the dorsal metacarpal artery based flaps.

"The Huntleigh Healthcare Intraoperative Doppler is a very fast, user-friendly technique to monitor the technical result of the operation and would recommend it to my vascular colleagues.

"Probes are available as pre-sterile packs and guarantee good infection control.

"Once used, this probe can be re-sterilized and used again for a certain number of times, which is very cost-effective and surely is appreciated by managers.

"The intraoperative probe is a vital tool.

"Eliminates the need of putting a standard probe into a glove, which brings the Doppler, and cable into the sterile field.

Huntleigh Healthcare
Mr Robert Salaman

Quality control is vitally important in performing distal bypass surgery, if secondary intervention and re-operation are to be avoided.

I have found that intra-operative angiography can be cumbersome and time consuming. For many years, I have judged the outflow from a fem-distal bypass, by listening to the quality of the Doppler signal from a hand-held Doppler probe. However, this necessitated putting a standard hand-held Doppler probe inside a sterile glove full of gel. This was cumbersome and messy and there was a risk of de-sterilising the operative field with the probe cable.

More recently, I have used the Huntleigh sterilisable intra-operative 8MHz probe. I have found that this gives a good quality signal to allow me to assess diastolic flow, and check for turbulence at the distal anastomosis. The probes are reliable and rugged and the risk of compromising the sterile field has been all but eliminated. I find the use of the Huntleigh intra-operative probe a relatively inexpensive, simple and quick solution, to the problem of quality control in distal bypass surgery.

Mr Robert Salaman MB, BCh, FRCS, MD
Consultant Vascular Surgeon
Blackburn General Hospital
Blackburn
UK

Mr George Geroulakos

I was first introduced to the use of an intraoperative reusable Doppler probe when I worked as a clinical vascular fellow at the Ohio State University Hospital, in Columbus, Ohio in 1996. I have been using the intraoperative Doppler probe ever since. I predominately use it to audit the results of bypass surgery by placing it on the native artery distally to the anastomosis. The presence of a good audible triphasic signal is a strong indicator of a well functioning bypass.

The completion angiogram is surely the gold standard to determine the technical perfection of the bypass procedure. However if for whatever reason this is not feasible in my view the use of perioperative Doppler is an appropriate alternative. In addition the preoperative Doppler can be used if a selective policy is adopted and a completion angiogram is only performed if an abnormal Doppler signal is detected.

The Huntleigh Healthcare Intraoperative Doppler is a very fast, user-friendly technique to monitor the technical result of the operation and would recommend it to my vascular colleagues.

Mr George Geroulakos FRCS, DIC, PhD
Consultant Vascular Surgeon
Charing Cross Hospital
London
UK

Mrs Sandy Shiralkar

I find using the Doppler probe at the end of the operation on the graft, before closing the wound, very useful. Just feeling the pulse in the graft gives false sense of security as the vessel may be blocked distally. In these situations, the whole graft will get blocked in the post-operative period, requiring re-exploration. Good triphasic sound waves on the graft rules out distal thrombosis and prove the distal patency, which is very reassuring to the surgeon before finishing the operation. It has certainly benefited me during operations as a Quality Assurance tool.

Huntleigh Healthcare intra-operative probes are available as pre sterile packs and guarantee good infection control, by eliminating the need of putting a standard probe into a glove, which brings the Doppler, and cable into the sterile field. Besides the risk of infection, it saves time. Putting a standard probe of a hand held Doppler machine in a finger of a glove, which contains lubricating jelly, is time consuming and awkward for nurses and it also tests tired surgeon's patience at the end of the operation!

Once used, this probe can be re-sterilized and used again for a certain number of times, which is very cost-effective and surely is appreciated by managers!

Mrs Sandy Shiralkar MBBS, MS, FAIS, FRCS, EBSQ Vascular
Consultant Vascular Surgeon
Russells Hall Hospital
West Midlands
UK
The intraoperative Doppler probe from Huntleigh Healthcare can greatly improve the speed and reliability of plastic surgery procedures involving local/regional flaps or free tissue transfer. Flaps based on perforator arteries are becoming increasingly popular thanks to this technology. The handheld unit is very useful in preoperative planning for a wide range of plastic surgery reconstructive flaps. Unfortunately, however, for many major reconstructive procedures, the exact dimensions of the flap are not known until the defect has been surgically defined. By using the intraoperative Doppler probe to check the perforator vessels, the flap design can be reliably adjusted intraoperatively to tailor the tissue to the defect without compromising the blood supply.

The sterile intraoperative probe comes into its own when raising very small hand and finger flaps such as the dorsal metacarpal artery based flaps. Thanks to the intraoperative probe, these tiny arteries can be accurately traced and left in a protective cuff of fascia. This allows the dissection to proceed swiftly but with greater safety. This is not possible when using the larger handheld unit inside a sterile rubber glove.

Other developments in plastic surgery include the prefashioning of flaps which can often involve extensive thinning. This allows lower morbidity donor sites to be used such as the anterolateral thigh. Thinning can be a nerve wrecking manoeuvre as damage to the perforator vessel can render the flap useless. The intraoperative probe is a vital tool for such procedures to allow the surgeon to identify the vessels within the subcutaneous fat.

Mr Michael Kernohan BDS, FDSRCS, MBBS, MRCS
Specialist Registrar in Plastic Surgery
Tynemouth
Tyne and Wear
UK

Since I started using the Intraoperative Doppler probe from Huntleigh Healthcare, I have found it an extremely useful addition to my practice. Apart from being inexpensive and very easy to use, it has saved me time and anxiety on several occasions. I use it in carotid surgery both before and after endarterectomy to assess and compare the flow in the internal carotid artery. In peripheral vascular reconstructions, it is useful in a variety of situations to assess the distal flow and provide an objective evidence of a bypass success. On a few occasions, it has been of great help to trainees in identifying peripheral vessels and thus minimising dissection. Recently, I found it extremely useful in a case of a suspected mesenteric ischemia. By simply using the intra-operative Doppler probe, I was able to identify the SMA quickly and avoided unnecessary dissection.

I have also used the probe during the repair of false aneurysms of the radial, femoral, and brachial arteries. The anatomy in these cases is rather distorted due to surrounding oedema and by using the Intraoperative probe, it is easy to identify the proximal and distal parts of the artery with minimal dissection.

I have recently started to use the Intraoperative probe in vascular access procedures to assess the blood flow in the vein after completing the anastomosis. This is particularly reassuring in obese patients or those with small veins in whom it is often difficult to feel the characteristic thrill in the vein.

I now use the Intraoperative Doppler probe routinely in my practice and would recommend it to all vascular surgeons. It is a useful tool to have in vascular practice as it provides an objective assessment after completing vascular procedures. The results can be documented in the patient's notes and used as evidence in cases of complaints and litigations.

Mr Haytham Al-Khaffaf M.B, Ch.B, FRCS Ed
Consultant Vascular Surgeon
Burnley General Hospital
Burnley
UK
New Autoclavable Probe

The New High Sensitivity Intraoperative probe assists in the performance of safe surgery. Using Doppler ultrasound, it assists in the provision of evidence demonstrating success in vascular reconstructive procedures by confirming blood flow prior to closing, saving time and costs of a potential re-operation.

**Cost effective reusable system**

The easy to clean Intraoperative probe has been designed in close consultation with leading surgeons.

**Features include:**
- Sterilisable by Autoclave*, Ethylene Oxide* or Steris System 1*
- Audible, visual** and hard copy** confirmation of blood flow
- 8MHz operation for reliable flow detection in native vessels and some prosthetic grafts
- Simple operation - special electronic adaptor resists diathermy interference and allows connection to any Vascular Dopplex Advanced Pocket Doppler.
- A unique easy clean connector system
- Bi-directional velocity waveform printouts - when used with the Multi Dopplex II, Rheo Dopplex II or Maxi Dopplex in conjunction with the Dopplex Printa II or Dopplex Reporter software package.

**High quality innovative design**

With its small tip, this high quality hand-held, lightweight, robust pencil probe is specially designed to enable easy detection of blood flow in vessels of varying diameters.

**Accessories**

**Intraoperative Probe Accessories include:**
- Electronic Probe Adaptor for connection to the Dopplex Pocket Doppler
- Dopplex Intravenous Pole Clamp for unobtrusive positioning in a theatre environment
- Dopplex Pole Stand to support a Dopplex pocket Doppler and Dopplex Printa

**Wide range of clinical procedures**

**Clinical procedures include:**
- Carotid Endarterectomy
- Femoro-popliteal bypass
- In-situ femoro-distal bypass
- Detection of flow in arterio-venous fistulae
- Coronary artery bypass grafts
- Renal and hepatic transplantation
- Renal blood flow confirmation post aortic aneurysm repair
- Cosmetic surgery
- Skin flap surgery

<table>
<thead>
<tr>
<th>Product</th>
<th>Order Code</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starter Pack</td>
<td>ISP3</td>
<td>Includes Probe Adaptor, clamp and 3 Intraoperative probes</td>
</tr>
<tr>
<td>Probe Pack</td>
<td>IPP3</td>
<td>Includes 3 Intraoperative probes</td>
</tr>
<tr>
<td>Starter Pack with Multi Dopplex</td>
<td>ISP3-MD2</td>
<td>Includes MD2 bi-directional Doppler, Adaptor, Clamp and 3 Intraoperative probes</td>
</tr>
<tr>
<td>Starter Pack with Mini Dopplex</td>
<td>ISP3-D900</td>
<td>Includes D900 audio only Doppler, Adaptor, Clamp, and 3 Intraoperative probes</td>
</tr>
</tbody>
</table>

Note: A Dopplex main unit and Adaptor are required to operate your Intraoperative probes.

Probes are supplied NON-STERILE
*Probes may be sterilised using:-
  - Autoclave at 121°C and 137°C a maximum of 6 cycles
  - or Ethylene Oxide (ETO) a maximum of 30 cycles
  - or Steris System 1 a maximum of 30 cycles

**Depending on Dopplex system used

**HUNTLEIGH HEALTHCARE LIMITED**
Diagnostic Products Division
35 Portmanmoor Road, Cardiff,
CF24 5HN, United Kingdom
Tel: +44 (0)29 20485885
Fax: +44 (0)29 20492529
E-mail: sales@huntleigh-diagnostics.co.uk
Website: www.huntleigh-diagnostics.com
Registered No: 942245 England
©Huntleigh Healthcare Limited 2008

* and ** are trademarks of Huntleigh Technology PLC.
As our policy is one of continuous improvement, we reserve the right to modify designs without prior notice.