

dopplex[®] Intraoperative Probe

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.

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The intraoperative probe is a vital tool.

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!

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What the experts say

...A Consultant Vascular Surgeons View...

Putting a standard hand-held Doppler probe inside a sterile glove full of gel was cumbersome and messy and there was a risk of de-sterilising the operative field with the probe cable.

Apart from being inexpensive and very easy to use it has saved me time and anxiety on several occasions.

Mr Robert Salaman MB, BCh, FRCS, MD

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 handheld 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.

*Consultant Vascular Surgeon
Blackburn General Hospital, UK*

Mr Haytham Al-Khaffaf M.B, Ch.B, FRCS, Ed

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 intraoperative Doppler I was able to identify the SMA quickly and avoid 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.

*Consultant Vascular Surgeon
Burnley General Hospital, East Lancashire, UK*

Mrs Sandy Shiralkar MBBS, MS, FAIS, FRCS, EBSQ Vascular

Just feeling the pulse in the graft gives false sense of security as the vessel may be blocked distally.

Good tri-phasic sound waves on the graft rules out distal thrombosis and proves the distal patency, which is very reassuring to the surgeon before finishing the operation.

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 a 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 tri-phasic sound waves on the graft rules out distal thrombosis and proves 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!

*Consultant Vascular Surgeon
Russells Hall Hospital, West Midlands, UK*

Mr George Geroulakos FRCS, DIC, PhD

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.

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 distal 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 perioperative 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.

*Consultant Vascular Surgeon
Charing Cross Hospital, London, UK*

Mr Mike Lewis MD FRCS

I highly recommend the use of the Huntleigh perioperative probe. In practice terms the intraoperative probe is much easier to use. Having to place a Doppler probe inside a sterile glove is not acceptable, often very clumsy and worrying for the fear of infection when placing a prosthetic graft.

In practice terms the probe is easier to use, having to place probes inside gloves is not acceptable and very often clumsy and worrying when used when placing a prosthetic graft for the fear of infection

In my view it is invaluable to confirm flow. We are all taught as medical students that a pulse does not indicate flow. When an artery is blocked the peripheral resistance is infinite and a strong pulse can be obtained. Therefore, palpating a pulse does not confirm flow.

At completion, we have on several occasions obtained a good pulse proximal to a graft but no flow when using the intraoperative probe and without exception resorted to removal of a clot.

In conclusion there are very experienced surgeons who argue that the palpation of a pulse post procedure is enough, can I respectfully suggest that they close an arterial clamp on the distal vessel next time they do a graft and feel the excellent pulse obtained, unfortunately, however without any flow.

Although I do appreciate the financial restrictions present in many hospitals, there is no doubt that having to take a blocked graft back to Theatre or worse still, an amputation, will cost much more than several probes and the Doppler unit.

In conclusion there are many experienced surgeons who argue that the palpation of a pulse post procedure is enough. Can I respectfully suggest that they close an arterial clamp on the distal vessel next time they do a graft and feel the excellent pulse obtained, however, unfortunately without any flow.

*Consultant Vascular Surgeon
Royal Glamorgan Hospital, Wales*

...A Plastic Surgeons View...

Mr Michael Kernohan BDS, FDSRCS, MBBS, MRCS

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 hand held 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.

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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.

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

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.

This is not possible when using the larger handheld unit inside a sterile rubber glove.

*Specialist Registrar in Plastic Surgery
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