

Swinburne Knowledge Commercialisation Opportunity



Echogenic Needle

Background

Some medical procedures can be carried out more effectively if a local nerve block is used as the method of anaesthesia (pain control). This also avoids the longer recovery times that can be associated with a general anaesthetic. A local nerve block is administered by injecting an anaesthetic to surround the nerve that controls the pain signals to the region of the body where the surgical procedure is to be carried out. The needle is often guided to the appropriate nerve site using ultrasound imaging. The nerves and surrounding tissue can be clearly seen under the ultrasound imaging, but typical hypodermic needles are only visible with the ultrasound machine placed at a 90-degree angle, making the process difficult. Often the needle cannot be seen and its position has to be inferred by tissue movement.

Invention

Swinburne researchers in conjunction with colleagues at St Vincent's Hospital have developed an improved needle that can be seen more easily by the anaesthetist. A standard needle normally used during these procedures is modified such that a small area of the needle tip has been textured to enhance ultrasonic visibility.

Stage of Development

About \$50,000 has been invested in developing the manufacturing process for the echogenic needle, resulting in the development of several prototypes that have been tested in a simulated environment. Clinical trials are at an advanced stage of planning, with the aim of showing the efficacy of the needle in humans. An international patent application has also been filed.

Market

The market for this product is expected to be hospitals. Although not large, it does represent a good opportunity – an estimated market of \$500,000 annually in Australia alone – in a readily identifiable market.

Opportunity

Further investment or a development partner is being sought to finalise the development and marketing of the echogenic needle.

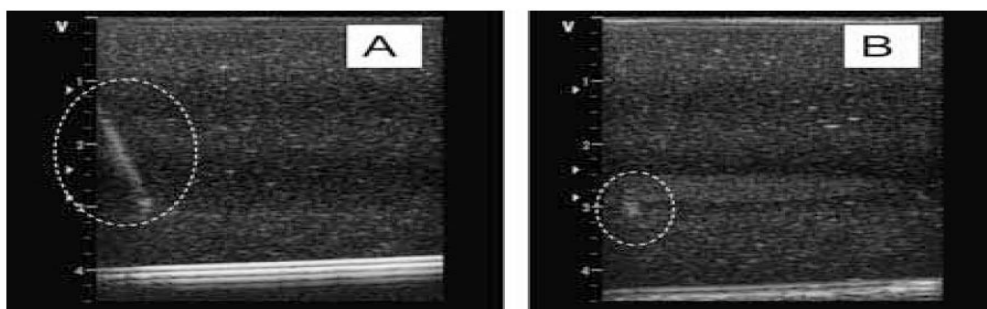


FIGURE 3: 22-gauge pencil-point Portex needles at 20° angle to ultrasound beam in long axis (LAX) view. A: Modified needle-Texture Towards (visibility score 3). B: Unmodified needle (visibility score 1).

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Further information

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