

## Technology Opportunity Bulletin

### Patient-Specific Surgical Guide with Intraoperative Adjustability

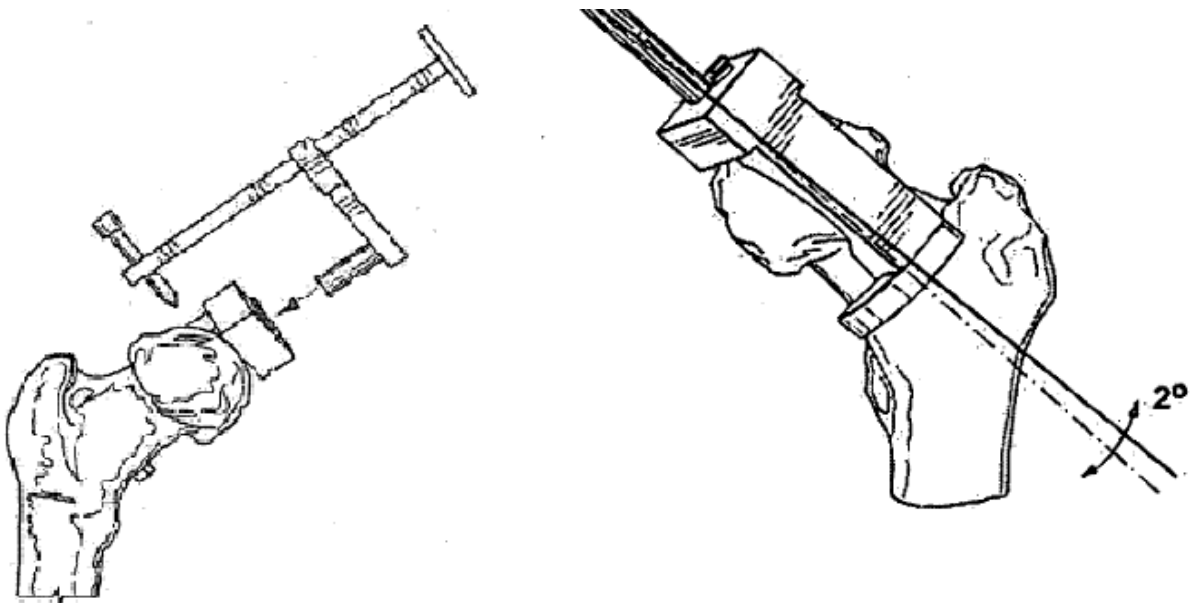
#### Overview:

Pre-operatively designed patient-specific guides are intended to register to the patient's anatomy in a unique orientation; however, in practice variability exists due to the presence of soft tissues, immature osteophytes, etc. This variability in positioning can result in a significantly altered surgical approach and may compromise clinical outcomes.

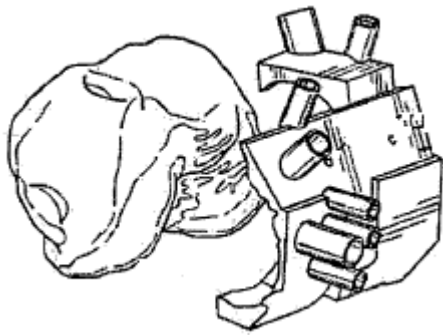
#### Technology Description:

To address this issue, researchers at Kingston General Hospital and Queen's University have developed a patient-specific guide that employs a verification tool and adjustable instrument sleeves to alter, if necessary, the surgical approach provided by the guide.

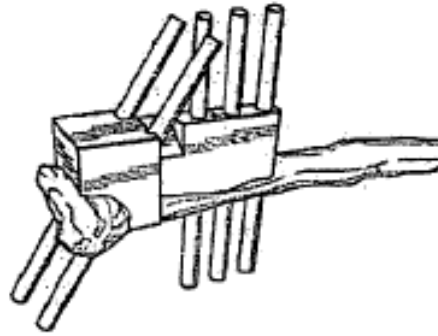
Interfacing with the instrument sleeves, the verification tool uses anatomical landmarks to provide 3D spatial information about the surgical approach and, in the case of misalignment, provides the surgeon with the information needed to alter the guide so that the pre-operatively defined surgical plan is attained. Alternatively, the verification tool can be used to develop a new surgical plan intraoperatively should the surgeon decide that the pre-operatively defined plan is no longer appropriate.



Verification tool being fitted on patient-specific guide for use in a hip resurfacing application (left). Intraoperative adjustment of the surgical approach by 2deg based on information provided by verification tool (right).



Patient-specific guide for mosaicplasty.



Patient-specific guide for distal radius osteotomy.

**Status of Development/Commercialization:**

The technology is protected by U.S. Pat. Appl. No. 2008/0287954 and PCT Appl. No. WO 2008/138137. Licensing opportunities are available for total ankle arthroplasty, distal radius osteotomy, and mosaicplasty.

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