

DTR Medical

Company Profile

Launched in 2005, DTR Medical is a successful medical device manufacturer, providing medical professionals with single-use sterile surgical instruments that deliver patient and clinical value. The company has operated for eight years and currently has more than 600 UK and international customers.

The DTR Medical range includes many new sterile single-use surgical instruments for specialities including ENT, gynaecological, orthopaedic, vascular and general surgery and neurosurgical procedures. It also supplies a range of products for sterile services including sterile pre-cut silicone tubing. DTR Medical continually expands its product range to meet new market demands.



DTR Medical Single-Use Shea Ear Specula

Collaborating with BEACON

DTR Medical is committed to producing medical products in the most sustainable manner possible. In their initial meeting with BEACON, DTR Medical were interested in exploring options for using plant-based biopolymer content in place of existing plastics in their ear specula range.

Following discussions with the research scientists at the BioComposites Centre, Bangor University, Thermogravimetric analysis (tGA) was undertaken to analyse and compare the potential physical properties of an ear specula produced from polylactic acid (PLA) (sourced from plant-based starch), as

an alternative to their existing product range containing acrylonitrile butadiene styrene (ABS).

“Working with BEACON gives us the opportunity to find new competitive advantages and future proofs our single-use range.”

Andrew Davidson,
Managing Director

The results from the analysis demonstrated that the polymer PLA was a good match in comparison to the characteristics of ABS. It was suggested that further trials would be required with the PLA to establish whether an ear specula could be manufactured to use PLA as an alternative polymer. The cost and processing conditions would need to be considered in the development phase, along with the requirement of the compatibility for sterilization.

Following the material science evaluation, a BEACON Life-Cycle Analyst undertook assessments to highlight the potential environmental benefits of using PLA, as well as to identify potential environmental ‘hotspots’ within each production system. The results provided the company with useful insight into the potential benefits of such a change, which are currently being considered.

The collaborative work undertaken with DTR Medical across material science and life-cycle analysis demonstrates the breadth of expertise and capabilities available to companies across the BEACON facilities.



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