

Medtronic Announces Purchase of Innovative Gel Technology for Potential Use in Functional Endoscopic Sinus Surgery (FESS)

MINNEAPOLIS, Feb 25, 2011 (BUSINESS WIRE) --

Medtronic, Inc. (NYSE: MDT) today announced that it has completed the purchase of rights to a chitosan-dextran gel technology from Adelaide Research & Innovation Pty Ltd. (the commercial development company of the University of Adelaide) in Australia, Robinson Squidgel Ltd., and Otago Innovation Ltd. (a University of Otago company) in New Zealand. Medtronic is acquiring this technology for potential use in developing future products for functional endoscopic sinus surgery (FESS).

More than 525,000 FESS procedures are performed annually in the US.¹ The most common complications are bleeding and adhesions,^{2,3} which are scars that can form at the surgical site as sinus tissues heal after FESS. These adhesions can block the sinuses, potentially causing disease to recur and requiring additional surgery.

The innovative chitosan-dextran gel has been shown in animal studies to provide hemostasis (control of bleeding) and aid in wound-healing after FESS.² Additionally, a human trial demonstrated that the chitosan-dextran gel resulted in rapid hemostasis immediately after FESS and fewer postoperative adhesions.³

Chitosan is a polymer produced from the chitin of shellfish and squid. Its powerful hemostatic properties have been extensively studied,²⁻¹⁰ leading to its use in a hemostatic bandage distributed to all deployed US soldiers in Iraq and Afghanistan.¹¹

"The chitosan-dextran gel technology would enhance Medtronic's ability to offer innovative, therapeutic products for sinus surgeons to use in postoperative patient care," said Mark Fletcher, president of the ENT division of the Surgical Technologies business of Medtronic. "As a leader in the FESS market, we're pleased to have the opportunity to expand our FESS product portfolio."

About the Surgical Technologies Business at Medtronic

The Surgical Technologies business develops products for the diagnosis and treatment of chronic diseases and disorders of the ear, nose and throat; surgical devices and implantable products for the treatment of cranial, spinal and specialty small-bone conditions; and state-of-the-art navigation equipment used in operating rooms to assist physicians in neuro and spinal surgery procedures.

About Medtronic

Medtronic, Inc. (www.medtronic.com), headquartered in Minneapolis, is the global leader in medical technology - alleviating pain, restoring health, and extending life for millions of people around the world.

Any forward-looking statements are subject to risks and uncertainties such as those described in Medtronic's periodic reports on file with the Securities and Exchange Commission. Actual results may differ materially from anticipated results.

1. Thomson Reuters Outpatient Procedure Database.

2. Athanasiadis T, Beule AG, Robinson BH, Robinson SR, Shi Z, Wormald P-J. Effects of a novel chitosan gel on mucosal wound healing following endoscopic sinus surgery in a sheep model of chronic rhinosinusitis. *Laryngoscope* 2008; 118:1088-1094.

3. Valentine R, Athanasiadis T, Moratti S, Hanton L, Robinson S, Wormald P-J. The efficacy of a novel chitosan gel on hemostasis and wound healing after endoscopic sinus surgery. *Am J Rhinol Allergy* 2010; 24:70-75.

4. Rao SB, Sharma CP. Use of chitosan as a biomaterial: studies on its safety and hemostatic potential. *Journal of Biomedical Mater Res* 1997; 34:21-28.
5. Malette WG, Quigley H, Gaines RD, Johnson ND, Rainer G. Chitosan: a new hemostatic. *Ann Thorac Surg* 1983; 36:55-58.
6. Chou TC, Fu E, Wu CJ, Yeh JH. Chitosan enhances platelet adhesion and aggregation. *Biochem Biophys Res Commun* 2003; 302:480-483.
7. Dutkiewicz JK. Superabsorbent materials from shellfish waste-a review. *J Biomed Mater Res* 2002; 63:373-381.
8. Brandenburg G, Leibrock LG, Shuman R, Malette WG, Quigley H. Chitosan: a new topical hemostatic agent for diffuse capillary bleeding in brain tissue. *Neurosurgery* 1984; 15:9-13.
9. Hirano S, Zhang M, Nakagawa M, Miyata T. Wet spun chitosan-collagen fibers, their chemical N-modifications, and blood compatibility. *Biomaterials* 2000; 21:997-1003.
10. Belman A, Daya M, Steve M, Worley J. From the battlefield to the street--experience of a suburban fire/EMS agency with chitosan dressing. 2006; *Touch Briefings: Emergency Medicine & Critical Care Review*.
11. Wedmore I, McManus JG, Pusateri AE, Holcomb JB. A special report on the chitosan-based hemostatic dressing: experience in current combat operations. *J Trauma* 2006; 60:655-658.

SOURCE: Medtronic, Inc.

Medtronic, Inc.
Brian Henry, 763-505-2796
Public Relations
or
Jeff Warren, 763-505-2696
Investor Relations

<https://news.medtronic.com/2011-02-25-Medtronic-Announces-Purchase-of-Innovative-Gel-Technology-for-Potential-Use-in-Functional-Endoscopic-Sinus-Surgery-FESS>