## SCS Systems Today: Unmet Needs

<table>
<thead>
<tr>
<th>IPG</th>
<th>Leads</th>
<th>Patient Programmers &amp; Rechargers</th>
<th>Clinician Programmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Standardized configuration (2x0)</td>
<td>- Percutaneous Leads</td>
<td>- Designed for in-home use</td>
<td>- Time consuming</td>
</tr>
<tr>
<td>- Poor tri-pole capabilities</td>
<td>- Lead migration (13%)</td>
<td>- Large and non-discrete</td>
<td>- Non-intuitive</td>
</tr>
<tr>
<td>- Current Steering</td>
<td>- Lead breakage (9%)</td>
<td>- Button sequences are confusing</td>
<td>- Dependent on sales team</td>
</tr>
<tr>
<td>- Complete discharge recovery</td>
<td>- Limited coverage</td>
<td>- Small screens for feedback</td>
<td>- Lack patient feedback mechanism</td>
</tr>
<tr>
<td>- Limited parametric range</td>
<td>- 1-2 spine levels</td>
<td>- No color or touch screens</td>
<td>- Awkward size devices</td>
</tr>
<tr>
<td>- Biphasic square waveform</td>
<td>- Inability to capture target</td>
<td>- Multiple devices for programmer/recharger</td>
<td>- Lack visual clarity</td>
</tr>
<tr>
<td>- Inductive coupling</td>
<td>- Need for splitters to achieve tri-pole stim</td>
<td>- Lack recharge feedback</td>
<td>- Stylus required in handhelds</td>
</tr>
<tr>
<td>- Unidirectional recharge</td>
<td>- Paddle Leads</td>
<td>- Inductive coupling required</td>
<td>- Inductive coupling required</td>
</tr>
<tr>
<td>- Restricted implant depth</td>
<td>- Excessive volume</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Lack of steering control</td>
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</tbody>
</table>

*Source: Cameron et al., 2003 & updated with 2009 AAPM poster*
Product Strategy

- Target unmet clinical needs
- Focus on product differentiation for all user groups
- Procedurally the same - but better
- Legacy free, proprietary system
- Design focused on safety
- Allows efficient regulatory approval
- Gen 1: Technology innovation drives market share
- Gen 2: Breakthrough technology enables market leadership

“A product designed by doctors for doctors”
Richard B. North, MD

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Algostim System Innovations

**IPG**
- 24 Channels
- Two Configurations
- Tri-Pole Capability
- Smallest Volume
- Thinnest Implant
- Largest Battery Capacity
- Broadsest Parametric Ranges
- Bi-Directional Recharge
- MICS Wireless Telemetry
- Embedded Program Memory

**Leads**
- **Perc Leads**
  - 12 & 8 Contact Arrays
  - Dual Coil Construction
  - Body Compliant
  - Lead ID System
- **Paddle Leads**
  - Thinnest >50%
  - Smallest Volume >50%
  - Body Compliant
  - Multi-Midline Positioning
  - Stilet Steering

**Programmers/Software**
- Color Touch Screen
- 3D Pain Mapping
- 3D Stim Mapping
- 3D Overlap Scoring
- CASP Algorithm
- CASP Feedback Device
- Camera/Barcode Reader
- Monitor Mirroring
- Combined Programmer/Charger
- Key Fob Programmer

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Implantable Pulse Generator

Features

- 24 channels
- Two header configurations (2x12 & 3x8)
- Rechargeable battery
- Largest battery capacity
- Broadest parametric ranges
- Smallest & thinnest device
- Independent current sources
- Deep discharge recovery
- Constant current output
- MICS wireless telemetry
- Safety thermistor
- Bi-directional recharge
- Embedded memory
Lead Design Progression

Past  Present  Future

COIL DESIGN
COIL STRUCTURE
4-Electrode Leads

UNCONSTRAINED
STRAIGHT WIRE
6-Electrode Leads

INDEPENDENT
STRAIGHT WIRE
8 & 16-Electrode Leads

algostim
COIL IN COIL DESIGN
COIL STRUCTURE
8 & 12-Electrode Leads

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Paddle Lead Standards

Current product limitations
- Excessive volume
- Lack of steering control
- Blind positioning
- Have no / limited body compliance

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Thin Profile Paddle Leads

Current Products

Epidural space
Programmer Family

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Patient Programmers

**Pocket Programmer**
- Discrete key fob design
- Daily control functions
- Rechargeable device
- MICS wireless telemetry
- Quick stim-off

**Programmer Charger**
- Programming and recharging device
- Full control programming options
- Color touch screen interface
- MICS wireless telemetry
- Recharge location visual feedback
- Rechargeable device
- Quick stim-off

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<table>
<thead>
<tr>
<th>Clinician Programmer</th>
<th>Patient Feedback Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistive color touch screen</td>
<td>'Computer Assisted Stimulation Programming'</td>
</tr>
<tr>
<td>External monitor connection</td>
<td>Automatic impedance check</td>
</tr>
<tr>
<td>Embedded camera</td>
<td>Stimulation threshold determination</td>
</tr>
<tr>
<td>Rechargeable device</td>
<td>Patient identifies best stimulation coverage / optimal paraesthesia patterns</td>
</tr>
<tr>
<td>SD card storage</td>
<td>Bluetooth communication</td>
</tr>
<tr>
<td>Bluetooth communication</td>
<td>LED feedback</td>
</tr>
<tr>
<td>MICS wireless implant telemetry</td>
<td>Quick stim-off</td>
</tr>
<tr>
<td>Quick stim-off</td>
<td></td>
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</table>
Clinician Programmer Software

Software Features

- 3D Virtual Environment
- 3D Pain Mapping
- 3D Stimulation Mapping
- 3D Overlap Scores
- Computer Assisted Stimulation Programming (CASP)
- Presets for routine intra-operative trials
- Visual implant selector
- Patient programming history
- Secure log-ins
- Patient device emulator
- Auto report generation
- Bluetooth printer

Proposed Indication

The Algostim Spinal Cord Stimulation (SCS) System is indicated as an aid in the management of chronic intractable pain of the trunk and/or limbs, including unilateral or bilateral pain associated with failed back surgery syndrome, intractable low back pain and leg pain.

History

<table>
<thead>
<tr>
<th>Company (Product)</th>
<th>Original PMA</th>
<th>Supplements</th>
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</thead>
<tbody>
<tr>
<td>Medtronic (Itrel)</td>
<td>1984</td>
<td>233+</td>
</tr>
<tr>
<td>St. Jude (Genesis)</td>
<td>2001</td>
<td>65+</td>
</tr>
<tr>
<td>Boston Scientific (Precision)</td>
<td>2003</td>
<td>153+</td>
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</tbody>
</table>

Plan

- Pursue PMA approval (*literature based PMA*)
- Utilize pre-IDE / PMA process
- Obtain CE mark
- TÜV (*notified body*) utilizing modular review process
Next Generation

**IPG Embedded Capabilities**
- High Frequency Stimulation
- 3-axis accelerometer
- Novel waveforms & wave shaping

**Lead Designs**
- Thin-film perc lead designs
- 24+ electrode paddle leads

**System Level**
- MRI conditional system
Intellectual Property

- Greatbatch IP portfolio: >1000
- Algostim invention disclosures: 135
- Filed patent applications: 86
- Patent applications in draft: 18
- Patents licensed Dr. North & Barolat: 11
- Patents issued to date: 6
- Patent opinions: 77

IP Product Distribution

<table>
<thead>
<tr>
<th></th>
<th>Leads</th>
<th>IPGs</th>
<th>Programmers &amp; Software</th>
<th>Accessories</th>
<th>Total</th>
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<tbody>
<tr>
<td>Disclosures</td>
<td>26</td>
<td>44</td>
<td>51</td>
<td>14</td>
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<tr>
<td>Applications</td>
<td>19</td>
<td>23</td>
<td>36</td>
<td>8</td>
<td>86</td>
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<tr>
<td>Opinions</td>
<td>20</td>
<td>39</td>
<td>17</td>
<td>1</td>
<td>77</td>
</tr>
</tbody>
</table>
Leveraging Our Capability

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Programmers

Software

Batteries for Programmers

Software: Denver  Portable Medical: Raynham

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Strong Value Proposition

- Leverage Capabilities
- Technology Innovation
- Addressing Unmet Needs
- Future Opportunities
- Commercialize Medical Device Innovation

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https://www.sec.gov/Archives/edgar/data/1114483/000119312513114105/d503997dex991.... 9/28/2013
Impact to Customer Groups

**Physicians**
- No change to implant procedures
- Improved body compliant lead design & steering control
- Broader stimulation coverage
- Multiple IPG options

**Patients**
- Long list of Safety Features
- Highly visual & intuitive programmers
- Intraoperative visibility and engagement of surgical staff
- Patient interactive programming
- Portable & Discrete External Products
- Simple and familiar user interfaces
- Comfortable system for screening, recharge and daily transport
- Fits existing reimbursement standards

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Value Proposition

“A highly differentiated complete SCS system and platform with extensive offering of innovation, IP, advanced safety features, and future generation capabilities in the fast growing $1.4B SCS market”

- 1% market share represents $17M revenue to partner in 2016
- Highly under penetrated market (<10%)
- History of large market share shifts with technology innovation
- Strong SCS growth rate (7%+ CAGR)
- Extensive IP portfolio
- Gen 1: Technology innovation will drive market share
- Gen 2: Breakthrough technology can enable market leadership
Leverage Medical Device System Capabilities

- Deliver on complete system initiative
- Investment in capabilities
- Platform technology for additional opportunities

Future NewCo’s
- Approved & emerging indications

Entry into cardiac systems
- Implantable Loop Recorder
- Address unmet needs
  - Remote monitoring
  - High quality data

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