

# ANDREW WHITEHEAD

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## DESIGN ENGINEER/PROJECT MANAGER

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Highly skilled and versatile senior product design engineer with 20+ years' experience looking for design engineering and development roles. Adept at conceiving and developing innovative, appealing designs and turning them into manufacturing reality and profitable products. Self-motivated, methodical, detail-oriented and energetic multitasker with passion for design. Work well both independently and as a team member or project team lead. Seeking to engage in new challenges and learning experiences, while delighting customers, mentoring others, furthering my professional growth and the growth of the organization.

Working for small companies has allowed full mastery of the design engineering process from product conception through release in the marketplace, while active involvement in all phases has provided me with a broad and comprehensive skill set. Combining this with a business acumen allows me to help solve strategic business problems.

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## EXPERTISE

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- ❖ R&D
  - ❖ Product invention/design
  - ❖ Making products that fulfill the required function and appeal to the potential customer at the correct price point
  - ❖ Realizing product opportunities (improving existing products or creating product innovations)
  - ❖ Product creation using hand sketches and SolidWorks CAD/CAE
  - ❖ Brainstorming conceptual ideas to iterate to better product solutions
  - ❖ Human Factors Engineering (HFE) to enhance the user experience
  - ❖ Hands-on prototype creation and internal/external testing on models and cadavers
  - ❖ Performing prototype iterations with necessary course corrections based on results
  - ❖ Design control
  - ❖ Optimization of selected designs for high volume manufacture, high quality, and reliability using DFM, DFA and DFS principles and best practices
  - ❖ Management of multiple projects, ensuring all are executed on time and on or under budget
  - ❖ Management of cross-functional design teams
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## PROFESSIONAL EXPERIENCE

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### PRIMO MEDICAL GROUP (SENIOR DESIGN ENGINEER)

2022 - CURRENT

Part of a cross-functional team responsible for transferring a new robotic platform from a prototype to production. Designed and manufactured a wide range of fixturing to help aid in the assembly of the robotic platform and the consumable surgical instrumentation. In charge of ensuring robot parts and assemblies were optimized for DFM and DFA whilst maintaining high quality.

1. **Career highlight** - Working on a new surgical robotic platform.

### ACTIV SURGICAL (MANAGER, ADVANCED MANUFACTURING GROUP)

2021 - Nov 2022

Champion the design of products which perform well and enhance the user experience. Optimize prototype designs for performance, manufacturability and serviceability in parallel. This approach reduces development time and ensures the original design intent is not diminished as a result of redesign for manufacturability. Accountable for the practical application of product design for excellence principles. Evaluation of post market surveillance data for ongoing continuous improvement of commercially released product.

- ❖ **Career highlight** - Received Marketing Director recognition for a sleek, innovative product packaging design that reflected the high tech look and feel of the Activ Surgical product line.
- ❖ Designed workstations with equipment, fixtures and hand tools.

**CONCERT MEDICAL** (Theragenics Inc - Medical device design engineering) - Norwell MA  
**Senior Design Engineer**

**2020 - 2021**

Designed and manufactured a wide range of equipment to produce Cardiology and Neurological guidewires. In charge of ensuring new products and equipment were optimized for ergonomics and performance. In addition, assured these guidewires were optimized for DFM and DFA whilst maintaining high quality. Supported all phases of existing product life cycles, performing product design improvements and cost reductions.

- ❖ **Career highlight** - Rehired to perform upgrades to highly successful Profile Grinder equipment I had designed and manufactured over 20 years previous.

**MEDROBOTICS INC** (Surgical Robotics) - Raynham MA  
**Senior Design Engineer**

**2017 - 2020**

Designed new surgical instrument support with an emphasis on HFE, providing surgeons with more features and higher performance while optimized for manufacturability. Also, responsible for redesigning poorly functioning sections of the robot based on post market surveillance. Transitioned surgical solutions from R&D to production. Ensured DFM, DFA and DFS whilst maintaining a high quality, reliable and low cost manufactured product. In addition, supported all phases of existing product life cycles, performing design improvements and cost reductions.

- ❖ Lead product designer on new surgical instrument support to allow deeper surgical procedures and use of a wider range of instruments and products.
- ❖ **Career highlight** - Lead product designer for redesigned robotic arm for improved locking performance and intuitive operational locking/unlocking tactile and audible feedback. The new design was praised by the sales and marketing team for transforming the customer experience.

**Concert Medical LLC** (formerly Accellent Inc., Medical device design engineering) — Norwell, MA  
**Senior Design Engineer**

**2005 - 2017**

New product concept development and transition from R&D to production. Performed design revisions and cost reduction through better manufacturing and outsourcing to add quality and value. Supported all phases of the product life cycle.

- ❖ **Career highlight** - Co-inventor of patented design for lap joint for wire hybrid stainless steel and nitinol guidewire (Patent US 20070282270 A1). Joint design and consumable tooling were designed to allow ease of assembly by assembler.
- ❖ **Career highlight** - Co-inventor PCT/US 2014030339) regional anesthesia infusion device to aid surgeons during surgical procedures. Patient Safety Innovation of the Year award 2020 issued by HSJ (Health Service Journal), London, UK, September 2021. Human factors were important criteria contributing to the success of this product, especially the foot pedal. This high-volume, single-use device required extensive design optimization to achieve the necessary low selling price. Strategic outsourcing to China was also necessary.

**Accellent Inc** (formerly Microspring Inc., Medical device design engineering) — Norwell, MA  
**Senior Lead Design Engineer**

**1999 - 2005**

Served as project manager / product design lead for a cross-functional team of technicians, machinists, electronics engineers and draftsmen. Managed resource allocations, budgets, and milestone adherence.

- ❖ **Career highlight** – Co-designed and developed Urology Stone Cone lithotripsy prototype device with transfer of prototype device from R&D to production. The product was designed with visible markers which could be seen under a fluroscope to help the doctor position the wire.
- ❖ **Career highlight** – Co-designed and manufactured a specialized corewire to allow a built-in blood pressure sensor to be embedded in it. Helped transition this prototype design into production.
- ❖ Designed lean manufacturing fast changeover tooling for grinders, reducing setup times by 60%.

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## EDUCATION & CREDENTIALS

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Loughborough University — Leicestershire, England, UK  
**BSc (Hons) Design Engineering**, 1988

Loughborough University — Leicestershire, England, UK  
**Diploma in Industrial Studies**, 1986

Mass Art - Boston, MA  
**Industrial Design Continuing Education Class Credits**, 2017

American Management Association  
**Certificate in Business Management** (1996)