

ANDREW WHITEHEAD

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PRODUCT DESIGN & MANUFACTURING ENGINEER/MANAGER

Highly skilled and versatile senior design engineer with 20+ years' experience looking for product design 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. Works 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 and manufacture 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.

EXPERTISE

- ❖ 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.
 - ❖ Hands-on prototype creation and internal/external testing in models and cadavers.
 - ❖ Performing prototype iterations with necessary course correction activities based on results.
 - ❖ Design control.
 - ❖ Design Failure Mode Effects Analysis (DFMEA) and Process Failure Mode Effects Analysis (PFMEA)
 - ❖ Optimizing selected design for high volume manufacture, high quality, and reliability using DFM, DFA and DFS principles and best practices.
 - ❖ New Product Introductions (NPI)/transferring prototype designs smoothly from R&D to manufacturing or outsourcing to China (engineering drawings and specifications).
 - ❖ Process validations (IQ/OQ/PQ)
 - ❖ Managing multiple projects and ensuring all are executed on time and on or under budget.
 - ❖ Managing cross-functional product design/manufacturing teams
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PROFESSIONAL EXPERIENCE

CONCERT MEDICAL (Theragenics Inc - Medical device design & manufacture) - Norwell MA
Senior Product Design and Manufacturing Engineer

2020- Present

Design and manufacture a wide range of equipment to produce Cardiology and Neurological guidewires. In charge of ensuring new products are DFM and DFA whilst maintaining high quality. In addition, support all phases of existing product life cycles, performing design improvements and cost reductions.

Highlights:

- ❖ Rehired to perform upgrades to highly successful Profile Grinder equipment I designed and manufactured over 20 years ago. Even after manufacturing over 3 million wires the equipment is still competitive today and worthy of updating.

MEDROBOTICS INC (Surgical Robotics) - Raynham MA
Senior Product Design and Manufacturing Engineer

2017 - 2020

Designed surgical instruments and supported equipment for robotic surgery. 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.

Highlights:

- ❖ Lead product designer on new surgical instrument support to allow deeper surgical procedures and use of a wider range of instruments and products.
- ❖ Lead product designer for redesigned robotic arm for improved performance and DFM/DFA.
- ❖ Provided direction and mentorship for interns, peers and colleagues.

Concert Medical LLC (formerly Accellent Inc., Medical device design & manufacture) — Norwell, MA **2005 - 2017**
Senior Product Design & Manufacturing Engineer

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 product life cycle.

Highlights:

- ❖ **Career highlight** - Co-inventor of patented design for lap joint for wire hybrid stainless steel and nitinol guidewire (Patent US 20070282270 A1).
- ❖ **Career highlight** - Co-inventor PCT/US 2014030339) regional anesthesia infusion device to aid surgeons during surgical procedures. This high-volume single-use device required extensive design optimization to achieve the necessary low selling price. Aesthetics and ergonomics were important factors. Strategic outsourcing to China was also necessary.

Accellent Inc (formerly Microspring Inc., Medical device design & manufacture) — Norwell, MA **1999 - 2005**
Senior Lead Design & Manufacturing Engineer

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

Highlights:

- ❖ Co-designed and developed Urology Stone Cone lithotripsy prototype device with transfer of prototype device from R&D to production.
- ❖ **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.
- ❖ **Career highlight** - Designed lean manufacturing fast changeover tooling for grinders, reducing setup times by 60%.

Microspring Inc (Medical device design & manufacture) — Norwell, MA **1996 - 1999**
Lead Design Engineer

Highlights:

- ❖ **Career highlight** - Project Manager/Lead Design Engineer of cross-functional team in charge of \$1,000,000 budget to design and manufacture 7 State of the Art Precision Guide Wire Grinding Machines to grind precision shapes in 0.014" Dia stainless steel and Nickel titanium wire to 0.001" +/- 0.0001". Project completed on time and on budget and still in operation today.
- ❖ **Career highlight** - Project manager in charge of setting up infrastructure for new grinding facility which included the seven new state of the art grinders and all necessary support equipment.
- ❖ Designed and implemented a variety of high speed 0.014" Dia stainless steel coil winding equipment with automated feeding and unloading systems.

Highlights:

- ❖ Performed R&D to conceive or improve grinding machine tooling and equipment to achieve low cost manufacturing.

EDUCATION & CREDENTIALS

Loughborough University — Leicestershire, England, UK
BSc (Hons) Design and Manufacture 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)