

## Specialized Orthopedic Solutions

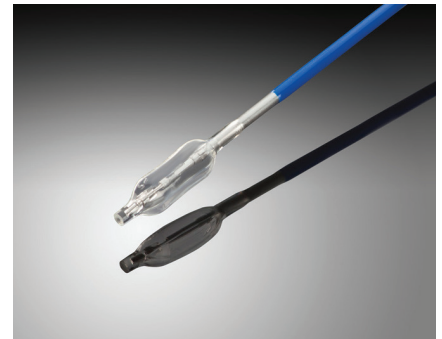
Freudenberg Medical has been working with the industry's leading Orthopedic Device Manufacturers for over 25 years. Our engineering teams have helped design & develop technology in

- Knee, hip, and shoulder molds for the reduction and/or elimination of post-surgical infection
- Joint replacements to treat small joint arthroplasty
- Minimally invasive surgery to correct spinal fracture
- Post-surgical closed wound drainage applications

Custom catheter assembly manufacturing services include design and development, prototyping, material and component selection, single- and multi-lumen extrusions, balloon forming, hypotubes and micro-components, validation and qualification, sterilization, and packaging and labeling. Our portfolio of orthopedic catheter solutions includes the design and manufacture of balloon catheters used in minimally invasive kyphoplasty procedures to correct spinal fractures.

Our catheter finishing services consist of:

- Insert and over molding
- Annealing
- Tip forming
- Fusing
- Adhesive bonding
- Precision hole drilling
- Punching
- Hydrophilic coating
- Laser cutting
- Catheter reinforcing



Silicone Molding for joint replacement and wound drainage

- Liquid injection molding (LIM), transfer/compression molding, micro-molding, insert molding, over-molding, and two-shot molding – silicone to thermoplastic
- Expertise in short- and long-term implantable silicones (LSR and HCR)
- Silicone composite molding presses

Thermoplastic/PEEK Molding for metal replacement implants and surgery

- Implantable components in thermoplastics and PEEK
- Expertise in thin-wall PEEK molding
- Blow molding – components such as catheter inflation cuffs, pilot inflation balloons

Silicone Extrusion for minimally invasive surgery and wound drainage products

- Extrusion sizes from .006" ID to 1.5" OD
- Multi-lumen extrusion (30+), co-extrusion, and radiopaque
- Striping capabilities for part identification, x-ray opacity, or other needs

Our broad range of services allows us to tackle projects that require multiple steps and manufacturing processes all under one roof. We effectively utilize our resources to ensure that we deliver the best possible solution to our customers. Our customers trust that we have the molding and extrusion expertise to meet their exacting demands.