Developing Medical technologies

Role for Scientists within the Medical Device Industry
General Observations

- You are in a special spot:
  - Unique field
  - Unique University
  - Unique Geography

- No matter what you decide, make yourself part of the “ecosystem”

- Finding the intersection of what you are uniquely good at and what internally drives you takes time, trial and error and listening to your gut

- “Hire a mentor” then “Hire a boss”

- Your success depends on your success through people
Overview of Medical Technology Industry

Imaging
Medical Equipment
Large scale Instrumentation

Diagnostics
Implanted devices
Surgical Products
Medical Technology: Key Sectors

- Cardiovascular
- Surgical Products
- Orthopedics
- Diagnostics
- Interventional Neurology
- Spine
- Dental
- Neuro-modulation
- Peripheral Vascular
- Ophthalmology
- Urology
- Ear/Nose/Throat
Clinical problem: 250,000 vertebral compression fractures that do not respond to non-operative care

Pre-existing solution: Vertebroplasty

Problems: high pressure injection could lead to cement leakage, inability to correct the kyphosis
Simple devices -> Big Impact : Case Study 1

The solution : Use a balloon to expand the fracture prior to injection

The result : >50% market share, ASPs 4X vertebroplasty, remarkable financial success
Simple devices -> Big Impact : Case Study 2
Rapid Exchange

Clinical problem : Exchange of catheters was a cumbersome two-person process

Pre-existing device : over the wire coaxial catheter design
Simple devices -> Big Impact : Case Study 2
Rapid Exchange

Solution: Rapid exchange catheter design: single operator, less contamination risk, better steering, reduced fluoro time

Outcome: ~60% market share in the US market
Careers
Scientists in action

- CEO
- Founder of Medtech Incubator
- Manager in CMO Office
- Clinical Research
- Clinical and Regulatory Manager
- Venture Capitalist
- Business Development manager
- Director of New Product Development
- Engineering Design
- Board member
What you should be aware of

- You have resources & contacts…use them
- Be clear as to why you would like to join a business
- Hire a mentor(s)
- This is a process…it takes time

After you get in:
- Business is about getting results through people
- Observe before you act
- Hire a boss