What have I learned?

“If you hold a cat by the tail you learn things you cannot learn any other way”

- Mark Twain
Keys to Success

- Hard work
  - Focus your efforts
  - …yet, read broadly
- Mentorship
- Environment
- Determination
Challenges
Reduction in Research Support

- Amt Appropriated
- Inflation Adjusted in FY2003 dollars

Millions $:

- 2003: $27,075
- 2004: $27,888
- 2005: $28,412
- 2006: $28,349
- 2007: $28,900
- 2008: $29,380
- 2009: $30,017
- 2010: $31,010
- 2011: $30,399
- 2012: $30,644
- 2013: $28,926

Yearly Inflation Adjusted Reduction: 25%
NIH Grant Success

Zerhouni EA. Science 2006;314:1088-90
Keep your eye on the goal
An Aging Population

Life Expectancy (years)

Population ≥65 years (millions)

http://www.cdc.gov/aging/
Decline in Deaths from Cardiovascular Disease in Relation to Scientific Advances.

Acute disease

Chronic disease

Lifelong disease management
Acute Myocardial Infarction: Dramatic Clinical Advances

% Mortality (in hospital)

- pre-CCU: 30%
- CCU era: 15%

- defibrillation
- hemodynamic monitoring
- beta-blockade
- ASA
- thrombolytic Rx
- PCI
Increased Incidence of post-MI Heart Failure

Epidemic of Heart Failure

CHF Prevalence in US (millions)

- 1990: 3.0
- 2010 est: 4.2
- 2030 est: 5.7
Never, never, in nothing great or small, large or petty, never give in...
Cardiac Exposome

- Pressure (afterload)
- Volume (preload)
- Metabolic
- Neurohumoral
- Ischemia
- Redox
- Reoxygenation
“Ever wake up and think, No, I did nothing to change the course of human history?”

Victoria Roberts
Burden of Chronic Diseases

- 4 in 5 adults ≥50 y/o suffer with at least 1 chronic illness (diabetes, arthritis, CHF & dementia)
- Arthritis impacting ADL affect >19 million Americans
- 7 of 10 deaths each year are from chronic diseases
- 1 in 4 people with chronic conditions have ADL limitation
- In the U.S. ≈1 in 2 adults has at least 1 chronic illness
- Cancer, heart disease & stroke account for >50% of all deaths

http://www.cdc.gov/chronicdisease/overview/index.htm