

How to be Successful in Clinical Research



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A True Elevator Story

It is Monday, September 12 7:15 am at the big academic medical center.....





Physician Burnout

- 34% faculty; 51% residents meet criteria for burnout:

Exhaustion, depersonalization, and a sense of low personal accomplishment.

- Greatest risk of burnout seen in faculty who allocate time to “meaningless” activities.

Shanafelt TD et al. Arch Intern Med 2009; 116.



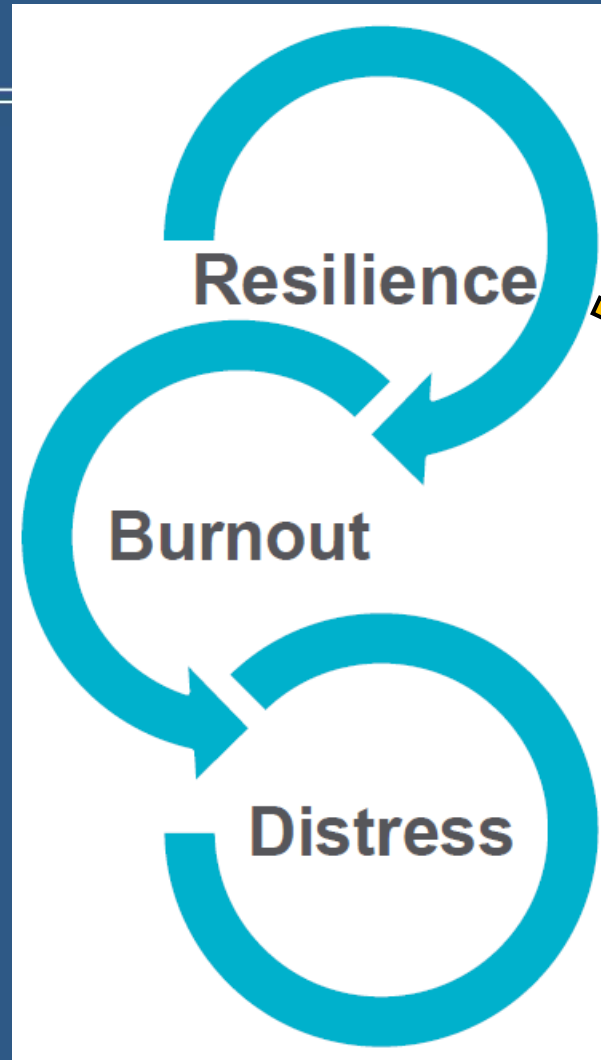
The Double-edged Sword of Physician Resilience

Expected in physicians regardless of source or degree of adversity.

Defined as the process of adaptation to adversity, trauma, threats, or stress.

{ Negative – when we cope, compromise
Positive – when we endure, enhances faith }

Resilience – sink or swim?



?

Achievement
Fulfillment
Faith
Success



Tips to Prevent Burnout in Academic Medicine

- Recognize the symptoms – apathy!
- In times of stress – that is the most important time to invest in personal health, sleep, and relationships.
- Focus on what is important.
- Avoid procrastination.
- Avoid time traps.

The Deadliest Time Trap is in Your Hands





The Complex Paradigm of Success in Academic Medicine

- Promotion (the CV as a carbon shrine)
- Leadership positions
- External funding (NIH)
- Prominent committee appointments
- Research collaborations
- Protected time
- Travel time

Triumph of the Soul as Success

*Integrates moral character
with competence.*



*True success may not be found in what
you accomplish but who you are.*



What is Clinical Research?

Research that elucidates human biology and disease, and its control

Translational Research

1. Application of discoveries in the laboratory.
2. Pre-clinical development of human studies.

Human Subjects Research

Systematic investigation - interventional or observational - that involves human beings as subjects.

Epidemiology

Study and analysis of the patterns, causes, and effects of health and disease in populations.



So Why Consider Clinical Research?

In 2004 176 schools (52%) could not fill
2877 clinical research positions!

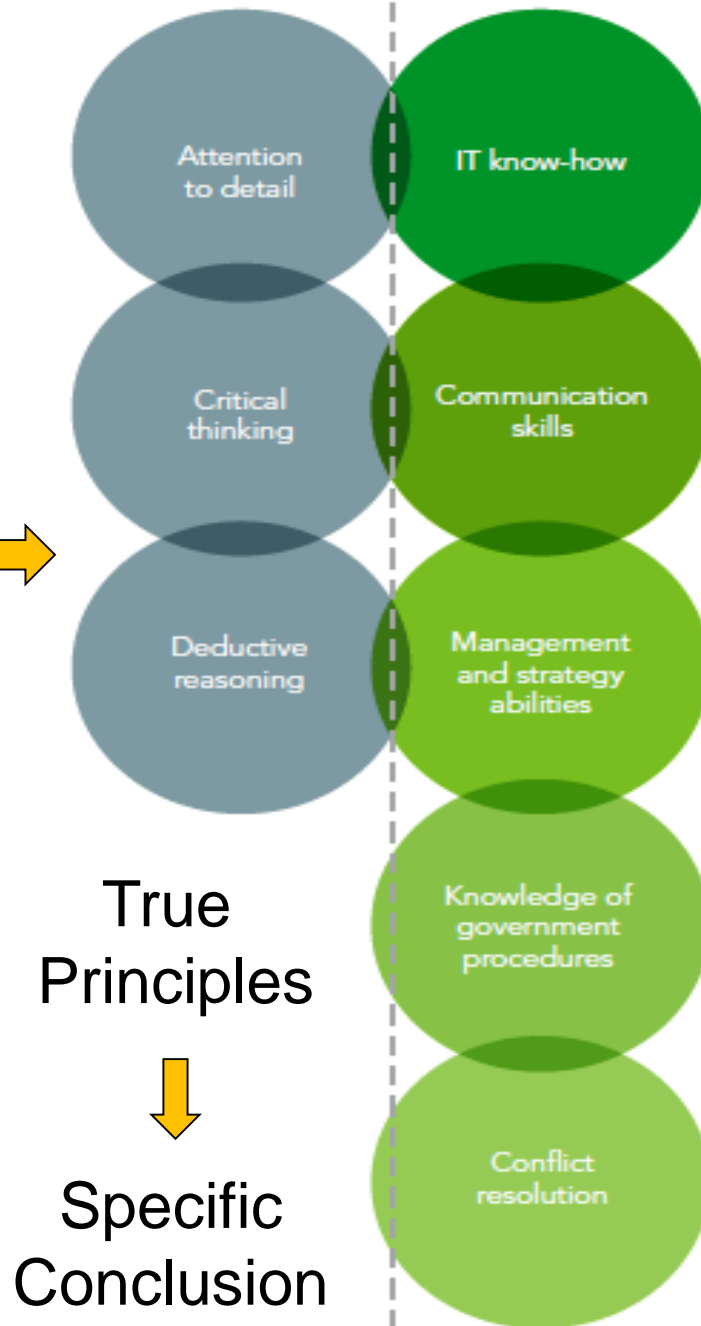
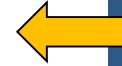
But it is definitely not for everyone.....

- team work trumps individual brilliance!
- most have skills in diverse areas.
- rewards often very delayed.
- divided loyalty – you have TWO often conflicting duties:

*To the integrity of the study,
To the well being of the subject.*

Challenges to Overcome

“Born Scientist”
Skill Sets



Additional
Skills Required
for Clinical
Research





Threatened Extinction of *Clinicus investigatorus*?

- Large personal debt at the end of clinical training
- Insufficient training in clinical research methods
- Delayed rewards – clinical studies lengthy, expensive, and often have negative results.
- Trainees often exposed to unhappy faculty.
- Paucity of generous mentors



Challenges to Clinical Research: US Medical Schools

- Financial pressure to increase revenue from patient care.
- Limited number of biostatisticians and access to informatics services
- Scrutiny on faculty/industry relations has greatly inhibited collaborative efforts.
- Increasing complexity of regulatory hurdles and IRB rules.



How to Get There: Training Pathways and Funding

Basic
Research



Patient
Care

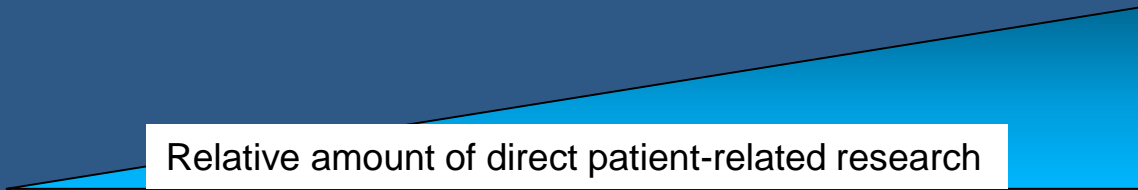
Training
Options

- 2 years medicine or pediatrics
- PhD
- 1-2 years clinical research experience as junior faculty
- 3 years medicine or pediatrics
- 3 years subspecialty training including 1-2 years in clinical research

Funding
Examples



Clinical
Research



Physician-Scientist



Clinician-Scholar

Keys to Success in Clinical Research



1. Find a great environment!

Resources necessary:

- capable collaborators (basic and clinical)
- access to patients
- biostatistical support
- CORE laboratories
- IRB and regulatory support

There are no lone ranger clinical researchers.



Sizing up an Environment



- Will it make you better?
- Is it led by people who will inspire the best in you?
- What are its core values? Are they evident?
- Track record of success?



Recognize and Avoid Toxic Environments



When I think of my life, let me say I take great pride in knowing I had more impact on my environment than my environment had on me.

Jack Nicholson as Frank Costello,
The Departed

Keys to Success in Clinical Research



2. Find a mentor.

The right mentor is absolutely necessary:

- Expert in the field and
- Positive about you and your career,
- Track record of accomplishment
- Knows that mentor is a noun and a verb

How to Find a Mentor



- Interview several!
- Prepare for the interviews knowing what you want and need.
- Ask frank questions – make sure you have a clear understanding of roles and goals.
- Make sure the person is far enough along in their careers to share academic credit.

Keys to Success in Clinical Research



3. Integrate research into service provision.

Critically pick an area of study:

- that you are passionate about
- that is important and feasible
- with visible gaps in knowledge
- wherein you can develop your own “niche”



The Clinic Can Be Your Laboratory

- Consider every clinic appointment or procedure an opportunity to enroll in a study.
- Develop a detailed data base and maintain it as you go along.
- Submit the data base for IRB approval and follow careful human subjects protection standards.

Keys to Success in Clinical Research



4. Don't waste time re-inventing the wheel.

- Always discuss your approach in advance
- Consider pitfalls and steps you will take
- Work out a realistic time line
- Use available resources
 - Child Health Research Center
 - School of Medicine Core Laboratories



UVA School of Medicine CHRC and Core Labs

Starting with the CHRC:

Mentors

Seminar Series

Annual Research Day

Houston Lecture Series

Visiting Professors

Study coordinators

Regulatory expertise



CHRC Clinical Research Unit

- exam rooms
- procedure area
- biospecimens storage

<http://research.med.virginia.edu/chrc/>



UVA School of Medicine CHRC and Core Labs

Advanced microscopy
Bioinformatics
Biomolecular magnetic resonance
Biorepository and tissue research
DNA sciences
Exercise physiology
Flow cytometry
Genetically engineered mice

Antibody engineering
Mass spectrometry
Electron microscopy
Molecular imaging
Molmart
Research histology
Shared instrumentation
Tissue culture



Keys to Success in Clinical Research



5. Embrace TEAM science as a powerful career builder:

Essential in:

- multi-center clinical trials
- disease-based consortiums - SARP
- program project grants
- complex translational studies



Keys to Success in Clinical Research



6. Learn to write effectively

English and science writing courses

Avoid jargon and too much technical detail

Know how to use an on-line data supplement

Write with brevity, precision, and clarity

Make it impactful

Learn what a paragraph and topic sentence are.

Keys to Success in Clinical Research



7. Avoid wasted time sinks.

- open-ended meetings
- cell phones
- some committees
- email
- face book/social media



Beware the tyranny of the urgent.....



What You Can Do for Yourself

- Choose a topic you are passionate about
- Stagger projects (spread out time commitments)
- Choose projects which intersect (easier grant writing)
- Own your path to success – accountability is yours!
- Set goals and timelines.
- If you cannot commit to it fully, then do not do it!
- Invest in others – always share credit, support others.

A thoughtful, careful, “no” can be priceless.



Questions?



Time Sinks Abound at UVA

- Too many silo's
- Too many mid-level administrators
- Too many meetings
- Too much email (on a log scale)
- Inconvenient parking facilities



Always remember Teague's maxim!