

Surgical career pathways for MSTP graduates

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How can one facilitate MD-PhD students entering surgery?

- None of the discussion is specific to surgery.
- Procedure-oriented medical specialties.
 - Gastroenterology
 - Cardiology
 - Invasive radiology
 - Radiation therapy

Competing Terminology

Surgical Research

Surgeons doing research

Supra-Diaphragmatic Section of the Vagus Nerves in Treatment of Duodenal Ulcer.*

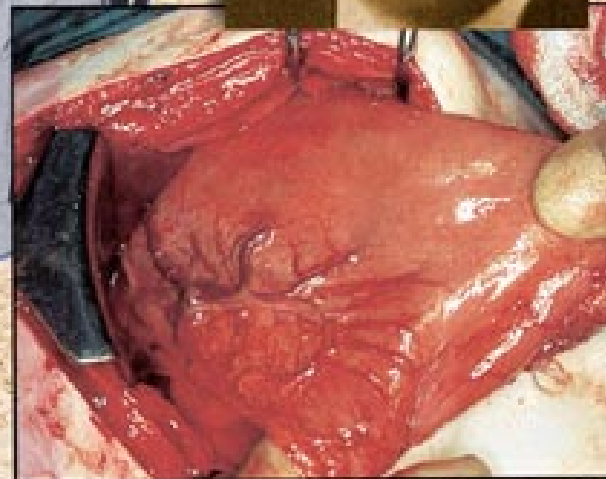
LESTER R. DRAGSTEDT AND FREDERICK M. OWENS, JR.

From the Department of Surgery, University of Chicago.

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cases including the wall of the stomach itself, producing in this case a defect which appears to be identical with the lesion encountered in man.¹ Under normal conditions, the gastric wall is not digested away apparently because it is not exposed to pure gastric juice. Food

GASTRIC ANTRUM - AN ORGAN OF INTERNAL SECRETION



Phemister 1925

**It is easier to teach a
physiologist to be a surgeon,
than a surgeon to be a
physiologist.**

Three critical points in influencing choices

- Choice of clinical training pathways after MSTP
- Support of research by residency programs
- Establishing successful early career pathways for MD/PhD's

An MD/PhD is an opportunity

Don't steer the students

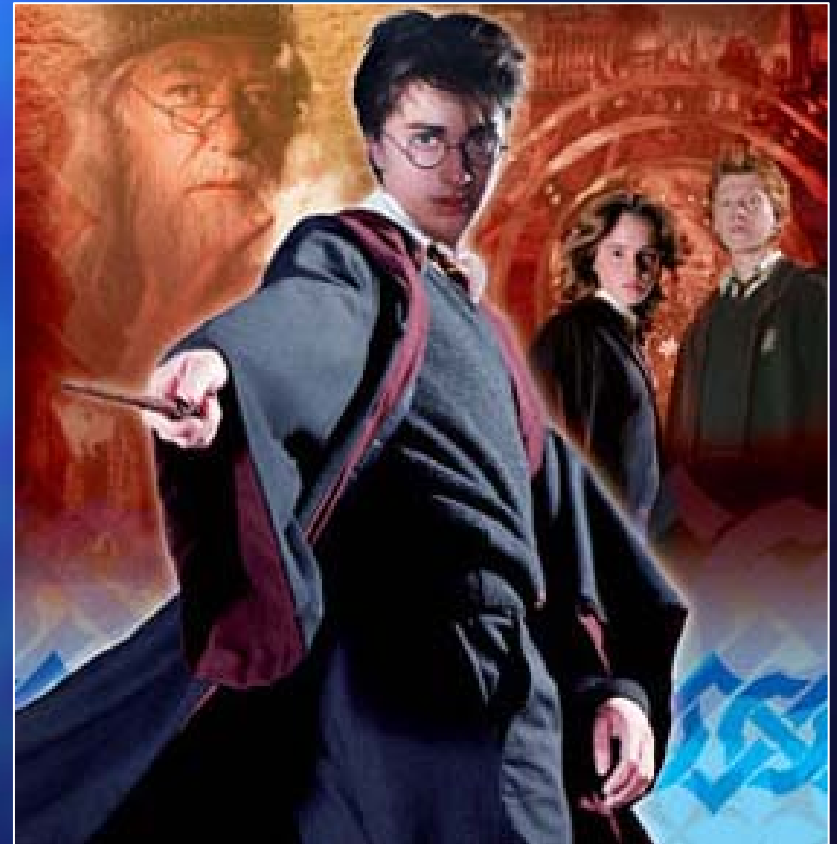
**Give the students a chance to
find their paths....**

Never trust anyone who tells
you that you can't do
something....

MD/PhD graduates
create new paths

Science and surgery: A Calling...

**The wand
chooses the
wizard....**



National MD/PhD Residency Data 2004-2008

	2004	2005	2006	2007	2008	Total
Internal Medicine	78	74	83	95	76	406
Pediatrics	30	36	35	41	37	179
Pathology	30	36	30	39	43	178
Radiology	29 24	27 24	29 21	27 27	32 29	125
Psychiatry	23	18	17	21	18	97
Dermatology	16	21	21	16	18	92
Radiation Oncology	15	21	14	14	28	92
Neurology	16	14	12	21	24	87
Ophthalmology	17	13	16	12	17	75
Anesthesiology	4	10	9	15	17	55
Surgery	9	9	12	5	7	42
Neurosurgery	9	9	5	4	9	36
Otolaryngology	4	3	6	8	4	25
Emergency Medicine	3	2	5	8	5	23
OB/GYN	3	5	4	6	6	24
Orthopaedic Surgery	3	1	4	8	7	23
Urology	4	5	2	2	5	18

All Surgery

144

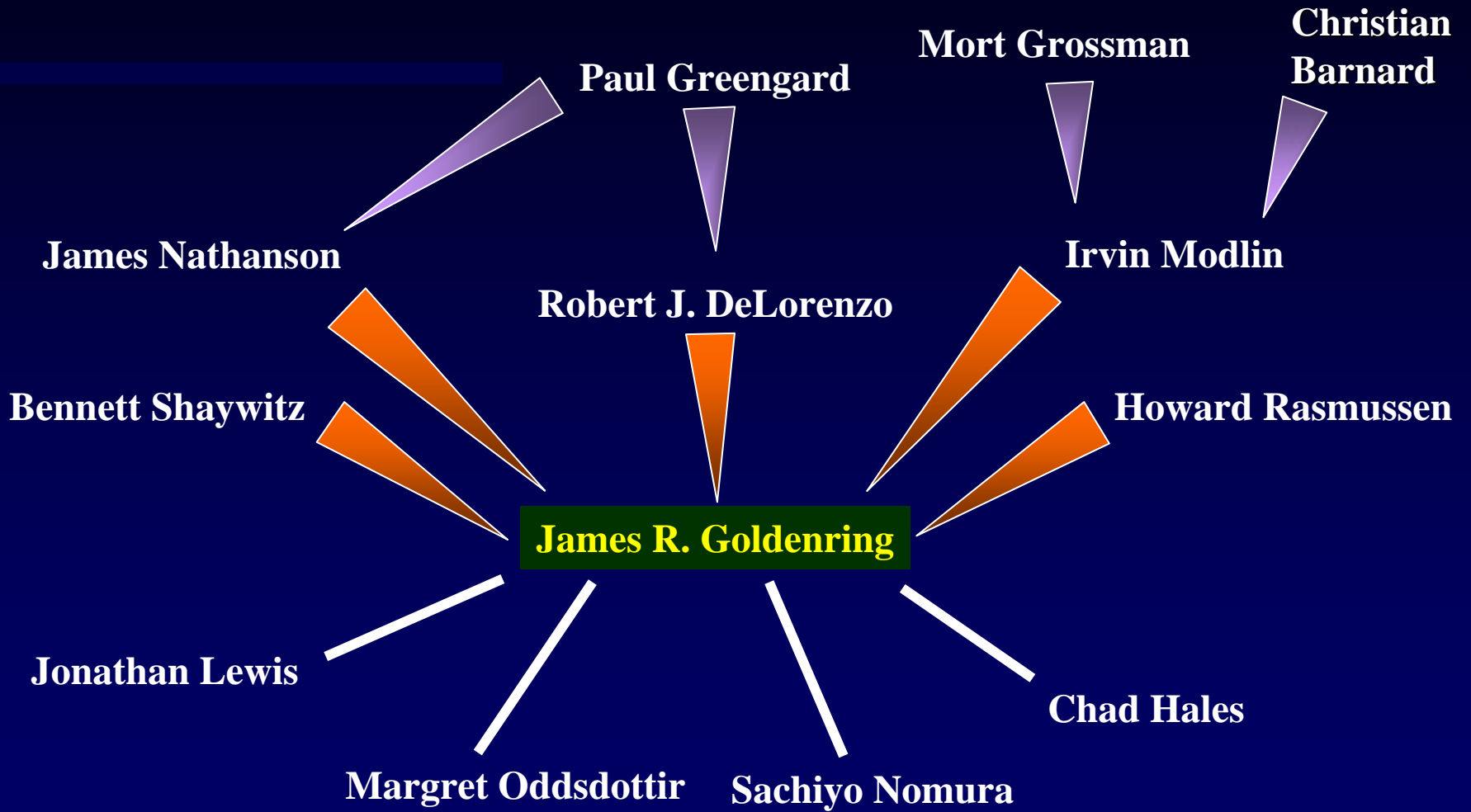
Find Mentors



FEAR IS THE MIND KILLER



My Mentoring Tree



Mentoring Realities

- Mentors are **NOT** role models for what **YOU** should do.
- Mentors are role models for what you **CAN** do.
- Good mentors help you find **YOUR** path.
- Your path is not straight or predictable.
- **CREATE** new pathways.

Golden Rule of MSTP

You can do anything you want in life, but at some point you may have to decide what to do.

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Train early and well....

Fortune favors the
prepared mind...

- Louis Pasteur

Same goes for clinical skills....

**You can't spend time in the
lab if you are not confident
in your clinical skills....**

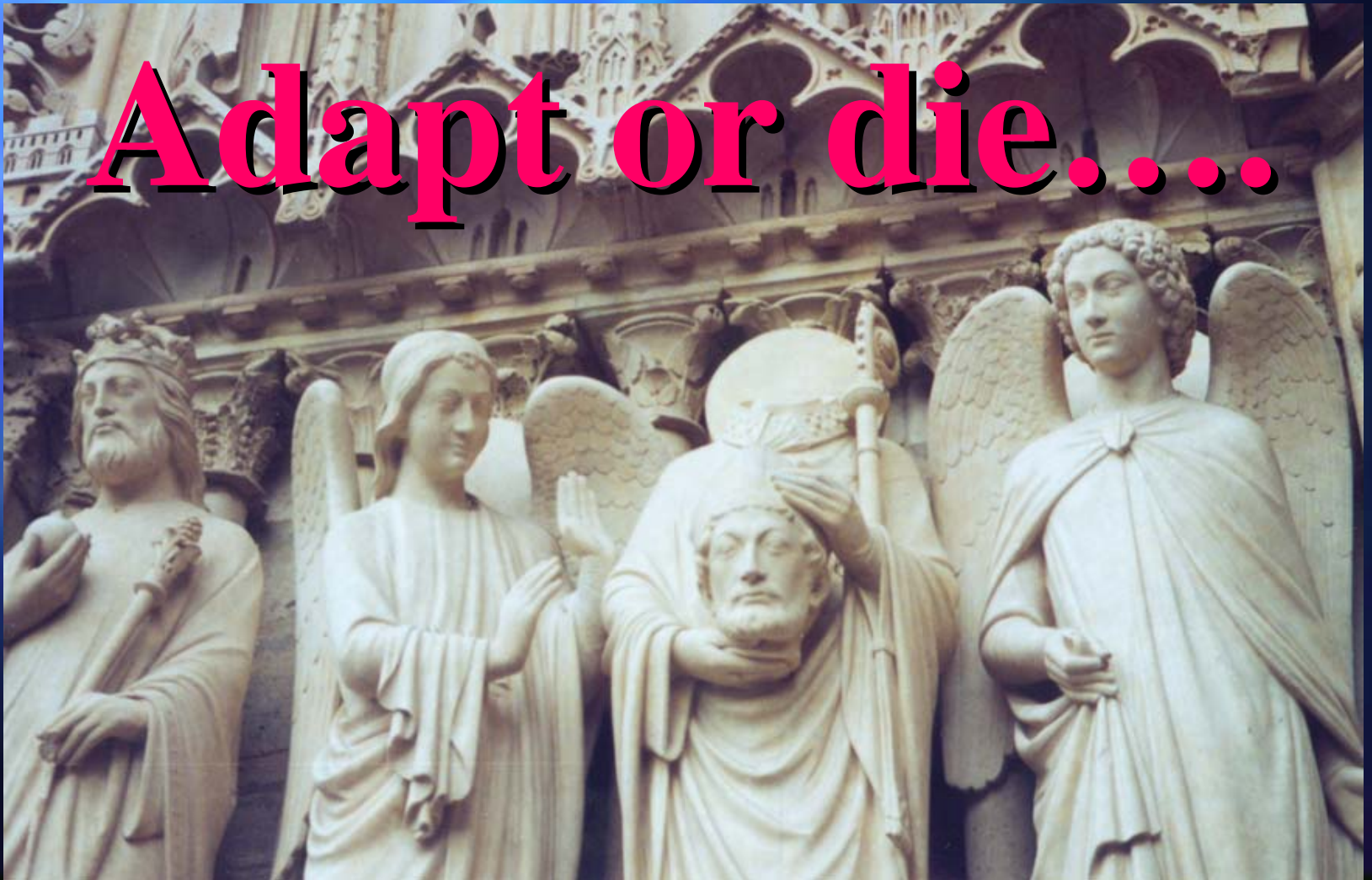
Realities of the Road

Science and medicine change in ways that you cannot predict.



Science does not stand still

Adapt or die.....



History of research in general surgery residency

- Most upper tier surgery residencies support or require 2 years of research during residency.
- Research time is thought to be required for obtaining higher level fellowships.
- Research fellowship time during residency allows the MSTP graduate to get critical postdoctoral experience.

Basic Science



**Clinical
Research**

**Translational
Research**

Fixed Obstacles

- **Training programs are too long**
- **Certification boards limit flexibility**
- **Specialization is critical**
- **Limit the field of practice**

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Taking up an academic career

“Now what
do we do?”



It's all about protected time...

Programs must commit to true protection of their junior faculty

- **> 75% research time**
- **Maximize career development pathways**
- **Effective group practice**
- **Limit clinical focus**

Trained to be a single combat warrior



Key advice for early faculty success

Grow in a group:

There's safety in numbers.

Mentored protection for junior faculty

- 2-3 years of initial position as member of established research group
- Establishment of early funding
- Growth into independent investigator with own research space
- Requires institutions to make a two-stage commitment

Early career management

- **Avoid the trap of early elevated salary offers.**
- **Give the new faculty time to mature.**
 - **Avoid early responsibility for clinical programs.**
- **Enforce mentoring committees.**

Support early funding pathways

- Internal funding of faculty development
- Early application for career development awards
- NIH mentored awards: K99 v K08
- Support VA pathways
- Reward early RO1 funding
- Staged acquisition of lab space

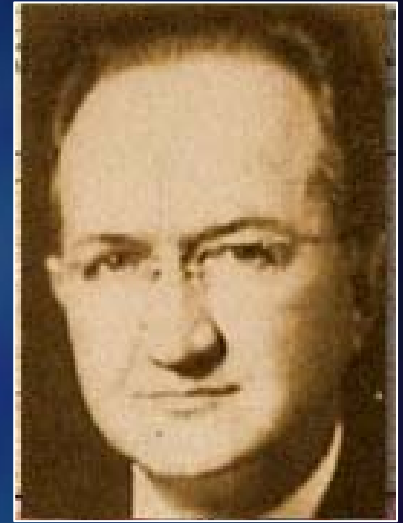
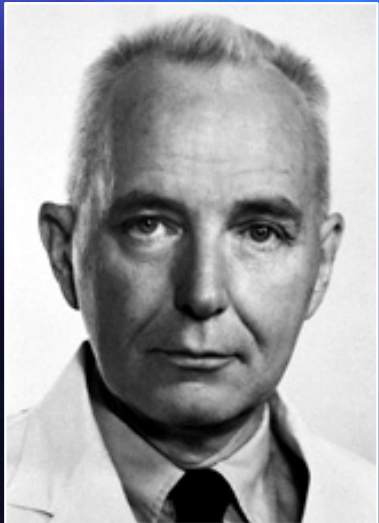
Science and surgery

Obstinate mente perfer

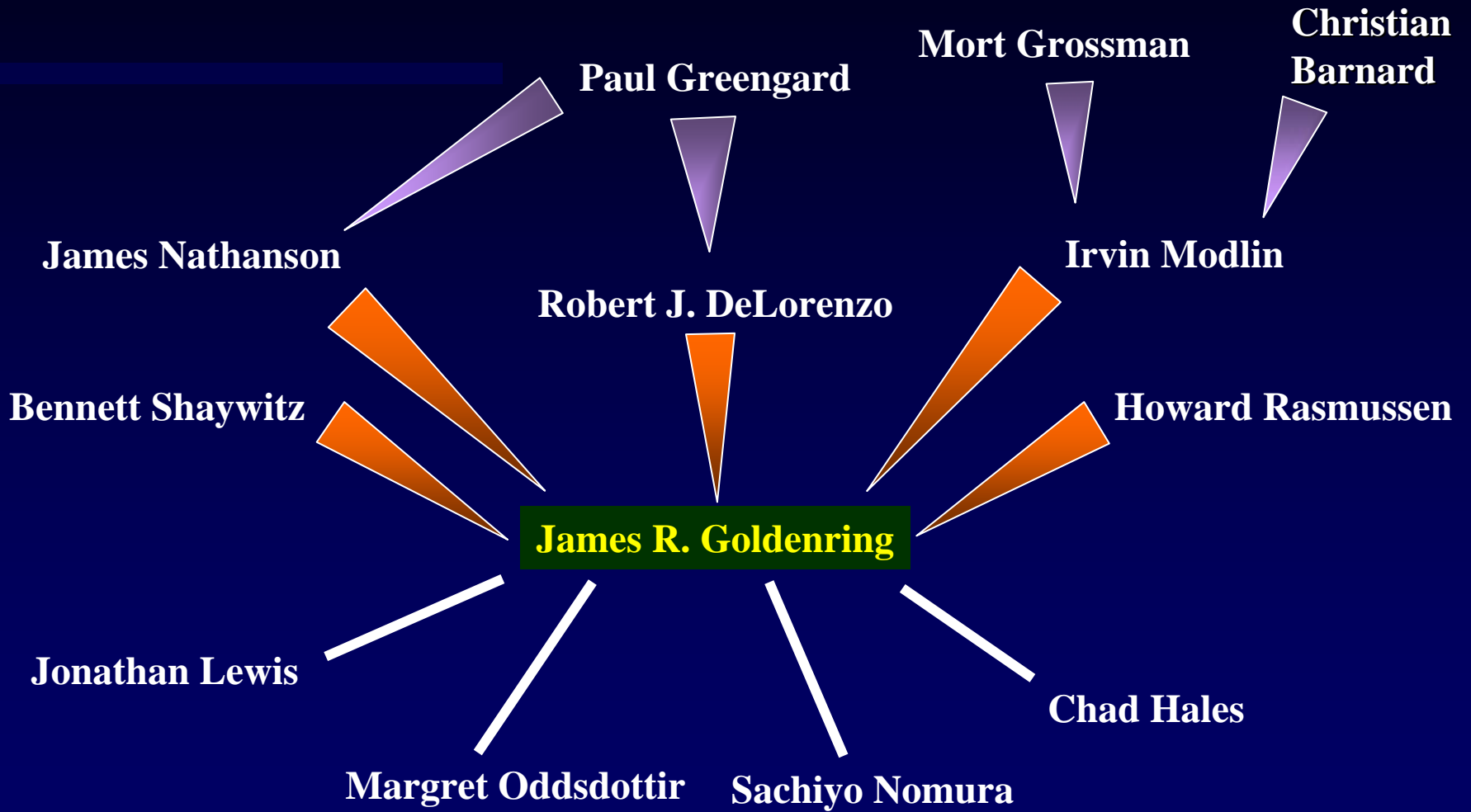
- Catullus
or Lombardi

The future of surgery is its past...

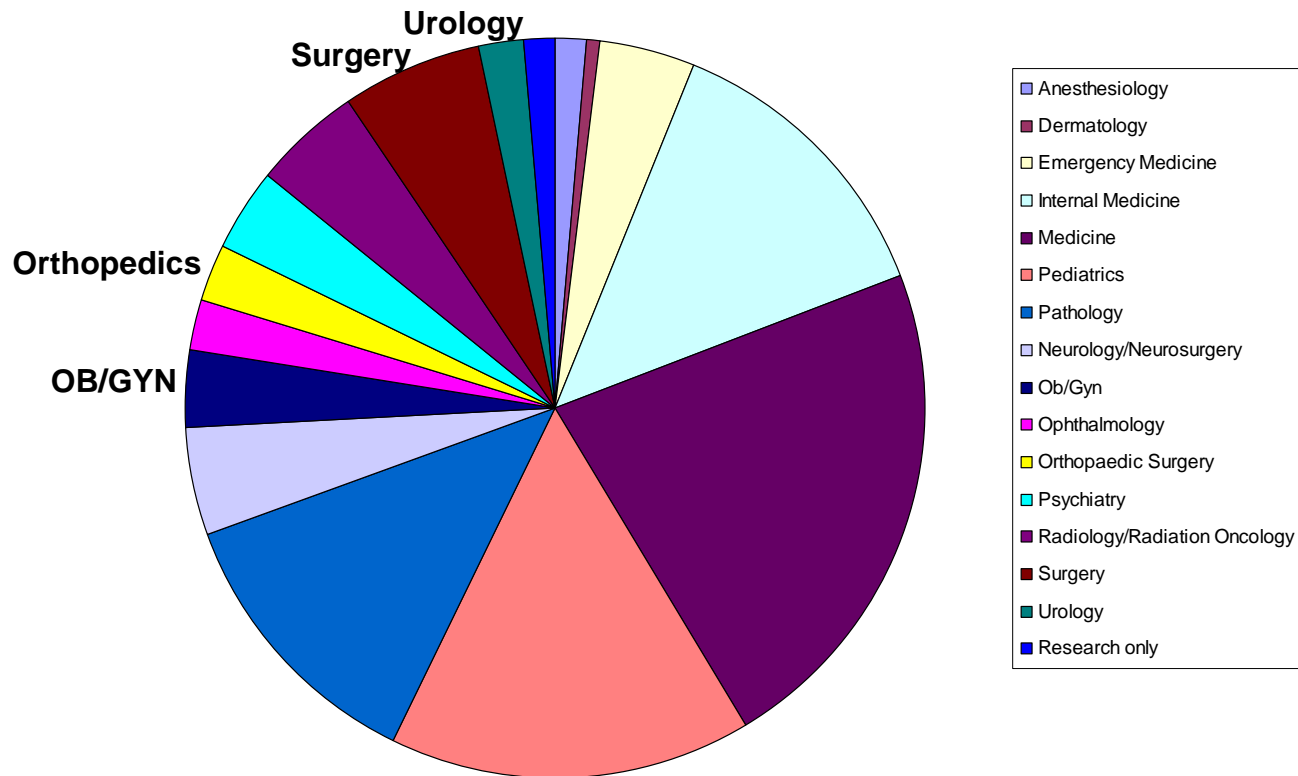
Biomedical
research
performed by
surgeons

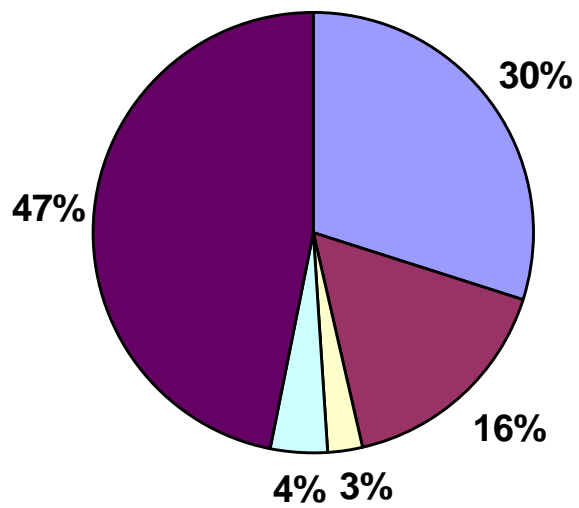


My Mentoring Tree



Residency Selections by Vanderbilt MSTP Graduates





- In Training
- Private Practice
- Bioscience Industry
- Other
- Academic Appointment

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