

Becoming a Surgeon in the USA

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“Make up your mind how many doctors a community needs to keep it well. Do not register more or less than this number.”

George Bernard Shaw



- It remains the province of academic departments of surgery to educate the future leaders of surgery.
- This is the single major factor that differentiates academic programs from community programs. This is not to say that academic programs are more important than community programs, only that their missions differ.
- Although we always recognize the collaborative nature of surgical practice, there is only one person in charge in the operating room during a surgical procedure. Thus all surgical programs produce leaders in one way or another.
- It is from the academic programs that the intellectual leaders of the next generation must emerge. In times of change, it becomes even more important to have leaders who are well prepared to face the new challenges that lie ahead. Our job as academic surgeons is to equip these leaders with the tools necessary to be successful.



Medical + Surgical Education in the USA

• College	4 yrs
• Medical School	4 yrs
• Residency	5 to 7 yrs
• Fellowship	2 years
<hr/>	
Total	15-17 yr



Surgical Education in the USA

- Medical School
- NRMP

USMLE
3 steps (I, II, III)



The National Residency Matching Program (NRMP) & Other Matches



What is the Match?

- The Match is a system by which students are paired with residency training programs.



Who Oversees the NRMP?

- Association of American Medical Colleges
- American Hospital Association
- American Medical Association
- American Board of Medical Specialties
- American Medical Student Association
- AAMC Organization of Student Representatives
- AMA Medical Student Section
- Consortium of Medical Student Organizations



The NRMP Algorithm

- The algorithm favors students
- All applicants (U.S. M.D. Students, D.O. students, physicians, IMGs) are treated equally
- Using the algorithm, the computer matches students in six minutes.



Participating Specialties

- Most PGY-1 positions are offered through the NRMP Match using the Electronic Residency Application Service (ERAS).
- Ophthalmology, Otolaryngology, Neurology, Neurological Surgery, some Plastic Surgery Programs and Urology either use the San Francisco Matching Program or their own Matching Program
- Most PGY-2 positions are NOT offered through the Match.



Intern Positions

- There are three types of PGY-1 positions offered:
 1. **Categorical**
 2. **Preliminary**
 3. **Transitional**



Categorical Positions

- Are designed for broad specialties.
- Do not require preliminary training.
- Are for individuals who want to remain in the same program throughout their residency.
- Found in Family Medicine, Internal Medicine, Pediatrics, Emergency Medicine, Obstetrics and Gynecology, General Surgery and Pathology.



Preliminary Positions

- Are designed for students seeking one or two years of clinical experience prior to another specialty.
- Available in Internal Medicine and General Surgery.
- If applying to an advanced program, you must apply separately for a preliminary program.



Transitional Positions

- Generally designed for students who cannot decide on a medical specialty.
- Year closely resembles the M3 clerkship assignments.
- May also serve as a substitute for a preliminary year.



Advanced Positions

- Are those positions above the PGY-1 level that are available to senior students.
- Presume the student will complete a preliminary year.
- Offer positions at the PGY-2 or higher level.



Advanced Programs

- Examples of programs that may require a preliminary year are:
 1. Anesthesiology
 2. Dermatology
 3. Neurology
 4. Ophthalmology
 5. Physical Med & Rehab
 6. Diagnostic Radiology
 7. Radiation Oncology

THE STUDENT MUST CHECK WITH EACH PROGRAM TO DETERMINE ITS REQUIREMENTS!



Rank-Order Lists

- The order in which a student lists programs is the Rank-Order List (ROL).
- The programs complete a similar list of candidates.
- The ROL is submitted to the NRMP electronically.
- The ROL may be modified as often as desired until mid-February at which point the student *MUST CERTIFY* a final ROL.



Match Results

- Match Day is in Mid-March
- Three days prior to Match Day at 12 noon EST, students may check the NRMP website to see if (but NOT WHERE) they matched.
- On that same day, the Dean of Student Activities gets a list of all students who did not match and those applicants are notified.



Match Results

- Two days prior to Match Day at 11:30 a.m. EST, program directors learn if their programs filled.
- At 12 noon, the NRMP website makes available to the Dean of Student Activities a list programs with openings.
- At this time, unmatched students and programs can begin scrambling to fill the open positions.



Match Results

- One day prior to Match Day, at 2:00 p.m. EST, the Dean of Student Activities is sent a confidential list where each student matched.
- On Match Day, at 12 noon EST, there is a party where students are given notification of where they matched, or the student may check the NRMP website at 1:00 p.m. EST.



Special Situations

- Couples Match
- Military Match
- Early Match



Early Match

- The early match programs use the San Francisco Matching service.
- The website for this is www.sfmitch.org
- The Urology programs conduct their own match.
- The San Francisco Match does not set the deadline dates, the programs do.



General Surgery

- "General Surgery" is a discipline of surgery having a central core of knowledge embracing anatomy, physiology That leads to built a
- A general surgeon with specialized knowledge and experience related to the diagnosis, preoperative, operative, and postoperative management, including the management of complications, in nine primary components of surgery, all of which are essential to the education of a broadly based surgeon:



General Surgery

Essential content areas of general surgery (as defined by the American Board of Surgery)

Alimentary tract
Abdomen and its contents
Breast, skin, soft tissue
Endocrine
Head and neck surgery
Pediatric surgery
Surgical critical care
Surgical oncology
Trauma/burns
Vascular surgery



The program must consist of at least five years, of which

- Not more than 12 months may be devoted to education in a single surgical discipline other than the principal components of surgery;
- Not more than six months in total may be allocated to nonsurgical clinical disciplines such as internal medicine, pediatrics, gastroenterology, anesthesiology, or surgical pathology;
- At least 54 months (4.5 years) must be clinical surgery, with experience in endoscopy, surgical intensive care, and emergency care included under this category; and
- Three of the clinical surgery years must be concerned with the principal components of general surgery.



So, You Want to Be a Surgeon!

Section I: Surgical Traits

- Consider your surgical clerkship. Did you find that:
- Long hours on surgery passed more quickly than short hours on some other clerkships?
- Appreciate the operating room teamwork during a difficult operation, when the nursing, anesthesia, and surgical staff all pulled together?
- Enjoy watching your patients improve daily after major injuries or surgical procedures?
- Feel intrigued by the challenge of managing multiple physiological and psychological problems in your critically ill surgical patients?
- Notice the excitement of your surgical team anticipating a "great case"?



Surgical personality

- ...Surgery is not simply medicine with an additional skill...
- ...Surgery requires risk-taking, but the thrill of surgical victory is often balanced against the disappointment of inevitable failures: the agony and the ecstasy...
- ... But all of surgery involves action, and action always entails risk. Surgery is exciting. Surgery is not for everyone...



So, You Want to Be a Surgeon!

Section I: Surgical Traits

If the answer to some of these questions is

"Yes!",

A surgical career is probably right
for you.



So, You Want to Be a Surgeon!

Section II: How to Find a Surgical Residency

- 1. Academic vs. Community-based Private Program?
- 2. Do you plan on added training (a fellowship) once the core residency is completed?
- 3. Urban or Rural?
- 4. Are you locked into a specific area of the country?
- 5. What is your energy level and your level of personal and family commitment?
- 6. Public or Private Institution?
- 7. With my academic track record, where should I apply?
- 8. Should I do a subinternship (audition elective) at an institution that I am seriously considering?
- 9. What about my interview?
- 10. What specific things should I look for at each program?
- 11. Letters of recommendation
- 12. An untapped resource
- 13. Ranking programs on your match list



Salary for PGY ?

Level I	\$39,559
Level II	\$40,425
Level III	\$41,517
Level IV	\$43,194
Level V	\$45,301
Level VI	\$46,769
Level VII	\$48,348



Surgery Residency Program Goals And Objectives

The goal of the Surgery Residency Program at **Stanford**.is to expose our trainees to:

1. fundamentals of basic science as applied to clinical surgery
2. pre-operative, operative and post-operative care
3. to provide them with the interpersonal and leadership skills necessary for a fruitful surgical career of their choice.
4. In addition,.....to become
 1. adult learners,
 2. to critically evaluate literature,
 3. to understand research design....they will be able to critically evaluate the advances in surgical science and technology which will influence their clinical practice.
5. Finally, our objective is to give our residents a thorough grounding in Basic and Clinical Science to enable them to pursue academic careers, as well as careers in private practice.
6. They will attend mandatory Core Course two hours each week, one hour at Morbidity and Mortality Conference each week and one hour a week at Grand Rounds.
7. They are expected to score >50% in the ABS In-Training exam.



PGY-1

- The objective of the PGY-1 year is to provide the resident with the
- basic skills of examining, evaluating, and operating on surgical patients appropriate to their level.
- A second objective is to provide the residents with an understanding of evaluating the technology and ancillary procedures that are part of the evaluation of surgical patients.
- The third objective is to develop the skills necessary from a technical point of view to care for surgical patients, including the insertion of tubes, catheters, and related medical devices.
- These objectives are met as part of a team of attendings, surgical residents and Fellows through a specific and carefully developed chain of command.
- They will average 100 surgical procedures including
 - open appendectomies,
 - hernia repair
 - breast biopsies.



- The main objective of the PGY-2 year is to
- familiarize the residents with the complexities of managing all patients in the Surgical Intensive Care Unit
- A second goal of this year is to increase the resident's armamentarium of familiarity with more complex surgical procedures.
- A third goal of the second year is to enhance their understanding of the complexity of diagnostic evaluation and surgical and non-surgical interventions in both the ambulatory and in-patient settings.
- The PGY-2 residents share the job of responding to requests for surgical consults.
- During this year they perform many
 - laparoscopic cholecystectomies
 - exploratory laparotomies



PGY-3

- The objective of the PGY-3 year is to increase the resident's involvement in the care of more complex surgical patients.
- They are the senior resident on the ICU, Transplant and Vascular services.
- The goal of this is to provide them with directed advanced responsibility in the care of these complex patients under the supervision of a fellow and the in-house attending surgeon.
- The third goal of this year is to increase dramatically the complexity of all surgical interventions for these senior residents.



PGY-4

- The objective of the PGY-4 year is to provide the resident with the opportunity to be a Senior manager of a corps of junior residents and medical students and to lead that team in the evaluation, diagnosis and management of elective and emergency patients.
- The second goal of this year is for the resident to develop an increasing experience in **running** the VA General Surgery Service, Pediatric Surgery, Stanford Trauma Service and Santa Clara Valley Medical Center Surgery Services.
- The third goal of the PGY-4 is to develop the maturity and temperament of a surgeon, which will enable them to deal with the most complex surgical problems.



- The Chief year is the culmination of the resident's experience.
- The goal of this year is to manage a team of residents and medical students on the General Surgery Services at Stanford and the integrated institutions.
- The goal is for the resident to enhance managerial and clinical skills and to become life-long effective teachers.
- Another goal of the final year is to fine-tune their operating skills in the management of all surgical procedures and to perform complex operations requiring multidisciplinary involvement.
- The final goal of the PGY-5 year is to enhance the development of the personal, leadership, and clinical skills among the residents on the Chief Resident teams.



Time table

- One surgical resident at Baylor University Medical Center, Dallas, reports that a typical three-day schedule looks like this:

Monday

- 6:30 am Early morning rounds
- 7:30 - 12:00 pm Surgery
- 12:00 pm Vascular Conference with lunch
- 1:30 - 3:30 pm Surgical Clinic
- 3:30 - 4:30 pm Trauma Conference
- 4:30 – Until.... Evening rounds: check out to on-call team
(if not on call)



Time table

Tuesday

- 5:30 am Early morning rounds
- 6:30 am Tumor Conference (Head and Neck or Soft Tissue Sarcoma); breakfast provided
- 7:30 - 4:30 pm Surgery
- 4:30 – Until..... Evening rounds: check out to on-call team (if not on call)



Time table

Wednesday

- 6:00 am Early morning rounds
- 6:30 am - 8:00 am Dept. Chairman's conference
- 8:00 am Surgery Grand Rounds
- 9:00 pm - 12:00 pm Surgery
- 1 pm - 4:00 pm Clinic or private office hours



Surgery Grand Rounds (example)



MCV Hospitals and Physicians

Department of Surgery Grand Rounds

December 2005

7:00 – 8:00 am

George Ben Johnston Auditorium

- December 1** "Fetal Wound Healing Studies"
David Lanning, MD, Ph.D. Assistant Professor
Department of Surgery, Virginia Commonwealth University
At the conclusion of this activity, participants should be able to:
- 1) Identify differences between fetal and adult healing.
 - 2) Explain challenges of studying adult wound healing and the benefits of utilizing fetal wound healing models..
 - 3) Identify fundamentals of the TGF-beta cell signaling pathways.
- December 8** "What's New In Radiology?"
Ann Fulcher, MD, Professor & Chair
Department of Radiology, Virginia Commonwealth University
At the conclusion of this activity, participants should be able to:
- 1) Explain advances in radiology at VCU.
 - 2) Explain advances in radiology on an international/national level.
 - 3) Review clinical applications of evolving radiological technology.
- December 15** "What is New in Lung Transplantation?"
Gundars Katlaps, MD, Assistant Professor
Department of Surgery, Virginia Commonwealth University
At the conclusion of this activity, participants should be able to:
- 1) Identify indications for lung transplantation.
 - 2) Explain new approaches for intra- and peri-operative care of lung transplant patients.
 - 3) Review outcomes of lung transplantation.
- December 22** HOLIDAY – NO GRAND ROUNDS – NO CME CREDIT
- December 29** HOLIDAY – NO GRAND ROUNDS – NO CME CREDIT

Surgery Grand Rounds (example Stanford)

- Nanotechnology
- Bench to Battlefield
- Optimizing Clinical Management for the Organ Donor Technology
- Innovation in Academic Medicine – Getting Real about Bench to Bedside
- Perioperative Applications of Acupuncture
- Advances in the Management of Dupuytren's Disease
- Anal Cancer: Diagnosis, Treatment and Prevention
- Trends in High-Surgical Volume Hospitals: Are the Rich Getting Richer?
- The Impact of a Simulated On-Call Sleep Deprivation on Surgical Technique
- Transfusion Medicine Update
- Resuscitation and Reperfusion Injury
- Simulation for Trauma Training



Surgical Operating Log

The following data represent the average numbers of cases done by graduating Chief Residents last year.

Average for Chief Residents (2004-2005)		
Primary	Minimum Numbers	Baylor College of Medicine (average)
Soft Skin Tissue and Breast	25	63
Head and Neck	24	40
Alimentary Tract	72	150
Abdomen	65	143
Liver	4	27
Pancreas	3	17
Vascular	44	64
Endocrine	8	30
Trauma	16	44
Secondary	Minimum Numbers	Baylor College of Medicine (average)
Thoracic	15	29
Pediatric	20	34
Plastics	5	19
Endoscopy	29	44
Laparoscopy - Basic	34	126
Laparoscopy - Complex	0	48
Critical Care	20	225
Multi-Organ Trauma	20	52
TOTAL MAJOR CASES	500	823
TOTAL CHIEF CASES	150	211



Table 1

Comprehensive characterization of the European health market compared with the US and Japan

	EU 15	US	Japan
Population (millions)	380	279	127
GDP	25,500	35,200	26,400
Hlth Exp (%)	8.9%	13%	7.8%
Hlth Exp (USD)	2269.5	4576	2059.2
Pub Exp (%)	73%	44%	78%

Abbreviations: EU15, European Union member nations; GDP, per capita gross domestic product as of 2001; Hlth Exp (%), health expenditure percentage of GDP; Hlth Exp (USD), health expenditure per capita in US dollars; Pub Exp (%), public expenditure percentage of per capita health expenditure.



Table 5
Predicting a dearth of physicians

	1929	2000	2010 [31]	2020 [31]
Physicians, total ^a	144,000	772,000	887,300	964,700
Physicians/100,000 pop	119	270	283	280
Population (in millions)	121	286	325	345
Effective supply adjustment ^b			-5%	-7%
Shortage of physicians			50,000	200,000

^a 2010 and 2020 projected using Cooper et al, trend model; assumes first-year residents holds steady at 23,000 a year, 20% of IMGs return to home country, and current retirements trends continue.

^b Adjustment due to reduced work effort, including a 10% reduction in women physicians (*American Journal of Public Health, 1990*).

Data from Cooper RA, Getzen TE, McKee HJ, et al. Economic and demographic trends signal an impending physician shortage. Health Affairs 2002;21(1):143.



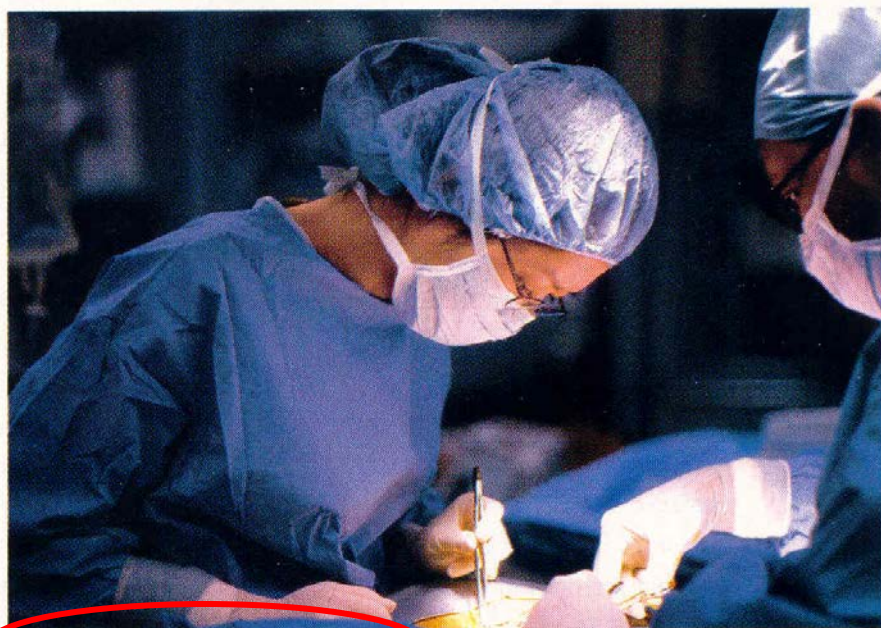
Table 4
NRMP positions

PGY-1	1999	2001	2003	2004
Total applicants	26,462	23,812	23,965	25,246
All specialties	20,299	20,642	20,908	21,192
USMG	14,607	14,455	14,332	14,609
USMG matched	13,707	13,542	13,364	13,572
GS positions	1,009	1,041	1,038	1,042
Filled by US seniors	840	820	882	885

Data from NRMP, ACGME, AAMC.



The Appeal of Surgery



A JOB THAT LOST ITS APPEAL Fewer medical residents want this

MEDICINE

Surgery: Not Cutting It

MEDICINE

Surgery: Not Cutting It

IF YOU'VE SEEN "ER," YOU may remember Romano, the surgeon stereotype. He's sharp, he's sarcastic, he's got a leggy blonde and more money than God. Heck, he is God. Everybody wants to be this guy—just ask him.

Actually, nobody does. As 15,800 med-school students graduate this month, surgery residencies are grappling with rejections as a fourth of their slots go unfilled. What's driving students away? The residency workload, which spurred a lawsuit last month, is especially brutal for surgeons. The operating room is also a bit of an old boys' club (witness Romano), and many of the women who've flooded med schools in recent

years aren't interested. Add to that the increase in HMOs, giving residents more paperwork and less time with patients, and a surgeon's salary can seem like little compensation—especially since it doesn't kick in until seven years after med school. Docs faced a similar dilemma in 1987, when surgery was flush but so few students chose internal medicine that the national residency-acceptance day was dubbed "Black Tuesday." The prescription: recruit nonworkaholics who'd prefer medicine over surgery. It worked, perhaps too well. Let's hope the reverse strategy doesn't give us Black Tuesday, 2017.

—MARY CARMICHAEL



2002-03 Vascular Match

	<i>2002 Match*</i>		<i>2003 Match†</i>	
	No.	%	No.	%
Active programs	87		88	
Programs filled	78	88	77	88
Active positions	98		103	
Positions filled by all applicants	89	91	91	88
Total active applicants	108		108	
Active US graduates	84		81	
Matched US graduates	74		72	
Active positions filled with US graduates	74/98	75	72/103	70



Reasons VS Was Appealing (MS2001)

	<u>Important</u>	<u>Unimport.</u>	<u>Score</u>
High quality of V. rotation	60%	16%	3.7
Endovasc capabilities of VS	71%	24%	3.5
Technical aspect of VS	68%	21%	3.5
Positive mentors	67%	24%	3.5
Higher income than GS	58%	37%	3.2
Complex decision in VS	43%	40%	3.2
Better job opportunities	50%	39%	2.9
Academic nature of VS	42%	44%	2.9



Reasons VS Was Not Appealing

	<u>Important</u>	<u>Unimport.</u>	<u>Score</u>
Lifestyle of surgery residents	91%	7%	4.3
Lifestyle of V. surgeons	92%	6%	4.2
Negative mentors	55%	24%	3.7
Length of training	45%	22%	3.1
Poor quality of V. rotation	51%	30%	3.1
Patients too sick	45%	45%	3.0
V. operation stressful	57%	40%	2.9
Loss of cases to IR, cardio.	45%	41%	2.9
Too much debt	35%	56%	2.7



Training Paradigms (MS2001)

- 5 yr GS + 1 or 2 yr VS with GS certificate 4%
- 4 yr GS + 2 yr VS with GS certificate 10%
- 3 yr GS + 3 yr VS without GS certificate 45%
- 2 yr GS + 4 yr VS without GS certificate 41%



Reasons VS Was Chosen (CR2003)

	<u>Important</u>	<u>Unimport.</u>	<u>Score</u>
Technical aspect of VS	100% (100%)	0% (0%)	4.7 (5, #1)
Positive mentors	100% (100%)	0% (0%)	4.6 (4.9, #2)
Complex decision in VS	100% (100%)	0% (0%)	4.3 (4.7, #3)
Endovasc. Capabilities	78% (40%)	6% (0%)	4.1 (3.6, #6)
Better job opportunities	78% (60%)	12% (33%)	4.0 (3.5, #5)
Academic nature of VS	78% (80%)	12% (0%)	3.8 (4.2, #4)
Higher income than GS	45% (13%)	34% (47%)	3.1 (2.4, #7)

()=Results of 2001 survey



Reasons VS Was Not Chosen

	<u>Important</u>	<u>Unimport.</u>	<u>Score</u>
Liked VS but chose other	56% (72%)	22% (17%)	3.6 (3.8, #1)
Loss of surgery & endovasc	50% (16%)	34% (66%)	3.1 (2.1, #6)
Vasc. patients too sick	37% (45%)	28% (34%)	3.0 (3.0, #2)
Too many endovasc	28% (15%)	48% (74%)	2.6 (1.9, #7)
Lifestyle of VS	20% (24%)	52% (53%)	2.4 (2.8, #3)
Too much AV access	14% (22%)	68% (64%)	2.1 (2.1, #4)
Negative mentors	12% (12%)	78% (76%)	1.8 (1.7, #10)
VS operations stressful	6% (14%)	80% (74%)	1.7 (1.9, #9)
Training too long	6% (5%)	80% (84%)	1.7 (1.5, #13)
Too much debt	4% (7%)	80% (86%)	1.6 (1.4, #11)

()=Results of 2001 survey



Training Paradigms (CR2003)

- If you chose VS as a career how many years of GS you prefer to do before Vascular fellowship?
 - 5 yr GS 56%
 - 4 yr GS 38%
 - 3 yr GS 6%
- Whether you chose VS as a career or not, what training paradigm seems more appealing?
 - 5 yr GS + 1 or 2 yr VS with GS certificate 29%
 - 4 yr GS + 2 yr VS with GS certificate 64%
 - 3 yr GS + 3 yr VS without GS certificate 7%



Reasons VS Was Chosen (VR2003)

	<u>Important</u>	<u>Unimport.</u>	<u>Score</u>
Technical aspect of VS	97% (100%)	0% (0%)	4.7 (4.8, #1)
Endovasc. capabilities	88% (66%)	3% (16%)	4.2 (3.7, #4)
Positive mentors	83% (87%)	4% (5%)	4.2 (4.3, #2)
Complex decision in VS	80% (83%)	9% (2%)	3.9 (4.2, #3)
Better job opportunities	56% (50%)	17% (23%)	3.5 (3.3, #6)
Academic nature of VS	47% (60%)	20% (10%)	2.9 (3.6, #5)
Higher income than GS	38% (29%)	26% (38%)	2.9 (2.8, #7)

()=Results of 2001 survey



Reasons Peers Did Not Choose VS

	<u>Important</u>	<u>Unimport.</u>	<u>Score</u>
VS operations stressful	82% (68%)	10% (15%)	4.1 (3.7, #1)
Loss of surgery & endovasc.	49% (26%)	34% (44%)	3.1 (2.7, #3)
Liked VS but chose other	34% (36%)	20% (21%)	3.1 (3.2, #2)
Negative mentors	29% (15%)	41% (49%)	2.8 (2.5, #5)
Too much AV access	23% (21%)	43% (55%)	2.7 (2.5, #4)
Too much debt	22% (10%)	44% (51%)	2.7 (2.4, #6)
Importance of GS certificate	73% (70%)	15% (14%)	3.9 (3.9)

()=Results of 2001 survey



Training Paradigms (VR2003)

- 5 yr GS + 1 or 2 yr VS with GS certificate 25%
- 4 yr GS + 2 yr VS with GS certificate 48%
- 3 yr GS + 3 yr VS without GS certificate 27% (25%)

- What percent of practice do you plan to devote to GS?
 - 0% = 49% (48%)
 - 10% = 16% (15%)
 - 25% = 26% (26%)
 - 50% = 9% (11%)
 - 75% and above = 0% (0%)

()=Results of 2001 survey



Factors Affecting Recruitment

- **Lifestyle issues**
- **Inability to attract women**
- Diminished reimbursement
- Malpractice crisis
- Long residency and Debt accumulation
- Discouraging medical students from entering surgery



In Conclusion....

- Lifestyle issues are very important
- We should all be involved in mentoring medical students and junior surgical residents
- We should reflect a positive attitude; after all vascular surgery is an exciting specialty
- Generation-Y is showing the same characteristics as Xers, so the problem is not going away. This is a real issue for us to deal with.

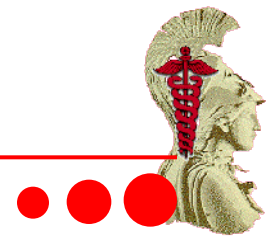


In Conclusion....

- As we are thinking about the training paradigms, we need to keep in mind that 75% of Chief Residents and 52% of current Vascular Fellows in our 2003 survey still want to do General Surgery. At least we need to explore this issue further.



Resident Work Hours

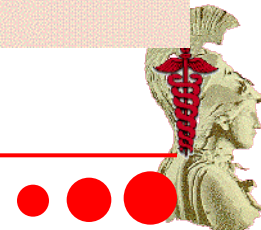
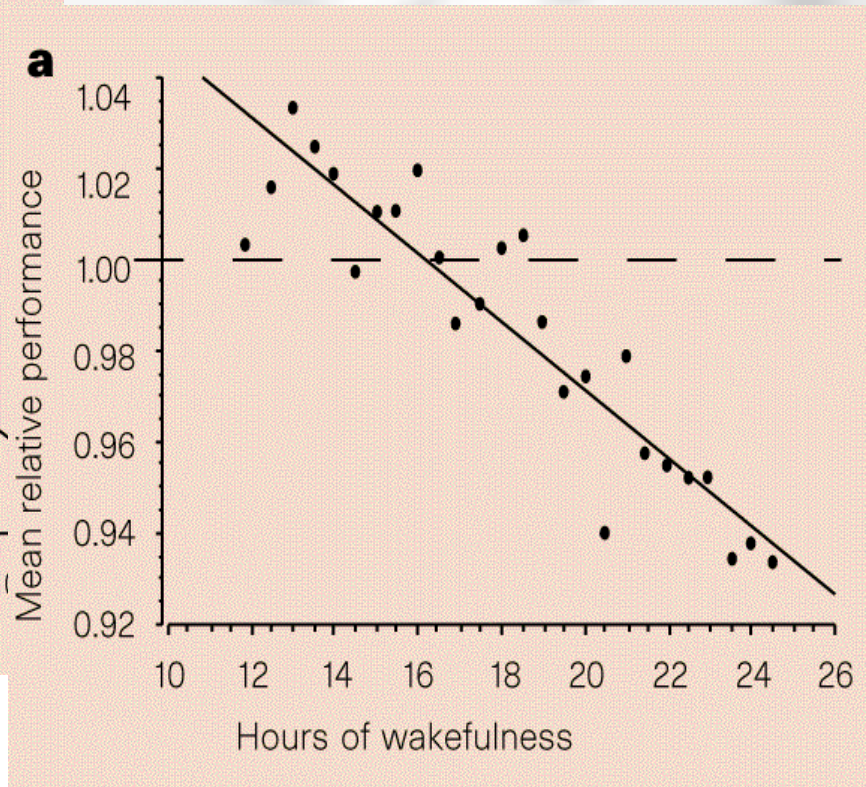
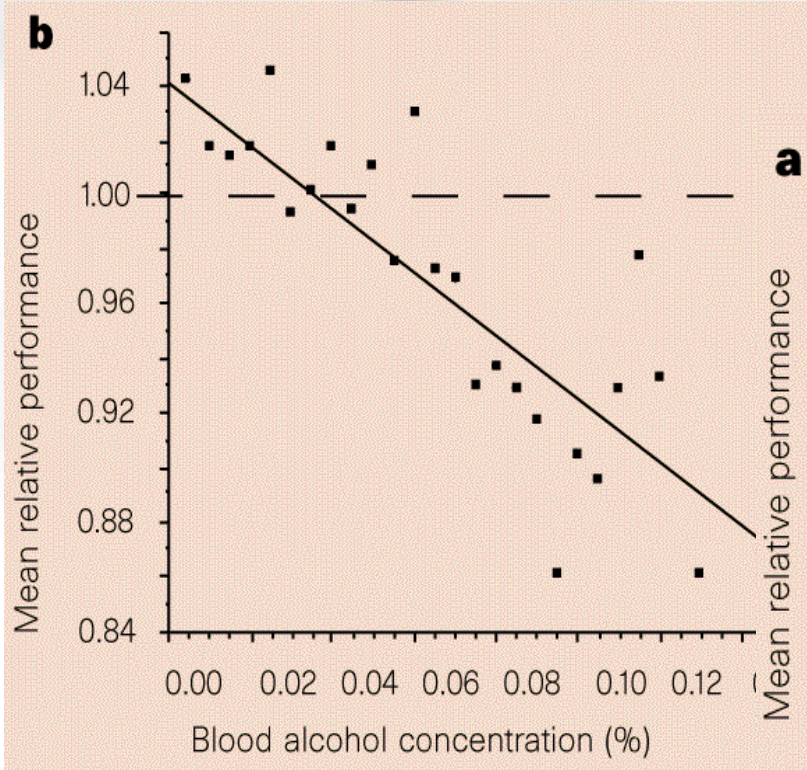


Recent Policy Changes

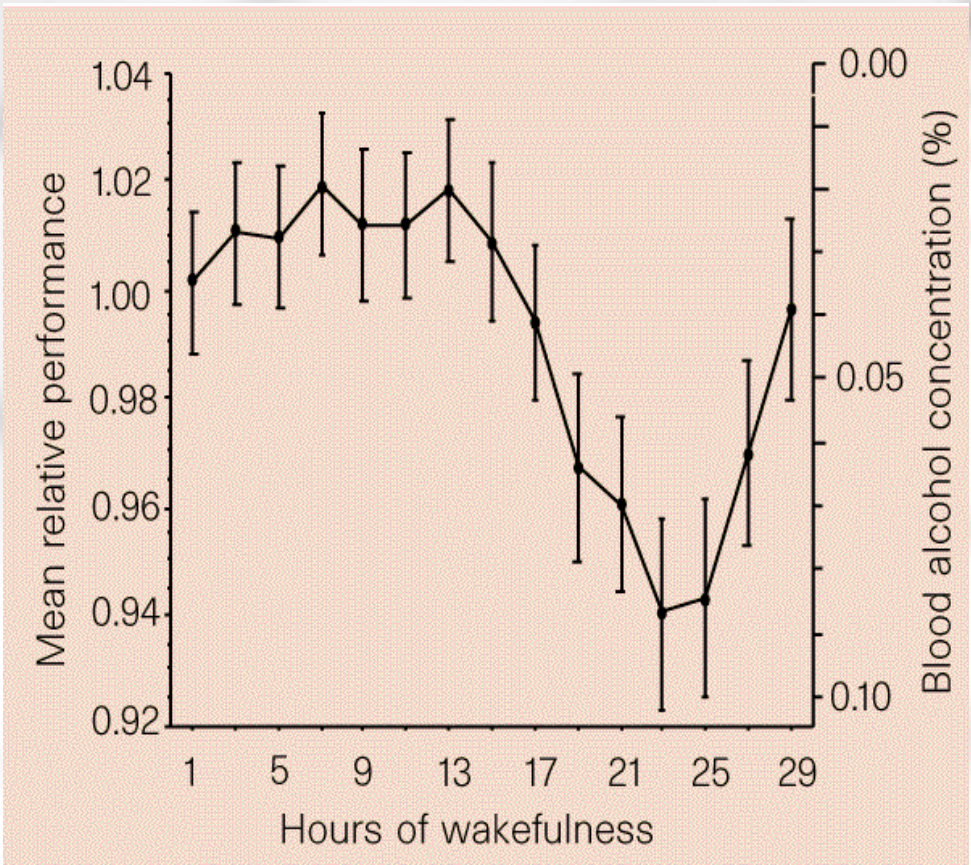
- July 1, 2003: Accreditation Council for Graduate Medical Education (ACGME) RWH regulations went into effect
 - Limits work hours to 80 hours/week, averaged over 4 weeks
- Feb 2004: Liaison Committee on Medical Education (LCME) student work hour rules went into effect
 - Mandates that students should not work longer than residents



Effects of Sleep Deprivation on Functioning



Effects of Sleep Deprivation on Functioning



Sleep Deprivation impairs function and leads to preventable medical errors!



Patient Safety is at stake!



Effects of Sleep Deprivation on Resident Health and Safety

- Residents have an increased risk of:
 - Motor Vehicle accidents
 - Mental health problems, including depression
 - Pregnancy complications
- Work hours thought to play a role

See Occupational Safety and Health Administration Petition. April 2001.

<http://www.citizen.org/publications/release.cfm?ID=6771> for full references



Changes of the 2003

- 24-hour scheduled duty
- 80-hour scheduled workweek
- One 24-hour period of scheduled nonworking time per week
- Nonworking periods following scheduled on-duty/on-call periods.
- On-call hours not included if documented adequate rest time is available.
- Direct, in-person supervision by an attending surgeon for all surgical procedures
- On-site, 24-hour per day, 7 days per week supervision of residents by at least a post graduate year (PGY) 4



Benefits of RWH regulation

- It will promote:
 - patient safety
 - a more human medical environment
 - improved resident health
 - professionalism in medicine



Future directions



The GS residency in the new millennium

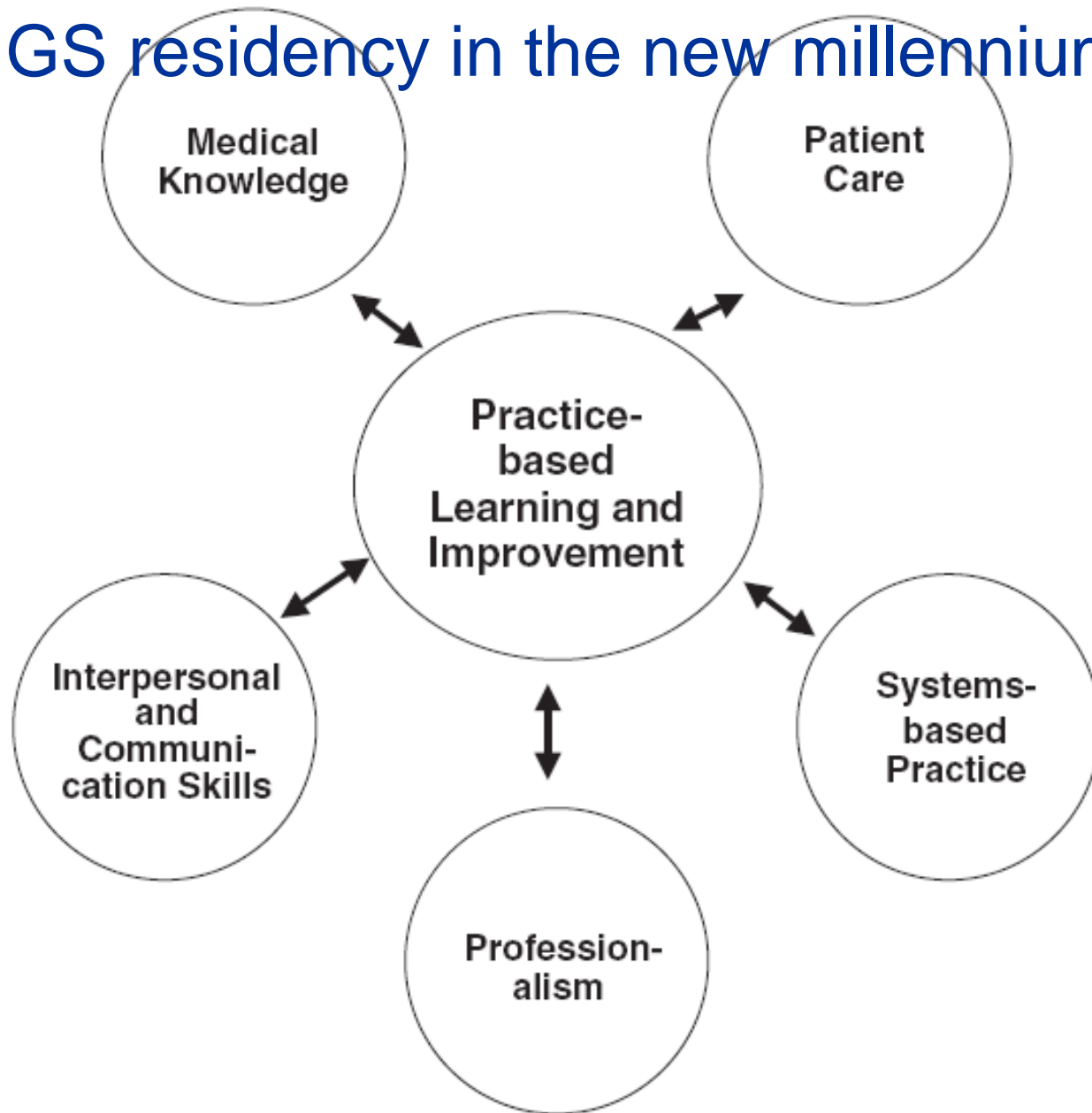


Fig. 2. The central role of practice-based learning and improvement vis-à-vis the other core competencies for surgeons in practice.

Special section: Surgical residency redesign

Residency training in surgery in the 21st century: A new paradigm

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Proposed Schema for Restructured Surgical Residency Training

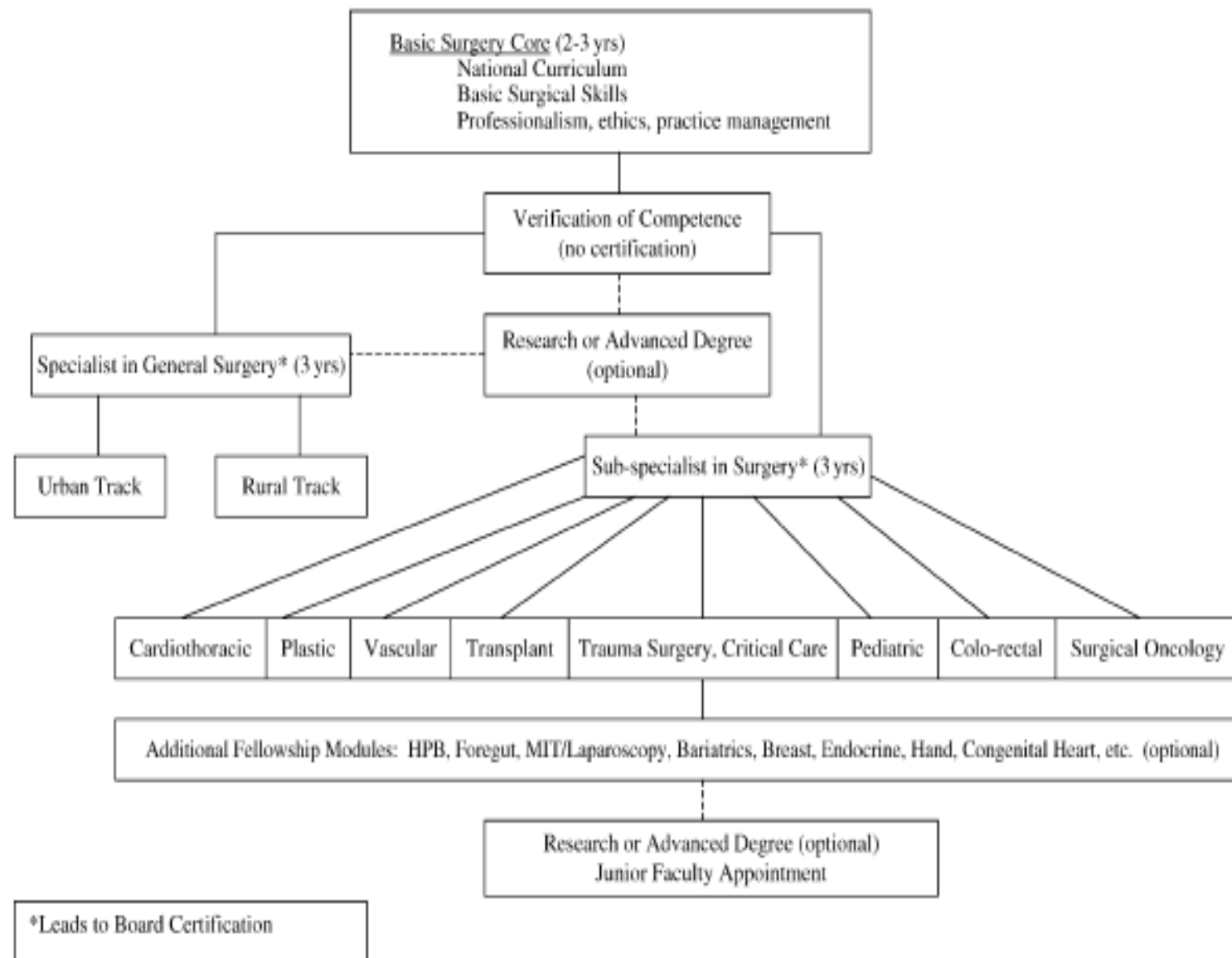


Figure. Proposed schema for restructured surgical residency training.

Ευχαριστώ

