What's ahead for General Surgery training? Impact on the Department

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"We need a system and we will surely have it - which will produce not only surgeons, but surgeons of the highest type, who will stimulate the finest youths of their country to study surgery, and to devote their energies and their lives to raising the standards of surgical science.”

William Halsted

1904

Halsted Principles of Surgical Training

- Old system: haphazard series of preceptorships without definite end
- Proposed system (1904)
  - Training within a set period of time
  - Progressive increase in responsibility and operative experience
  - Final period of independent activity

Basic Tenets of 20th Century Surgical Training

- Surgical training can and should be accomplished in 5 years (time based)
- Train every surgeon to do every thing
- What you learned in residency will last you throughout your career
- Every surgeon can and should do every procedure
- Hospitals rely on resident workforce

20th Century Surgical Training

- Largely based on “immersion” theory
  - Long hours every day
  - Many years of training
  - Most will learn what they need
  - Worked for 95% or so of surgical residents (maybe fewer in the days of the pyramid programs)
  - No specific curriculum or even goals/objectives…until recently
  - Definitely got >10,000 hours of practice

21st Century Surgical Training

- Ambulatory surgery, same day admissions
- Clinics placed closer to patients, away from hospitals
- Electronic health record
- Documentation rules
- Supervision rules for attendings (less autonomy)
- Work hours restrictions

Transition in Healthcare
Volume to Value

Transition in Surgical Training
Volume to Value

Impact on the department

- Faculty already stretched
- Not reimbursed to train residents
- Advantages and disadvantages of APPs
- Competing priorities
- Documentation requirements and OR efficiency
- Need models that will work for both residency training and outstanding patient care that are sustainable

So what are we to do?

- Train surgeons for where they will practice
- Define the objectives of training
- Standardize the common operations and batch when possible
- Move from time based to competency based training
- With tailored curriculum, could probably provide 40 hours per week of *deliberate* practice

Top procedures by resident volume

Operation	Mean reported
Lap chole	88
Open inguinal hernia	46
Lap inguinal hernia	13
Colectomy	46
Thyroidectomy	18
Lap appy	20
EGD	20
Colonoscopy	36

*Bell et al Ann Surg May 2009

Top inpatient procedures

Operation	2012 total Inpatient
Lap chole	297,820
Open inguinal hernia	n/a
Lap inguinal hernia	n/a
Colectomy	94,435
Thyroidectomy	24,610
Lap appy	182,325
EGD	n/a
Colonoscopy	n/a

http://hcupnet.ahrq.gov

Sentinel Lymph Node Trial

- NSABP B-32
- Train surgeons in practice how to perform SLN biopsies for breast cancer
- 96 step procedure (including pathology)
- Feedback
  - – 50% surgeons "certified" after 5 procedures with batched feedback
  - – 83% surgeons "certified" after 5 procedures with feedback after each case

- It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.

  Charles Darwin *(1809-1882)*

- In order to change, we must be sick and tired of being sick and tired.

  Unknown Source