

Clinical experiences during the graduate school years

Summary of break-out session
Saturday, July 30, 2005

- **Two major transition points during MD/PhD training:**
 - between MD yr2 (typically after Step I of the Boards) and graduate school
 - return to MD yr3 after successful thesis defense/receipt of PhD
- **Goal of the session:** to discuss strategies to promote clinical involvement during research training/graduate school years.

What did we learn?

- A. There is little uniformity regarding the goals of such strategies.**
- B. There is little uniformity in terms of the types of programs in place.**
- C. The “requirement” and availability of “clinical clerkships” at the completion of MD yr2 (a common mechanism to prepare students for “meaningful” clinical experiences during the graduate school research years) is highly variable.**
- D. There is no information available as to whether any of these programs actually make a difference!**

A. There is little uniformity regarding the goals of such strategies.

Among the reasons MD/PhD programs seek to promote clinical activities during graduate training are:

1. To maintain clinical competence.
2. To expose students to physician-scientist role models and/or different clinical disciplines to begin to inform students about career choices.
3. To allay the anxiety inherent in contemplating an “eventual” return to MD yr3 and clinical clerkships.

Questions that arose:

- What is the rationale for requiring such programs if the goal of the research training years is the complete immersion in basic science?
- How do you present this “requirement” to mentors, who are typically supporting the students and may require that the students work 24/7 in the lab?
 - This is a small price to pay for having an MD/PhD student in your lab!

B. There is little uniformity in terms of the types of programs in place.

All training programs agree that clinical activities during graduate research training must not detract from the need of the student to focus on their research activities! Among the “clinical experiences” that are in place are:

- “Clinical connections” (Penn) – more advanced graduate students are paired with physician-scientist faculty.
- shadowing of physician-scientists or clinicians (in the evening) to review histories, physicals, differential diagnoses – monthly intervals (Columbia).
- student participation in weekend/evening “free” clinics (UTSW, Sinai).
- delay of the MD yr2 “Practice of Medicine” course until the final yr of graduate school, which allows students not only to refresh their clinical skills but also to meet the MD students who will be their classmates as the new PhDs return to MD yr3 (U Texas Galveston).
- Attendance at clinical Grand Rounds/conferences – this may be “built in” to the training of MD/PhDs whose PIs are physician-scientists in clinical departments.

C. The “requirement” and availability of “clinical clerkships” for MD/PhD students at the completion of MD yr2 is highly variable.

1) Specific goals of these programs?

- To increase interest in maintaining clinical involvement during PhD training.
- To allay anxiety ("prozac" factor) about life as a clinical clerk.
- To provide students with a sense of clinical medicine that involves increased responsibility above that experienced in their pre-clinical MD training to better prepare them for participation in limited clinical activities during graduate research training.

- 2) Some MD/PhD programs already (Penn) or will (Tri-Institute) require up to 4 mos of clinical clerkships (Medicine included) after MD yr2, before grad school.
- Possible concern? Will the 3-4 yr delay between completion of MD yr3 clerkship (pre-research training) and re-entry into MD yr3 after graduate training impact clinical performance in MD yr3 and in Medicine sub-internships in MD yr? Apparently not.
 - Possible benefits? Exposes the student early on to more clinical disciplines and may thus facilitate their ability to decide on a clinical specialty for residency training.
- Penny Morris (U Michigan) had compiled a survey in 2003 listing those programs that allow/require clinical clerkships prior to the research phase.

MD/PhD programs that permit/require clinical clerkships before the research years

- Baylor 6 mo med and surg, or med, peds, and surg
- Brown one rotation
- Duke 2nd yr is all clinical
- Emory 1-8 wks med
- Harvard 8 wks med or peds
- Hopkins 2 rotations
- Iowa 6 wks med and another choice
- Mount Sinai 4 wks med elective
- Nebraska 4 wks
- Northwestern up to 3 mos (any of the required clerkships)
- Penn 6 mo usually med and FM and another choice
- Pittsburgh 8 wks
- UTSW 1 or 2 rotations (as of 2006)
- UCSF 6 wks ob, psych or peds
- U. of Michigan up to 3 mos
- U. of Washington 1 clerkship (FM or peds) if lab/mentor is known

Program	Clerkship Requirement differ for MD and MD/PhD?	Clerkship Req (wks)		Credit for Research	Clerkship MD/PhD	Credit for Activities?	Clinical Clerkship Prior to Graduate School?	FM required?	Sub I required?
		MD/PhD	MD						
Albert Einstein U	Yes	47	?	?	No	No	No	N	Y
Baylor U	Yes	64	80	Yes	No	Yes (24 wks, students choose)	Yes (24 wks, students choose)	Y	N
Boston U	No	62	62	?	No	No	No	Y	Y
Case Western Reserve U	No	80	80		?	?	?	Y	N
Cornell/Rockefeller/Sloan	?	66	?	Yes	No	Yes (4wks)	Yes (4wks)	PC	N
Duke U	No				No	Yes (50wks, which is 2nd year of Med School))	Yes (50wks, which is 2nd year of Med School))	Y	N
Emory U	Yes	56	80		No	Yes (optional 1wk-8 wks medicine)	Yes (optional 1wk-8 wks medicine)	N	Y
Harvard U	Yes	60	76	Yes (16 wks)	No	Yes (for students entering after 2002, 8wks medicine or pediatrics)	Yes (for students entering after 2002, 8wks medicine or pediatrics)	PC	N
Indiana U	No	88	88	?	?	?	?	Y	Y
Johns Hopkins U	No	?	?					N	N
Mayo Medical School	No				No	Yes (21 wks)	Yes (21 wks)	Y	N
Medical College of South	No	84	84		No	No	No	Y	N
Mt. Sinai U	No	56	56		No	No	No	Y	N
New York U	Yes	52	72	20	No	No	No	N	ADV MED
Northwestern U	Yes	68	80	12	No	?	?	PC	Y
Penn State U	No	72	72		No	No	No	Y	Y
U of Alabama-Birmingham	Yes	52	80		No	No	No	N	Y
UCIrvine	No	86	86		No	No	No	Y	Y
UCSD	No	84	84	8	No	No	No	PC	N
UCSF	Yes	77	89	12		Yes for (3wk for each of 2 10 wk rotations; 3wk for each of 4 MSTP clinical preceptorships)	Yes (optional 6 wk rotation)	Y	Y
U of Chicago	No	?	?	300 of 1200 units in 4th yr	No	No	No	Y	N
U of Illinois-Chicago	No	100	100		No	No	No	Y	Y
U of Iowa	Yes	61	81		Yes (4wks)	Yes (6wk Medicine, 2wk choice)	Yes (6wk Medicine, 2wk choice)	Y	Y
U of Louisville	No	82	82		No	No	No	Y	N
U of Miami	No	48 in 3rd year + 4th	same		No	No	No	Y	N
U of Michigan	Yes	64	84	20		No	No	Y	Y
U of Minnesota	Yes	64	76	12	No			Y	N
U of Nebraska	No	48wks in yr 3 + yr 4	same		No	Yes (equivalent of 4wks)	Yes (equivalent of 4wks)	Y	N
U of North Carolina	No	Unknown	Unknown		No	No	No	Y	N
U of Oklahoma	No	44wks in yr 3 + yr 4	same		No	No	No	Y	N
U of Pennsylvania	Yes				No	Yes (24 wks, usually Med and FM + another block)	Yes (24 wks, usually Med and FM + another block)	Y	N
U of Pittsburgh	Yes	60	88		No	Yes (6wks for outpt clerkships taken in grad phase)	Yes (6wks, choice)	N	Y
USC	No	80	80	6	No			Y	N
U of Texas-Houston	No	85	85	12	No	Yes (option, most do 49wks)	Yes (option, most do 49wks)	Y	N
U of Texas-Southwestern	No	76	76		No	No	No	Y	N
U of Washington	No	74	74		unknown	unknown	unknown	Y	N
U of Wisconsin	No	80	80	8	Yes, proposed 8wks	unknown	unknown	N	Y
Washington U	Yes	60	84		Yes (4 wks)	unknown	unknown	N	N

D) There is no information available as to whether any of these programs actually make a difference!

How can we assess the benefit of maintaining clinical exposure during graduate training?

- Internship/residency positions – but MD/PhD students always do well!
- ????

Plan: resurvey programs (this summer) regarding this issue.

1. What is your goal of maintaining clinical interaction during graduate research training for MD/PhD students?
 - to maintain clinical competence
 - mentorship
 - to alleviate anxiety inherent in the return to the clinical years at the completion of PhD training
2. What mechanisms are in place in your program to maintain clinical involvement of students during their graduate school years?
3. Career counseling:
 - When do you, as a Director/Associate Director of an MD/PhD program, start discussing career options with your students?
 - What is the frequency with which you meet with MD/PhD students to discuss formal career counseling?
 - How does your program mentor MD/PhD students about residency options?