Pathology Trainees Experience and Attitudes on

Use of Digital Whole Slide Images

Supplemental Appendix 1: Baseline Survey

SURVEY OF RESIDENTS IN PATHOLOGY

MEDICAL TRAINING

1. Where did you attend medical school?

   _____

2. Did you complete a post-sophomore pathology fellowship year in medical school?

   □ Yes   □ No

   □ I am currently a post-sophomore fellow

3. In addition to viewing PowerPoint slides during medical school <u>histology/pathology training</u>, how many hours did you spend using glass slides and/or digital images? (For example, a semester long course with a 2-3 hour lab per week is approximately 25-30 hours) Please estimate the number of hours you spent using:

   a. A traditional microscope with glass slides: □ 1-5 hours
           □ 6-10 hours
           □ 11-25 hours
           □ 26-50 hours
           □ 51-100 hours
           □ > 100 hours
           □ I never used a traditional microscope with glass slides

   b. Digital whole slide images (virtual microscope with pan and zoom viewing on a computer monitor):

□ 1-5 hours
□ 6-10 hours
□ 11-25 hours
□ 26-50 hours
□ 51-100 hours
□ > 100 hours
□ I never used digital whole slide imaging

4. **When did you begin residency training in pathology?** (dropdown response)

_____ (month) _____ (year)

□ N/A (student fellow)

RESIDENCY

5. **What is your current year of pathology residency training?**

□ First year □ Second year □ Third year □ Fourth year

□ N/A (post-sophomore/student fellow) □ Fifth year or higher

6. **Do you think you will attend any of the following meetings in the next 12 months?**

□ USCAP (United States and Canadian Academy of Pathology)
□ CAP (College of American Pathologists)
□ ASCP (American Society for Clinical Pathology)
□ Other _____
□ No meetings in the next 12 months

7. **Approximately how many months of training in surgical pathology have you had during your residency and/or fellowship to date?**

□ < 1 month □ 9-10 months □ 22-24 months

□ 1-2 months □ 11-12 months □ > 24 months

□ 3-4 months □ 13-15 months

□ 5-6 months □ 16-18 months

□ 7-8 months □ 19-21 months

8. **Approximately how many weeks of training in breast pathology have you had during your residency and/or fellowship to date?** (dropdown response)
□ < 1 week
□ 1-4 weeks
□ 5-7 weeks
□ 8-16 weeks

□ >16 weeks

9. **Estimate the number of breast cases you have reviewed thus far in your residency and/or fellowship:** (dropdown response)
□ < 10 cases
□ 10-25 cases
□ 26-50 cases
□ 51-100 cases
101-250
251-500
500+

BREAST PATHOLOGY

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10. **What are your thoughts on interpreting breast pathology?**

	Strongly disagree 1	Disagree 2	Slightly disagree 3	Slightly agree 4	Agree 5	Strongly agree 6
A. Interpreting breast pathology makes me more nervous than other types of pathology.	□	□	□	□	□	□
B. Breast cases are challenging to interpret.	□	□	□	□	□	□
C. I am confident in my assessments of breast cases.	□	□	□	□	□	□

11. **Do you intend to specialize in surgical pathology?**
□ Yes
□ No
□ Unsure

DIGITIZED WHOLE SLIDE IMAGING

(Virtual microscopy is a process by which an electronic scanner converts histological slides into high-resolution digitized images known as digital whole slide images (WSI) with pan and zoom capability. The term "digital WSI" does not refer to static jpeg-style images or PowerPoint images.)

12. **In what ways do you use digital WSI in your residency?** (check all that apply)

☐ Primary pathology diagnosis (signing out or previewing)
☐ Tumor board/clinical conference
☐ Consultative Diagnosis/Consult service
☐ Didactic lectures/Practice board exams/ Teaching in general
☐ Archival purposes
☐ Research
☐ Other: _____
☐ Not at all (skip to Question 14)

13. **What percentage of cases interpreted during your previous year of residency were reviewed using (responses must add up to 100%):**

a. A traditional microscope (with glass slides): ___ %
b. Digital WSI: ___ %

14. **What are your thoughts on <u>H & E digital WSI</u> being used for primary diagnostic purposes?** (We refer to digital WSI as digital slides)

	Strongly disagree 1	Disagree 2	Slightly disagree 3	Slightly agree 4	Agree 5	Strongly agree 6
A. <u>Accurate diagnoses</u> can be rendered using digital slides	☐	☐	☐	☐	☐	☐
B. Digital slides are useful for obtaining a <u>second opinion</u>	☐	☐	☐	☐	☐	☐
C. Digital slides increase pathologist exposure to medical <u>malpractice</u> suits	☐	☐	☐	☐	☐	☐
D. I am <u>comfortable</u> interpreting cases using digital slides.	☐	☐	☐	☐	☐	☐

15. In 5 years, I predict that in my professional practice as a pathologist I will use digital WSI for:

    a) _____ % of cases for primary diagnosis

    b) _____ % of cases when I provide a consultative second opinion

16. Please select the response that best reflects your opinion.
Although items may seem redundant, they delineate important factors influencing physician behavior. Please respond to all items.

	1 Strongly disagree	2 Moderately disagree	3 Slightly disagree	4 Slightly agree	5 Moderately agree	6 Strongly agree
The uncertainty of patient care often troubles me.	☐	☐	☐	☐	☐	☐
Not being sure of what is best for a patient is one of the most stressful parts of being a physician.	☐	☐	☐	☐	☐	☐
I am tolerant of the uncertainties present in patient care.	☐	☐	☐	☐	☐	☐
I find the uncertainty in patient care disconcerting.	☐	☐	☐	☐	☐	☐
I usually feel anxious when I am not sure of a diagnosis.	☐	☐	☐	☐	☐	☐
When I am uncertain of a diagnosis, I imagine all sorts of bad scenarios- patient dies, patient sues, etc.	☐	☐	☐	☐	☐	☐
I am frustrated when I do not know a patient's diagnosis.	☐	☐	☐	☐	☐	☐
I fear being held accountable for the limits of my knowledge.	☐	☐	☐	☐	☐	☐
Uncertainty in patient care makes me uneasy.	☐	☐	☐	☐	☐	☐
I worry about malpractice when I do not know a patient's diagnosis.	☐	☐	☐	☐	☐	☐

The vastness of the information physicians are expected to know overwhelms me.	□	□	□	□	□	□
I frequently wish I had gone into a specialty or subspecialty that would minimize the uncertainties of patient care.	□	□	□	□	□	□
I am quite comfortable with the uncertainty in patient care.	□	□	□	□	□	□

GENERAL PROFESSIONAL INFORMATION

17. What is your year of birth?   ___ ___ ___ ___ **Year**

18.   Which gender do you identify with?

☐ Male
☐ Female
☐ Other
☐ Prefer not to answer

19. Which one of these groups would you say best represents your race?
☐ White
☐ Black or African American
☐ Asian
☐ American Indian/Alaska Native/Native Hawaiian/Other Pacific Islander
☐ > one race
☐ Don't know/Not sure
☐ Decline to Answer

20. Are you Hispanic or Latino?
☐ No
☐ Yes
☐ Don't know/Not sure
☐ Decline to Answer