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Abstract:

In 3 surveys during the past 10 years, community hospital pathologists were asked what they want, need, or look for when employing a pathologist and, more specifically, what skills and knowledge a newly minted pathologist should have to be successful in the community practice of pathology. The most recent survey, done in spring of 2005, cited surgical pathology diagnosis, frozen section diagnosis, dissection, and fine-needle aspiration as essentials in anatomic pathology. For clinical gross, cytology, pathology, knowledge of clinical medicine and test strategies that use the laboratory for clinical problem solving was paramount. New expectations in the latest survey were knowledge of molecular pathology and experience in quality assurance procedures. New pathologists generally meet the expectations of the community hospital workplace; however, there were some deficiencies: they were not proficient in gross pathology or autopsy pathology, they were slow, and many lack the clinical knowledge and experience to be effective consultants.



The principal attribute that determines success in the practice of pathology, however, is skill in communication and interpersonal relations, and this remains the major deficiency of the fledgling pathologist. (c) 2006 Elsevier Inc. All rights reserved.

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EXPECTATIONS AND ESSENTIALS FOR THE COMMUNITY PRACTICE OF PATHOLOGY

by

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ABSTRACT

In three surveys during the past ten years, community hospital pathologists were asked what they want, need or look for when employing a pathologist, more specifically what skills and knowledge a newly minted pathologist should have in order to be successful in the community practice of pathology.

The most recent survey, done in Spring of 2005, cited surgical pathology diagnosis, frozen section diagnosis, gross dissection, cytology and fine-needle aspiration as essentials in Anatomic Pathology. For Clinical Pathology, knowledge of clinical medicine and test strategies which use the laboratory for clinical problem solving was paramount. New expectation in the latest survey were knowledge of molecular pathology and experience in quality assurance procedures.

New pathologists generally meet the expectations of the community hospital workplace, however there were some deficiencies: they were not proficient in gross pathology or autopsy pathology, they were slow and many lack the clinical knowledge and experience to be effective consultants. The principal attribute which determines success in the practice of pathology, however is skill in communication and interpersonal relations, and this remains the major deficiency of the fledgling pathologist.

The July 1996 meeting of the association of Pathology Chairs in Vail, Colorado was devoted to "Shaping the Next Generation of Pathologists." Because some 80% of pathologists practice in community hospitals (1), the Pathology Chairs and their program directors recognize the community hospital and its pathologist as the major employer of the graduates of their residency and fellowship training programs. Since I had been practicing as a community hospital pathologist for almost 30 years, I was invited to address the question: "What does the community hospital pathologist want, need or look for when employing a new young pathologist?"

Rather than only presenting my own views, I surveyed 75 pathologists who I knew were working in community hospital practices. I developed a questionnaire which sought answers to three questions: "What skills and knowledge should a resident have in order to be successful in the community practice of pathology?" "What do community hospital pathologists deem important in a new associate?" and "Are the training programs turning out a product that satisfies our needs?" The questionnaire listed the usual things that residents are taught and the community pathologists were asked to evaluate each as "essential", "useful" or "unimportant". There was space provided for comments. The questionnaires were mailed in April 1996 and I received 52 replies - a 69% response rate. The (lack of) statistical design in the questionnaire precluded statistical analysis of the replies, however, there was a remarkable degree of consistency among the respondents and a surprising similarity in both the subject and content of the appended comments. The results of this survey were published the following year (2).

Next I was invited to the March 2003 meeting of the Association of Directors of Anatomic and Surgical Pathology in Washington, DC, this time I was again asked to talk about what the community hospital pathologist or pathology group deem important and, more specifically, what criteria they will use when hiring a newly minted pathologist. Again rather than merely presenting my own ideas and experience, I sent a new survey to 60 community pathologists, who were asked what they want, need or look for when employing a new young associate. I asked them to rate several lists of skills and how necessary they were to function successfully and also asked them to rate several non-pathology skills and, in addition, to list and rate the criteria they use for making hiring decisions. They were free to add any additional comments, which they did, enthusiastically. Forty surveys were completed and returned for a 66% response rate. This survey, just like the previous one, was not meant to be a statistically or scientifically precise instrument, but rather was intended to give a "sense of the community" with emphasis, this time, on the needs in Anatomic Pathology.

In early 2005 the Association of Pathology Chairs again invited me to their annual meeting and asked me to talk about "Translating Training into the Expectations of the Workplace". This time I sent a survey which included a summary of the findings of the prior two surveys to 54 Community Pathologists. The community pathologists to whom I sent the surveys, and many were sent all three, were personal friends from all parts of the country who I had met during my years of involvement in the ASCP and the CAP. Thus because they were also involved on our specialty societies, they may not be truly representative, however their involvement speaks to a heightened awareness and dedication to our profession and

specialty. The new 2005 survey asked if they agreed or disagreed with the rankings of the skills in the previous (1996 and 2003) surveys and if they had any comments. (See the Survey Instrument in Appendix). I received 41 responses, and well over 200 separate comments. This remarkable response rate, 76%, indicates the very high level of interest that these community hospital pathologists have in pathology training programs.

ANATOMIC PATHOLOGY

The previous (1996 and 2003) surveys indicated that the essential Anatomic Pathology skills that a new pathologist must have are accurate Surgical Pathology diagnoses, precise and rapid Frozen Section diagnoses, Gross dissection ability and accurate non-Gyn Cytology diagnoses. Skills in Autopsy Pathology, Gyn Cytology, Fine Needle Aspiration and Immunocytochemistry were useful, but not essential while experience or skills in electron microscopy and research were not important. In the current survey, only 66% of the respondents agreed, 10% disagreed and others answered partially.

There were 39 comments: Interestingly, Gyn Cytology, FNA and Immunocytochemistry which had been considered useful are now considered essential along with Surgical Pathology, Frozen Section, Gross dissection and non-gyn cytology. An entirely new expectation surfaced, the young pathologists is now expected to be knowledgeable in Quality Assurance requirements and procedures in Anatomic Pathology

There is general agreement that the newly minted pathologist is deficient in Gross Pathology, specifically the ability to dissect and describe gross specimens and to sample specimens appropriately. This may be due to excess reliance on pathology assistants in the training programs. In addition there were many comments that young pathologists are unable to meet the workload and turnaround demand in the community hospital – they are too slow, and it generally take several months or even years for them to get up to speed. New pathologists were also deficient in their ability to interface with surgeons – they do not understand the surgeons problems or needs and do not know how to communicate with surgeons in an effective way. Finally new pathologists don't know, and don't seem to be interested in learning, how to do autopsies.

CLINICAL PATHOLOGY

In the prior (1996 and 2003) surveys the only essential skill requirement for the successful practice of clinical pathology was, interestingly, clinical knowledge and experience. The community hospital pathology group wanted young pathologists who know clinical medicine and know how to utilize the laboratory to solve clinical problems. They felt that it is useful for the new pathologist to be able to interpret test results and do clinical consultation. The only section of the laboratory where bench skills were felt to be useful was in the blood bank. The rest of clinical pathology was not deemed to be important. More of the current survey's respondents disagreed (41%) than agreed (34%) and 20% were in partial agreement.

The current (2005) survey contained 28 comments about clinical pathology all of which reflected a somewhat different emphasis. Although clinical knowledge and experience is still

the overriding need for effective practice as a clinical pathologist, several other areas are now considered essential: (a) clinical consultation skills, including test interpretation and testing strategies, (b) administrative oversight, i.e., the ability to manage a section of the clinical laboratory, (c) Inspection strategies, i.e., the ability to prepare a laboratory for the innumerable new and intrusive inspection and accreditation requirements and (d) Bench level skills in transfusion medicine and coagulation testing.

The major current deficiency noted by community pathologist is a lack of clinical knowledge – it seems nothing has changed since 1996. There were specific comments about the young pathologists' inability to properly serve as consultants in hematology and microbiology. In these two areas, clinicians such as hematologists and infectious disease specialists compete with pathologists and generally prevail because they not only are familiar with the laboratory aspects of their specialty but can also participate in patient management.

There were, of course, some contrarian opinions – one said: “Let’s just get rid of CP and practice pathology!”

SUB-SPECIALTY TRAINING

In 1996 and 2003 no sub-specialty training or certification was considered essential. dermatopathology, cytopathology, hematology and transfusion medicine, in that order, were considered useful, while pediatric pathology, forensic pathology chemical pathology and medical microbiology were not considered important for the practice of community pathology. There was no unanimity in the responses in 2005, however two new needs were articulated. First is an almost universal requirement for additional or Fellowship training in surgical pathology. It is clear that most community pathologists feel that the four year residency is not adequate preparation for the practice of surgical pathology and I would gather from the comments that the young pathologist with an additional year specifically in surgical pathology would have a major advantage in the community hospital marketplace. Specialization and Board certification in Dermatopathology and Cytopathology is still considered important and there was a new interest in young pathologists that have had additional training in GI pathology. In some smaller community practices there is a hesitancy to embrace too much sub-specialization. A super-specialist in transfusion medicine might not have enough material to keep stimulated in a smaller pathology practice and might not have the ability to cover the entire laboratory on evenings and weekends, for frozen section, for example.

MOLECULAR PATHOLOGY

The most remarkable change in the practice of pathology occurred here. In 1996 no molecular procedure was considered essential, Immunochemistry was “useful” but the other molecular pathology techniques were unimportant. Eight years later, immunochemistry was considered essential, flow cytometry was useful, but the other techniques were still not important.

The current (2005) survey asked which of the molecular pathology procedures are now being performed in their own community hospital, and it is amazing how much is, in fact, being done. Almost all community hospital pathology departments are now doing immunocytochemistry, more than half are testing for tumor markers and performing flow cytometry and somewhat less than half are doing PCR, FISH, In-situ hybridization and cytogenetics, a few are even doing tissue microarrays and laser capture microdissection.

Even though not all molecular techniques are performed in every community hospital laboratory, these tests are available in the community - they are sent out to the local university or reference laboratory. The community pathologist must, however, be able to determine when their use is appropriate and must be able to interpret the results for the clinicians. Therefore, as articulated by many of the respondents to the current survey: "We depend on the young pathologist to bring these techniques with them from the university". Clinicians are now demanding these tests and expertise and experience in molecular pathology has become essential for the new pathologist.

NON-PATHOLOGY SKILLS

Of significant interest is the fact that expectations regarding non-pathology skills have not changed at all! In the previous surveys, interpersonal and communication skills were considered essential, second only to Surgical Pathology and Frozen Section diagnostic ability. Computer and internet skills were also considered essential in 1996 and 2002, while Management, Coding/Billing and teaching were considered useful and research was not important. In the current survey, all respondents agreed with these rankings and there were, as in the previous surveys, many comments that stated that communication and interpersonal skills were the major determinants of a pathologist's success.

The greatest number of comments (76) concerned these skill sets; one pathologist said that lack of these non-pathology skills is the most critical problem of new pathologists. "It takes one to two years for a new pathologist to "get it" and some never do", said another. There are major deficiencies in both written and spoken communication – among American graduates not IMGs. They don't know how to spell or speak and have no style. New pathologists are judged not by the accuracy of their diagnoses, everyone expects their diagnoses to be correct, but by their ability to communicate. "The best diagnosis is of no value if it not communicated properly" echoed many comments.

Interpersonal skills are still also deemed sorely lacking. The community pathology group expects affability, availability in addition to accuracy. The young pathologist must demonstrate emotional intelligence and maturity, integrity and be a motivator for others. The competitive and confrontational environment of the training program has to be discarded for a sense of collegiality. This is particularly true in group practices where each member represents the entire group and where cooperation and mutual support, not grandstanding are necessary.

The new pathologist is also expected to develop good working relationships with the laboratory staff, the medical staff, nursing staff and hospital administration and also within

the community. The new pathologist must proactively engage clinicians, needs to understand their problems, needs to know how to do consultations and become involved in the medical staff governance of the hospital. They need to establish good professional relationships within the hospital, become an advocate for the pathology group, become aware of the needs of the nursing and other services and recognize the interdependence of pathology and administration. They should be seen to be indispensable!

SUMMARY

The new community hospital pathologist is expected to demonstrate expertise in the following skills in Anatomic Pathology: Surgical pathology diagnosis, Frozen section diagnosis, Gross dissection, Cytology, Fine-Needle aspiration and AP Quality Assurance. The most frequently cited deficiencies in new pathologists are their inability to interface and communicate with surgeons, their lack of knowledge of gross pathology and autopsy pathology and their prolonged turnaround times with resultant inability to maintain a respectable work load.

In Clinical Pathology the prime expectation of the new pathologist is knowledge of clinical medicine and how to best utilize the laboratory to solve clinical problems. Other essentials are bench skills in transfusion medicine, expertise in the coagulation laboratory, knowledge of laboratory administration and familiarity with laboratory inspection and accreditation requirements. The most frequent deficiency in the new pathologist is lack of clinical knowledge and experience.

There is almost universal expectations for additional fellowship training in surgical pathology; sub-specialty board certification is considered desirable only in Dermatopathology, Cytopathology and Transfusion medicine. Additional fellowship training in Gastrointestinal pathology also surfaced.

The major new expectation in this survey was in Molecular Pathology. The new pathologist must be familiar with the techniques, the indication for, and the interpretation of, all the latest molecular pathology procedures.

Finally the area where expectations have not changed over the years and where the newly trained pathologist is still dreadfully deficient is in communication and interpersonal skills. These skills are apparently not taught in most training programs, but they will determine a pathologists ultimate success. The community hospital expects a spirit of cooperation and collegiality within the pathology group, the recognition that each member of the group represents the entire group and reflects on it. In the clinical laboratory the new pathologist is expected to show leadership skills, to motivate the laboratory personnel and respect their contribution. The new pathologist must be proactive in participating in the scientific, administrative and social function of the medical staff and the hospital and the new pathologist should be active in the community.

In conclusion, the community pathology workplace expects anatomic pathologists who know the needs of surgeons and oncologists and can guide them in patient diagnosis and

management. And it needs clinical pathologists who are disease and patient oriented who are capable of serving as consultants to clinicians, as managers of laboratories and as leaders in the hospital and the community.

ACKNOWLEDGEMENT

I am most grateful to the many community pathologists who responded to my questionnaires with so many pertinent and thoughtful comments. They are the true authors of this paper.

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APPENDIX: THE SURVEY INSTRUMENT

Dear _____,

I would very much appreciate your help in yet another important survey. During the past several years, the Association of Pathology Chairs (APC) and the Association of Directors of Anatomic and Surgical Pathology (ADASP) have asked me to speak about the community pathologist's perspective on residency training. They wanted to know: 1) What skills and knowledge a resident should have to be successful in the community practice of pathology, and 2) What do we, as community pathologists, want, need or look for when we take on a new young associate. The APC has again invited me talk about the "expectations in the community pathology workplace".

Below, I have summarized the findings of the previous surveys (which ranked skills as "essential", "useful" or "unimportant"). I wonder if you still agree or if things have changed and your expectations are different? I realize that this is not, and will not be used as, a statistically or scientifically valid poll, but it will give the Pathology Chairs a "sense of the community".

I want to thank the many of you who responded to my previous requests for your input, and to thank you in advance for your effort now – I know that the Pathology Chairs welcome our opinions and they do respond to our suggestions – we are, after all, the ones who will hire their residents.

Please complete and return this survey in the enclosed envelope. If you wish a copy of the collated results please add your name and address on the reverse side.

1. The previous surveys indicated that the essential skills in **Anatomic Pathology** were accurate Surgical Pathology diagnoses, precise and rapid Frozen Section diagnoses and accurate non-Gyn Cytology diagnoses. Skills in Autopsy Pathology, Gyn Cytology and Fine Needle Aspiration were useful, but not essential. The major deficiency in recent graduates was in Gross Dissection.

Do you agree?

Any other comments?

2. The previous surveys indicated that **Subspecialty Training** and certification was not essential, but was useful, particularly in Dermatopathology, Cytopathology, Hematopathology and Transfusion Medicine. Subspecialty certification in Pediatric or Forensic Pathology or in other areas of Clinical Pathology was unimportant. Do you agree?
Other comments?

3. Most areas of **Clinical Pathology** were thought to be unimportant, but expertise in Test Interpretation, and in Clinical Consultation, particularly in Hematopathology, were thought to be useful. Bench skills and knowledge of instrumentation in CP were felt to be unimportant, except in the Blood Bank.

The major inadequacy of recent graduates was lack of clinical knowledge.

Do you agree?

Other Comments?

4. In the survey done ten years ago, expertise in immunohistochemistry was thought to be useful; three years ago it had come to be essential. However the other techniques of **Molecular Pathology** were still thought to be unimportant. Do you agree? Which of the following do you now do in your laboratory (circle): Immunohistochemistry, Flow Cytometry, In-situ hybridization, PCR, FISH, LCM, Tumor Markers, Microarrays, Cytogenetics? Others?

Comments?

5. Finally, in the previous surveys, interpersonal and communication skills were considered essential, second only to Frozen Section diagnostic ability. What are your expectations regarding a new associate's "non-pathology" skills in the pathology group, in the medical staff, in the hospital at large and in the community as well as in laboratory management?

Thank You Very Much

Richard E. Horowitz, MD

