

# Applied spectral Imaging is proud to present an industry-focused interview with pathologist Dr. Michael Misialek

The purpose of this interview is to expose more people to the field of pathology, increase awareness of new clinical support tools and, provide educational content that is of value to patients and the healthcare community.

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## 1. DO YOU COME FROM A FAMILY OF MEDICAL PRACTITIONERS?

My mom was a nurse. She would come home from the hospital with stories, which often times intrigued me, but I am the first physician in our family.

## 2. WHEN DID YOU DISCOVER YOUR INTEREST IN MEDICINE?

It started at home, but I can also point out a time when I volunteered as a teenager in the emergency department at our local hospital. I knew then that I was going to go into medicine.

## 3. WHY DID YOU DECIDE ON A CAREER IN PATHOLOGY?

I had no idea that I was going to find myself in pathology. I thought I was going to be a surgeon, but later realized that it was not satisfying to me. During my internal medicine residency, I found myself wanting to learn more about the pathophysiology of my patient's diseases and the diagnostic workup. Fascinated with how pathologists were a central focus at tumor board meetings and engaging with pathologists who were very content with their work, made me realize that it was the right field for me in medicine.

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**"The pathologist is part of the patient's care throughout the entire care continuum."**

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#### **4. HOW HAS THE DISCIPLINE EVOLVED THROUGH THE YEARS?**

I thought about this question, and although some things have in fact changed, some things have remained constant, such as the use of a microscope. It is still central to our work in examining tissue and specimens. Hence, the microscope remains essential to diagnosis. Another constant is the pathologist. The role of the pathologist is still central to patient diagnosis and treatment plans.

Some of the things that have changed or evolved in the field is our understanding of health and disease, particularly at the molecular level. With the ushering in of the precision medicine revolution, pathologists have taken an increasingly important role in diagnosis and treatment selection. This new understanding has contributed to the boom in biomarker discovery, which pathologists have helped shape, and continue to do so.

Another change is the movement from a pathologist working alone to a more team-oriented approach where the pathologist is part of a medical team. This multidisciplinary team model has squarely placed the pathologist as an equally important member of the care team. In the past, the pathologist's work focused primarily on the analytic phase of testing. Nowadays we realize the importance of all phases in the diagnostic process. As such, the pathologist is more likely to be involved with optimizing the pre-analytic, analytic and post-analytic phases.

Another change has been with quality and safety. Many of the concepts crucial to quality have evolved from pathologist's oversight of laboratory testing. With the release of the 2015 report "Improving Diagnosis in Health Care" by The National Academy of Sciences Engineering and Technology, a spotlight was cast upon the importance of the pathologist as a vital member of the care team. We must capitalize on this opportunity and continue to prove our value.

#### **5. CAN YOU WALK US THROUGH THE LABORATORY AND DIAGNOSTIC PROCESS?**

There are three phases to the diagnosis process: the pre-analytic, analytic and post-analytic. The pre-analytical phase starts with specimen collection and ends with arrival in the lab for testing. Quality is of utmost importance. High quality specimens ensure robust and reliable results.

The analytic phase is that part of the process involved with the testing of a sample on automated instruments or the examination by a pathologist of tissue under a microscope.

The post analytical phase is just as important. Pathologists work to make sure these test results are accurately and reliably transmitted to the appropriate providers who are caring for the patient. Not only is transmission important, but acknowledgment and/or action upon that result is the ultimate goal. A quality diagnosis means nothing if it does not get into the right hands.

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**"To mitigate inappropriate testing, pathologists can provide crucial checks and balances to the diagnostic process."**

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#### **6. IN YOUR ARTICLE: *VALUING VALUE: THE CHANGING ROLE OF PATHOLOGISTS*, YOU MENTION THAT ~\$800 BILLION A YEAR IS SPENT ON INAPPROPRIATE TESTING AND CARE. WHAT WOULD YOU ATTRIBUTE TO THAT LARGE MARGIN OF ERROR?**

That statement was originally used in relation to "inefficient measures and useless care". When we think about inappropriate spending, it refers to overuse of testing, duplicate orders, inappropriate testing, wrong tests and subsequent misdiagnosis or delay in diagnosis. Through educational efforts, integrating improved efficiency measures, utilizing better clinical decision

support tools, etc. pathologists can provide crucial checks and balances to the diagnostic process.

## 7. WHAT DO YOU THINK ABOUT AUTOMATION OR DIGITAL TOOLS SUCH AS TISSUE DETECTION, CELL CLASSIFICATION AND STATISTICAL ANALYSIS ON TUMOR REGIONS?

These are helpful tools that are not only gaining in popularity but also are becoming a necessity in certain circumstances.

Many are crucial in making the diagnostic process more efficient. Pathologists should embrace these new technologies and view them as a necessary tool to their work, similar to an immunohistochemical stain. These tools also open the door to new discoveries and research.

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**"Support tools can facilitate selection of appropriate tests in both a cost effective and efficient manner."**

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## 8. WHAT TYPE OF TESTS CAN MOST BENEFIT FROM CLINICAL-DECISION SUPPORT TOOLS?

Perhaps the best application for the use of clinical decision support tools is in the selection of second tier testing after positive screening results. Whether this involves common testing (i.e. thyroid function tests) or uncommon, esoteric or expensive testing (i.e. CSF paraneoplastic panels).

## 9. WHAT ARE THE BIGGEST CHALLENGES PATHOLOGISTS FACE TODAY?

The move towards consolidation of pathology groups and centralized testing is fueling the growing trend of the sub-specialization practice model. With an increase

in specimen volume due to consolidation, the argument for pathologist sub-specialization is a much easier sell.

With centralized testing comes new challenges for pathology groups. Smaller groups that previously excelled in offering superior turnaround times might find challenges in continuing to meet service expectations when specimen processing is no longer done locally. I believe one solution to this is offered by digital pathology. Groups must make a financial argument for digital pathology to continue to remain competitive.

Another challenge that pathologists continually face is advocacy. We must continue to make sure our specialty is valued and not commoditized. I urge all pathologists to become more involved in their local and state pathology and medical societies, in addition to national organizations. Our collective voice will help ensure favorable legislative outcomes.

## 10. WHEN WOULD YOU ADVISE A PATIENT TO SPEAK WITH THE PATHOLOGIST?

A serious diagnosis is a good opportunity to speak with a pathologist. Understanding one's diagnosis can help in better understanding treatment options.

Another time when meeting a pathologist may be appropriate is when additional invasive procedures are required because of a particular diagnosis. Again, understanding the diagnosis empowers the patient to become more active in their care and able to participate in shared decision-making with their provider.

Yet another opportunity to meet with the pathologist is when the diagnosis under consideration is controversial or there is disagreement. Understanding the nuances of the diagnosis will help patients better appreciate and understand the "grey zones" of medicine.

### FINAL WORD:

Thank you for the interview. It was important for me to communicate these ideas for a couple of major reasons: 1) to recognize that pathologists are an integral part of the patient diagnosis and treatment plan, and 2) for patients to know that they can reach out to their pathologist for a better understanding of their diagnosis, especially when it is serious.

# About Dr. Michael Misialek

## PROFESSIONAL BIOGRAPHY

Dr. Misialek currently serves as Associate Chair of Pathology at Newton-Wellesley Hospital, Newton, MA. He is the Medical Director of the Vernon Cancer Center, Chemistry Laboratory and Point of Care Testing. He practices in all areas of pathology in a busy community hospital. Holding an academic appointment at Tufts University School of Medicine as a clinical assistant professor of pathology, he regularly instructs medical students and pathology residents. Dr. Misialek is a strong advocate for pathology and is very active in the College of American Pathologists (CAP). He is an inspector with the CAP and has conducted numerous hospital laboratory inspections both nationally and internationally.

He received his MD from the University of Massachusetts, did an internship in internal medicine at Boston Medical Center and completed his residency in anatomic and clinical pathology at the University of Massachusetts Medical Center. He did a fellowship in general surgical pathology at the University of Florida and is board certified in Anatomic and Clinical Pathology.

## ABOUT APPLIED SPECTRAL IMAGING

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