

# Utilization of Pathologists' Assistants to Alleviate the Burden on Forensic Pathologists

The United States has seen a critical shortage in the forensic pathology workforce. In 2019, there were 468 fellows in the National Association of Medical Examiners (NAME). However, it is predicted that the US requires approximately 1100 board certified forensic pathologists (FP) to accommodate the population.<sup>1</sup> FPs are taking on excessive caseloads to accommodate for the nationwide shortage, far exceeding the 250 autopsy per year recommendation by the NAME Inspection and Accreditation Standards. Without action, FPs face increasing levels of stress and challenges with thoroughly examining the details of each case. Furthermore, the disparity between the population of practicing FPs and caseload is exacerbated by the evolving opioid epidemic and rise in violent crimes.<sup>2</sup> The incorporation of a Pathologists' Assistant (PA) in the forensic setting will help bridge this gap and prevent burn out. PAs are highly trained, certified healthcare professionals who not only play a critical role in the macroscopic examination of surgical pathology specimens, but also post-mortem examinations. PAs undergo two years of formal academic and practical training to provide quality services in prosecution of adult, neonatal/perinatal, pediatric, forensic, and infectious autopsies.<sup>3</sup> Because of their expertise in anatomic pathology, ability to function with minimal oversight, and versatility, the addition of a certified PA would be an asset to any medical examiner or coroners office.

The role of PAs in surgical and hospital autopsy pathology has been well established; however, PAs have been largely underrepresented in the field of forensics. This is largely because funding for medical examiner's and coroner's offices is often restricted to county budgets and must be supported by their respective state. Without an understanding of the PAs broad scope of practice, hiring additional personnel may be deemed cost ineffective. Currently, most forensic offices utilize autopsy technicians and are able to afford them at a lower price point. While the contributions of autopsy technicians are extremely valuable, the balance between increasing caseload and limited forensic pathologist workforce is not mitigated. Additionally, PAs may see a decrease in income when working in a forensic setting compared to their clinical counterparts, deterring their involvement. Another contributing factor to PA underrepresentation is the lack of understanding by physicians of the qualifications of the PA. The PA profession is a relatively new one, with the first Pathologists' Assistant program originating in 1969 at Duke University. According to the 2020 NAME Forensic Pathologist Age Analysis, the average age the FP is 51 years old.<sup>4</sup> While this number has decreased since years past, a large number of FPs are near retirement age and are unaware of the unique abilities of the PA to act as physician extenders. Creating more job opportunities for the PA in the forensic realm will not only desaturate the PA field, but also be the solution to the current FP shortage.

In surgical pathology, the grossing technician, PA, and pathologist all play a crucial role in rendering a quick, safe, and accurate diagnosis for the patient. Similar to this, there is room in the forensic autopsy suite for the collaboration of an autopsy technician, PA, and FP in determining a cause of death. In many PA training programs, students rotate at the medical examiner and coroners offices, where they achieve proficiency in completing a low complexity postmortem examination and assisting in high complexity postmortem examination. Students are also exposed to proper collection and submission of trace evidence, serology kits, radiology, specimens for toxicology, and histology. Under the supervision of the FP, it is suggested that PAs can be utilized in non suspicious medical examiner cases, such as natural and accidental deaths. The optimal caseload for a FP is 250 – 325 cases per year, but the dramatic increase in opioid related deaths pushes FPs past that number.<sup>2</sup> The opportunity for PAs to reduce this burden on FPs could present itself in straightforward overdose cases. Suggested responsibilities of the PA may include external examination, evisceration, internal examination, prosection, and report writing, while leaving microscopy and the final interpretation to the pathologist. The board certified FP will remain as the ultimate authority on postmortem examinations. A PA should not function with the autonomy and license afforded to the physician through years of education, certification, and experience. However, under the appropriate supervision, a certified PA can significantly reduce the workload of the FP.

The utilization of PAs in the forensic setting is projected to occur gradually over the course of many years and is necessary in the current staffing shortage. Their involvement needs to be formally and directly addressed and regulated with clear and concise language. There also must be discussion on what will constitute appropriate supervision. PAs must prove to state legislation that they possess the qualifications to take on a role in the forensic setting. To prepare current PAs and future PA graduates for this role, additional training in forensic autopsy and death investigation is necessary on top of completion of a National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) accredited PA program. The development of a forensic certification for PAs, similar to a fellowship, is being considered. Advocacy for PA involvement in forensic autopsies is currently led by the Forensic Task Force, a committee created by experienced members of the American Association of Pathologists' Assistants (AAPA). Members of the committee promote the partnership of PAs and FPs by authoring publications in widely known journals such as Journal of Forensic Science and Academic Forensic Pathology. Members of the Forensic Task Force also regularly attend The International Association of Coroners & Medical Examiners (IACME) and NAME meetings.

With a PA, FPs do not need to sacrifice the quality of their work to keep up with the caseload. Instead, it will allow them to prioritize complex cases. The in-depth anatomic pathology training along with a high attention to detail, excellent organization skills, and teaching abilities of the PA will allow them to excel in the forensic setting. The utilization of a PA may result in an improvement in turn around times, educational experiences for students and residents, and organization of resources. However, much work still needs to be done for PAs to be a regular component of medical examiners and coroner's offices. Ultimately, in both forensic and hospital autopsies, having certified PAs working together with pathologists is a gold-standard for a quality autopsy service.

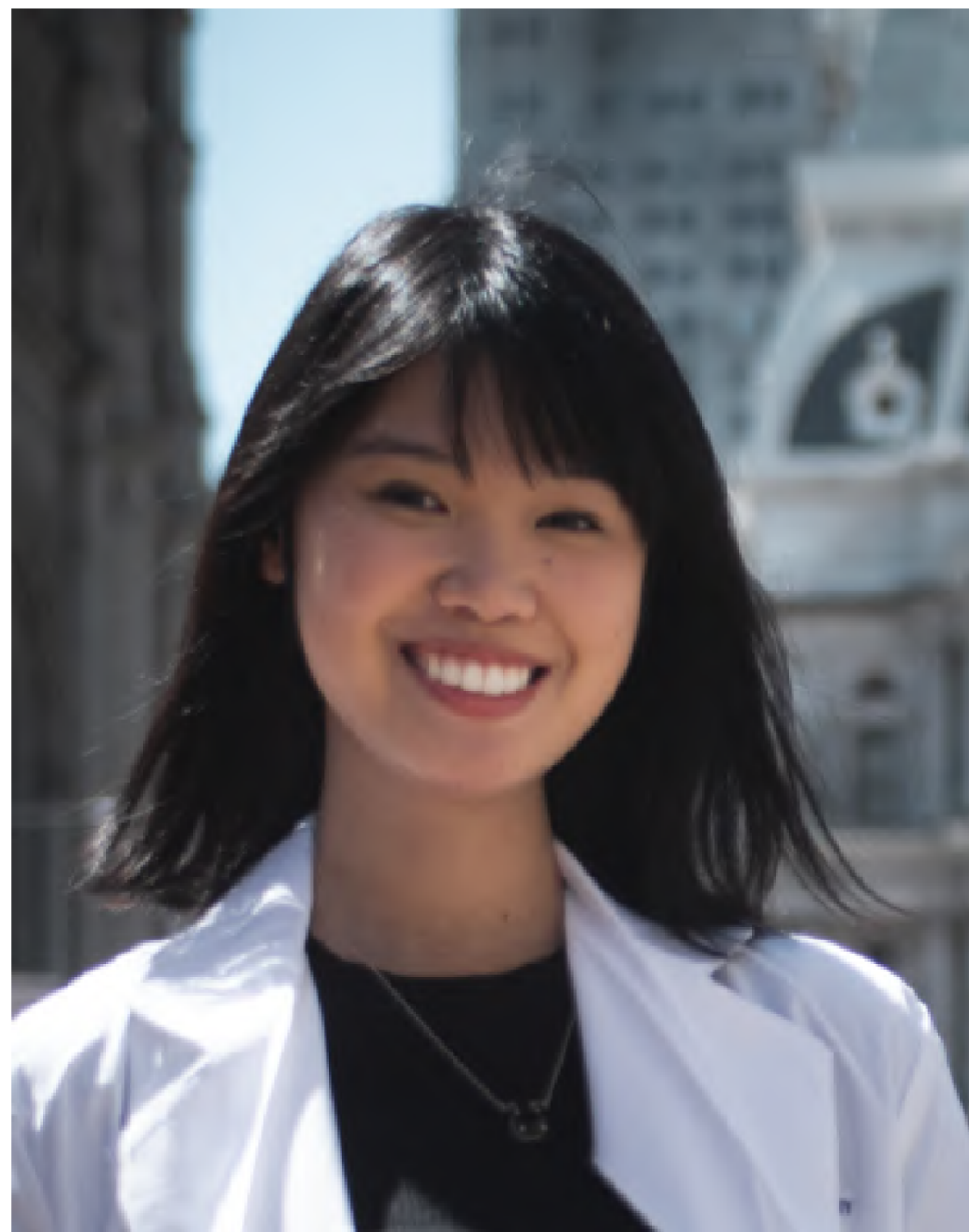
## References

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