In this third special section of the Princeton Integrated Pathology Symposium (PIPS), we present 7 articles as the proceedings of the Third PIPS: Thoracic Pathology. This symposium, co-organized by Philip T. Cagle, MD, and me, took place at the University Medical Center of Princeton, Plainsboro, New Jersey, on May 14, 2016. Here, we continue our emphasis on “bread-and-butter” and “zebra” topics, with the addition of new techniques and the much-needed advocacy for pathologists.

Colby et al presented a state-of-the-art technique for lung tissue assessment, transbronchial cryobiopsy (TC). The striking advantages of TC are its significantly lower rates of mortality (0.1% in TC versus 1.7% in elective biopsy procedures), pneumothorax (20% in TC versus 100% in video-assisted surgical/video-assisted thoracoscopic surgical [VATS] procedures; \( P < .001 \)), and prolonged air leak (0.3 in TC versus 3.3 in VATS); however, to its disadvantage TC was associated with a higher rate of transient respiratory failure than VATS (0.7% versus 0). It is noteworthy that the diagnosis rate of TC for diffuse lung diseases was slightly lower than that of surgical lung biopsy, and the reported experiences were limited to 2 institutions. Nonetheless, TC seems to be a promising and safe alternative to surgical lung biopsies.

Advanced fibrotic interstitial lung disease (ILD) is one of the most common diagnostic challenges in thoracic pathology. With a focus on idiopathic pulmonary fibrosis, Larsen et al proposed an algorithmic approach to interpreting surgical lung biopsies. They compared and contrasted the clinical, radiologic, and histologic characteristics of various causes of advanced fibrotic ILD, including connective tissue disease–associated ILD, chronic hypersensitivity pneumonitis, advanced pulmonary Langerhans cell histiocytosis, end-stage pulmonary sarcoidosis, Erdheim-Chester disease, and Hermansky-Pudlak syndrome. The informative tables and representative photomicrographs should serve as a handy reference for practicing pathologists.

Acute pulmonary injury (APL) is often associated with significant morbidity and mortality, and histologic presentation of diffuse alveolar damage. The other common histologic manifestations of APL are acute eosinophilic pneumonia, acute fibrinous and organizing pneumonia, and diffuse alveolar hemorrhage with capillaritis. Hughes and Beasley summarized the diagnostic pearls and pitfalls of these histologic patterns of APL. A wedge biopsy of the lung would be rarely useful to confirm a diagnosis of diffuse alveolar damage; however, in nearly 33% to 75% of APL cases, an infectious etiology is identified on biopsy specimens using special stains and warrants a therapy change. Hence, pathologists play an important role in evaluating the histology and etiology of APL and subsequently managing APL patients.

Dacic gave an update on the lung carcinoma staging published by the International Association for the Study of Lung Cancer Staging Committee, which will be included in the 8th edition of the American Joint Committee on Cancer (AJCC) staging manual. The major revisions appear to primarily involve the T and M categories, including tumors of 5.1 to 7 cm to be classified as T3 (versus T2b in the AJCC 7th edition), and tumors larger than 7 cm as T4 (versus T3 in the AJCC 7th edition). The AJCC 8th edition proposes to classify multifocal lung adenocarcinomas according to the laterality and number of the involved lobes (ie, T4 if multiple ipsilateral lobes, and M1a if both lungs).

Solitary pulmonary nodules (SPNs), defined as single, well-circumscribed lesions identified in imaging studies, are often incidental and a management challenge. Chan et al briefly reviewed the Fleischner Society’s Guidelines or Statement on how to stratify the malignancy risks and management of patients with an SPN. According to the guidelines, low-risk patients should be followed up by regular series of computed tomography scans, intermediate-risk patients assessed by functional imaging studies and possible tissue-based pathology diagnosis, and high-risk patients considered for surgical intervention with intraoperative diagnosis. A multidisciplinary approach is strongly recommended.

Related to the management of SPN, Borczuk shared his personal experiences and reviewed the literature on the common challenges of frozen section in thoracic pathology. Identification of the lesions during gross evaluation was first discussed. He then focused on the assessment of resection margin, and recommended removal of the staples with a fine-beaked forceps or with the tips of a pair of scissors, which is a very practical and useful tip. Finally, the histologic features and differential diagnoses of lepidic tumors, and reactive and benign lesions were reviewed in much detail.

Pathology, as a unique medical specialty, encounters unprecedented challenges in the ever-changing socioeco-
onomic and political environment. Allen provides some insightful comments from the perspective of pathologist advocacy. Strong engagement of our fellow pathologists, stakeholders, and patients (activists) will likely transform our practice models, and raise the awareness of the unparalleled importance of pathology. We ought to modernize pathologists’ advocacy for the 21st century and beyond.

We very much appreciate the time and efforts of our editor-in-chief, Philip T. Cagle, MD; the other advisory committee members of the PIPS; authors; and reviewers. We also wish to thank Patrick Kearns, Katie Giesen, and Hilary Price at the editorial office of the Archives of Pathology & Laboratory Medicine, as well as James Demetriades; Elliot A. Krauss, MD; and John A. Heim, MD, at Princeton HealthCare System.