internationally and to understand the consequences of each pathway for thoracic surgery in that country.

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Commentary: Thoracic surgery trainees on the launching pad: When will they be ready to fly?

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Variations of curricular components and assessment metrics exist among cardiothoracic surgery training around the world. Some of this variation may be due to cultural differences among different countries, differing standards of accreditation, or differing medical workforce needs.¹⁻³ Despite international differences in training, we share a common goal of graduating thoracic surgeons who can competently operate and are ready for independent practice. However, how do we know when our trainees are ready to “fly” on their own, especially when definitions of competence and perceptions of preparedness still remain ambivalent? In this issue of the *Journal*, Ikeda and colleagues⁴ detail the structure and requirements of thoracic surgery training in Japan. The authors also discuss how they mitigate declining levels of autonomy during training with a postcertification apprenticeship-type practice.

The ideal length of training and the timing of when specialty training should be introduced is globally debatable,

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CENTRAL MESSAGE

The Japanese training system exemplifies the importance of mentorship in producing competent thoracic surgeons ready to “fly” on their own.

with many programs now offering a variety of permutations and tracks. The Japanese system is no different and offers 2 types of thoracic surgery tracks. The traditional program is composed of 3 fundamental years in general surgery followed by 3 subspecialty years in thoracic surgery. In 2018, Japan introduced an integrated program, with a focus in general surgery for the first year, followed by the option for early introduction in thoracic surgery for the remaining 2 years. After the completion of these 3 fundamental years, trainees then proceed to subspecialty training in thoracic surgery. Although training requirements are the same for both tracks, trainees in the integrated track who complete all the requirements may finish in fewer than 6 years due to early introduction of thoracic surgery. Overall, the length of training in Japan is shorter when compared with the training system in the United States. In addition, the

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Japanese system introduces a concept that defines completion of training solely on fulfillment of requirements, without deference to a minimum length of years in training.

The minimum case requirements in the Japanese training system are much less than other systems, particularly the United States. Graduates in Japan are required to perform 60 cases as the primary surgeon and 120 cases as an assistant. Interestingly, the role of assistant is valued and integral in their training, as trainees are required to perform twice as many cases in the assistant role compared with primary surgeon. This may suggest that achieving autonomy during training may not be an objective in the Japanese system. In addition, trainees submit their operative reports for examination, and the proper performance of cases are evaluated as another measure of summative assessment. Therefore, the Japanese system, albeit comprehensive in assessing both the quantity and quality of surgical performance, may pursue a level of operative competence among their trainees that does not comprise readiness for autonomous practice.

Thus, the question remains—when are trainees ready to “fly” on their own? This quandary is not unique to the Japanese training system and one that transcends to training systems around the world. In the United States, we continue to question whether completion of training requirements translates to readiness for independent practice among trainees. This uncertainty becomes more pronounced in the current setting, where autonomy during training has declined due to work-hour restrictions, rising demands on productivity, and increased scrutiny on surgical outcomes.⁵ Many of us now recommend our graduates join mentored practices, recognizing the correlation of strong mentorship with success, satisfaction, and resilience during the first

years of attending practice. In addition, we also recognize that despite differences in training paradigms, all graduates within their first few years of practice experience a steep learning curve that still requires a bit of dependence on senior colleagues.

The Japanese system presents a commendable solution for preparing trainees for independent practice. Once a trainee completes all requirements of training and is deemed qualified as a specialized thoracic surgeon, they are expected to join the staff of their respective departments for a few years instead of immediately “flying” on their own. This apprenticeship-type model mitigates unique characteristics of their training system, allowing for their variations in length of training, lower case requirements, and greater value of the assistant role without compromising competence. The merit of Japan’s “on-the-job-training” model suggests a uniform and united acceptance on the value of mentorship in preparation for autonomous practice. Undoubtedly, the Japanese system exemplifies the importance of mentorship in successfully producing competent thoracic surgeons.

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