it, and similar to Burgel and colleagues, we also noted a reduced need for lung transplant in the year after drug initiation (4).

Reducing pulmonary exacerbations is an important clinical outcome, as it can improve patient quality of life, decrease healthcare utilization, and delay loss of lung function. Strikingly, there were nearly 2.4 fewer exacerbations per patient, or a 63% reduction, in the 12 months after treatment compared with before treatment. This is similar to previous reports for patients with higher baseline lung function (5, 7). Our cohort demonstrated reduced exacerbations even though the majority of patients had sputum culture growth for pathogens associated with poorer outcomes. The COVID-19 pandemic no doubt impacted exacerbation rate in CF in the year 2020 because of quarantining and avoidance of medical settings/care. Upon comparison of our total exacerbation rates between 2019 and 2020, there was a large overall reduction (60%) highlighted by a noticeably higher reduction in exacerbations—78%—in those taking E/T/I compared with the 40% decrease seen in those who not taking. This indicates that the reduced exacerbation rate in our study population could indeed be attributed, in part, to the positive effect of modulator use and not just patient avoidance of medical care during the pandemic.

Limitations of this study include its small size and single-center experience, home spirometry data collection, and altered patient behavior during the pandemic impacting lung function and exacerbations.

In conclusion, the well-tolerated CFTR modulator combination of E/T/I was associated with clinically significant improvements in patients with CF with advanced lung disease. Our experience indicates this impactful treatment will ultimately delay the need for lung transplantation. ■

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Speaking Valve Placement: Use Manometry and Downsizing

To the Editor:

There are many benefits of speaking valve use, though also some risks, that are well described in Martin and colleagues' (1) study, which shows that speaking valves can often be well tolerated soon after percutaneous tracheostomy tube placement. They used comprehensive, lengthy evaluations by speech-language pathologists to determine speaking valve–related tolerance and independence. A much shorter and objective evaluation would have been to use tracheostomy tube manometry to measure airway pressures proximal to the speaking valve or cap. Tracheostomy tube manometry objectively identifies within minutes which patients can use speaking valves, which need downsizing, and for which capping and decannulation should be considered. Although Martin and colleagues excluded 119 of 161 patients having percutaneous tracheostomies because of having low Glasgow Coma Scale scores and did not include patients with surgical tracheotomies, tracheostomy tube manometry can be performed

regardless of the Glasgow Coma Scale score or type of tracheotomy and would have allowed many more patients to benefit from speaking valves.

Using manometry in our study (2) of 100 consecutive patients in a long-term acute care hospital, tube downsize was recommended for expiratory pressures above 5 or inspiratory pressure more negative than −3, speaking valve for expiratory pressures below 5, and capping/decannulation for capped inspiratory pressure 0 to −3 cm H_2O. Tube downsize occurred in 94 patients, speech within 2 days in 93, and capping in 11 before downsize and 71 after downsize. There were no instances of early intolerance of the recommendations. A tracheostomy care pathway that incorporates tracheostomy tube manometry, speaking valves, and downsizing expedites speech and decannulation. ■

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Reply: Speaking Valve Placement: Use Manometry and Downsizing

From the Authors:

Tracheostomy tube manometry is a promising approach for assessing patients' candidacy for speaking valves, capping, downsizing, and decannulation. We are grateful to Dr. Johnson for sharing his insight and data regarding this objective measure. Using tracheostomy tube manometry to assess inspiratory and expiratory intratracheal airway pressures is straightforward and efficient, providing valuable quantitative data that can guide care decisions. Although this approach is not widely used in the intensive care unit (ICU) setting, it may complement other assessments of preparedness for speaking valve placement. It may also help identify patients that will tolerate tracheostomy tube downsizing and/or readiness for decannulation as shown in patients in a long-term acute care hospital (1).

An open question is whether the predictive value of manometry observed in patients in a rehabilitation setting will be reliable in ICU patients soon after tracheostomy. Additional limitations to the study by Johnson and colleagues are the retrospective design, absence of a control group, and lack of data regarding time from tracheostomy to speech valve trials. Our study investigated placement of speech valves in mechanically ventilated patients within 24 hours of the initial tracheotomy surgery, a window during which the postoperative recovery from a procedure and residual sedation differs markedly from that during rehabilitation. In addition, in the ICU setting, tracheostomy tube manometry may have less of a role, as a decrease in expired tidal volume (i.e., ventilator delivered vs. returned) during cuff deflation demonstrates adequate or inadequate airflow to the upper airway.

Although using a single measure to determine candidacy for speech valve placement is attractive, tube manometry does not obviate the need for a comprehensive speaking valve evaluation. Patients undergoing tracheostomy placement are often deconditioned and remain dependent on ventilator support for adequate gas exchange. Such patients frequently only tolerate brief speaking valve trials, and the assessment of tolerance requires a speech-language pathologist at the bedside. As respiratory function, secretion management, and mental status improve, patients may tolerate longer trials of speaking valve. In this setting, tube manometry may provide important guidance in determining when a smaller tracheostomy tube is needed or a cuffless trach is possible. In addition, tube manometry may also be informative in patients with a low Glasgow Coma Score who are unable to communicate respiratory discomfort.

In future studies, including tracheostomy tube manometry may provide a quick and objective assessment of candidates for early speaking valve intervention. However, we suggest this measurement be used to supplement other important assessments of a patient's readiness rather than replacing a comprehensive evaluation by a trained speech-language pathologist.

Last, although we only briefly addressed capping and decannulation during our study, further research is needed to determine if earlier speaking valve use expedites decannulation. Several studies (2, 3) have provided guidelines for capping, and tracheostomy tube manometry could be used to further refine such algorithms. We thank Dr. Johnson for illuminating the potential role of tracheostomy tube manometry in this population. ■

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