Stethoscope for Rent

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IF YOU ASKED anyone 6 months ago whether they could practice pediatric pulmonology through telehealth, they would have answered difficult at best. We listen to chests, look at pulmonary function tests, and X-rays. We have now all been thrust in to telemedicine. When COVID-19 arrived, we were asked to immediately cancel all visits, stop all pulmonary function testing, not order any nonemergent radiologic tests, and to start telemedicine that we knew little about. Our pediatric and medicine residents are providing care to young adults on one of the pediatric floors that was converted to a medicine floor. Pediatric emergency department visits and inpatient census have dropped. Our pediatric pulmonary function technicians are reassigned to respiratory therapy. Daily patient sick calls dropped, children are not in school, not playing outdoor sports, or outside with friends, which results in less viral upper respiratory infections and allergy symptoms despite spring pollen starting in Connecticut. With albuterol metered dose inhaler (MDI) shortage, we are assessing need for refills. We have not sent a patient to the emergency room with an asthma exacerbation to date since the COVID-19 pandemic began.

When I started my pediatric pulmonology fellowship in the late 1970s, pulmonary function testing done by water seal spirometer was cumbersome, the calculations were done by hand [by me], and testing was used mostly for research purposes. We had to rely on our clinical skills of history and observation/physical examination. Over the decades, the availability and ease of performing pulmonary function testing in children have made them commonplace and we depended on them. Now with telemedicine, we have had to rely on history and observation with little testing.

At this time, 70% of our telemedicine visits are video visits that are much more informative, rewarding, and easier than phone visits. A routine follow-up of a well-controlled compliant patient with asthma by video goes well. We step up or step down their asthma controller, modify asthma action plans, and refill prescriptions as we go along. We have done new consultation visits through video and ask the parent to complete a new patient questionnaire and upload it to the EMR ahead of the visit. Video offers one the opportunity to observe a patient breathing, look for signs of

respiratory distress such as respiratory rate, and work of breathing, presence of retractions, and being able to speak in full sentences, and determine whether clubbing is present. Some of our patients have pulse oximeters and we are able to get a heart rate and room air oxygen saturation. Teaching works well through video. Our severe asthma patients who receive biologics still come into the clinic for their shots. We are not recommending the use of albuterol nebulizer treatments at home per COVID-19 recommendations. We have patients who are in need of aerodigestive evaluations and imaging of the chest that are on hold.

Based on our experience caring for children in our pediatric pulmonology outpatient setting, we have identified the following pros and cons with telemedicine visits:

Pros

Allows health care to be provided safely.

Convenient for parents.

Time saving for parents, quicker visit.

Decreased no shows.

Easy to teach, review MDI-spacer technique, and check medications.

Children are more interactive on video.

We get to meet household pets.

Cons

Less ideal assessment with limited physical examination and vital signs.

No pulmonary function testing, FeNo, and X-rays.

Not all parents/patients have smartphones.

Parents lack of technical skills.

When there is a language barrier and interpreter is used, it is time consuming.

Shorter visits and no pulmonary function testing is equal to decreased revenue.

Telemedicine is here to stay and our challenge is to become better clinicians and not rely on the testing we once had. As far as the future of pulmonary function tests, the American Thoracic Society will be updating its guidelines. Our challenge is to rethink how to educate medical students, residents, fellows, nurses, and respiratory therapists, in these times of limited patient contact and objective pulmonary function measurement. Perhaps future medical providers will learn to be better listeners and rely on clinical cues and

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signs, so when we go back to face-to-face encounters, or to a hybrid system, they will be better clinicians and more satisfied providers.

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