Optimal Asthma Management in the Primary Care Office

Written by Kate Krueck, MD

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The best thing we ever did for our asthma patients was hire a respiratory therapist to start up our in-house spirometry and asthma education program. Sure it was a scary idea. Pulmonary function testing (PFT) is expensive and intimidating. Would we feel comfortable interpreting complex airflow graphs when a patient’s life may depend on it? Would we lose money in the process of hiring a full-time employee and investing in sophisticated equipment? Were we really up this challenge? The answers to these questions quickly became clear. We could do this successfully and profitably, and more importantly, we could provide the best asthma management possible in a primary care office to our patients and their families.

We started our asthma program by doing our research. We were able to bring on a highly skilled and experienced respiratory therapist who had trained at Nationwide Children’s Hospital and was certified in asthma education and spirometry. We had faculty from Pulmonary at Nationwide Children’s show us how to interpret spirometry graphs. We vetted various spirometry technologies. We started slowly, booking 45 minutes of respiratory therapy time and 15 minutes of physician time for each spirometry patient. Following a comprehensive asthma review of systems performed by a clinical staff member, our respiratory therapist administered spirometry with pre- and post- bronchodilation, and discussed the airflow graphs with the attending physician. We used a team approach for each patient. Our respiratory therapist delivered comprehensive and individualized asthma education to each patient based on the team decisions.

As a result, we all learned from each other. We saw patients for follow-up and we learned from our patients. As a group, we gradually became asthma experts. And, we started to notice that our patients improved. Emergency room visits and inpatient admissions for asthma decreased. Families who were seen in our spirometry/education program developed the means to take back some control of their child’s disease. Understanding and compliance grew. We got more patient referrals. We improved our efficiency with spirometry/education visits, scheduling sessions four days per week with 30 minutes of respiratory therapy time, often
without the need to alter the physician's schedule for the provider part of the visit. With careful coding and documentation, the program covers costs and brings added dividends.

As we became more experienced with pulmonary function testing, we added more services. We began measuring asthma outcomes, setting and holding ourselves responsible for performance goals. We consistently administered the Asthma Control Test (ACT) to all patients with asthma attending a well-child visit or asthma follow-up visit. We used outreach software to remind families of influenza vaccine, overdue asthma follow-up, and outstanding PFTs.

The second best thing we did for our asthma patients was to incorporate Fractional Excretion of Nitric Oxide (FeNO) into all asthma related visits. This test measures eosinophilic inflammation in the airway. Our respiratory therapist started this effort by administering FeNO at spirometry visits. She found it to be a useful tool in assessing asthma control by adding a third parameter (in conjunction with ACT and PFTs). She helped us incorporate this measure into a busy office workflow to assess asthma control even at “regular” visits (without respiratory therapist present). She trained staff and educated physicians. Suddenly we had an extra tool to determine appropriate treatment. And that turned out to be a game changer.

This provided an objective measurement to show that despite a lack of reported symptoms, some patients had significant airway inflammation. This new piece of information not only helped us make impactful treatment changes, but also helped the families of these patients understand the severity of the condition, which improved compliance. In office follow-up visits with the physician, with a normalized FeNO, reassured us that the new treatment was working and convinced the parent that the asthma was real and that treatment works. Though we try to see all of asthma patients for spirometry/education visits regardless of reported symptoms, the patients who report no symptoms are the ones who are most likely to slip through the cracks. In some ways, the easier patient is the obvious one — with frequent symptoms, who everyone including the patient can agree needs additional treatment. But, the patient with a normal ACT and an elevated FeNO is scary and unfortunately quite common. What would happen to this patient if we didn’t have FeNO? I think about that every time I see this patient.

Most recently, we have been working with Partners for Kids (PFN) to further improve our comprehensive asthma program. Through our partnership with PFK we have developed a pre-populated, individualized, electronic asthma action plan to be reviewed and given to every family with a child with asthma and are beginning to utilize PFK pharmacists to identify within our Medicaid population patients with poor asthma controller medication fill rates to offer one on one counseling to improve compliance and ultimately outcomes.

Are we done with asthma? Not even close. We continue to struggle with compliance and engaging families in self-management. Our patients continue to utilize ERs and UCs for symptoms that could be managed in our office. While we have made improvements in asthma control and symptoms of asthma, and demonstrated improvement in several asthma outcomes, there is still work to be done. I look forward to that day in the future when I can share with you all of our yet unrecognized future improvements in the care of our asthma patients.