# Asthma Management in Children With Autism Spectrum Disorders: Pearls for a Successful Clinical Encounter

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#### **KEY WORDS**

Autism spectrum disorders, communication, shared management, asthma

A 6-year-old boy with a diagnosis of autism spectrum disorder (ASD) since age 36 months presents to the pediatric primary care clinic because of 4 days of upper respiratory tract infection (URI) symptoms and wheezing that began today. The patient's mother also reports copious rhinorrhea, a mild sore throat, and a low-grade fever. The wheezing began this morning and was accompanied by increased respiratory rate, cough, and decreased activity. The patient's mother unsuccessfully attempted to give the patient a steamy bath to thin his secretions, but this attempt caused severe agitation and was abandoned. No other medications or herbal remedies have been administered. His mother also reports that the patient has been anxious and upset as a result of the disruption in his routine because he was kept home from school the past 2 days. The mother experienced extreme difficulty in bringing the patient for today's appointment because he cried and resisted being placed in the car for travel.

#### **DEVELOPMENTAL HISTORY**

This child's developmental history is significant for deficits in social-emotional reciprocity and an expressive and receptive language delay; he did not utter his first word until age 3 years. He met gross and fine motor milestones as expected. As an infant, he seldom

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showed a social smile or cooed. In his older infant and toddler years he had no interest in playing peek-a-boo, did not respond to his name, did not imitate others, and did not participate in proto-declarative pointing. He participated in an early intervention program at a local birth-to-three center when he was 31 months old, and he was formally diagnosed with ASD at age 36 months by an interdisciplinary team at a local child development center. He has since attended an integrated preschool and kindergarten with peer models in the classroom. He struggles with conversational skills, expressing and understanding emotions, and developing relationships with peers. He has accompanying language impairment and speaks primarily in phrases. He is now in first grade, has an individualized education plan, and is integrated into a regular classroom. His academic performance is average, and he responds best to simple, concrete instructions. Furthermore, he attends speech-language therapy and after-school social skills classes twice a week. He has no accompanying intellectual impairment, medical or genetic conditions, or behavioral disorders.

#### **MEDICAL HISTORY**

The patient's medical history is significant for a diagnosis of intermittent asthma at age 5 years, for which he has been prescribed an albuterol nebulizer to use as needed. This patient has a history of being very resistant to receiving nebulizer treatments because of

heightened sensitivities to auditory and tactile stimulation. His last wheezing episode was approximately 1 year ago and did require several days of nebulizer treatments. His history is positive for occasional atopic dermatitis flares, which are well controlled with daily emollients and an as-needed low-potency topical corticosteroid cream. He also has seasonal allergic rhinitis that is well controlled with as-needed oral antihistamine chewable tablets.

#### PHYSICAL EXAMINATION

Upon entering the room, the patient is holding a small toy fire engine and appears alert and in no acute distress. His height and weight were both in the 6th percentile. His vital signs, which were difficult to obtain, were as follows: temperature, 37.9°C; heart rate, 126 beats per minute; respiratory rate, 30 breaths per minute; blood pressure, 96/62 mm Hg (approximately 50th percentile); and oxygen saturation, 96% on room air. Physical examination was complicated by resistance from the patient, but revealed pink and moist nasal mucosa with clear rhinorrhea. He has scattered expiratory bibasilar wheezes that do not clear with cough and prolonged exhalation but good aeration to all lobes upon auscultation. No retractions, dyspnea, or accessory muscle use are noted with an anterior-posterior to lateral diameter of 1:2 (normal). The remainder of his physical examination is noncontributory.

## **CASE STUDY QUESTIONS**

- 1. What are the core symptoms and associated characteristics of ASD?
- 2. What is the association between autism and asthma?
- 3. What strategies can be used when communicating with and providing care for children who have ASD?
- 4. What are some specific asthma management techniques and long-term management considerations for children with the dual diagnosis of asthma and ASD?

## **CASE STUDY ANSWERS**

# Core Symptoms and Associated Characteristics of ASD

1. What are the core symptoms and associated characteristics of ASD?

ASD is a neurodevelopmental disorder that is distinguished by impaired social interaction and communication, repetitive or stereotyped behaviors, and clinically significant impairment in functioning (American Psychiatric Association [APA], 2013). Sensory integration problems are common among children with ASD (APA, 2013; Scarpinato et al., 2010). As is denoted by the name, ASD comprises a wide gamut of characteristics with severity levels that can vary with context as well as time. Furthermore, ASD may also be associated with intellectual impairment, language impairment, other medical or genetic conditions, and/

or other neurodevelopmental, mental, or behavioral disorders. Some individuals with ASD are nonverbal, whereas others utilize an extensive vocabulary to provide impromptu didactic orations to anyone willing to listen. However, despite this variance between individuals with ASD, there are commonalities in the challenges that these children face in social interactions and in communication with regard to health care.

Children with ASD have trouble reading and understanding nonverbal cues such as facial expressions, gestures, and body language (Lee, Walter, & Cleary, 2012; Scarpinato et al., 2010; Venkat, Jauch, Russell, Crist, & Farrell, 2012). It is also common for these children to have speech and language delays that limit their ability to communicate with words that contribute to

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