

Helping Children with Lung Problems Live Life to the Fullest





The University of Chicago Department of Pediatrics Pediatric Pulmonary Medicine

The physicians and staff of the pediatric pulmonary medicine section at the University of Chicago Comer Children's Hospital have the resources and expertise to provide comprehensive evaluation and management of children with a wide variety of pulmonary disorders. These include:

- Asthma
- Cystic fibrosis (CF)
- Chronic lung disease of infancy, particularly bronchopulmonary dysplasia (BPD)
- Ventilator dependence due to conditions such as muscular dystrophy or spinal cord injuries
- Less common pulmonary diseases, such as interstitial lung disease, immotile cilia syndrome, and bronchiolitis obliterans
- Lung-related disorders, such as:
 - o Neuromuscular disorders leading to chronic lung problems
 - o Recurrent and persistent pneumonias
 - o Sleep-related breathing problems
 - o Unusual respiratory infections
 - o Apnea, or abnormal breathing patterns
 - o Birth malformations leading to breathing problems



Why Choose Us for Pediatric Pulmonary Medicine?

Physicians at the University of Chicago Comer Children's Hospital are recognized experts in the treatment of childhood lung disorders. We provide expert consultation, evaluation, and treatment of difficult-to-manage and often life-threatening asthma, cystic fibrosis, other pulmonary diseases, and problems related to congenital lung malformations. At the same time, our doctors are actively involved in research to better understand the underlying causes and the genetics of pulmonary disease. Our diagnostic capabilities are extensive and include specialized testing for infants with lung problems.

Advanced Diagnostics and Innovative Therapies

To help determine the cause of even the most complicated respiratory problems in children, specialized tests, including minimally invasive procedures, are available. Minimally invasive tests spare the child trauma and discomfort. Among the specialized tests available are:

- Fiberoptic bronchoscopy to help doctors view the inside of the lungs
- Chest X-rays, computed tomography, and ventilation-perfusion scans to help doctors view the anatomy of the child's lungs
- Sweat testing and genetic testing to diagnose cystic fibrosis
- Pulmonary function testing
- Infant pulmonary function testing
- Tests to assess lung function in children with exercise-induced symptoms
- Studies to detect breathing problems during sleep

Following a diagnosis, our team will develop an individualized treatment plan that can help the child breathe easier. Medicines, such as bronchodilators and anti-inflammatory drugs, can help keep the child's airways open and improve breathing if the child has asthma. Medications also can help children with CF improve their lung function and control troublesome symptoms of the disease.

In addition, airway clearance devices can help those with CF or diseases that cause severe muscle weakness. The child's treatment may include special feeding and nutrition, particularly if the child was born prematurely. Our doctors can also outline exercise and rehabilitation strategies to help maximize the child's lung function so he or she can remain as active as possible.



Asthma

Asthma can affect many aspects of a child's life—play time, school, even the ability to get a good night's sleep. To determine if a child has asthma, the asthma team conducts a thorough physical examination and takes a comprehensive medical history. They may also recommend any of the following tests:

- Spirometry, which measures lung function
- Chest X-ray
- Blood tests
- Allergy tests
- Advanced pulmonary function tests

Following diagnosis, our asthma care team will work with the child's pediatrician to provide the help needed, including second opinions.

Providing a Multidisciplinary Approach

At the University of Chicago Comer Children's Hospital, the approach to asthma care is multidisciplinary. Pulmonary medicine physician-specialists who focus on the comprehensive care of babies, children, and teenagers with mild to severe forms of asthma join forces with nurses specializing in pulmonary disorders, respiratory therapists, case managers, social workers, and asthma educators. They work as a team to keep the child's condition under control, to help the child stay actively engaged in all the activities that are appropriate for his or her age, and to keep the child out of the emergency room.

Providing State-of-the-Art Care

Children who receive care through the Chicago Comer Children's Hospital—whether on-site or off-site—benefit from the best team-based asthma care available, according to the latest national guidelines. The asthma team works with patients, families, and pediatricians to find the cause of the child's asthma in order to bring it under the best control possible.

Our nurses and respiratory therapists work with families and children to assure everyone involved understands the care plan and how to manage it at home. Our asthma experts take the time to teach each family what family members can do to help control the child's condition. They teach family members

the steps they need to take to monitor the child's breathing and ways they can reduce the child's exposure to triggers that could set off an asthma attack.

More Good Reasons to Choose the University of Chicago Hospitals for Asthma Care

Research

At the University of Chicago, physicians in adult and pediatric pulmonary medicine collaborate on research funded by the National Institutes of Health. Current studies are aimed at uncovering the underlying processes in the airways that cause asthma. In addition, physicians in the pediatric pulmonary medicine section work closely with genetics experts at the University of Chicago to determine how asthma susceptibility is inherited. Studies are under way to investigate the genes that may contribute to severe persistent asthma.

Ongoing Education and Outreach

Public education and community outreach are also priorities at the Chicago Comer Children's Hospital and the University of Chicago Asthma Center. The Asthma Center is unique to the University of Chicago Hospitals.

Our asthma education programs reduce the frequency and severity of asthma, particularly among urban populations and minority groups with a high rate of asthma. The Asthma Center offers free asthma classes and an outreach program for residents of Chicago's public housing developments. Experts at the Asthma Center also use the American Lung Association's Asthma 101 program to educate Chicago Public School teachers and staff on important asthma issues in the school environment. A free smoking cessation program is available to the families of children with asthma through the Asthma Center. For more information about the Asthma Center, visit asthma.bsd.uchicago.edu.



Cystic Fibrosis

Since 1967, the University of Chicago Hospitals Cystic Fibrosis Center has provided specialized care to patients and families with cystic fibrosis, an inherited disease that can cause severe lung damage and nutrition problems. The Center, fully accredited by the Cystic Fibrosis Foundation, provides care to people of all ages with CF.

We make the transition from childhood to adulthood easy for patients with CF. Our adult cystic fibrosis program is located in the same medical center and shares some of the same staff as our pediatric program.

Coordinated, Team-Based Care

At the University of Chicago Hospitals Cystic Fibrosis Center, our experts incorporate a multidisciplinary treatment approach to this complex chronic disease. This group of healthcare experts includes:

- Pulmonary medicine specialists
- Pediatric gastroenterologists
- Pediatric endocrinologists
- Nurses specializing in pulmonary disorders
- Dietitians, who help manage nutritional problems caused by CF
- Social workers
- Respiratory care therapists
- Genetic experts and genetic counselors, who are available to speak with families

These specialized professionals work with referring physicians and families to develop a treatment strategy that meets the child's needs.

Newer, Better Therapies to Prolong Life

Although there is still no cure for CF, new therapies are having a significant effect on the lives of children, teens, and adults with this condition. These may include:

- Antibiotics to control infection
- Mucus-thinning medicines and other medications to help keep airways clear
- A food plan to improve nutrition
- Oral enzymes to enhance digestion
- Home oxygen therapy, if needed
- Pulmonary rehabilitation, which includes exercise to improve or maintain lung function

These treatments can improve breathing and help control other symptoms of CF and reduce the likelihood of complications from the disease. Genetic counseling services provide further help in learning to manage CF.

Help for Those with CF and Diabetes

Many patients with CF also have diabetes. To optimize care for such patients, our staff conducts a monthly CF-diabetes clinic with pediatric endocrinologists, diabetes nurse educators, and dietitians.

Research

Researchers at the University of Chicago are investigating various aspects of the basic defect involved in CF in an attempt to better understand the disease. The Cystic Fibrosis Center is involved in multi-center studies of new therapies for CF.





Children with Chronic Lung Disease of Infancy, Most Commonly BPD

Chronic lung disease is a serious lung complication that occurs in premature infants who have required mechanical ventilation in the neonatal intensive care unit. It also can affect children with other medical conditions who have required long-term ventilation. In 90 percent of all cases, chronic lung disease is BPD or bronchopulmonary dysplasia.

Physicians in the pediatric pulmonary medicine section follow these babies once they are discharged to monitor their needs for continued diuretics, oxygen, and nutritional supplementation and to determine whether they will require ongoing treatment for reactive airway disease or asthma, conditions common in these children.

Physicians at the Chicago Comer Children's Hospital have extensive, long-term experience managing children with chronic lung disease, particularly those with more severe lung disease who require transition to home on mechanical ventilation.

Children Dependent on Ventilators

Children assisted by ventilators rely on the developments of biomedical technology to sustain their lives: all have tracheostomies, some require oxygen, and others must be fed by gastrostomy tube.

As life-support technology becomes more portable and research data clearly show that these children thrive best in a supportive home environment, more and more are discharged from the hospital into the care of their families. Pulmonary staff provides comprehensive care and regularly scheduled monitoring to maximize the potential of each child. Often, in these situations, we consult with experts from other disciplines to make the best determinations for individual children.

Convenient Locations

For the convenience of our patients, outpatient pulmonary services are available in several locations, including:

University of Chicago Hospitals
Center for Advanced Medicine
Pediatric Specialists
5758 S. Maryland Avenue, 3A
Chicago, IL
(773) 702-6178

University of Chicago
Pediatric Specialists
8528 Broadway Avenue
Merrillville, IN
(219) 756-1200

University of Chicago
Pediatric Specialists
7350 West College Drive, Suite 102
Palos Heights, IL
(708) 448-8000

North Side Outreach Clinic
Location to be announced

How to Reach Us

The University of Chicago
Department of Pediatrics
Pediatric Pulmonary Medicine
5841 S. Maryland Avenue
Room C146, MC 4064
Chicago, IL 60637

To refer a patient, to schedule an appointment, or for more information, please call (773) 702-6178.

Fax: (773) 834-1444

E-mail: llester@peds.bsd.uchicago.edu

Visit our Web site at
www.uchicagokidshospital.org/pulmonary/

COMER
CHILDREN'S
HOSPITAL



THE UNIVERSITY OF
CHICAGO

The University of Chicago
Comer Children's Hospital
5721 South Maryland Avenue
Chicago, IL 60637