Studies show that spirometry in the primary care setting is crucial in early detection of Chronic Obstructive Pulmonary Disease (COPD), a leading cause of death in the U.S. One study showed that more than 60% of patients whose spirometric findings are consistent with COPD had no prior diagnosis of COPD. ([J Asthma](#), 2006 Feb)

“Spirometry is extremely important for the diagnosis of COPD, and should be considered in any patient with dyspnea, chronic cough, and sputum production, or a history of exposure to risk factors for the disease,” said Barry Make, MD, Professor of Medicine and Co-Director of the COPD Program at National Jewish Health.

National Jewish Health is collaborating with The COPD Foundation and the National Medical Association (NMA) to produce and provide a series of continuing medical education (CME) activities entitled, *Making the Right Diagnosis: The Need for Spirometry*.

The learning objectives of this program relate to recognizing, diagnosing, and managing the heterogeneity of COPD. The program includes interactive lectures on differentiating between COPD and asthma, the treatment of COPD, a hands-on spirometry workshop and more. The faculty presenters are primarily National Jewish Health faculty who specialize in COPD. They utilize an Audience Response System during the lectures in which participants answer questions using a key pad and the results appear on a screen in real time. The presenters use these results to gauge the immediate understanding of the participants and adjust the presentation to address additional education needs and other issues.

2009 Sessions Offered
Over the winter, this program, made possible by unrestricted educational grants from GlaxoSmithKline and Pfizer, was presented to providers in underserved areas of the country. Two more training sessions will be offered this fall.

“COPD is an emerging epidemic with a significant societal burden” Adam Friedlander, MD

continued on page 2
**Clinical News**

**Spirometry Training continued from page 1**

The first one is at the Westin Colonnade in Coral Gables, FL on September 26. The second is at National Jewish Health in Denver, CO on October 10. The course content is available online at njhealth.org/proed.

“Over 12 million Americans have been diagnosed with COPD, but despite its impact, COPD continues to be under-diagnosed and misdiagnosed,” said Byron Thomashow, MD, Chair of the COPD Foundation Board of Directors. “Checking lung health is just as important and easy as checking blood pressure, and this spirometry training program empowers individuals with COPD and educates healthcare providers to make a difference.”

**Live Program Outcomes To Date**

**This CME initiative has:**
- Satisfied participants
- Increased participant knowledge and clinical impact
- Enhanced understanding of the importance of using spirometry to distinguish COPD from asthma
- Improved recognition of need to treat these patients differently

**Participants**
- Recognized their knowledge limitations and need to close the gap
- Demand ongoing spirometry education regarding interpretation

**Results to Date**
- 9/10 participants indicated that they would be likely to make changes in their practices based on the information presented
- 5/9 measures improved significantly between pre-test and delayed-post-test data
- 98% of participants gave this CME program the 2 highest ratings compared to other events

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**Pediatric Food Allergy Diagnostic Center Opens**

The NJ4kids program at National Jewish Health opened a dedicated Food Allergy Diagnostic Center in May. “Food allergies comprise a growing public health challenge with nearly eight percent of children in the U.S. having a food allergy,” stated Erwin Gelfand, MD, Chairman of the National Jewish Health Department of Pediatrics.

The Food Allergy Diagnostic Center at National Jewish Health is a unique facility that enables our physicians to conduct allergy testing and diagnostic food challenges in a comprehensive and safe setting solely dedicated to children with food allergies.

**Grant Launched Asthma CME Program Across U.S.**

National Jewish Health was awarded an unrestricted educational grant from Genentech-Novartis and AstraZeneca to produce “Regaining Control of Difficult Asthma,” a series of Continuing Medical Education (CME) activities designed to update healthcare providers regarding the National Heart Lung and Blood Institute’s Asthma Guidelines from the National Asthma Education and Prevention Program which were released in September 2007.

Co-chaired by Harold Nelson, MD, and Stanley Szefer, MD, both of whom served on the Expert Panel Report (EPR) 3 Committee and were instrumental in developing the new Asthma Guidelines, the CME program included:
- 21 live dinner meeting lectures by a National Jewish faculty member or former Fellow, an Audience Response System and interactive Q&A session
- An online education tool created by TheraSim that simulates the diagnosis and treatment of a patient in an actual office setting.
- A condensed pocket guide of the 2007 Asthma Guidelines
- Pre and post test evaluations as well as follow-up surveys will be used to analyze the effectiveness of this program and to develop needs assessments for future programs.

If you missed the live program, visit www.therasim.net/njh01 to participate in the online version. Call 303-398-1000 or email ProEd@njhealth.org to request copies of the Asthma Guidelines pocket guide.

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For more information or to register for an upcoming program, please call 1.800.844.2305 or visit www.njhealth.org/proed.

Adam Friedlander, MD
Barry Make, MD
Asthma Study: New Dry Powder Inhaler Works on Cellular Level

Clinical Research
The Weinberg Adult Clinical Research Unit at National Jewish Health is conducting a study for a new investigational dry powder formulation inhaler known as Aero-001.

This novel new inhaled treatment seeks to prevent asthma symptoms by addressing trigger mechanisms on a cellular level, blocking the inflammatory response before symptoms arise. These mediators have been widely used in clinical trials before, but this is the first attempt at delivering treatment via a dry powder inhaler as opposed to more invasive delivery methods.

Study specifics:
- Participants 18+ years old, with moderate — severe asthma (FEV1% greater than or equal to 50% — less than or equal to 95%, with 12% reversibility)
- Non-smokers for at least 6 months, having less than a 10-pack year history of smoking
- Study duration — 4 months long
- 75% chance of receiving Aerovant drug
- Participants will receive $575 for completing study in addition to many tests and study drug

For more information about this important new study contact the Weinberg Clinical Research Unit at 303.398.1911.

New Tests Available from ADx— Immunodeficiency Disease

Primary Immunodeficiency Disease (PIDD) — represented by defects in humoral, cellular or combined, phagocytic, complement, or Toll-like receptor pathways — has a broad spectrum of severity and is significantly under-diagnosed. National Jewish Health has recently introduced important new laboratory tools for diagnosing PIDD. These include a written guide to aid in the laboratory diagnosis of PIDD and a simplified process for ordering screening tests.

Other newly developed tests related to PIDD are:
Common variable immunodeficiency (CVID) diagnosis. This is a frequent form of PIDD that requires careful diagnostic steps to justify appropriate payer reimbursement for intravenous immunoglobulin therapy. Now available are: a new memory B cell phenotyping panel and individual tests for BAFF-R, CD40, ICOS, and CD40L. Together with the existing memory B cell panel, ADx provides the broadest available menu of tests to definitively diagnose CVID.

Defects in Toll-like receptors (TLR), are an important component of innate immunity. New ADx tests include a unique and simple approach to assessing TLR defects — a single screening test to identify a signaling defect in any of nine different TLRs. The test relies on stimulation of a patient’s blood mononuclear cells with purified ligands for each TLR, and is available for both diagnostic use and clinical studies.

Contact the Advanced Diagnostics Laboratories (ADx) at 800.550.6227, option 6 for more information.

Benefits of Referring Diagnostic Services to National Jewish Health

1. Detailed and quick reporting
2. Competitively priced
3. Ease of appointment availability
4. State-of-the-art technology
5. Unique testing capabilities
6. Highly trained and respected providers
7. Comprehensive services
8. Conveniently located in one location with ample free parking
9. Patient-focused approach
10. Diagnostic services tailored to each patient’s needs

Call 303.270.2420
Case Connection
We are pleased to introduce a new section, called Case Connection. Our goals are to illustrate the detailed care and collaboration included in our diagnosis and treatment.

Asthma or Sarcoidosis?
Gregory P. Downey, MD, Pulmonologist
Ali Musani, MD, Interventional Pulmonologist

Presentation:
A 50 year-old obese woman presented for evaluation of asthma and a pleuro-pulmonary mass. She has a history of anaphylaxis, asthma and a pleural-based mass was noted in the area of the right upper lobe on a recent CT scan of her chest. The patient is a lifelong nonsmoker who can walk 1 to 2 miles on a flat surface, but has difficulty with inclines, especially in hot and humid weather. She has no history of childhood asthma, atopy, or eczema, and no history of nasal polyps or aspirin sensitivity. She has not worked in any industrial setting, has not mined, sandblasted or used ceramics and has no history or asbestos exposure. The patient consumes 1 to 3 ounces of alcohol per week but has never used marijuana. She has stable vitals and no acute symptoms.

Current medications:
Albuterol metered-dose inhaler 2 puffs q.u.i.d. p.r.n. Used prior to some exercise to improve symptoms. Monitors her asthma with a peak flow meter—best reading is 400, worst is 200. Pulmicort nebulies b.i.d. Formoterol by nebulizer b.i.d. Combination of albuterol and ipratopium by nebulizer q.i.d. Prednisone 10 mg p.r.n. Allegra p.r.n. Vitamin C 1,000 mg per day Calcium supplement dose unknown

Environmental factors:
Patient lives on rural Midwestern organic farm in a house with baseboard electric heat and high-efficiency wood stove. The house has hardwood floors, but no problem with mold or dampness.

Past medical history:
The patient has suffered from depression, vocal cord nodules, elevated liver function tests, neutropenia, obstructive sleep apnea (current treatment is CPAP 5 cm H2O) restless leg syndrome, gastroesophageal reflux disease – mild esophageal stricture and has a hiatal hernia.

In 1991 she was in a severe motor vehicle accident and sustained injury to the chest, no chest tube or hemothorax, but patient could not recall if she suffered rib fractures. She has gained 40 pounds over the last 3 to 4 years. Patient has no fevers, chills, or night sweats.

Her vitals are stable. The patient’s cardiac examination revealed S1-S2, no added sounds. Her respiratory exam revealed good bilateral sounds with no rales or rhonchi. She is obese; abdomen is benign, nontender, nondistended, no organomegaly. No cyanosis, clubbing or edema in extremities. No gross neurological deficits. No rashes, swollen joints, and no lymphadenopathy in the submandibular, cervical, clavicular or axillary areas.
**Diagnostics**

Chest x-ray for asthma evaluation showed an abnormality, prompting a CT scan. CT demonstrated right upper lobe pleural base mass and mediastinal adenopathy. Repeated CT in six months demonstrated no change.

Cultures of the lung and pleural-based mass were negative and remain negative six and 12 months later.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Bronchoscopy*</td>
<td>Confirmed pleural mass and suggested VATS</td>
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<tr>
<td>Lung biopsy</td>
<td>Negative</td>
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<tr>
<td>Chest x-ray</td>
<td>Lung abnormality</td>
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<tr>
<td>CT scan</td>
<td>Pleural based mass on right upper lobe, scarring and thickening</td>
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<tr>
<td>PET scan*</td>
<td>Right pleural-based mass is intensely positive with &gt; 9 SUV and the right paratracheal lymph node is also positive with an SUV of &gt; 5.5</td>
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<tr>
<td>Pulmonary function*</td>
<td>FEV, of 71% and FVC of 73%, ratio is 97%; total lung capacity is 97% of predicted; RV is 154% of predicted; diffusion is 86% of predicted; airway resistance is 328% of predicted, but reduced to 38% with bronchodilator.</td>
</tr>
<tr>
<td>Methacholine challenge test*</td>
<td>With the highest methacholine concentration of 25 mg/mL, her FEV went down to 1.56 from baseline of 1.76 and her FVC went down to 1.94 from baseline of 2.38.</td>
</tr>
<tr>
<td>Video-assisted thoracoscopic surgery at Rose Medical Center (National Jewish Health partner)</td>
<td>Removed pleural-based mass, biopsy of mediastinal nodes, gross visual inspection showed fibrotic tissue, biopsy revealed evidence on non-caseating granulomas. No evidence of cancer, mesothelioma or lymphoma. Special stains for fungus and AFB were negative</td>
</tr>
<tr>
<td>Laryngoscopy*</td>
<td>Negative for VCD</td>
</tr>
<tr>
<td>24-Hour pH Probe*</td>
<td>Significant gastroesophageal reflux disease</td>
</tr>
</tbody>
</table>

* Performed at National Jewish Health
Use a Combination of Tests to Diagnose Food Allergies

David Fleischer, MD, Assistant Professor, with the NJ4kids program at National Jewish Health, recently found that eczema patients were more likely to have a misdiagnosis of food allergies, probably due to an over reliance on simple screening tests leads to over-diagnosis of food allergy among a wider population.

A recent study evaluated 125 National Jewish Health pediatric patients with a combination of blood tests, skin tests, medical history and oral food challenges — the gold standard of food allergy diagnosis. The results showed that these evaluated children could safely consume 508 of the suspected 917 allergenic foods by the end of their stay at National Jewish Health; more than half the foods eliminated from the patients’ diets had been done so unnecessarily.

Dr. Fleischer is part of the NJ4kids allergy and immunology team who see patients in Denver, Highlands Ranch, Aspen Valley and Vail Valley.

Contact our Physician Line at 1.800.652.9555.

National Jewish Pediatric Care Comes to Vail

The second Friday of each month, the National Jewish Health NJ4Kids Program physicians see patients at the Shaw Pavilion, 320 Beard Creek Road, Edwards, Colorado—for allergies, asthma, atopic dermatitis, recurrent infections, sinusitis and pulmonary conditions.

David Fleischer, MD, Pediatric allergy/immunology
Gary Larsen, MD, Pediatric pulmonology

To schedule an appointment, patients and physicians may call 1.800.621.0505, Option 4.

East Denver Pulmonary Now Located at National Jewish Health Denver

East Denver Pulmonary physicians, Susan Kotake, MD, William Pluss, MD, and Jerry Pluss, DO, have relocated their practice to National Jewish Health. You may continue to refer directly to them by calling—1.800.652.9555. They continue to provide pulmonary consultations at Rose Medical Center.

Direct Patients to Denver’s Channel 7 for Health Tips from National Jewish Health

National Jewish Health teamed up with 7News in Denver to provide community health tips twice a month. The tips developed by National Jewish Health physicians air on 7News this Morning during the 5am and 6am newscasts. Copies of the broadcast segments are available on the National Jewish Health Web site and the National Jewish Health YouTube page. Topics have included:

- Tips for Quitting Smoking
- Tips for Dealing with Childhood Obesity
- Tips for Maintaining Good Sleep Habits
- Steps to Get Ahead of the Spring Allergy Season
- Don’t Let Relapse Sabotage Your Resolution
- Tips to Keep a Healthy Heart

Look for National Jewish Health on Facebook, Twitter and YouTube.
Regaining Control of Severe Asthma

TheraSim® Clinical Simulator

Some asthma patients present unique challenges. This online program is designed to update your knowledge of the NHLBI EPR-3 Asthma Guidelines in relation to the control of severe, persistent asthma and improve the health outcomes of your patients.

The TheraSim® Clinical Simulator is an exciting online medical education tool that allows clinicians to treat a virtual patient as if they were in a clinical setting. During a patient case simulation, clinicians will have the opportunity to:

- Review patient history and exam notes
- Make diagnoses
- Order tests
- Prescribe therapies

With every decision made, the TheraSim® Clinical Simulator will provide evidence-based clinical guidance from thousands of sources including guidelines and pharmacological databases. At the end of the simulation, closing commentary from experts in the field solidifies the main points of the case and peer to peer statistics will be shared on an aggregate level to participants.

Cases Developed by National Jewish Health Faculty:
Harold Nelson, MD, and Stan Szefler, MD

Target Audience: Pulmonologists, Allergists, Nurse Practitioners and Physician Assistants.

2 CME Credits

Visit www.therasim.net/njh01 to participate!

Sample patient case simulation.

This program was made possible by educational grants from Genentech and Novartis and from AstraZeneca.