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EDITORIAL

Patients Getting More Engaged in Care 2

PEDIATRICS STRATEGY

Researchers See Novel Connections Between Reflux and Allergies 3

PRACTICE MANAGEMENT

Key Solutions to Design Problems 6

Patients Getting More Engaged in Care

Patients are getting more involved in their care. Health plans are recognizing that patients who are emotionally and intellectually involved in their care are likely to be more loyal than other patients. In other words, engaged patients are worth the investment needed to educate them.

Patients invested in their care are helping to propel consumer-driven care by visiting such Web sites as MayoClinic.com, WebMD.com, and RevolutionHealth.com. They also are interested in viewing educational videos online on surgical procedures and diseases. In some cases, medical Web sites allow patients to watch surgery being performed live. For many patients, it is easier to learn by viewing than it is by other means.

"The engaged patient is more than an informed patient," says Michelle Sobel, chief creative officer for Emmi Solutions, LLC, a company in Chicago (at www.emmisolutions.com) that produces interactive patient education communication tools. "The engaged patient is activated. She understands information critical to her health, communicates effectively and confidently with her clinical team, complies with instructions related to treatment, and is positively transformed by her experience with care."

In addition, engaged patients help improve operational efficiencies. John Bachman, MD, a professor of primary care at the Mayo Clinic in Rochester, Minn., has written that computer interviewing saves 4 to 8 minutes per patient, creates a record justifying higher codes, and generates claims less likely to be rejected.

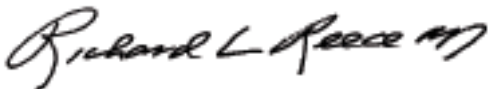
Other experts have found that engaged patients follow directions closely. Cancellations of procedures when patients don't comply with pre-op instructions cost an average of \$2,188, research shows.

Aware of the potential safety hazards inherent in hospitals and particularly after surgery, these patients are three times more likely to recognize complications, such as hospital-acquired infections, researchers say.

Increased understanding among patients also helps to reduce risk. Most nuisance lawsuits result not from negligence but from misunderstandings.

Consumer directed health plans have the effect of providing a financial incentive for patients to be involved in their care. Being involved requires that patients get informed, and that means patients in these plans are likely to have more questions for their physicians than other patients will have.

For practicing physicians, the message in this trend is clear. Patients today want to work more closely with their care providers than patients in the past. These patients may be more willing to comply with orders, which is an advantage, but they will also require more time and more of your expertise at the point of care, necessitating increased practice efficiency.



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Researchers See Novel Connections Between Reflux and Allergies

By Sharon L. Cross, PhD

What do sneezing, hives, and symptoms of gastroesophageal reflux disease (GERD) have in common? All three of these symptoms are possible physical responses to allergenic exposure. An allergic reaction probably isn't the first thought that pops into a clinician's mind when examining a child with reflux, but GERD symptoms and allergies are sometimes linked. About 60% of children with asthma also have GERD, and each condition may exacerbate the other. If the child's asthma worsens in response to allergies, reflux symptoms may appear as well. In other cases, GERD-like symptoms are due to eosinophilic esophagitis (EE), an allergic disorder that often is diagnosed initially as GERD.

Asthma and GERD

Children with asthma have an eight-fold higher prevalence of GERD symptoms than nonasthmatic children, and these symptoms have important clinical consequences. In one study, frequent GERD symptoms were associated with more emergency department and physician visits, and medication use in children with asthma (Debley et al., *Pediatr Pulmonol* 2006;41:475).

Although experts have recognized the link between GERD and asthma for many years, the underlying mechanisms remain unclear. Two major theories put forth to explain this con-

nection are called the reflex theory and the reflux theory. According to the reflex theory, stimulation of receptors by esophageal acid activates the vagus nerve, resulting in bronchoconstriction. In contrast, the reflux theory proposes that microaspiration of acid and other gastric contents causes irritation of the respiratory epithelium and induces inflammatory mediators, thus impairing respiratory function. Each of these theories has some experimental support, and it is possible that both reflex and reflux mechanisms contribute to asthma in patients with GERD.

The majority of clinical attention has focused on the ability of GERD to exacerbate asthma. However, asthma also can exacerbate GERD symptoms, creating a cycle in which bronchospasm promotes reflux, which in turn induces further bronchoconstrictions. "Asthma changes the pressure in the chest and destabilizes the lower esophageal sphincter, which can result in reflux," explains Vikram Khoshoo, MD, PhD, a gastroenterologist with the Pediatric Specialty Center at West Jefferson Medical Center in Marrero, La. In addition, asthma medications may relax the lower esophageal sphincter, further contributing to this problem.

Treating the stomach to help the respiratory system sounds a little odd at first, but several studies in adults and children have shown that treat-

ing GERD helps relieve asthma symptoms. Khoshoo is part of a clinical research group that has monitored and gathered prospective data on more than 5,000 children with asthma over 10 years. One focus of their efforts has been the response of asthma patients to reflux therapies. In their studies of anti-GERD treatment, Khoshoo and colleagues assessed nonatopic children with moderate-persistent asthma. Atopic children, defined as those with multiple allergies or high immunoglobulin E levels, are more difficult to study because their allergies often vary with the seasons. Asthma exacerbations due to fluctuations in allergy symptoms can introduce a confounding element into assessments of therapeutic response to reflux interventions.

Controlling Symptoms

As a further precaution against seasonal variations in asthma symptoms, Khoshoo and colleagues compared asthma symptoms during the six months preceding initiation of anti-GERD treatment with asthma symptoms present 6 to 12 months after starting anti-GERD therapy. "You need at least a year-long follow-up to cover all the seasons," Khoshoo says. "There is a lot of month-to-month variation in asthma symptoms. Studies with a shorter period of follow-up have a much higher margin of error."

(Continued on page 4)

"Asthma changes the pressure in the chest and destabilizes the lower esophageal sphincter, which can result in reflux," says Vikram Khoshoo, MD, PhD, of the West Jefferson Medical Center.

(Continued from page 3)

In a 2003 study, Khoshoo and colleagues found that 12 months of anti-GERD treatment with a proton pump inhibitor (PPI)/prokinetic combination or surgery (fundoplication) resulted in significant reductions in the need for asthma medication in children 5 to 10 years of age (Khoshoo et al., *Chest* 2003;123:1008).

Although the PPIs generally have an excellent safety record, their long-term safety in children has not been well studied. In addition, recent research has identified an association between long-term PPI therapy and increased fracture risk (Yang et al., *JAMA* 2006;296:2947). This study was confined to individuals older than 50 years of age, so it is not clear whether treatment of younger patients might also pose bone risks. Regarding fundoplication, the other anti-GERD treatment that reduced asthma symptoms, there are no data on how long the positive effects of this surgery last in children. In adults, about 50% of patients require anti-GERD medication after 7 years. Most clinicians believe the efficacy of fundoplication diminishes even sooner in children. Long-term control of GERD in children with asthma thus poses a significant challenge.

The Allergy Connection

Some children who present with GERD-like symptoms are suffering from EE, not reflux. Although fairly rare, the prevalence of EE appears to be rising rapidly. A recent population-based study of children in Ohio found that from 2000 to 2003, the prevalence of EE increased from less than 1 patient per 10,000 to more than 4 patients per 10,000 (Noel et al., *N Engl J Med* 2004;351:940).

Should Children with Asthma Be Tested for GERD?

Confirmation of GERD is usually based on a 24-hour pH probe, a procedure that requires insertion of the probe through the nose or mouth into the esophagus.

“The pH probe is the ‘silver standard’ test for GERD,” says Vikram Khoshoo, MD, PhD, a gastroenterologist with the Pediatric Specialty Center at West Jefferson Medical Center in Marrero, La. “We don’t really have a ‘gold standard.’” Because of the invasiveness of this procedure, Khoshoo does not recommend it for all children with asthma. However, a 24-hour pH probe should be considered if the patient has GERD symptoms, asthma in the absence of known risk factors (such as premature birth, atopy, family history, or smoke exposure), and asthma that is poorly controlled despite good compliance. —SC

Most patients with EE have allergies to foods or aeroallergens, as determined by skin prick tests. In some cases, removal of a specific food can provide full relief from EE symptoms, suggesting that the food acts as a trigger for EE. “The foods are the typical ones associated with anaphylaxis,” says Marc E. Rothenberg, MD, PhD, director of the Division of Allergy and Immunology at Cincinnati Children’s Hospital

Medical Center. “But there are more food groups involved with EE, such as corn and mustard.”

Aeroallergens may also trigger EE. Such a possibility was first suggested by a report in which EE was induced in a mouse model system by repeated exposure to aeroallergens (Mishra et al. *J Clin Invest* 2001;107:83). Clinical findings provide further support for the role of aeroallergens in EE. “Studies have

Bronchodilator Use

The effects of medical (PPI/prokinetic) or surgical anti-GERD treatment on the use of short-acting bronchodilators in children with asthma in mean days of bronchodilator use.

	Days
Surgical treatment (n = 9)	
Before surgical treatment	72.8
After surgical treatment	4.0
Medical treatment (n = 18)	
Before medical treatment	66.4
After medical treatment	6.8

Source: Khoshoo et al., *Chest* 2003;123:1008

“EE is much more strongly associated with a family history of EE, male gender, and allergic disease than is GERD,” says Marc E. Rothenberg, MD, PhD, of the Cincinnati Children’s Hospital Medical Center.

been published showing seasonal variations in EE and EE symptoms during the allergy seasons in allergic individuals,” Rothenberg confirms. “The aeroallergens implicated in EE may be the same as those involved in respiratory allergies, such as pollens and molds.”

A Difficult Diagnosis

Diagnosis of EE can be challenging. Although the hallmark of this disorder is the presence of eosinophils in the esophagus, other conditions, including GERD, can cause this symptom. An unusually high number of eosinophils (>20 cells per high power field) may suggest EE. The medical history of the patient also may give important clues. “EE is much more strongly associated with a family history of EE, male gender, and allergic disease than is GERD,” Rothenberg observes. In younger children, the presenting symptom is often a feeding disorder. As the patients get older, vomiting, abdominal pain, and difficulty swallowing become more common. Other symptoms occurring in children with EE include heartburn, diarrhea, and weight loss or failure to thrive.

In cases in which clinicians are unsure whether they are dealing with GERD or EE, one strategy is a trial of anti-GERD medication. “If diagnosis is uncertain, anti-GERD therapy would be recommended,” Rothenberg says. “If the symptoms are persistent, then endoscopic biopsy while the child is on anti-GERD therapy is warranted.” On the other hand, if the patient responds, GERD is likely to be the correct diagnosis, as patients with EE are refractory to anti-reflux therapies.

Treating EE

EE is a chronic and recurrent disease. There are two primary strategies for treating EE: avoidance of the antigenic trigger or immune modulation. Elimination diets can

Eosinophils and Allergic Disorders

Eosinophils are proinflammatory white blood cells that play a critical role in protecting the body from pathogens. However, they also serve as key effector cells in allergic reactions. The influx of activated eosinophils into tissues that are normally devoid of these cells and the subsequent release of cytokines and other inflammatory molecules can cause tissue damage and organ dysfunction. The esophagus is not the only organ in which eosinophils cause damage. Other eosinophilic gastrointestinal diseases affect the stomach or the intestines.

To study these disorders, The Cincinnati Center for Eosinophilic Disorders was founded at the Cincinnati Children’s Hospital Medical Center. This center brings together allergists, gastroenterologists, pathologists, and other professionals who specialize in treating and studying eosinophilic disorders. More information on eosinophilic disorders is available on the center’s Web site (at www.cchmc.org/cced).

—SC

be highly successful in controlling EE, but it is not always possible to identify the causative food and some patients have allergies to a wide variety of foods, making it difficult to remove all of them from the diet. Oral and inhaled corticosteroids are quite effective, but their effects are transient and the long-term safety of these agents is a con-

cern. Other immunomodulatory agents are also being assessed for the treatment of EE, including antibodies to interleukin-5. Such agents may provide further options for treating EE in the future.

—Reported and written by Sharon L. Cross, PhD, in Mission Viejo, Calif. More information on physician practice strategies is available on our Web site (see page 8).

Clinical Features of EE in Children

Common	Nausea/vomiting
	Abdominal pain
	Heartburn
	Diarrhea
	Weight loss/failure to thrive
	Dysphagia
	Food allergy
Uncommon	Food impaction
	Blood in stools
Associated conditions	Asthma
	Allergic rhinitis
	Eczema
	Atopic dermatitis
	Strong family history of atopy
Other risk factors	Male sex

Source: Yan and Shaffer, *World J Gastroenterol* 2006;12:2328.

Key Solutions to Design Problems

By Jill K. Arena, FACMPE

Given that many specialists are likely to be intensely interested in the clinical or business aspects of practice, it may be easy to overlook some of the more mundane issues related to office space. This situation raises a question: how can one acquire functional office space that is inviting for patients and useful for physicians and staff? All physicians should consider several design elements before any building starts.

One of the first questions to answer involves whether you'll rent, buy, or build. Check with the real estate experts in your area before you begin your search. If you consider renting space or buying a building, you may find the latter makes more sense depending on your situation. These are issues to address with your tax professional and financial planner. Once you decide to proceed with construction in the office, here are some of the more difficult questions you will face.

Form Follows Function

First, what activities will happen in the office versus in the hospital? Is the office space mainly for in-office consults and pre-op appointments, or is it a space primarily for dictating notes and completing paperwork? If the emphasis is on in-office consults, exam room size and placement are paramount. If your patients usually come for visits alone, a smaller exam space may be best. If your average patient

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If you consider renting space or buying a building, you may find the latter makes more sense depending on your situation. These are issues to address with your tax professional and financial planner.

visit includes the patient and one or more family members or caregivers, consider exam rooms measuring at least 10 feet by 10 feet. If you use anything larger than a conventional exam table, consider adding a few more feet to one dimension as well.

If your office is largely a place for dictation and paperwork, be sure to include an area that is quiet where you can dictate notes with few interruptions. If you need space for consults with patients and family members, be sure to incorporate adequate seating and think carefully about the composition of the room. Do you wish to sit across a desk from your patients? Doing so is clearly a position of power, and reinforces a specific role. Many physicians eschew that layout in favor of a friendlier furniture arrangement that gathers people together as a group with no seating or power disparities. Making this decision requires some soul-searching about how you prefer to interact with patients, and what role you will assume: dictator or advisor.

Other questions to raise include: Who will spend time in the office, and what is their function? Will you have a scheduler, receptionist, and biller? How do they interact with one another? One should consider if and how the workers will be required to do each other's jobs, which may call for co-located or line of sight work spaces. How much sound insulation does the scheduler need from the

front desk if the majority of her work is done by phone? If it is done largely by computer, does that change the office dynamic?

Given that the design and décor of one's office communicates many factors to patients, physicians should pay attention to the details of how it is furnished. Old furniture and dusty fake plants may make your patients question your clinical competence. They may also question your ability to be current with clinical issues if your waiting room suggests a bygone era. Walk through the front door of your office with a naïve set of eyes or ask a friend to do so and give you his or her first impression. What messages are you sending to patients? What messages do you want to send them?

If the carpeting is plush, the furniture luxurious, and the artwork expensive, your patients may begin to wonder how much you are billing them (or more likely, their insurance company) for the services you provide. One should strive to have clean, attractive, and current furnishings of good quality without going overboard.

Location, Location

Oddly, the location of the office and proximity to the hospital also can speak volumes about your practice. In general, if the hospital in your community enjoys a good reputation, a suite on campus or close to it allows institutional transference, which will

allow you to bask in a bit of the facility's glory simply by stating to patients, "We're located on the St. Mary's campus." The opposite is also true. If the hospital has a poor reputation, any co-located practice may be painted with that brush as well. What is the reputation of your admitting facility? Is it time to move closer or farther away? Once established in a community, most physicians give little thought to this issue. While challenging at first, a move to another hospital can frequently make or break a practice over time.

Technology is an oft forgotten element that is gaining importance in office design as electronic medical records (EMR) become more prevalent. How do you use technology? How would you like to integrate it into your new space? If you are using an EMR, or plan to install one soon, consider putting PCs in each room. If you will use laptops, tablets, or other portable devices, you'll have more space and more design options. After years of study, many physicians have found that a wall-mounted articulating arm is best for integrating a PC into an exam room, and they can be used in nursing or dictating stations as well. Consider screens that sit below the desktop with glass panels for minimal desktop clutter and maximum security of patient information in public areas.

Integrating technology likely will have a tremendous effect on workflow and should have a bearing on your floor plan. If you have not yet implemented an EMR, but plan to, consider these issues before construction starts.

A Sense of Space

Whether it is feng shui or karma each office and room has a certain "feel." It could be cold or warm; inviting, or not. We don't often consider it, but this element is palpable in most places. How do patients and visitors remark about how your space feels? In general, would they say the space is calming or frenetic? It is important to consider the feel of the space, which includes such important elements as natural light, live plants, artwork, and other features.

Consider all five senses, not just sight. What do you want your patients to hear when they come in? Soothing music (such as one would hear in a spa) or a ringing telephone or blaring television? What do your patients smell when they enter the office? A medicinal or musty odor can be off-putting. Fresh coffee may be inviting. Or perhaps no odor is best. What textures can instill the feeling you want? In general, health care professionals can agree on the elements of the office and their need to promote a sense of calm and healing. Does your space do this? If not, what should you change?

Interior designers can help in creating the look and the feel of the office you want. Hire an independent designer or consider using the in-house designer from your architectural firm or furniture vendor. Ask if the designer's fee is included in the project budget or added separately. Also ask if its equipment vendor will provide design services (called computer-aided design or CAD or computer-aided manufacturing or CAM) for its

equipment and built-ins. Many do so, and this step can reduce your design costs. Also consider what existing furniture and equipment you can reuse in the new space, and if you do, how to incorporate these elements into the design. A significant consideration for design is any specialized diagnostic equipment that requires special building accommodations such as reinforcements in the walls or ceiling.

Square Footage Costs

Finally, one should consider financial implications of space, beginning with how much space is needed for the practice, which will drive ongoing rent costs, property tax, and other factors. A general rule of thumb is 1,000 square feet per physician, although this can be increased or decreased dramatically depending on the practice and the use of the space. Office space varies in cost, and can range from \$10 per square foot for Class C space or space in a down real estate market to more than \$50 per square foot for Class A space in a high demand area.

Lastly, if you go into an undeveloped space (shell or vanilla shell) your build out costs (usually called tenant improvements) can range from \$75 to \$200 per square foot depending on your design and finishes.

Most physicians will rent or build new office space once or twice in a career, and the decisions to be made are numerous and have far reaching effects for the practice and its viability.

—More information on physician practice strategies is available on our Web site (see page 8).

Consider the financial implications of how much space the practice needs. The amount of space will drive other ongoing costs, such as rent and property taxes. A general rule of thumb is 1,000 square feet per physician, although this can be increased or decreased dramatically depending on the practice and the use of the space.

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