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ATLANTA Medicine is the journal of the Medical Association of Atlanta and is published by Sawyer Direct LLC at P.O. Box 49053, Colorado Springs, CO 80949

For subscription and advertising information, call 719.599.7220 or email info@sawyerdirect.com.

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+ The Southeast Permanente Medical Group is a growing, award-winning, multi-specialty group practice of more than 460 primary care and specialty physicians
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As guest editor for Atlanta Medicine, I am pleased to be able to highlight some current pediatrics topics that we have seen appearing in the popular press; as well as to share the medical facts behind them.

Few topics have been the subject of more controversy than the causes and treatment of autism. Despite the firm base of medical literature that discredits vaccines as a potential cause of autism, rumors persist and contribute to vaccine hesitancy. Families facing this life-altering diagnosis understandably seek all potential explanations and therapies, with the challenge of separating fact from fiction. Here, we review some of what is definitively understood about autism.

Staggering global concerns around the growing refugee population have sharpened the focus on their medical needs. The Southeast Permanente Medical Group has provided charitable pediatrics care and clinical oversight for the newly created DeKalb County Health Department Pediatrics Refugee Clinic for the past five years. Physicians with Kaiser Permanente partner with others in the academic and public health community in meeting the extraordinary challenges and rewards of treating these remarkable children, through this unique local resource.

As the list of health benefits of breastfeeding continues to grow, how can physicians from “non-baby” disciplines support this important component of health? Physicians from all disciplines should understand how to aid in avoiding medical road blocks to successful breastfeeding.

Air quality garners international attention; not only from an environmental standpoint, but for its contribution to health and illness. Perspective is shared on the impact of air quality on children with asthma, particularly in the underserved population.

Lastly, the phrase “First, do no harm” is well-established in medicine. New evidence hints that we may have inadvertently contributed to the increasing prevalence of peanut allergy through our abundance of caution in advising delay in the introduction of potentially allergenic foods to children. It gives pause to consider the potential implications of well-meaning medical advice.

Welcome to the exploration of these intriguing topics, and enjoy.
“Caution: Code Orange Smog Alert.” We see this too often during summer months in Atlanta, and it means that Atlanta’s air quality is unhealthy for sensitive groups, including all children and particularly those with heart and lung disease. When ozone reaches these levels, limiting outdoor exertion is recommended, especially during the afternoon or early evening. Code Orange days also mean that we will see more young patients coughing and wheezing with asthma exacerbations.

Metro Atlanta has a long-standing problem with ozone pollution. Levels have improved with the Clean Air Act, but current limits still allow our children to be exposed to levels that research shows to be clearly harmful. According to the American Lung Association “State of the Air 2015” report, we are among 138 million Americans who live in counties where ozone or particle pollution levels make the air unhealthy. This report card for America’s air gave Fulton, Gwinnett, DeKalb and Cobb counties an “F” for having too many days where levels of ozone made the air unhealthy to breathe.

Ozone causes shortness of breath, wheezing, coughing, asthma attacks and an increased risk of respiratory infections. High levels of ozone have also been linked to cardiovascular harm and risks to the central nervous system. Even low levels of ozone can be deadly, with research finding that ozone at these levels is still associated with deaths from strokes, respiratory causes and cardiovascular disease. The lungs of our children are uniquely at risk due to smaller airway diameter, increased airway reactivity and resistance, and still developing anti-oxidant and detoxification airway defense systems, which are too easily overwhelmed. Children also have extra exposure to school bus traffic and during outdoor school activities. And let’s face it, children want to play outdoors – as well they should.

Asthma is still the No. 1 reason for admission to the hospitals and emergency rooms of Children’s Healthcare of Atlanta; just as it is at a large number of other children’s hospitals. Minority status, living below 200 percent of the federal poverty level, inner-city residence along traffic corridors in cities with poor air quality, overcrowded living conditions and residence in neighborhoods with high rates of violent crime have all been documented to be associated with a higher prevalence of pediatric asthma, with higher asthma admission and death rates. The direct cost for asthma-related hospitalizations among children in Georgia amounts to more than $27.8 million, and the human cost is incalculable.

Interestingly, efforts to reduce downtown traffic congestion in Atlanta during the 1996 Olympic Games resulted in decreased traffic density and ozone levels, especially during the critical early morning. Peak daily ozone concentrations decreased 27.9 percent, and peak weekday morning traffic counts dropped 22.5 percent. This was associated with significantly reduced rates of childhood asthma events. The number of acute asthma events during the Olympics decreased 41.6 percent in those with Georgia Medicaid, 44.1 percent in an HMO, 11.1 percent in two pediatric emergency departments, and 19.1 percent in the Georgia Hospital Discharge Database. This data provides support for efforts to reduce air pollution and improve health via reductions in motor vehicle traffic.

The EPA needs to heed the scientific consensus and set stronger ozone standards based on the scientific evidence available. Every child deserves the opportunity to play outside and breathe clean air. Our children should not continue as “canaries in the coal mine,” serving as our early warning system as our air quality deteriorates. As physicians and parents, we must put the health of our children first and strengthen standards to reduce ozone pollution.
Breastfeeding is the biologic norm and promotes optimal health for mothers and infants. Mothers who breastfeed reduce their risk for ovarian and breast cancer, decrease their risk for type II diabetes and are more successful at losing postpartum weight. Their infants benefit from decreased otitis media and gastroenteritis infections, among a myriad of other benefits.

Despite this, most mothers in the U.S. fail to follow the American Academy of Pediatrics recommendations of breastfeeding exclusively for 6 months, with continued breastfeeding through the infants first birthday. Inappropriate advice from healthcare professionals has been identified as one of the many barriers to breastfeeding for mothers, and the Baby Friendly Hospital Initiative, among other programs, seeks to help improve advice given by obstetricians and pediatricians to new mothers. However, it’s equally important that physicians whose day-to-day roles often have little to do with breastfeeding – i.e., “non-baby” doctors – know three basic rules about how they, too, can promote and protect breastfeeding.

### TABLE 1. Drugs That Have Been Associated or Have Possible Significant Effects on Some Nursing Infants and Should Be Given to Nursing Mothers With Caution*

<table>
<thead>
<tr>
<th>Drug</th>
<th>Reported Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acebutolol</td>
<td>Hypotension; bradycardia; tachypnea</td>
</tr>
<tr>
<td>5-Aminosalicylic acid</td>
<td>Diarrhea (1 case) 117–119</td>
</tr>
<tr>
<td>Atenolol</td>
<td>Cyanosis; bradycardia 120–124</td>
</tr>
<tr>
<td>Bromocriptine</td>
<td>Suppresses lactation; may be hazardous to the mother 125, 126</td>
</tr>
<tr>
<td>Aspirin (salicylates)</td>
<td>Metabolic acidosis (1 case)</td>
</tr>
<tr>
<td>Clemastine</td>
<td>Drowsiness, irritability, refusal to feed, high-pitched cry, neck stiffness (1 case)</td>
</tr>
<tr>
<td>Ergotamine</td>
<td>Vomiting, diarrhea, convulsions (doses used in migraine medications)</td>
</tr>
<tr>
<td>Lithium</td>
<td>One-third to one-half therapeutic blood concentration in infants</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>Sedation; infantile spasms after weaning, methemoglobinemia (1 case)</td>
</tr>
<tr>
<td>Primidone</td>
<td>Sedation, feeding problems</td>
</tr>
<tr>
<td>Sulfasalazine</td>
<td>Bloody diarrhea (1 case)</td>
</tr>
<tr>
<td>Nalidixic acid</td>
<td>Hemolysis in infant with G6PD deficiency</td>
</tr>
<tr>
<td>Nitrofurantoin</td>
<td>Hemolysis in infant with G-6-PD deficiency</td>
</tr>
<tr>
<td>Amiodarone</td>
<td>Possible hypothyroidism</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>Methemoglobinemia (1 case)</td>
</tr>
<tr>
<td>Sulfapyridine</td>
<td>Caution in infant with jaundice or G-6-PD deficiency and ill, stressed, or premature infant; appears in infant’s milk</td>
</tr>
<tr>
<td>Sulfisoxazole</td>
<td>Caution in infant with jaundice or G-6-PD deficiency and ill, stressed, or premature infant; appears in infant’s milk</td>
</tr>
</tbody>
</table>

*Blood concentration in the infant may be of clinical importance.
**Rule 1: Most medications are fine for breastfeeding – although some are better than others.**

The vast majority of medications are fine for breastfeeding and should not be a reason for mothers to discontinue breastfeeding. Cyclosporine and methotrexate are contraindicated, for example, as are a few other drugs that are concerning for possible side effects in nursing infants (see Table 1). General anesthesia also does NOT require “pumping and dumping” milk. Once the mother feels well enough to breastfeed, the inhaled anesthetic is no longer a concern for the infant.

If unsure, look up the medication in question at infantrisk.org (or call the hotline at 1-806-352-2519); infantrisk.org is headed by Thomas Hale, of Medications and Mothers’ Milk. It has the most comprehensive information and will answer individual clinician questions.

Another good resource is the LactMed Database, a free online database run by the National Library of Medicine. DON’T use the Physician Desk Reference (PDR) or pregnancy risk categories when assessing the risk of a medication to a nursing infant – neither provides appropriate information.

While most medications are fine for breastfeeding, physicians should be aware that for infants less than 1 month of age it is preferable to avoid Bactrim (due to risk for kernicterus), if at all possible. Additionally, physicians should be aware that certain common medications can decrease milk supply, most notably Benadryl and pseudoephedrine, and should advise mothers to monitor the milk supply carefully if using these medications. Additionally, any and all medications given to breastfeeding mothers of premature infants who are still inpatients in the NICU require further oversight and review by a neonatologist. Physicians should be encouraged to partner with the neonatology department to coordinate treatment while optimizing availability of breast milk for these most vulnerable infants.

**Rule 2: Radiologic studies typically shouldn’t require “pumping and dumping” milk.**

CT scans and MRIs with contrast do NOT require pumping and dumping, per American College of Radiology guidelines, as a very small amount is retained and excreted into breast milk. Barium is not absorbed orally and is not excreted into milk. Many common nuclear studies such as bone scans or HIDA scans also do not require interruption of breastfeeding. Some nuclear studies will require pumping and not using that milk for 5 half-lives. If ordering a nuclear medicine scan, physicians or patients should consult the radiology department regarding the half-life of the radioisotope used to determine when the pumped milk may be used safely and breastfeeding be resumed. The only exception is I-131, used for thyroid ablation; the U.S. Nuclear Regulatory Commission recommends complete weaning. Table 2 contains more complete details about nuclear studies that may require temporary weaning in nursing mothers.

**Rule 3: Help sick moms continue to breastfeed, even when separated from their infants.**

Breastfeeding mothers who are ill still need to remove milk in order to prevent mastitis. Physicians should order breast pumps at bedside for mothers separated from infants due to illness. Even mothers who are quite ill or post-op and cannot physically pump should have milk removed to minimize risk of mastitis and breast abscess. This is often facilitated by family members or patient care technicians if family is unavailable. For mothers who are well enough and able to breastfeed, encourage family members to bring the infant to the mother to nurse, if medically appropriate and if desired by the mother.

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**Table 2. Radioactive Compounds That Require Temporary Cessation of Breastfeeding**

<table>
<thead>
<tr>
<th>Compound</th>
<th>Recommended Time for Cessation of Breastfeeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 64 (64Cu)</td>
<td>Radioactivity in milk present at 50 h</td>
</tr>
<tr>
<td>Gallium 67 (67Ga)</td>
<td>Radioactivity in milk present for 2 wk</td>
</tr>
<tr>
<td>Indium 111 (111In)</td>
<td>Very small amount present at 20 h</td>
</tr>
<tr>
<td>Iodine 123 (123I)</td>
<td>Radioactivity in milk present up to 36 h</td>
</tr>
<tr>
<td>Iodine 125 (125I)</td>
<td>Radioactivity in milk present for 12 d</td>
</tr>
<tr>
<td>Iodine 131 (131I)</td>
<td>Radioactivity in milk present 2–14 d, depending on study</td>
</tr>
<tr>
<td>Iodine 131 (131I) Radioactivity in milk present 2–14 d, depending on study if used for treatment of thyroid cancer, high radioactivity may prolong exposure to infant and complete weaning usually advised</td>
<td></td>
</tr>
<tr>
<td>Radioactive sodium</td>
<td>Radioactivity in milk present 96 h</td>
</tr>
<tr>
<td>Technetium 99m (99mTc), 99mTc macroaggregates, 99mTc O4</td>
<td>Radioactivity in milk present 15 h to 3 d</td>
</tr>
</tbody>
</table>

* Consult nuclear medicine physician before performing diagnostic study so that radionuclide that has the shortest excretion time in breast milk can be used. Before study, the mother should pump her breast and store enough milk in the freezer for feeding the infant; after study, the mother should pump her breast to maintain milk production but discard all milk pumped for the required time that radioactivity is present in milk. Milk samples can be screened by radiology departments for radioactivity before resumption of nursing.

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For more information on breastfeeding and medical conditions, go to http://kellymom.com/category/bf/can-i-breastfeed/.

For the past five years, The Southeast Permanente Medical Group’s (TSPMG) Cares Program and DeKalb County Board of Health (DCBOH) have collaborated to provide pediatric services to newly resettled refugee children in DeKalb County.

The Refugee Pediatric Clinic opened its doors on May 5, 2010, to help refugee kids with chronic medical conditions gain access to specialty care providers. Initially providing limited services only one day per week, we now provide comprehensive pediatric care four days per week, offering well child exams and acute and follow-up visits. Same-day and walk-in access are also available. In 2014, we completed more than 2,000 visits for approximately 800 children and teens.

The clinic is staffed by TSPMG physicians and nurse practitioners, and we are lucky to work with volunteer pediatricians from the Centers for Disease Control and Prevention (CDC) and pediatric residents from Emory University. DCBOH provides clinic staff, including an LPN, a public health tech, multilingual reception staff, laboratory staff and a cadre of dedicated and trained onsite medical interpreters who speak approximately eight different languages; language line services provide additional language support when needed.

The national Reach Out and Read program has generously worked with us to help immerse young refugees in the English language and the joys of reading. Collaborations with Emory University and CDC have encouraged ongoing clinical research, which has been presented at national American Academy of Pediatrics meetings.1,2

We were inspired to start this clinic when it appeared that refugee children in our community with significant health

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### Table 1. Unique Health Conditions Encountered in Refugee Children at DCBOH (2010-2015)

<table>
<thead>
<tr>
<th>Oral Health</th>
<th>Gastrointestinal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe dental caries, sequelae of betel nut chewing, including staining and submucosal fibrosis</td>
<td>Portal vein thrombosis with esophageal varices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nutritional Deficiencies</th>
<th>Cardiac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malnutrition (stunting and wasting), anemia, vitamin D deficiency</td>
<td>Unrepaired congenital cardiac defects, rheumatic heart disease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infectious Diseases</th>
<th>Neurologic</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB, hepatitis B, intestinal parasites, H. pylori, HIV, chronic otitis media with cholesteatoma, cutaneous leprosy</td>
<td>Epilepsy; sequelae of untreated cerebral palsy, ASD and developmental delay; unrepaired meningomyelocele and untreated hydrocephalus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Health</th>
<th>Hearing Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead exposure/elevated blood lead levels</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genetics</th>
<th>Orthopedics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down Syndrome with untreated hypothyroidism</td>
<td>Congenital limb anomalies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mental Health</th>
<th>Conditions Related to Trauma/Torture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttraumatic stress disorder, depression, and anxiety</td>
<td>Gunshot wounds, female genital mutilation, teen pregnancy, and genital trauma secondary to sexual violence</td>
</tr>
</tbody>
</table>
problems were having trouble accessing follow-up care after their initial health screening and were “falling through the cracks.” Although they had health insurance (Refugee Medical Assistance), they confronted new obstacles. Language and communication barriers, transportation barriers and a low level of health literacy were only compounded when they encountered our complex healthcare and insurance system.

Our goal was to deliver care in a setting that could effectively address some of these barriers and provide multiple services in one location. DCBOH had the necessary infrastructure for this program, including a well-developed refugee screening clinic with a multilingual staff that already evaluated new refugees. Numerous ancillary services were already in place, including Women, Infants, and Children (WIC); clinics for HIV, other sexually transmitted infections, tuberculosis (TB), latent TB infection and dental care; the Children’s First Program; and programs for mental health and environmental health. We succeeded in establishing a pediatric clinic built on the widely recognized core values of immigrant medicine.3 We strive to:

- Recognize the continued health inequities faced by refugees after resettlement.
- Show respect for our patients’ cultures, religions, experiences and resilience.
- Promote trust by using bilingual staff and not rushing through encounters.
- Demonstrate cultural humility by showing respect, interest and willingness to learn from others.
- Approach newly arrived refugees with compassion.
- Understand the unique health profiles of refugees based on their country of origin.

An understanding of these values helped our perceptive practitioners quickly determine the cause of this baby’s elevated lead level:

Baby S was a 3-month-old exclusively breastfed refugee from Afghanistan. Her labs were significant for a lead level of 22ug/dl (normal less than 5µg/dl). Development was appropriate for age and mother’s lead level was undetectable. The pediatric provider immediately noticed that the infant was wearing eyeliner, or surma, brought from Afghanistan. These products are believed to help eyesight develop and ward off evil spirits, but can also expose children to lead. The Division of Environmental Health at DCBOH made a home visit and tested the surma for lead, finding an extremely high level. The family was counseled about the dangers of this product in children and immediately stopped using it. One month later, the lead level was 19 µg/dl and, thereafter, continued to fall.

Table 1 lists many of the unique medical problems we have treated in children and teens over the past 5 years. In the next section, we will give an overview of refugee health, providing some global and local statistics, and a description of the refugee medical screening process.

Refugee Statistics

The United Nations High Commissioner for Refugees reported that in 2014 there were 59.5 million forcibly displaced persons worldwide, representing the largest refugee crisis since World War II. This number includes 19.5 million refugees, 38.2 million internally displaced people and 1.8 million asylum seekers.4 About one-third of the world’s refugees originate in Syria and Iraq, but large numbers also come from Afghanistan, Somalia, the Democratic Republic of the Congo (DRC) and Sudan.4

In 2014, 69,986 refugees resettled in the United States, of which 2,694 from 34 countries arrived in Georgia.3 The majority originated from Burma/Myanmar, Bhutan, Somalia, Iraq, DRC and Afghanistan (Table 2). Each year, Georgia receives approximately 3-5 percent of the U.S.-bound refugee population, primarily in DeKalb County, and ranks among the top 10 states (numerically) for refugee resettlement.

Depending on their countries of origin, refugees may have a high burden of infectious diseases, including hepatitis B, TB and parasitic infections. Many children have lived in refugee camps or other settings where malnutrition and micronutrient deficiencies are prevalent. Others have received little or no care

---

**Table 2. Countries of Origin for New Refugees Admitted to GA, 2014 (Total: 2694)**

<table>
<thead>
<tr>
<th>Country of Origin</th>
<th># Refugees entering GA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burma/Myanmar</td>
<td>744</td>
</tr>
<tr>
<td>Bhutan</td>
<td>550</td>
</tr>
<tr>
<td>Somalia</td>
<td>353</td>
</tr>
<tr>
<td>Iraq</td>
<td>305</td>
</tr>
<tr>
<td>Democratic Republic of Congo</td>
<td>218</td>
</tr>
<tr>
<td>Eritrea</td>
<td>83</td>
</tr>
<tr>
<td>Iran</td>
<td>75</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>66</td>
</tr>
<tr>
<td>Cuba</td>
<td>64</td>
</tr>
<tr>
<td>Sudan</td>
<td>51</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>51</td>
</tr>
<tr>
<td>Other *</td>
<td>134</td>
</tr>
</tbody>
</table>

for significant congenital anomalies and sequelae of difficult pregnancies and traumatic deliveries. Mental health problems such as post-traumatic stress disorder, depression and anxiety are frequent in those who have been traumatized by war, conflict, persecution and torture.

**Refugee Medical Screening**

**The Overseas Medical Evaluation.** Prior to resettlement in the United States, refugees undergo an overseas medical examination conducted by panel physicians selected by the Department of State, with regulatory oversight and technical instructions for the examination provided by the Centers for Disease Control and Prevention (CDC). The purpose of this exam is to identify and prevent (or delay until treatment is complete) travel in those with communicable diseases of public health significance (such as active tuberculosis, leprosy, untreated sexually transmitted infections) and mental health disorders associated with harmful behaviors and drug addiction. Conditions noted at the time of the exam that do not legally preclude travel are documented on the overseas medical record.

Additionally, most refugees bound for the United States are offered a number of Advisory Committee on Immunization Practices (ACIP)-recommended immunizations, as well as pre-departure presumptive treatment for parasitic infections that varies by country of origin. Immunizations and parasitic treatment are not legally required but are strongly recommended to refugees to improve health and prevent resettlement delays that arise during outbreaks of vaccine-preventable disease.

A completed overseas health assessment (DS-2053) form is given to families prior to travel, and they are instructed to bring this form to their domestic health evaluation. This health information is also available on a CDC database (Electronic Disease Notification System) and can be accessed by state and local health departments. CDC guidelines for pre-departure and post-arrival medical

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**Table 3. DCBOH Refugee Health Screening Evaluation**

<table>
<thead>
<tr>
<th>General Exam:</th>
<th>Tuberculosis Screening:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height, weight, body mass index</td>
<td>• &gt;5yrs : Immune Gamma Release Assay (QFT)</td>
</tr>
<tr>
<td>blood pressure (BP)</td>
<td>• &lt;5yrs: TST + QFT</td>
</tr>
<tr>
<td>Hearing and Vision</td>
<td>Chest X Ray (+LTBI screen; prior history of TB, TB Exposure or abnormal chest X-ray)</td>
</tr>
<tr>
<td>Immunization update</td>
<td></td>
</tr>
<tr>
<td>Complete blood count with differential, absolute eosinophil count</td>
<td></td>
</tr>
<tr>
<td>Urinalysis (in those who can submit a clean catch urine sample)</td>
<td></td>
</tr>
<tr>
<td>Metabolic panel</td>
<td></td>
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<tr>
<td>Hemoglobin A1C (over 21yrs)</td>
<td></td>
</tr>
<tr>
<td>Lipid panel (over 21 yrs)</td>
<td></td>
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<tr>
<td>Blood lead (6 mos – &lt;17 yrs)</td>
<td></td>
</tr>
<tr>
<td>Urine pregnancy test (females &gt;12 yrs)</td>
<td></td>
</tr>
<tr>
<td>Vitamin D level</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mental Health Screening:</th>
<th>Mental Health Screening (contd):</th>
</tr>
</thead>
<tbody>
<tr>
<td>• History of Psychiatric Illness</td>
<td>• Inquire about sleep, energy level, appetite, weight changes, and somatic symptoms that may be a marker of stress (headaches, back pain, abdominal pain)</td>
</tr>
<tr>
<td>• Physical signs of maltreatment</td>
<td></td>
</tr>
</tbody>
</table>
screening and treatment can be found at [www.cdc.gov/immigrantrefugeehealth/guidelines](http://www.cdc.gov/immigrantrefugeehealth/guidelines).

**Domestic Medical Screening**

Once refugee families arrive in Georgia, most undergo a comprehensive medical screening within 30 days at the DCBOH Refugee Screening Clinic. Under the supervision and guidance of Drs. Sentayehu Bedane (Manager of Countywide Services) and Alawode Oladele (Lead Physician of Refugee and TB services), the DCBOH screened 2,574 (95 percent) of new refugee arrivals in Georgia in 2014. Table 3 provides a summary of the age-appropriate medical evaluation performed.

All new refugees receive Refugee Medical Assistance (RMA) for the first eight months after resettlement. Following the initial domestic health screen, adults are referred to their primary care provider, and children and adolescents are offered appointments in the Refugee Pediatric Clinic or can be seen by a primary care physician in the community. A family nurse practitioner is available to assist adults with their referrals.

Despite the challenges and sometimes frustrations of providing care to this unique group of patients, the clinic has been a valuable addition to the refugee resettlement process and a rewarding experience for providers and staff. We present a successful model for how multiple health partners (DCBOH, TSPMG, Emory University, CDC) can combine resources to improve healthcare for an often overlooked group in our community. We look forward to many more years of service to the refugees who have demonstrated tremendous courage, strength and resilience in the face of extreme adversity and hardship.

**References**


**Additional Reading:**


**Specializing in the Detection and Treatment of Pediatric Digestive Disorders**

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- Crohn’s Disease
- Ulcerative Colitis

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PEANUT ALLERGY PREVENTION

New studies point toward an earlier introduction to reduce risk

By Kathleen A. Sheerin, M.D.

Regardless of your specialty, there is breaking news you should be aware of: peanut allergy has become a nationwide problem affecting 1-3 percent of children. It is estimated that 1 in 50 school children have the diagnosis.

Peanut allergy incidence has skyrocketed in the last decade. No one knows why it has increased so rapidly, but growing evidence suggests that decades of delaying introduction of highly allergenic foods – until children reach their second or third birthday – could be a strong contributing factor.

The LEAP (Learning Early About Peanut) study was presented at the American Academy of Allergy Asthma and Immunology and published in The New England Journal of Medicine in February 2015. The study provides Level 1 evidence that early introduction of peanuts to children who are at risk of developing a peanut allergy may actually keep them from becoming allergic.

Doctors in the UK looked at a group of 640 infants, ages 4 to 11 months, who had severe eczema, egg allergy or both. They did skin prick testing to determine if the children were sensitized to peanut even though they had not started to eat it in their diet. Those who were allergic were eliminated from the study, while the others were divided into two groups – one group with a negative skin test to peanut, the other with small reactions of less than 4mm.

The children either avoided peanut until 60 months or consumed peanut regularly. In the children who had negative results on the skin test, there was an astounding difference in peanut allergy at the end of the study: 1.9 percent of those who ate peanut regularly developed peanut allergy, as compared to 13.7 percent of those who avoided peanut. The risk reduction in this group was an impressive 80 percent. Results were similar in the group who had small skin test reactions, although numbers were higher: 10 percent in those who ate peanut vs 35 percent in those who avoided.

The challenge to the parents is how to feed peanut products to their infants and toddlers, especially those with another child at home who is allergic to peanuts.
The conclusion is that early introduction of peanut, between 4 and 11 months, decreases the chance of developing a peanut allergy. This is very exciting news for parents of children with this food allergy. For years, the American Academy of Pediatrics recommended waiting until children were at least 3 years old to introduce peanuts. This recommendation was changed in 2000 because there was a lack of evidence or significant data to support it. Pediatricians and allergists have not been proactively starting children on a regular diet of peanut to prevent the development of allergy. This study, however, and an earlier one by the same group of scientists, suggest that an early introduction is the way to go.

Experts in the field of food allergy find the data so compelling that they are suggesting that any infant between the ages of 4 and 8 months who is believed to be at risk for peanut allergy should undergo a skin prick test for peanut.

If testing is negative, the child should be started on a diet that includes 2 grams of peanut three times a week for three years. This would be the equivalent of 6 teaspoons of peanut butter a week, which could be mixed into cereal. There are also peanut snacks available from Israel (trade name Bamba) that were used in the study. These are available online.

If children have minimal reactions on skin testing, they should undergo a food challenge in the allergist office. If they do not have a reaction, they should also start on the peanut prevention program. The study does not address siblings of children with food allergies or children with no obvious risk factors.

Many allergists would consider a sibling of a food allergic child at increased risk, and this allergist will follow the protocol for these children as well. I believe we, as physicians, should be actively advising parents to change the pattern of decades of traditionally not introducing foods early. The magic window seems to be between 4 and 11 months. If you wait, you may miss the chance.

The devil is often in the details. We still need to work out how much, how long and how often children should eat peanuts to avoid a lifelong allergy. The guidelines on how to introduce peanuts in the high-risk children, those with eczema and/or those already with other food allergies have not yet been formalized. These recommendations should be forthcoming from the NIAID Working Group.

The new recommendations may frighten some parents (and pediatricians). Board-certified allergists are equipped to help in this major transition in food introduction with testing and challenges in the office for high-risk children. The challenge to the parents is how to feed peanut products to their infants and toddlers, especially those with another child at home who is allergic to peanuts. Further study will need to address the early addition of other allergenic foods such as nuts, shellfish, fish and eggs.

Toit GD, Randomized Trial of Peanut consumption in Infants at Risk for Peanut Allergy, N Engl J Med 2015; 372:803-813. This is the LEAP Study.
Autism Spectrum Disorder (ASD), previously termed autism, Asperger’s Syndrome, and PDD-NOS, is a common, heterogeneous, treatable – and potentially curable – cause of developmental disability. ASD is a spectrum of neurobehavioral disorders with manifested symptoms in an individual child that are quite unique, prompting the oft-quoted “If you have seen a child with ASD, you have seen ONE child with ASD.”

With the publication of the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5), the diagnostic criteria have been simplified. DSM-5 now emphasizes the two fundamental neurobehavioral problems common to all children with ASD:
1) Deficits in social-communication efforts, and
2) Dysfunctional behaviors that include:
   a) Stereotypic and repetitive motor or verbal behaviors,
   b) Rigid routines or ritualized patterns of behavior,
   c) Restricted or fixed interest and
   d) Widespread sensory sensitivities, acknowledged for the first time by DSM-5

Over the last 40 years, the number of children with an ASD diagnosis has exploded. Until the 1980s, ASD was thought to be rare, affecting approximately 1 in 2,000 children and only diagnosed in those with profound deficits. Now, the 2014 CDC data shows that 1 in 64 of Georgia’s children (1 in 39 boys and 1 in 181 girls) are diagnosed with ASD. Of note, CDC data shows the picture of ASD is changing, with almost half of all children identified with ASD having average or above average intelligence.

No etiologic agent has been identified as the cause of ASD, although genetics play a role, as do a host of other associations. One thing we know for certain is that vaccines do NOT cause ASD.

A significant factor is an increase in diagnostic substitution. Historically, many of these children were considered intellectually disabled or received no diagnosis. Incidentally, this increase has been associated with the establishment of access to school services, with the passage of The Education For All Handicapped Children Act (PL 94-142) in 1974; the forerunner to the Individuals With Disabilities Education Improvement Act of 2004.

ASD is four times more common in males than females but is not X-linked. We know the concordance rate in identical twins is high (36-95 percent) but not 100 percent. In fraternal twins the risk is elevated, as is the risk if parents have a previously affected child (2-18 percent risk). While research shows there are 300 to 500 gene associations, thus the postulated reason for the wide variation in symptoms, no single gene has been associated with more than a tiny fraction of cases (< 1 percent). ASD tends to occur more often in people with certain genetic conditions, with about 10 percent of ASD children having Down syndrome, Fragile X syndrome or Tuberous Sclerosis.

The American Academy of Pediatrics recommends screening children for general development using standardized, validated tools at 9, 18 and 24 or 30 months; and for ASD at 18 and 24 months, or whenever a parent or clinician has a concern. Despite this, CDC data shows that the average age of diagnosis of ASD in Georgia’s children is 4 years 5 months of age, although children can be reliably diagnosed as early as age 24 months of age (and possibly younger).

The variation in symptoms can be profound. Some children are nonverbal with virtually absent social skills, self-injurious behaviors and severe sensory disorders. Others may have reasonably good expressive language but impaired social skills, weak perspective taking abilities, repetitive behaviors or interests, or sensory problems. Regardless of severity, all children with ASD demonstrate weakness in social skills, which are fundamentally interrelated to communication and essential for integration in the community.
Consider ASD as a social learning disability created by a lack of connectedness with other individuals. Children with ASD do not spontaneously learn that words have meaning, and thus their communication and language is delayed. They have severe deficits in non-verbal communication – pointing, waving and nodding – and they do not understand that gestures (such as waving) are a way of communicating. The delay in gesture use is one of the earliest signs of ASD that may bring the child to medical attention, even if parents miss the deficit in social connectedness.

A lack of symbolic gesture use extends to the child’s lack of pretend play. A block is a block, and while a child with ASD may pound blocks together or stack them, he never uses the block as a creative tool – it never becomes a car or train or an airplane; it is always a block.

Some of the most difficult problems that parents face are the rigid, inflexible behaviors exhibited by their children with ASD. Relatively simple acts, like cleaning up toys, using a different cup or sitting in a different position at the dinner table, can lead to tantrums of monumental proportions. These tantrums can be triggered by minimal changes in routine, such as a change in the placement of food on a plate, or being required to wear a different colored shirt, as opposed to the child’s favorite striped shirt. As so many children with ASD are nonverbal, or of limited verbal ability, it leaves parents guessing as to what led to this most recent tantrum.

As children with ASD age, sensory issues related to touch, sound, lights, smells and tastes can be severe and life altering. Consider how difficult it is for a new mother to have their infant or toddler pull away crying from her, with the mother not realizing that the hug she was trying to give her child was distressful.

So what can parents do? The key is not accepting early delays in language because "he's a boy" or "grandpa didn't speak until he was 2." Be aware of these seven red flags:

1. By 6 months: No big smiles or other warm, joyful expressions
2. By 9 months: No back-and-forth sharing of sounds, smiles or other facial expressions
3. By 12 months: Lack of response to name
4. By 12 months: No babbling or “baby talk”
5. By 12 months: No back-and-forth gestures, such as pointing, showing, reaching or waving
6. By 16 months: No spoken words
7. By 24 months: No meaningful two-word phrases that don’t involve imitating or repeating

Thanks to media attention and parental education about ASD, it is uncommon for parents to be unwilling to seek out a diagnosis. Once a child is identified as having any social or communication deficit, unusual behaviors or sensory oddities, parents need to talk with their pediatrician about the developmental concerns. Alternately, a parent can self-refer to Georgia’s Children First program (855-707-8277), which provides a single point of entry for any child at risk for developmental delays.

For children in Georgia with ASD who are 7 years old or less, Ava’s Law, or Insurance Reform Bill SB1, mandates coverage for up to $30,000 annually in ASD-related medical services. Passed in April 2015, it specifically covers Applied Behavior Analysis (ABA). Behavior Analysis (BA) is a validated approach to understanding the “why” of an individual’s behavior; ABA uses that understanding to affect meaningful and positive change in behavior. The various ABA techniques are all designed to teach children with ASD who “lack the learning to learn skills.”

ABA is a small piece of the total care of a child with ASD. Specific treatment interventions include speech therapy, occupational therapy, physical therapy, feeding therapy for children with significant oral aversions and early access to preschool programs. Most importantly, and the key to successful overall care, is the central role parents play in learning their child’s unique strengths and weaknesses and incorporating taught techniques into learning activities throughout the day at home.

Because of the neuroplasticity of the infant brain, early interventions can potentially reverse, or at least minimize, social communication and behavioral deficits. We know that 10 to 15 percent of children who were diagnosed at 2 years of age, and who received interventions considered standard in the early 1990s, will no longer meet the criteria for ASD at 17 to 25 years of age. Earlier diagnosis, and more aggressive interventions, can only improve on these outcomes.

In a 2013 Nature study, Atlanta’s Marcus Autism Center and Emory University’s Warren Jones, Ph.D., and Ami Klin, Ph.D., showed that eye-tracking technology can identify differences in eye fixation in those infants later diagnosed with ASD over the first 24 months of life. More remarkably, the apparent differences in gaze fixation are observable as early as two to six months of life.

While preliminary, this opens up an opportunity to objectively identify infants with ASD earlier, thus allowing intervention at younger ages when the infant’s brain shows more neuroplasticity.

While it may be a stretch to imply that we can “cure” ASD, these remarkable findings provide hope that early diagnosis and intervention may offer our youngest children – and their families – an opportunity for improved outcomes.
Thirty years ago, more than 75 percent of physicians worked in small practices of 10 or fewer employees, according to the American Medical Association. Today, many doctors are choosing employment with larger healthcare systems over private practice. Atlanta Medicine recently spoke with three physicians – one in private practice, one employed by a healthcare system and one employed by an insurer-owned network – to gain insight into the current climate for physician employment in Georgia.

Rewards of private practice still outweigh challenges for many

Steven J. Morris, M.D., is board certified in internal medicine and gastroenterology and a managing partner with Atlanta Gastroenterology Associates. Since joining his practice in 1978, he says the challenges facing physicians have evolved significantly and altered the way physicians view entering into private practice.

“The landscape in which physicians practice has changed greatly over the last 35 years. Relationships between physician and patient, physician and hospital, and patient and insurer were once fairly simple. Today, however, physicians are often employees of hospitals or management companies, members of closed physician networks or even work for insurers as care providers, completely obfuscating many of the previous relationship lines,” he says. “Now, doctors have to consider all of these associations when making patient care decisions.”

Morris adds that he believes many physicians, especially younger ones, gravitate toward employment with a business-owned system for reasons such as lifestyle choices and a wariness of the financial and compliance burdens presented in private practice.

“Many young doctors coming out of medical school already have families to support. Employment that offers regular hours and the backing of a larger, financially secure institution is viewed more favorably than the vagaries and challenges of establishing their own practices,” he says. “The landscape continually changes, and the advent of laws like the Affordable Care Act and requirements such as electronic medical records make it increasingly difficult to run your own practice and care for patients.”
However, for Morris, the benefits of staying in private practice continue to outweigh other employment options. He says that maintaining control over every aspect of your business, including hours, staff selection and practice style, is important to him.

“The most favorable thing about private practice is that you’re always able to keep your relationship with the patient insulated from external influences,” he says. “So in my opinion, you’re more free to do what’s best for your patient in all aspects of his or her care.”

Large group offers choice of focus, efficiencies

With 559 employed physicians, WellStar Medical Group is one of the largest health systems in Georgia. Charles Craton, M.D., one of WellStar Health System’s primary care regional lead physicians, says being part of a large group offers physicians the opportunity to focus on the area of medicine that’s most interesting and satisfying to them.

“I truly admire my colleagues who can run a private practice and are good at all of the aspects. It’s a skill set I do not have and, traditionally, that most doctors do not have,” he says. “Working for a larger group allows doctors to do more of what they enjoy, whether that’s simply providing patient care or serving in a leadership role or doing some of both.”

Craton adds that employment with a large group like WellStar offers a certain level of reliability, including a steady patient base, predictable income and hours, excellent support services, access to the latest technology and freedom from managing the administrative functions of a practice.

“Contracts with insurers, initial human resources aspects, retirement plans, health insurance ... these are all things that a large employer handles,” he says. “As an employee, you benefit from the efficiencies provided by a bigger group.”

Physician-led network offers security, opportunity

Michael F. Doherty, M.D., a hematologist and oncologist who serves as Southeast Permanente Medical Group’s Chief of Staff, says many physicians choose employment with a large network because they are looking for a lower risk environment in terms of investments, both financial and personal.

“The costs of starting and managing a practice today are quite complicated; the sophistication level needed to successfully run a practice is certainly much higher than 20 years ago,” he says. “Many doctors are not willing to take on the burdens of multiple insurance and contractor relationships, information technology infrastructures, employment management and HIPAA and environmental regulations. In many cases, it’s because those things are a substantial challenge for someone who is not primarily a businessperson.”

He adds that doctors seeking employment opportunities should take into consideration whether or not the company has a strong physician leadership presence.

“In my opinion, I think physicians are much happier in situations in which they have direct input into how care is delivered,” he says. “I’d say that of all the different types of large practices you could be in, for most doctors it’s preferable and desirable to work for physician-led-and-managed entities.”

Steven J. Morris, M.D., Atlanta Gastroenterology Associates
Charles Craton, M.D., WellStar Health System
Michael F. Doherty, M.D., Southeast Permanente Medical Group
The Rise of TAVR

By James P. Stewart, MD

One of the most exciting developments in the fields of interventional cardiology and cardiac surgery in the past few years has been the rapid rise of Transcatheter Aortic Valve Replacement (TAVR).

This is a technique for replacing the aortic valve without a sternotomy and the general anesthesia, run on the cardiopulmonary bypass machine, and significant morbidity during the recovery process that traditional surgery often entails. It is indicated for patients with a trileaflet aortic valve that has undergone “senile” calcific degeneration and resulted in severe aortic stenosis that is causing symptoms – often dyspnea, congestive heart failure, syncope or rarely angina.

Originally conceived as an option for patients who were not candidates for traditional Surgical Aortic Valve Replacement (SAVR), TAVR proved to be far more effective than conservative therapy, including balloon aortic valvuloplasty (BAV), and has been shown to reduce overall mortality by 20 percent at 1 year in the landmark PARTNER trial. Because of this demonstrated benefit in inoperable patients, TAVR has now been studied in lower risk populations of patients and found to be at least as effective as surgery, leading to FDA approval for high risk but potentially operable patients.

The prevalence of aortic stenosis in the U.S. population equivalently affects men and women, with rates of severe AS as high as 3-4 percent of 80 year olds. With a rapidly aging baby boomer population and women outliving men, this represents a significant population of women who will have severe aortic stenosis and need TAVR.

The TAVR itself is usually done from a transfemoral approach. The femoral artery is accessed similarly to access for a heart catheterization, and a large sheath to work through is introduced. A balloon-expandable valve is crimped down onto a balloon on the end of a catheter and then introduced through the sheath. It's then delivered retrograde over a wire through the leg vessels and aorta and around the aortic arch to the native stenotic aortic valve. It is positioned using fluoroscopy and echocardiography across the native aortic valve, then inflated while a temporary pacemaker paces the heart at a rate of 180-200 beats per minute for several seconds to induce cardiac “standstill” and allow stable valve positioning.

Following this, the balloon and catheters are removed and the femoral artery is closed. Self-expanding valves are delivered in a similar fashion. Currently about 85 percent of patients can have the procedure from a transfemoral approach, but the remaining 15 percent of patients who may have small peripheral vessels or PAD need alternate conduits for access. These include transapical (through the apex of the heart, which is exposed with a miniature thoracic incision), transaortic (directly through the aorta exposed by mini-sternotomy), or even transcaval (direct puncture of carotid artery) and transcaval (puncture from the IVC into the descending aorta) approaches have been successfully performed at Emory for patients with no other option.

The pace of technological innovation around TAVR has been blistering in the past few years. A third generation balloon-expandable aortic valve is now available, and a second generation self-expanding valve is on the market with incremental improvements in the design of both devices. They can be delivered using smaller catheters and have safety features that reduce procedure time, prevent stroke and lessen vascular complications. This particularly impacts women who have generally smaller

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peripheral vessels and who often, in the earlier generation devices, had to undergo alternate approach TAVRs because the large sheaths would not fit. Now that is almost never the case, and rates of the much less morbid transfemoral approach are just as high in women as in men. These innovations, combined with greater implanting cardiologist and surgeon experience, have contributed to complication rates that have fallen rapidly and are now better than rates for SAVR in contemporary data looking at risk-matched patients.

Complication rates for women are equivalent to those for men. At least three novel valves are currently under investigation, as are filter devices, to prevent stroke and several protocols to treat patients with previously placed bioprosthetic aortic valves (a so-called “valve-in-valve” approach). Emory is one of a handful of centers in the country to have performed more than 1,000 TAVRs and also offers dedicated advanced training for interventional cardiologists on structural heart procedures like TAVR.

The Emory hospitals performing TAVR (Emory-St. Joseph’s, Emory University Hospital and Emory Midtown) have now pioneered a minimalist approach to TAVR, which is possible for many patients now. Early TAVRs were done in a hybrid OR using general anesthesia, a femoral artery cutdown and a heart-lung bypass machine on standby. Now most patients have their TAVR in the cath lab while under conscious sedation using a completely percutaneous approach.

Rather than lasting three or more hours like the initial cases, a TAVR today can usually be done in half that time or less. The benefits of this minimal approach for patients – who are often in their 80s with numerous other comorbidities – is substantial. By avoiding surgical incisions, general anesthesia and long procedures, these patients are out of bed the day of surgery and often in the hospital only two or three days. A select group of patients have even been able to go home the following day.

The big leaps in operator skill and technological improvement have led to expanding indications for TAVR. The procedure is no longer just for patients who can’t have SAVR (porcelain aorta, high risk comorbidities, cirrhosis). The FDA indication was officially expanded to include patients who were at high risk for SAVR but still operable.

Several large national trials, which Emory is part of, have enrolled and implanted hundreds of intermediate surgical risk patients (roughly half women), and early data looks excellent. It is likely only a matter of time before the indication for TAVR is expanded to include intermediate risk patients who have all traditionally had SAVR.

Many experts even think that TAVR is headed toward becoming the standard of care for treating severe calcific aortic stenosis within the next five years, leaving surgery necessary only for select niches of patients (bicuspid aortic valves, coexisting aortic aneurysms, etc). This gives the population of women around Atlanta with aortic stenosis a great chance of avoiding the morbidity associated with open heart surgery when they need their aortic valve replaced. ■

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wellstar.org
Fifteen years ago, a landmark report, *To Err is Human: Building a Safer Health System*, was published by The Institute of Medicine. The million dollar question is: Have we?

That report powerfully illustrated patient safety concerns in healthcare. In follow up, the National Academies of Science, Engineering and Medicine have recently published the report *Improving Diagnosis in Health Care*, with guidance from the Committee on Diagnostic Error in Health Care (The Committee).

Focusing on several central themes, this report shows that diagnostic error in healthcare remains a significant and complex problem. In addition, the challenge remains of how to include patients and their families in the solution of solving diagnostic errors. Further, it stresses that collaboration to enhance the physician(s)-patient relationship(s) is essential for success. Unfortunately, diagnostic errors continue to remain a persistent and harmful problem for patients. The stark reality is that patients bear the ultimate risk and/or harm.

Some sobering statistics estimate that 5 percent of adults receiving medical care in the U.S. experience a diagnostic error in the outpatient setting; diagnostic errors make up 6-17 percent of adverse events in the hospital setting. Postmortem findings from decades of research suggest these errors contribute to 1 in 10 deaths. It is known that diagnostic errors are the No. 1 reason for paid medical malpractice claims and almost twice as likely to result in death as any other claim.

What is a diagnostic error? The Committee has defined it as: “the failure to (a) establish an accurate and timely explanation of the patient’s health problem(s) or (b) communicate that explanation to the patient.” There are multiple causes of diagnostic error that include but are not limited to: insufficient communication as well as coordination of care among all parties (clinicians, patients, families); the healthcare system, which by design does not support the diagnostic process well; little feedback for clinicians about their performance in diagnostic skill; and a health system culture that actually discourages transparency and disclosure of errors. These factors contribute to the inability to “learn from your mistake” and thus the inability to improve diagnostic processes. The Agency for Healthcare Research and Quality (AHRQ) categorizes the most common causes of diagnostic error into the following eight categories:

1. Communication problems, which is the most common cause of medical errors.
2. Inadequate information flow, which prevents the availability of critical results, the timely and accurate communication of results and/or coordination of medication orders, and between one clinician or health system to another.
3. The “human factor,” which includes failure to follow protocols, guidelines, etc., as well as poor documentation or poor specimen labeling, as well as insufficient knowledge to provide appropriate patient care.
4. Patient-related issues, including improper identification, incomplete assessment, failure to obtain proper consent and incomplete patient education.
5. Organizational transfer of knowledge, such as a lack of consistent education and training of those providing care for patients.
6. Staffing patterns or work flow, which can secondarily precipitate errors when there is inadequate staffing or supervision.
7. Technical failures of equipment or devices and complications of implants or grafts that may lead to patient harm.
8. Sub-optimal policies and procedures meant to guide delivery of care may contribute to medical errors. A sampling of closed claims from MagMutual Insurance Company’s files illustrates the complexity of the diagnostic error problem.

GAME CHANGER NEEDED:

Diagnostic Errors Persist in the Patient Safety Arena

By Ann L. Contrucci, M.D., director of risk and patient safety, MagMutual Patient Safety Institute; Mary Gregg, M.D., FACS, MHA, chief medical officer and senior vice president; and Laura Martinez, BSN, RN, MS, CPHRM, FASHRM, vice president of risk and patient safety
Case #1 involved a 60-year-old male with a mass on his face removed by his primary care physician (PCP) and sent to a pathologist for review. The pathology specimen report, which was dated two days after the specimen was received, stated there were “positive margins.”

The report was never initialed or seen by the PCP. When the patient came for his post op visit, the PCP placed him on antibiotics for a possible wound infection but did not document his rationale. That same year, the patient sought treatment for various other skin growths. One year after the first excision, and because that excision site continued to drain, a repeat biopsy was done. Once again, the pathology report skipped the PCP’s review. Two months later, the patient required a total parotidectomy and radiation for squamous cell carcinoma, suffering subsequent permanent facial disfigurement.

Poignant lessons in this case include at least three of the root causes for diagnostic error as defined by AHRQ: an inadequate information flow of test results; the “human factor” – no evidence the pathology reports were reviewed; and communication, as the patient was never informed of the biopsy results. These three causes point to the complexity and multifaceted issues involved in diagnostic error.

Case #2 illustrates the potential minefield of diagnostic errors. It involved a 38-year-old obese male who presented to the ED with “atypical” chest pain. He had complained of intermittent chest pain with sweating – worse with lying down or exertion. He smoked a pack of cigarettes a day and had GERD. He was concerned about having a heart attack. One set of cardiac enzymes, as well as a chest X-ray and EKG, were normal. The ED physician did not obtain a family history nor did he document a differential thought process or rationale for the discharge diagnosis.

The patient’s chest pain at discharge was rated a 0 by the physician and a 2 by the nurse. His vital signs were stable. The patient was discharged home with the diagnosis of atypical chest pain and GERD; he was instructed to return to the ED if not improved in 48 hours or if symptoms worsened. He was also advised to follow-up with his PCP in a week. Three days later, a family member found him unresponsive at home; he was unsuccessfully resuscitated by EMS. The patient’s postmortem examination revealed a 95-99% stenosis of the LAD coronary artery.

This case clearly demonstrates the difficulty in reaching a diagnosis when all pertinent factors are not considered, coupled with “cognitive bias.” Cognitive bias is also known as “anchoring,” occurring when a physician relies too much on his/her first impression. Another root cause for error in this case involved patient-related issues, since there was an incomplete assessment of the patient. There was no family history taken nor was a full past medical history obtained. There also was a communication breakdown between physician and nurse, as they documented different levels of the patient’s pain at the time of discharge.

Fifteen years after To Err is Human was published, medicine has reached a crossroads. Per the latest IOM report, healthcare delivery systems have not significantly improved. Commitment to change is desperately needed. The players who have the greatest impact on creating positive changes in healthcare include physicians and other clinicians, healthcare administrators, researchers, policy makers, and patients and their families. The 2015 IOM report outlines multiple goals not only designed to decrease diagnostic errors, but also to improve diagnosis in general. Improved collaboration, teamwork, training and greater transparency in learning from errors and near misses are key factors.

Diagnostic error remains a frontline issue in patient safety. Tackling the problem may seem overwhelming, but it is possible to make changes. Physicians need to assume leadership roles because they are on the frontlines of medical care. After all, every physician will be or has been a patient, trusting in the diagnostic finesse of their clinician.
Northside’s Breast Cancer Surgeons Provide Comprehensive Treatment in Breast Health

By Helen K. Kelley

A staggering 231,840 new cases of invasive breast cancer are diagnosed each year in the U.S. With breast cancer the most common cancer among women, most patients will undergo some type of surgical diagnosis or treatment. The collaborative team of breast cancer surgeons and plastic and reconstructive surgeons who are part of the Northside Hospital Cancer Institute’s Breast Care Program strive to offer their patients a variety of options that employ the latest surgical techniques and technologies, access to leading-edge clinical trials and a wide range of support services.

According to Iqbal Garcha, M.D., a surgeon with North Atlanta Surgical Associates and Chief of Staff at Northside Hospital, two of the Breast Care Program’s initiatives are making a big difference for women in the metro Atlanta area who have breast cancer.

“First, we are bringing breast care to the community, rather than having the community have to come to a big medical center. Patients can get diagnosed, counseling regarding treatment options, surgery and post-surgery treatments all in one place at one of our dedicated breast care centers in their community. They
can continue on with their lives while undergoing treatment,” he said. “Second, we have a team of practitioners who are dedicated to providing high quality breast care.”

As the Southeast leader in diagnosing and treating breast cancer, Northside physicians saw more than 2,600 cases last year. Of those, 1,949 have been outpatient surgeries and procedures. “I think what these numbers say to the community is that, while our patients are undergoing serious surgeries, the majority of them are able to recover at home, where they are most comfortable,” said Vicki Barnett, Director of Surgical Services at Northside. “This is a testament to our surgeons, nurses and other providers who are experts at what they do. They can perform surgery, observe the patient and then allow her to go home safely and with confidence.”

**Technological advances lead to improved diagnostics**

Diagnostic technologies with precise capabilities are helping physicians diagnose breast cancer earlier. As the first hospital in Atlanta to offer breast 3D tomosynthesis, Northside quickly saw the tremendous benefit of three dimensional mammography technology. This option is particularly important for women with a family history of cancer or dense breast tissue. The series of images from multiple angles allows the radiologists to see the internal structures of the breast in one-millimeter slices, so they are not limited by overlapping tissue. Studies have shown that 3D tomosynthesis combined with 2D mammography provides the best evaluation of the breast.

For patients who need further diagnostics, Northside uses image guided biopsy and breast MRI, offering additional tools that allow surgeons to make quick and accurate diagnoses. “In the past, women were diagnosed with breast cancer when they had a mass. The mass was removed and biopsied to determine that it was cancerous,” said Garcha. “Today, we diagnose from a needle biopsy, using image guided technology, which steers the needle to the exact spot of the tumor for a tissue sample.”

“The breast MRI is more precise than a mammogram,” he explained. “Therefore, it has improved our ability to determine the sizes of people’s tumors and plan their surgeries more accurately.”

Due to their capabilities, these technologies have helped physicians detect and diagnose breast cancer earlier, resulting in fewer and smaller surgeries for patients and better outcomes.

**Patient trends and preferences**

With more and more information about breast cancer readily available on the Internet and patient stories like Angelina Jolie’s, women are educating themselves about their risks and surgical options. As a result, many patients are eager to share their input and preferences in discussion with their physicians about their course of treatment.

Jennifer L. Amerson, M.D., a surgeon with Breast Care Specialists LLC and a member of Northside’s Breast Care committee, has noticed a growing trend among women asking for double mastectomies, even when they have been diagnosed with cancer in only one breast. “I think the fear of developing a second cancer later is driving the choice to remove both breasts. And we do see a fair number of people who return with a second incidence after having one breast removed,” she said. “I work closely with the patient to discuss her options and encourage her to talk with our Hereditary Counselors before moving forward.”

Amerson adds that having access to an integrated course of treatment is another growing preference among patients. “Northside has made its breast care program...
a priority, offering a comprehensive scope of services all in one place,” she said. “Patients have expressed their appreciation for the seamless integration.”

Patients can see a genetic counselor to discuss family history and risk for hereditary cancer prior to making their decision about surgery.

Reconstructive surgery impacted by patient knowledge, reimbursement

When it comes to reconstructive breast surgery, patient preferences are, again, often influenced by how informed the person is. Phillip H. Beegle, Jr., M.D., a specialist in plastic and reconstructive surgery and member of Northside’s Breast Cancer Committee, says that wide access to information via the Internet has changed the industry dramatically.

“There are two factors that influence how a person chooses reconstruction: their surgeon’s preference based on the patient’s health and circumstance and their own knowledge,” he explained. “Based on Northside’s volume, we have built a surgical program that offers a full range of reconstructive options that can accommodate our patients’ preference. Today, women are opting to have immediate breast reconstruction. The skin- and nipple-sparing mastectomies offer the chance for breasts to look more like normal after reconstruction, without any increase in the risk of breast cancer return.”

Recent improvements in reconstructive breast cancer surgery include:

• Immediate breast reconstruction — the first stage of rebuilding the breast, done at the time of mastectomy

• Skin-sparing mastectomy — preserves all of the breast skin except the nipple and areola, allowing for better results after reconstruction

• Nipple-sparing mastectomy — removes all of the breast tissue but spares the breast skin, nipple and areola

Early detection still most significant factor in treating breast cancer

Despite all of the refinements in surgical techniques and evolutions in technologies for treating breast cancer, early detection remains the single most important defense in the battle against breast cancer.

Beegle says that physicians in many medical specialties can play an important role in the early detection of breast cancer in their patients.

“We’ve come a long way with the surgical techniques used to perform lumpectomies and mastectomies and breast reconstructions. But identifying the disease and the people who are at high risk for the disease due to genetics or family history remains the most significant key to curing the disease,” he said.

“If primary care physicians, gynecologists and other specialists follow the guidelines, they can help detect breast cancer early; if you find it early, you can cure it. We’ve made a dent as far as survivability in breast cancer, but our best defense is still early detection.”

Garcha adds that because breast cancer is extremely common, researchers and physicians are continually seeking improvements in the methods used to detect the disease.

“As early detection improves, I think it will lead to breast care practitioners seeing more patients at a younger age and detecting the disease sooner,” he said. ■

Northside Hospital Cancer Institute

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