DAYTON CHILDREN'S
The Children's Medical Center of Dayton

PEDIATRIC FORUM

A journal of The Children's Medical Center of Dayton

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Target audience

This education activity is designed for pediatricians, family physicians and related child health care providers.

Educational objectives

- Articles will review commonly encountered clinical conditions and provide updates in pediatric medical and surgical care.
- Each individual article will have activity-specific learning objectives.

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NEUROFIBROMA OF PAROTID

By L. David Mirkin, MD and Mahendrakumar Patel, MD

Dr. Mirkin (top) serves as medical director of pathology and the clinical laboratory at Dayton Children's. He is also a professor of pathology and pediatrics at Wright State University Boonshoft School of Medicine.

Dr. Patel (bottom) serves as medical director of the ear, nose and throat department at Dayton Children's. He is also a clinical associate professor in otolaryngology at Wright State University Boonshoft School of Medicine.

OBJECTIVES

After completing this article, the reader should be able to:

1. Recognize the main clinical and morphological features of this neoplasm and to evaluate some of the therapeutic strategies.

Neurofibromas are collagen-producing tumors that may mimic fibroblastic proliferations. Localized sporadic neurofibromas grow slowly as painless nodules and produce few symptoms. Largely, they are glistening tan-white tumors with normal nerve entering and exiting the fusiform mass. Neurofibromas rarely involve the salivary glands.[1]

FIGURE 1.

The common clinical complaint is slowly enlarging parotid mass without functional problems. Histologically, they are composed of elongated cells with elliptic nuclei and wavy or fasciculated architecture. Occasional mast cells, lymphocytes and rarely xanthoma cells pepper a mucoid and collagenous background. S-100 protein stains a subset of cells indicating that these neoplasms contain a varied population of cells.[2] The risk of malignant changes in noninherited solitary neurofibromas is extraordinarily small. Differential diagnosis includes benign schwannomas which can arise from one of the fine radicles of the facial nerve. Failure to recognize these tumors may result in needless sacrifice of the facial nerve.[3]

Case Report

A 14-year-old female without any significant previous medical history presented with a mass about 1.5 cm near the right ear lobe. Partially covered by a thin capsule, a circumscribed, tan ovoid 1.5 cm x 1.4 cm x 1.3 cm was excised without dissecting the facial nerve. Sectioning of the specimen revealed a rubbery, grayish-tan uniform surface. Frozen section diagnosis was compatible with neurofibroma and no parotidectomy was performed, thus saving the risk of facial nerve injury. The microscopy showed a bland, spindle-cell proliferation with areas of whorling and waving infiltrating adipose tissue without necrosis or significant mitotic rate. S-100 immunoperoxidase stain was positive.

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CME QUESTIONS:

True / False

1. Neurofibromas of parotid are uncommon tumors.
2. Neurofibromas of salivary glands produce functional problems.
3. The risk of malignant changes in these tumors is significantly large.

MR ANGIOGRAPHY:
AN OVERVIEW

by Srinivas Ganapathy, MD

Dr. Ganapathy is a pediatric radiologist in the medial imaging department of Dayton Children's. He completed a fellowship in pediatric radiology at Stanford University & Lucile Packard Children's Hospital and neuro-radiology at the University of Texas Health Sciences Center.

OBJECTIVES

After completing this article, the reader should be able to:

1. Understand the technique and limitations of MRA performed for intracranial evaluation.
2. Discuss some of the pediatric intracranial applications of MRA.

MR angiography (MRA) is a technique to image the vasculature non-invasively and without the use of ionizing radiation. This article focuses on the intracranial applications of MRA, although this technique is also used for evaluation of cardiovascular, abdominal and peripheral vascular disorders. MRA is now more widely used than conventional catheter angiography for screening intracranial vascular disease[1]. MRA capitalizes on creating intensity differences between flowing (or intravascular) tissue and stationary tissue. By suppressing background stationary tissue and focusing only on the high-signal flowing blood, one can obtain a data set that depicts only vascular structures.

One of the most commonly used pulse sequences for studying intracranial arterial vasculature is the 3D-time of flight imaging (3D TOF), which does not require administration of an intravenous contrast agent (Figure 1).

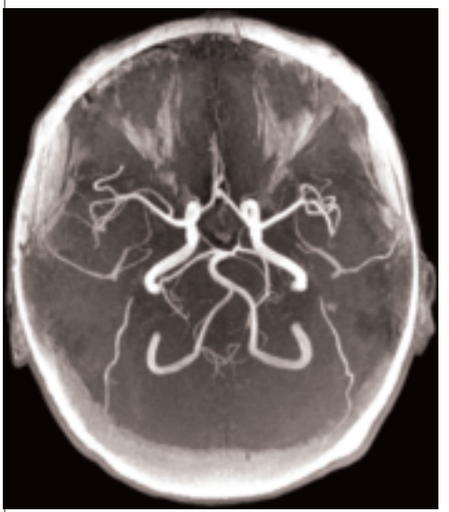

FIGURE 1. *Normal MRA: Axial 3D TOF image of the circle of Willis in a 16-year-old depicting normal intracranial vasulature.*

A series of source images are obtained wherein the inflowing blood is bright. These source images are then post-processed using various algorithms by the computer to generate further images depicting vascular anatomy that can be projected in any plane. Some of the limitations of this technique are poor background suppression of fat or hemorrhage, decreased sensitivity to slow flow and inadequate detail to visualize the smaller vessels.

MRA is commonly utilized in the pediatric population for the following indications:

(a) screening for sickle cell vasculopathy[2] or "moyamoya" disease (Figure 2)
(b) evaluation of any unexplained hemorrhage[3] or stroke
(c) screening for berry aneurysms in patients with a positive family history

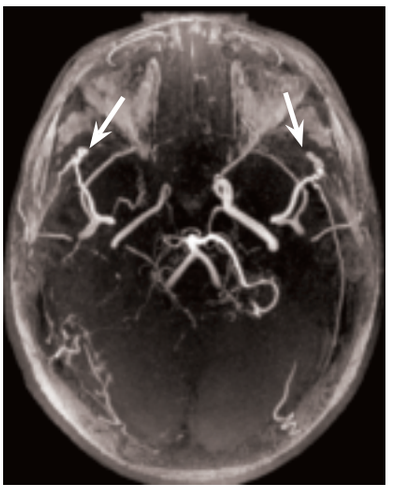

FIGURE 2.
Sickle cell vasculopathy: TOF MRA illustrates marked vasculopathy in a 17-year-old with sickle cell disease. Blood flow is absent in both midle cerebral arteries. The prominent middle meniingela aartery braches (arrows) reflect collateral supply through the external carotid circulation.

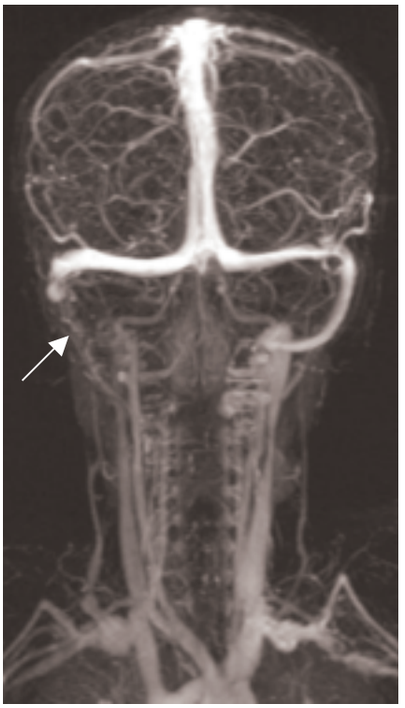

FIGURE 3.
Sigmoid sinus thrombosis: Dynamic MRA done with TRICKS sequence in a 6-year-old with diplopia, right estropia and papilledema reveals absent flow in the right sigmoid sinus (arrows) and poor flow in the right jugular bulb indicating sigmoid sinus thrombosis.

(d) suspected vasculitis
(e) follow up of vascular malformations or existing aneurysms

MR venography (MRV) utilizing the TOF technique is used for evaluation of intracranial veno-occlusive disease.

Dynamic contrast enhanced MRA for intracranial evaluation is an emerging technique[4] (Figure 3). This involves dynamic acquisition of multiple sets of images following administration of intravenous gadolinium. At Dayton Children's, a pulse sequence called TRICKS (Time Resolved Imaging of Contrast Kinetics) is utilized for performing dynamic MRA. The intrinsic benefits of this technique are time resolved or temporal information and the ability to study both arteries as well as veins.

Despite several recent advances in MRA, comprehensive evaluation for some of the cerebrovascular disorders may require conventional catheter angiography, a more invasive and time consuming procedure[5]. However, catheter angiography currently does serve as the reference standard for excluding or confirming the presence of intracranial vascular abnormalities[6].

Referencces

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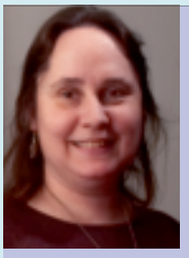
CME QUESTIONS

4. Which of the following requires administration of intravenous gadolinium?
a. TOF MRA
b. TOF MRV
c. Dynamic MRA
d. All of the above

5. Catheter angiography is not currently used for evaluation of intracranial vascular disorders.
a. True
b. False

IMAGES IN CLINICAL PEDIATRIC
BLUNT ABDOMINAL TRAUMA



by Dawn Light MD, PhD

Dr. Light is a pediatric radiologist in the medical imaging department of Dayton Children's. She completed a family practice residency at Eisenhower Army Medical Center and a fellowship in faculty development at the University of North Carolina at Chapel Hill. She also completed a faculty development fellowship and a diagnostic radiology residency at Madigan Army Medical Center.

OBJECTIVES

After completing this article, the reader should be able to:

1. Discuss the radiographic classification of solid organ injury in children.
2. Outline an acceptable approach to imaging a child with suspected abdominal trauma.
3. Discuss the pros and cons for the use of FAST imaging in pediatric patients.

Case Report: Liver Laceration

A 7-year-old female is brought to the emergency department (ED) with severe hypotension. She was a lap-belt restrained, rear-seat passenger in a high-speed motor vehicle crash where the car hit a telephone pole. At the scene of the accident, she had mental status changes. Bag valve mask respiratory support was provided at the scene, and she was given a rapid bolus of normal saline during the trip to the ED.

On arrival in the ED, her vital signs revealed a pulse of 116, respiratory rate of 27 and a BP of 60/49. O_2 saturation was 97% on room air. Her weight was 24 kg. On physical exam, her mental status fluctuated with variable alertness and episodes of disconjugate gaze. She had no complaints of pain, but seatbelt contusions were present on her lower thorax. Bowel sounds were absent and abdomen was quite distended.

Laboratory evaluation revealed hemoglobin of 9.5 gm/dl and hematocrit of 28.5%. Her venous CO_2 was 23.1 mmol/L and her renal function revealed BUN and Cr of 18mg/dl and 0.8mg/dl. ALT and AST was elevated at 623 U/L and 673 U/L respectively. Coagulation parameters and platelets were normal. Lateral view of the c-spine, frontal view of the chest and frontal view of the pelvis were unrevealing.

Our highest clinical suspicion was for significant intra-abdominal solid organ injury. The next imaging study selected for this patient was abdomen and pelvis CT. The patient was given IV contrast, but oral contrast was not employed. These images were reconstructed on the Vitrea 3D workstation and demonstrated a severe (grade 5) liver laceration with large hemoperitoneum, mild (grade 1) renal contusions and right basilar parenchymal lung contusions.

Discussion:

Blunt abdominal trauma in children is frequently managed nonoperatively and this approach has shaped the imaging protocols. Plain films of the chest and abdomen are usually obtained to look for foreign bodies and bony injuries including rib fractures and pelvic fractures. Because images

TABLE 1. *Organ Injury Scaling, Liver*

Grade		Injury Description	AIS-90
I	Haematoma	Subcapsular, <10% surface area	2
	Laceration	Capsular tear, <1cm parenchymal depth	2
II	Haematoma	Subcapsular, 10-50% surface area	2
		Intraparenchymal, <10cm diameter	2
	Laceration	1-3cm parenchymal depth, <10cm length	2
III	Haematoma	Subcapsular, >50% surface area or expanding. Ruptured subcapsular or parenchymal haematoma	3
		Intraparencymal haematoma >10cm or expanding	3
	Laceration	>3cm parenchymal depth	3
IV	Laceration	Parenchymal disruption involving 25-75% of hepatic lobe or 1-3 Coinaud's segments in a single lobe	4
V	Laceration	Parenchymal disruption involving >75% of hepatic lobe or >3 Coinaud's segments within a single lobe	5
	Vascular	Juxtahepatic venous injuries ie. retrohepatic vena cava/central major hepatic veins	5
VI	Vascular	Hepatic Avulsion	6

Advance one grade for multiple injuries to same organ up to Grade III.

are obtained with the child supine, free air is difficult to demonstrate on the plain films.

In adult patients, focused abdominal sonography for trauma (FAST) is advocated for emergent evaluation of blunt abdominal trauma patients who are unstable. This exam is a perfunctory procedure, often performed by the ED physician or the trauma surgeon, to answer a single question, "Is there free fluid in the peritoneum?" Images are obtained of the bladder, bilateral lower quadrants, Murphy's pouch and the left upper quadrant. Often images of the pericardium are included. This exam may demonstrate large amounts of free fluid in the peritoneum, which increases the suspicion for hemoperitoneum from solid organ injury.

FAST is not yet a commonly accepted screening tool for pediatric patients. The advantages are that it is easily learned, is portable and takes only several minutes to perform which is desirable for an unstable patient. The trauma surgeon may make the decision to take the unstable patient for exploratory laparotomy based only on this diagnosis. The major disadvantages are that the etiology for the abdominal fluid is difficult or impossible to localize, free air is not identified and the retroperitoneum is not imaged.

Computed tomography is frequently required in adults and is the standard in pediatric patients. Sedation is seldom required. Pretreatment with oral contrast is not indicated because dense pooled contrast in the stomach causes intense streak artifact over the spleen and liver. Oral contrast has been shown to contribute little to the diagnosis of bowel rupture in the initial exam. As time passes, the contrast moves into the small and large bowel precluding additional fluoroscopy or angiography studies. Oral contrast is especially contraindicated if pelvic fracture is suspected. IV contrast is often employed. Images are obtained both in the perfusion phase and the excretory phase when required to evaluate renal function.

Delayed images of the pelvis are useful to confirm renal excretion and to delineate the bladder. Active bleeding can sometimes be demonstrated as swirling undiluted contrast seen outside of the normal vascular structure. Images including the base of the lungs are obtained because occult pneumothorax is frequently missed on plain films and the diaphragm can be reconstructed in the sagital and coronal plains to better demonstrate rupture.

Historically, peritoneal lavage was sometimes performed, but is now more limited to regions where CT scan is not available. CT scan is the less invasive exam and also images the retroperitoneal structure.

As the management of blunt abdominal trauma has become more conservative, especially in pediatric patients, CT injury severity scoring has been used to triage patients to surgery, intensive care or close inpatient follow up. Ultrasound examination for solid organ injury is being evaluated, but it is a more time intensive test than the FAST exam advocated by some.

Our patient was shown to have quite severe internal bleeding and multiple solid organ injury, but high-quality CT imaging directed her intensive care management without exploratory laparotomy.

FIGURE 1.

FIGURE 2.

Figure 1: *Fluffy densities in the right lung base are most likely due to parenchymal contusion although aspiration is also a concern. There is no evidence of pericardial effusion, hemothorax or pneumothorax.*

Figure 2: *Variable perfusion in the right lobe of the liver with very poor perfusion of the left lobe. The contusion extends around the right portal vein, but contrast spilling is not demonstrated. A rim of hemoperitoneum is seen along the right side of the liver and extending over the top of the spleen and stomach.*

TABLE 2. *Organ Injury Scaling, Kidney*

Grade		Injury Description	AIS-90
I	Contusion	Microscopic or gross haematuria, urological studies normal	2
	Haematoma	Subcapsular, nonexapnding without parenchymal laceration	2
II	Haematoma	Nonexpanding perirenal haematoma confined to renal retroperitoneum	2
	Laceration	<1cm parenchymal depth of renal cortex without urinary extravasation	2
III	Laceration	>1cm depth of renal cortex, without collecting system rupture or urinary extravasation	3
IV	Laceration	Parenchymal laceration extending through the renal cortex, medulla and collecting system	4
	Vascular	Main renal artery or vein injury with contained haemorrhage	5
V	Laceration	Completely shattered kidney	5
	Vascular	Avulsion of renal hilum which devascularizes kidney	5

Advance one grade for multiple injuries to same organ.

Resources:

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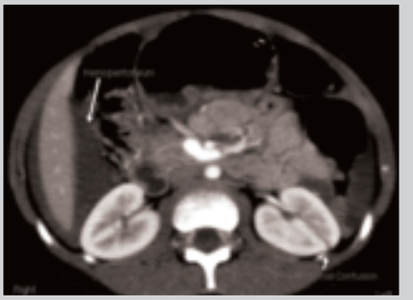
TABLE 3. *Organ Injury Scaling, Spleen*

Grade		Injury Description	AIS-90
I	Haematoma	Subcapsular, <10% surface area	2
	Laceration	Capsular tear, <1cm parenchymal depth	2
II	Haematoma	Subcapsular, 10-50% surface area Intraparenchymal, <5cm diameter	2
	Laceration	1-3cm parenchymal depth not involving a parenchymal vessel	2
III	Haematoma	Subcapsular, >50% surface area or expanding. Ruptured subcapsular or parenchymal haematoma. Intraparencymal haematoma >5cm	3
	Laceration	>3cm parenchymal depth or involving trabecular vessels	3
IV	Laceration	Laceration of segmental or hilar vessels producing major devascularization (>25% of spleen)	4
V	Laceration	Completely shattered spleen	5
	Vascular	Hilar vascular injury which devascularized spleen	5

Advance one grade for multiple injuries to same organ up to Grade III.



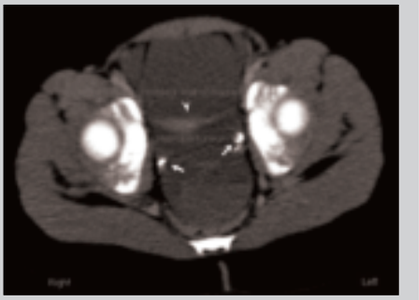


FIGURE 3. **FIGURE 4.**

Figure 3: *Cortical perfusion phase imaging of the kidney showed several areas of decreased enhancement of the left kidney, but no perinephric hematoma or urinoma. The fluid seen around the tip of the liver has the density of blood, not urine. Free intrabdominal air is not seen. Contrast enhancement of the normal caliber aorta confirms adequate fluid replacement. The inferior vena cava is not opacified at this level due to the phase of contrast administration.*
Figure 4: *Five minute delayed images through the pelvis demonstrate pooled blood between the contrast-enhanced urine layering in the bladder, the contrast enhanced ureters and the rectum.*

CME QUESTIONS

6. Which of the following techniques is the most commonly used to evaluate suspected hemoperitoneum in children?

a. FAST (Focused Abdomenal Sonography for Trauma)
b. Computed Tomography with oral contrast
c. DPL (diagnostic peritoneal lavage.
d. Computed Tomography with IV contrast

7. Is there any reason to classify the degree of solid organ injury in children who are not surgical candidates?

a. Yes b. No

8. In patients with suspected splenic injury, is there a need to include CT images of the pelvis?

a. Yes b. No

9. In patients with suspected splenic injury, is there a need to include CT images of the pelvis?

a. IV contrast
b. Foley Cath
c. Oral contrast
d. Sedation

OVERWEIGHT AND OBESITY
IN CHILDREN AND ADOLESCENTS

James Ebert, MD

Dr. Ebert is a pediatrician specializing in adolescent medicine. He serves as the lead physician of the lipid clinic at Dayton Children's and an associate professor of community health and pediatrics at the Wright State University Boonshoft School of Medicine.

OBJECTIVES

After completing this article, the reader should be able to:

1. Understand the importance and limitations of BMI measurement in children and teens.
2. Recognize some of the comorbidities of overweight and obesity.
3. Provide helpful advice to parents concerning obesity prevention.

Obesity, a significant problem in American adults, has also become increasingly common in children and adolescents in the United States. The video game console, TV and computer have replaced much of the time spent in active play or exercise. Eating on the run and convenience foods have replaced planned, nutritious meals prepared at home.

The percentage of overweight kids and adolescents in the United States has more than doubled over the past 30 years. Today, over 10% of 2- to 5-year-olds and more than 15% of children between the ages of 6 and 19 are overweight. Combining the percent of kids who are overweight with the percent of kids who are at risk of becoming overweight, nearly a third of all children are affected.

Preventing children from becoming overweight requires families to change the way meals are arranged and to encourage daily exercise. Parents need to set an example, and physicians treating children need to be vigilant in teaching and promoting healthy lifestyle choices.

Defining the Terms

A child with a body mass index at or above the 95th percentile for age and sex is considered overweight (Figure 1). To calculate BMI, divide the weight in kilograms by the height in meters squared. A reliable BMI calculator that also displays BMI percentiles for children can be found on the Center for Disease Control and Prevention (CDC) web page: http://apps.nccd.cdc.gov/dnpabmi/Calculator.aspx?CalculatorType=English. Other BMI calculators are also available for personal digital assistants (PDAs), which display BMIs and percentiles for age and gender.

The use of the term "obesity" is still somewhat controversial in children and teens and, as a result, the CDC uses the descriptions in Table 1.

BMI is a good indicator of body fat, but it is not a direct measure. Sometimes the BMI can be misleading. For example, a very muscular adolescent may have a BMI above the 85th percentile without being "at risk for overweight." In addition, BMI may be difficult to interpret during early puberty, especially at the very beginning of the growth spurt. The 85th percentile for BMI crosses 25 at approximately age 17

TABLE 1. *Weight classifications in children*

Weight status category	BMI percentile range
Underweight	Less than the 5th percentile
Healthy Weight	5th percentile to less than the 85th percentile
At risk of overweight	85th to the less than the 95th percentile
Overweight	Equal to or greater than the 95th percentile

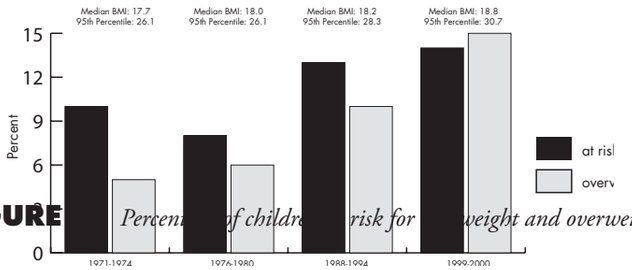


FIGURE *Percent[illegible] of childr[illegible] risk for [illegible]weight and overweight*

for both sexes. At this point, the adult upper limit for healthy BMI, which is 25, should be used. Abdominal circumference measurement is widely used in evaluating adult obesity, with the upper limits of healthy being 35 inches for women and 40 inches for men. Less information concerning children's waist measurements is available and this measurement is seldom obtained in children or teens. Other techniques of determining body fat such as skin fold measurement with calipers, electrical impedance or body immersion require expertise and equipment not widely available.

The Comorbidities of Overweight and Obesity

Once relatively uncommon in children and teens, type 2 diabetes, insulin resistance, dyslipidemias and hypertension are increasingly reported in overweight children. Overweight children may also be prone to low self-esteem that stems from being teased, bullied or rejected by peers. They are often the last to be chosen as playmates, even as early as preschool. Children who are unhappy with their weight may be more likely than average-weight children to develop unhealthy dieting habits and eating disorders such as bulimia. They also may be more prone to depression as well as substance abuse.

TABLE 2. *Comorbidities of obesity in children and adolescents*

Insulin resistance, impaired fasting glucose, impaired glucose tolerance
Hypertension
Dyslipidemias (low HDL, high triglycerides, high LDL)
Increased left ventricular mass
Skeletal disorders including Blount's disease, slipped capital femoral epiphysis, kyphosis
Obstructive sleep apnea
Polycystic ovarian syndrome
Shortness of breath due to deconditioning or lowered threshold for exercise-indused bronchospasm
Fatty infiltration of liver (nonalcoholic steatohepatitis or NASH)
Cholelithiasis (can be precipitated by rapid attenpts at weight redution)
Lowered sefl-esteem, mood disorders, depression
Pseudotumor cerebri
Skin disorders including acanthosis nigricans, striae, and folliculitis

What Causes Overweight and Obesity?

The simple answer is that there is a sustained imbalance in energy intake and expenditure. Energy intake, more commonly known as eating, has been impacted by the rise of convenience foods and beverages, the mass marketing of food products to children and teens, the increasing accessibility of high-fat or high-sugar foods, a steady upward creep in portion size (both in packaged foods and at restaurants) and the replacement of water by proprietary sugared beverages. The disappearance of structured mealtimes in some households leaves children in charge of making their own meals without significant parental supervision or guidance. Supervision alone may not be enough for children with certain genetic syndromes such as Prader-Willi. These children have ravenous appetites that would result in almost constant eating were it not for locks on the pantry and the refrigerator. Certain medications, especially some of the newer psychiatric drugs, are commonly associated with weight gain partially through their affect on appetite.

The other side of the energy equation is expenditure. The following factors contribute to an overall reduction in energy expenditure:

- the 21st century replacement of active play with virtual play
- the reduction in recess in some elementary schools
- the decrease in physical education at middle and high schools
- the paucity of sports programs for the non-elite adolescent athletes

Apart from physical activity, resting energy expenditure (REE) varies greatly from individual to individual and contributes significantly to explaining why weight gain comes more easily to some individuals than others. Hypothyroidism is a frequently suspected, but rarely confirmed, cause of excessive weight gain in children and teens especially when height growth is tracking percentiles normally.

Under the age of 8, children spend an average of 2.5 a day hours watching TV or playing video games. After age 8, it increases to an average of 4.5 hours sitting in front of the TV or wiggling a joystick. Children and teens who watch more than 4 hours per day are more likely to be overweight when compared with kids who watch 2 hours or less. TV in the child's bedroom is also linked to increased likelihood of becoming overweight. In some families, virtually all of their children's free after-school time (before dinner, doing homework and getting ready for bed) is dedicated to sedentary "screen time."

Addressing Overweight and Obesity in Children and Teens

A whole-family approach is essential. The parents need to set an example by addressing their own overweight issues if present and by modeling a healthy lifestyle. Eating and exercise need to become a family affair. Children and teens should be involved in menu planning and food preparation for healthy meals. When eating on the run, families will need information on how to make healthy choices at fast foods establishments.

Children and teens who have already reached or surpassed the 95th percentile for BMI should be screened for comorbidities through careful history-taking, examination and appropriate lab and other studies. Referral to an interdisciplinary team for evaluation may be helpful. Structured programs for school-age children and teens that offer nutritional education combined with fitness and exercise instruction are available in many communities. For children at the 85th percentile for BMI and above, the issue of overweight should be discussed candidly and compassionately along with suggestions for weight stabilization. Some of these individuals may actually present with the clinical symptoms of obesity-related comorbidities or abnormal screening labs. Children and teens who are less than the 85th percentile for BMI should receive the benefit of anticipatory guidance.

Some tips to share with parents:

- Avoid using sugared foods and snacks as rewards for good behavior.
- Children should not be pressured to eat if they are not hungry.
- Sweets and snacks eaten in moderation are acceptable. Strictly forbidding certain foods may lead to rebellion and binge eating when they are available elsewhere.
- Breast-fed babies may have a reduced risk of becoming overweight (another incentive for mothers to breast feed).
- Encourage some physical activity every day, at least 60 minutes ideally. Don't force any one sport or activity. Allow the child to follow his or her interests.
- Cut down on "screen time" including TV, computer and video game play and discourage eating while watching TV.
- Take the TV out of the child's bedroom.
- Serve a variety of healthy foods and eat meals together as often as possible.
- Eat breakfast every day and adjust bedtime and getting up time to allow breakfast before school.
- Model healthy behavior for your child or teen by eating well and exercising regularly – 60 minutes every day.

Resources:

1. Hassink, S. Pediatric Obesity: Prevention, Intervention and Treatment Strategies for Primary Care. Elk Grove Village, IL: AAP; 2007.
2. United States Department of Heath and Human Services website. Dietary Guidelines for Americans 2005. Available at: http://www.health.gov/dietary-guidelines/dga2005/document. Accessed June 7, 2007.

CME QUESTIONS

10. Which of the following is NOT a comorbidity of obesity in children:

a. Depression
b. Alopecia areata
c. Insulin resistance
d. Pseudotumor cerebri
e. Hypertriglyceridemia

11. Which of the following could be considered reasonable anticipatory guidance for the parent of a healthy 7-year-old boy with a BMI at the 80th percentile?

a. "Since there is no family history of obesity, you don't have to worry about your son ever becoming obese."
b. "Reduce the carbohydrates in his diet now and set a 5% BMI reduction in two months as a goal."
c. Encourage the parent to plan fun family outings, remove the TV from his room, sign him up for a community youth athlet ics program and make sure he gets up in time for breakfast every morning.
d. "Remove all ice cream, potato chips and cookies from your house and put your son on the bathroom scale every morning."
e. Reassure the parent that the boy is just "big-boned." Give him a treat from your candy jar as he leaves your office.

12. Which of the following is correct?

a. The CDC enthusiastically endorses the use of the term "obese" concerning children and teens.
b. A desirable BMI is less than the 85th percentile for up to age 17. Beyond age 17, adult standards are used and the BMI should not exceed 25 except for muscular individuals.
c. Older teens seem to tolerate high BMIs and rarely develop the comorbidities of overweight and obesity.
d. Since a BMI at the 70th percentile for a 13-year-old girl is good, hav ing her reduce her BMI further to the 25th percentile is even better for her health.
e. The approach to overweight and obesity should concern itself only with the child because behavior and lifestyle choices of the parents have no influence on the child.

PROGRAM EVALUATION

PEDIATRIC FORUM,
VOLUME 18,
NUMBER 1

1. Did the material presented in this publication meet the mission to enhance health care delivery in our region through education based on the essentials and policies of the Accreditation Council for Continuing Medical Education? (Circle one response.)

   Strongly agree Agree Neutral Disagree Strongly disagree

2. Did the material presented in this publication meet the educational objectives stated?

   _____ Met the stated objectives
   _____ Did not meet the stated objectives

3. Please rate the contents of this issue using the following scale:
   1 = Poor, 2 = Fair, 3 = Good, 4 = Very good, 5 = Excellent
   (Circle one response for each.)

	Poor				Excellent
Timely, up-to-date?	1	2	3	4	5
Practical?	1	2	3	4	5
Relevant to your practice?	1	2	3	4	5

4. Please describe any changes you plan to make in your clinical practice based on the information presented in this program.

   _____
   _____
   _____
   _____

5. Are there any other topics you would like to have addressed in this publication?

   _____Yes
   _____No
   If yes, please describe: _____
   _____
   _____
   _____

6. Any other comments/suggestions for future educational programs for health care providers?_____
   _____
   _____
   _____
   _____
   _____
   _____

Physician accreditation statement and credit designation

Accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education (CME) for physicians. Wright State University (WSU) takes responsibility for the content, quality and scientific integrity of this CME activity. This educational activity is designated for a maximum of two hours in category 1 credit toward the American Medical Association Physician's Recognition Award. Each physician should claim only those hours of credit he or she spent on the activity.

ANSWER SHEET

PEDIATRIC FORUM,
VOLUME 18,
NUMBER 1

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Instructions

To obtain CME credit you must:

- Answer the questions from each article and complete this answer sheet.
- Complete the program evaluation located on reverse side.
- Return your completed answer sheet and program evaluation by mail or fax to:

Bev Comer, coordinator
Department of Continuing Medical Education
The Children's Medical Center of Dayton
One Children's Plaza
Dayton, OH 45404-1815

Fax: 937-641-5931

The answer sheet and program evaluation must be received by **August 15, 2008** for the credit to be awarded.

Upon completion of all requirements, Wright State University will issue a memorandum of credit to you for your permanent records.

Answers (Please circle the BEST answer.)

1.	true	false			
2.	true	false			
3.	true	false			
4.	a	b	c	d	
5.	true	false			
6.	a	b	c	d	
7.	a	b			
8.	a	b			
9.	a	b	c	d	
10.	a	b	c	d	e
11.	a	b	c	d	e
12.	a	b	c	d	e

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Office fax _____

E-mail _____

Signature _____

THANK YOU!

NEWS AND UPDATES
THE CHILDREN'S MEDICAL CENTER OF DAYTON

Endocrinology now accepting all referrals

The endocrinology department at Dayton Children's is pleased to announce it is accepting all new pediatric referrals, including type 2 diabetes. With the recent addition of Susan Almazan, MD, and Carrie M. Aultz, MS, RN, CPNP, the department of endocrinology is continuing to work to meet the needs of the community. A comprehensive range of endocrinology and diabetes mellitus services are available. To make a referral or reach the endocrinology department at Dayton Children's, call 937-641-3487 or 1-800-228-4055, ext 3487.

Dayton Children's welcomes new specialists

- Pedro Weisleder, MD, PhD- Dr. Weisleder joined the department of neurology July 9 as medical director. He joined us after serving as assistant professor and clinical director of pediatric neurology at Duke University School of Medicine.
- Jay Dritz, MD- Dr. Dritz joined the department of newborn medicine and our level III regional newborn intensive care unit on July 1. He joins us after completing his fellowship in neonatal-perinatal medicine at St. Louis Children's Hospital.
- Merrilee Cox, MD- Dr. Cox will serve as director of medical education in addition to joining the department of general pediatric service on August 1. She joins us after serving as a pediatric physician from Ohio Pediatrics in Kettering.

Please join us in welcoming our new physicians to Dayton Children's!

Lab outreach program continues to grow

Dayton Children's Laboratory Outreach program is continuing to add physician offices using this service. Our physician clients get free laboratory collection supplies, access to our dedicated lab courier and will soon be able to order tests and view results online.

This free service includes:

- Routine pick-ups throughout the day or on demand/as needed pick-ups.
- Convenient, flexible hours, Monday through Saturday to accommodate practices' hours of operation.
- Pick-up service for any specimen, for any type of testing. There is no age limit on lab services.
- All specimen collection supplies, free of charge.

For more information, contact Lisa Henderson, client services manager, at 937-641-3117.

Dayton Children's to open Specialty Care Center in Middletown

Dayton Children's will be opening a Specialty Care Center located on the campus of the Atrium Medical Center in Middletown. The building is scheduled to open in winter 2008 and will be located conveniently off interstate I-75 at 100 Campus Loop Road. This will expand Dayton Children's pediatric specialty services and high quality care to Warren and Butler Counties. The Specialty Care Center will provide Dayton Children's pediatric specialists in addition to laboratory and medical imaging services.

Dayton Children's cancer program nationally commended

We are proud to announce that The American College of Surgeons has approved Dayton Children's cancer care program with commendation for three years. By undertaking this evaluation, our oncology program has demonstrated their commitment to quality care, ongoing improvement and public accountability for the care and services they provide. Dayton Children's received commendations in five areas: abstracting time frame, American Joint Committee on Cancer (AJCC) staging, clinical trial accrual, prevention and early detection services and cancer registry staff education. Congratulations to everyone who helped accomplish this outstanding achievement! For more information on Dayton Children's hematology/oncology department, call 937-641-3111, or toll free 1-800-228-4055, ext. 3111.

Child health information centers available to physicians

Dayton Children's offers child health information centers (CHI) free-of-charge to physicians seeking to provide education to patients and their families. The centers come complete with information on a range of topics such as car safety, respiratory syncytial virus (RSV) and care of fever. We also offer each of our CHI sheets in Spanish. If you are interested in displaying a CHI center in your office or for more information call 937-641-3618.

DAYTON CHILDREN'S
The Children's Medical Center of Dayton

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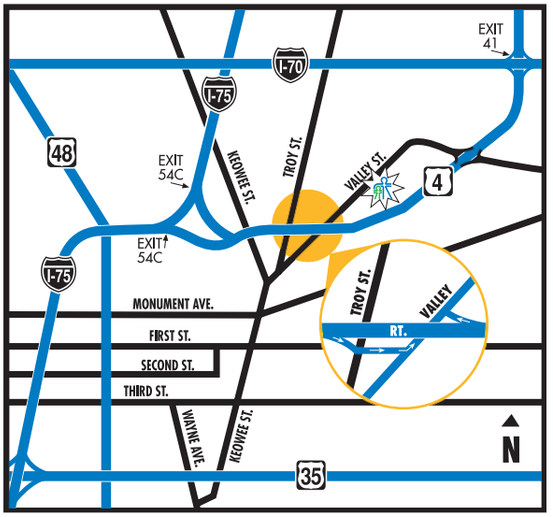


Street Directions

FROM THE NORTH:

I-75 south, Exit 54C to Rt. 4; stay left when exiting I-75; Rt. 4 north to Valley St./Troy St. exit. Go through first stop sign at bottom of exit ramp. Valley Street is the next stop sign. Turn left.

FROM THE SOUTH:

I-75 north, Exit 54C to Rt. 4; Rt. 4 north to the Valley St./Troy St. exit. Go through first stop sign at bottom of exit ramp. Valley Street is the next stop sign. Turn left.

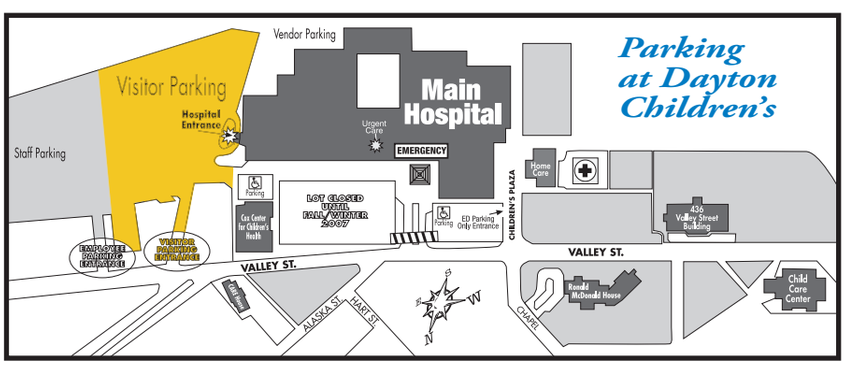
Or I-675 north, Exit 13 to Rt. 35; west on Rt. 35 to the Keowee St. exit; right on Keowee to Valley St.; right on Valley St.

FROM THE EAST:

Rt. 35 west to the Keowee St. exit; Keowee St. north to Valley St.; right on Valley St. From I-70 exit 41, take Route 4 south to Stanley Ave./Findlay St. exit. Turn right at the bottom of exit, then left at the first light on Stanley Ave. This is Valley St.

FROM THE WEST:

Third St. east to Keowee St.; left on Keowee St. to Valley St.; right on Valley St.



Parking at Dayton Children's

For Your Information

Parking is available at The Children's Medical Center of Dayton. The hospital is also accessible by bus. Call RTA at 937-226-1144 for schedule and route information.

www.childrensdayton.org
Your online source for pediatric health and safety information.