



Wilford Hall Air Force Medical Center
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In this edition

Pediatric Neurosurgery Service 1
 Controversial Testing and Therapy for Allergic Disease 2
 Clinical Practice Guidelines (or Parameters): ADHD and Autism 4
 Assessing the Suicidal Child or Adolescent 6
 Abstinence Only Programs—For Adults Only 8

PEDIATRIC NEWS

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CHIEF'S CORNER

Pediatric Neurosurgery Service

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The Pediatric Neurosurgery Team at Wilford Hall Medical Center is comprised of two neurosurgeons: Dr. Mick Perez-Cruet and Dr. Pawan Rastogi. We are involved in the management of all aspects of pediatric neurosurgical care. State of the art Operating Room facilities manned by both pediatric and neuroanesthesiologists are available at WHMC. Complex pediatric tumors are managed through a multidisciplinary tumor board, and all options are discussed including surgery, chemotherapy and radiation. We are one of only two centers in the military that can perform Stereotactic Radiosurgery for tumors. Access to research protocols and treatment regimens can be obtained through the tumor board. All forms of intraoperative monitoring such as SSEP, EMG, EEG, etc are available to help in managing complex spinal disorders, dysraphism and vascular pathology. We have a complete endoscopy system that has been used to treat hydrocephalus without shunting in certain cases. In addition, with the aid of the endoscope we have the capability to perform minimally invasive craniotomies. At WHMC, we have an active multidisciplinary myelomeningocele clinic for the management of chronic problems in the spina bifida population. Recently, with assistance of the pediatric neurologists, we have been placing vagal nerve stimulators for the treatment of intractable epilepsy. A craniofacial team consisting of a neurosurgeon and plastic surgeon manages all forms of craniofacial anomalies at WHMC, both operatively and nonoperatively. Complete neurosurgical care is available at WHMC.

Neurosurgical consultation is easy to obtain. For routine evaluations, please fax the consult to our clinic. Our clinic will schedule the appointment with the patient's family. Wait time is usually 2-3 weeks. For an urgent consultation, please call the clinic and speak with us directly. Moreover, we encourage clinicians to use us as a resource to help them in managing their patients. A resident is on call 24 hours a day, and he can expedite any transfers that are necessary on weekends or off duty hours.

Our goals are to provide comprehensive, quality neurosurgical care to our patients. We are an adjunct to the pediatric service at Wilford Hall as well as the entire military community. Any questions or concerns should be addressed to the neurosurgery clinic or me.

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Controversial Testing and Therapy for Allergic Disease

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With the resurgence of alternative medicine, the conventional physician now frequently encounters unfamiliar forms of testing and treatment. This article will briefly touch on some of these and explain their theories and methods and render a critique of their scientific validity.

Let us begin with the Rinkle Method of Immunotherapy. The technique is based on the belief that skin testing end point titration is a safe way of determining a diagnosis, starting dosage and maintenance dose of allergen. Five fold serial intradermal injections are given until serial 2 mm incremental increases in wheal are demonstrated without regard to erythema and this is the "endpoint" or the starting dose of immunotherapy. The "optimal" or maintenance dose is 25-50 times the endpoint dose. As applied in this manner the endpoint titration requires up to nine times the number of intradermal testing injections, thus costing up to several thousands of dollars more than conventional skin testing. In addition, the starting dose calculated by this method is far too conservative, resulting in many more injections than necessary to reach maintenance and greater expense to the patient. Finally, the maintenance dose of allergy extract by this technique is much too low and has been shown in double blind placebo controlled studies¹ to be no more effective than placebo.

Provocation-neutralization Testing consists of two parts. First, "Provocation" is by test dose of

food, chemical, hormone, or allergen by intracutaneous, subcutaneous, or sublingual administration. The patient then records subjective symptoms for 10 minutes after challenge. Any reported symptom is considered a positive test result. Further challenges with the same "antigen" at different doses (higher or lower) are given until the patient reports no symptoms. This is called "neutralization." The rationale of this type of testing is uncertain. A recent study by Jewett et al.² with a well-designed double-blind, placebo-controlled protocol showed that responses to antigens were no different from placebo responses in 18 patients who had previously responded positively to antigen and negatively to control in an unblinded setting. The results of provocation-neutralization and similar tests are based entirely on suggestion.

Cytotoxic food tests and similar *in vitro* testing typically consist of an unstained wet mount of 1 drop of whole blood or buffy coat which is placed on a microscope slide precoated with a dried film of a food extract. A cytotoxic effect (e.g., swelling, vacuolation, crenation, or other distortion of leukocytes) observed microscopically is considered indicative of food allergy. Allergic reactions to foods are not caused by or associated with cellular cytotoxicity. The cytotoxic test has been subjected to controlled studies, which have shown that results are based purely on chance and are not reproducible.^{3,4}

In Electrodiagnosis, food extract in a sealed glass vial in contact with an aluminum plate is inserted into the circuit between the skin and a galvanometer called a Voll or an Interro machine. The presence of allergy to the substance allegedly produces a change in electrical resistance of the skin. The test results are entered into a

computer, which then prints out a list of the patient's allergies. Currently, there are no data to indicate the validity or efficacy of this type of testing.

Kinesiology refers to the science of motion techniques. Applied kinesiology believes that an allergic reaction, especially to a food, causes weakening of skeletal musculature. A technician subjectively tests muscle strength of an extremity before and after exposure of the patient to an allergen. The test exposure consists of placing a sealed glass vial containing allergen extract on the patient's skin (or clothing). There is no physiologic rationale for this test and no proof of its efficacy.

Many believe that chemicals that are not normal constituents of the body are potentially harmful and detection of any level of these chemicals is indicative of abnormality. Furthermore, a cause-and-effect relationship exists between chemical exposure and symptoms demonstrated by the patient. Body and hair analysis consists of specific testing by a variety of techniques including gas chromatographic and mass spectrophotometry analysis of chemicals in hair, serum, other body fluids, as well as breath analysis. Once an allegedly offending substance is identified, treatment consists of numerous nutritional supplements supplied typically from the same source as the agent providing the analysis. These chemicals can be measured with a very high degree of sensitivity and detection of trace amounts of chemicals is to be anticipated. In addition, contamination of collection vials and chemicals leached from the vial caps can be the primary sources of error in these assays. Finally, there is no database of trace levels of chemicals in groups of individuals with and without signs and symptoms of

disease.

Orthomolecular therapy is the use of nutritional supplements (vitamins, minerals, enzymes, amino acids), often administered in large quantities parenterally or orally. The utility of these interventions has not been subjected to carefully controlled trials. The health food industry has successfully lobbied for laws that classify their products as foods or nutritional supplements, rather than biologic agents or drugs and, as such, avoid FDA regulation.

Aromatherapy is the administration of oils in small quantities through inhalation, massage or other application to the skin. These substances are alleged to contain hormones, vitamins, antibiotics, and antiseptics and to represent the “life force,” “spirit,” or “soul” of the plant of origin. In 1986 the FDA warned that marketing a scent with a therapeutic claim would make the product a drug subject to regulatory action. Manufacturers have continued their marketing and the FDA has not made them stop.

The rotation diet (also called a rotary diversified diet) consists of not eating the same food more often than once every 4 or 5 days. This is based on a theory that the patient is allergic to most or all foods and that eating the same food too often increases sensitivity to that food and, subsequently, to other allergens. The rotation diet has never been tested for efficacy and has no sound scientific basis.

More extreme indeed are the Multiple Food Elimination Diets. Diets and avoidance methods fall into two categories. One, elimination of multiple foods based on the diagnosis of multiple food allergy with an unproven method and two, elimination of multiple foods from

the diet based on the concept that this will in some mysterious way “boost the immune system” (usually in conjunction with dietary supplements). Elimination of multiple foods, based on unproven diagnostic methods or on the concept that the immune system will be “boosted,” is without scientific basis. Fortunately, most patients do not adhere to restrictive elimination diets very long. Those who do, however, can be subject to harmful nutritional and psychologic effects.

Likewise, the diagnosis of “Multiple Chemical Sensitivity” often leads to avoidance of food additives, solvents, pesticides, and anything else that the patient considers to be a “chemical.” In extreme examples, the patient will retreat to a rural or mountainous locale to live like a hermit or remain trapped inside a “safe” house. The final outcome may be an environmental cripple with devastating effects on patient, family, and friends.

In the “Candida Hypersensitivity Syndrome” *Candida albicans*, as part of the normal body flora, is thought to release an immunotoxin, causing multiple varied symptoms. The diagnosis is typically made by questionnaire. The list of potential symptoms is so inclusive that virtually all patients find that they fit the criteria for diagnosis. No abnormal physical signs or laboratory test results have been defined in this condition. The treatment consists of a sugar-free yeast-free rotation diet, low-dose oral administration of Nystatin, and occasional use of ketoconazole or other anti-fungal agent. Delayed reactions to intradermal tests with Candida antigen that merely reflect a functioning cellular immune system, are interpreted as abnormal. Injections of *Candida* are frequently initiated on that basis, resulting in marked local reactivity at the

injection site. There is no scientific proof of diagnostic or therapeutic efficacy for this modality.

Chelation therapists state they have administered millions of EDTA treatments to hundreds of thousands of patients over the past 40 years. Protagonist publications claim numerous clinical successes and speculate in scientific terms how chelation therapy works. The few well-designed studies that have addressed the efficacy of chelation for atherosclerotic diseases have been carried out by “establishment” medical scientists.

Without exception, these found no evidence that chelation worked. Based on numerous reviews of the world’s medical literature, these same conclusions have been reached by the FDA, the FTC, National Institutes of Health, and virtually every other conventional medical organization.

In conclusion, these controversial testing modalities and treatments all have three things in common. The test or treatment has to be “sold” to the patient in both a believable and financial sense by the practitioner. Secondly, conventional medicine has frequently failed to meet a perceived need and, finally, there is no scientific supporting evidence for their effectiveness.

1. Van Metre TE 1983 *Pediatr Clin North Am* 30:807
2. Jewett et al. *JACI*, 103(5),907-911
3. Liberman P, et al 1974 *JAMA* 231:728
4. Benson TE, Arkins JA 1976 *JACI* 58:471

In conclusion, these controversial testing modalities and treatments . . . there is no scientific supporting evidence for their effectiveness.

Clinical Practice Guidelines (or Parameters): ADHD and Autism

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Will the statement that a clinical practice guideline (CPG) “may not provide the only appropriate approach to this problem” help the average pediatrician with a malpractice challenge of a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD), or a delay in diagnosis of autism? I think not. There are several important changes that have a major impact on daily pediatric practice because of these two new guidelines. **Perhaps the most important (from the Autism guideline) is the requirement for a standardized developmental screening at every well child visit, as well as use of an autism screen for every child who fails.** Currently only one in four pediatricians uses a standardized developmental screening instrument, and the numbers are probably not radically different for primary care providers. Fewer still use any autism screening questionnaires.

ADHD

The AAP-backed CPG regarding the diagnosis and evaluation of ADHD was published in May, 2000 *Pediatrics*. The guideline limits itself to children between the ages of six and 12 years of age. Pre-school children and adolescents are

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not addressed. The main requirements of this CPG will be discussed, with comments on each of these points.

Recommendation 1. *In a child 6 to 12 years old who presents with inattention, hyperactivity, impulsivity, academic underachievement, or behavior problems, primary care clinicians should initiate an evaluation for ADHD.* Five sample questions are provided which may be brought up at a routine health maintenance visit to elicit concerns that have not been otherwise elicited.

Recommendation 2. *The diagnosis of ADHD requires that a child meet DSM-IV criteria.* The child must be impaired in more than one setting (i.e., home and school), symptoms lasting at least 6 months, starting before age 7 years. Meeting each of the criteria comes from information obtained from the parents, school reports, mental health care professionals if available. This recommendation is probably not a major difficulty for most clinicians who diagnose ADHD.

Recommendation 3. *The assessment of ADHD requires evidence directly obtained from parents or caregivers regarding the core symptoms of ADHD in various settings, the age of onset, duration of symptoms, and degree of functional impairment.* This recommendation is likely completed most of the time. However, overprint forms for the evaluation of ADHD will facilitate this requirement.

Recommendation 3A. *Use of these (ADHD-specific rating) scales is a clinical option when evaluating children for ADHD.* Standardized ADHD rating scales are numerous, widely available – and I believe are a very good idea for malpractice reasons, in addition to being

The child must be impaired in more than one setting (i.e., home and school), symptoms lasting at least 6 months, starting before age 7 years

convincing pieces of evidence that the child really does have ADHD.

Recommendation 3B. *Use of broadband scales is not recommended in the diagnosis of children for ADHD, although they may be useful for other purposes.* The clinician will obviously not use non-ADHD scales to diagnose ADHD, but he or she is charged to screen the child for coexisting conditions (see recommendation 5 below). Broadband scales may be the most efficient way to determine coexisting conditions available to the clinician short of referral of all children to a mental health provider – not included in any recommendations.

Recommendation 4. *The assessment of ADHD requires evidence directly obtained from classroom teacher (or other school professional) regarding the core symptoms of ADHD in various settings, duration of symptoms, degree of functional impairment, and coexisting conditions. A physician should review any reports from a school-based multidisciplinary evaluation where they exist, which will include assessments from the teacher or other school-based professional.* Information from the school (obtained with written parental consent) must include DSM-IV-related information regarding inattention, hyperactivity and impulsivity. The clinician must obtain and record these observations in the record (another reason for using an overprint). This information may be obtained from a written report or interview.

Recommendation 4A. *Use of these (ADHD-specific rating) scales is a clinical option when evaluating children for ADHD.* Again, I think this is imperative.

Recommendation 4B. *Use of broadband scales is not recommended in the diagnosis of children for ADHD, although they may be useful for other purposes.* I personally have not started using these yet, as the teachers already are completing a lengthy amount of information about the child. I do use this type of questionnaire from the parents.

Screening specifically for autism should be performed on all children failing routine developmental surveillance

If a teacher and parent differ in their view of the child, the CPG recommends obtaining information from a previous teacher, coach, or religious instructor.

Recommendation 5. *Evaluation of the child with ADHD should include assessment for coexisting conditions.* This is the most difficult recommendation for me. The statement that “most of these coexisting conditions may be readily detected by the primary care clinician” is not supported by my experience or the authors. Common conditions include oppositional defiant disorder (35% comorbidity), conduct disorder (25%), anxiety disorder (25%), depressive disorder (18%), and learning disabilities (10-60%). They do state that several screening tests are available which may assist the clinician, though these have not been tested in a primary care setting. I think that directly asking about these potential problems, in addition to utilizing broadband questionnaires will aid in detecting potential problems in

these areas.

Recommendation 6. *Other diagnostic tests are not routinely indicated to establish the diagnosis of ADHD.* These include lead and thyroid blood testing, brain imaging, EEG, and continuous performance tasks. It is helpful to state that these tests are not a part of the routine evaluation of the child with ADHD.

I have developed an ADHD overprint, as well as a teacher narrative questionnaire in Word format. I would be glad to email these to you (charles.morton@59mdw.whmc.af.mil).

Autism

Because autism is often not diagnosed for 2 to 3 years after initial symptoms, and early recognition with subsequent early intervention can make a large difference in the child and family outcome, several major changes are recommended.

The recommendations are broken down into level one (applying to all children) and level two (diagnosis and evaluation of autism). Generally, level one can be thought of as the primary care level, with level two the evaluation by a specialist in the autism area for a child thought to possibly have autism. I will discuss the level one recommendations.

1. Developmental surveillance beginning in infancy through school age, or at any age if concerns are raised about social acceptance, learning, or behavior. Several screening instruments are mentioned by name, including my favorite, the Ages and Stages Questionnaire (one-time investment of \$190. which includes permission to make copies of the forms, available through

www.pbrookes.com). The Denver II and Revised Pre-screening Developmental Questionnaire (R-PDQ) are specified as not acceptable because of low sensitivity.

2. Further developmental evaluation is required whenever a child fails to meet any of the following milestones: babbling by 12 months; gesturing by 12 months; single words by 16 months; two-word spontaneous (not just echolalic) phrases by 24 months; loss of any language or social skills at any age.

3. Siblings of children with autism should be carefully monitored, not just for autism, but for other developmental, learning, social, anxiety, or depressive disorders.

4. Screening specifically for autism should be performed on all children failing routine developmental surveillance using either the CHAT (validated for children at 18 months of age) or Autism Screening Questionnaire (Validated for children age 4 years and beyond (this is a bit late for most children). (I have the CHAT. Email me for a copy.)

5. Laboratory investigations include an audiologic assessment and a lead blood test. (Level 2 assessment considers whether to order Fragile X DNA, metabolic testing, EEG, etc.)

The bottom line is that the primary care clinician is responsible for finding children early who have developmental problems. This will occur because of a surprise result on a standardized screen, or a parent who raises a concern that is acted upon and not just reassured. Referral to a specialist who has experience in children with autism is imperative. The best situation would be referral to a

The bottom line is that the primary care clinician is responsible for finding children early who have developmental problems

multidisciplinary team that specializes in children with autism (Dr Steve Greefkens has such a team at BAMC – contact DSN 429-0765). In addition to the early referral for appropriate evaluation, referral to begin early intervention (if below age 3 years) or school (beginning at age 3 years) will help the child improve their developmental status. There is a medical piece of the definitive evaluation, as well as an educational approach. Each child with autism deserves the earliest opportunity for help – and your help may actually save a child from this severely impairing disorder.

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Assessing the Suicidal Child or Adolescent

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Introduction

Assessment of pediatric and adolescent patients for suicidality poses one of the more challenging situations clinicians face. If there is no psychiatric colleague available, this important evaluation must be conducted by a nonpsychiatric clinician. How then does the busy physician approach this issue? This article very briefly reviews pertinent information to assist in the assessment of suicidal children and adolescents.

Incidence

The age specific mortality rate from suicide is 1.7 per 100,000 for children aged 10 to 14; however, the rate jumps over *six times*, to 10.5 per 100,000, for 15 to 19 year olds. Rates for males and females in the older group differ markedly as well: 3.1 females in 100,000 will kill themselves between the ages of 15 and 19, versus 17.4 per 100,000 males. Rates jump dramatically again from ages 20 to 24, with a global mortality rate of 16.2 per 100,000.

The reason why suicide is a rare event before puberty is unknown. It is low in this age group no matter ethnicity or national origin. The most likely explanation is the dearth of risk factors such as depression or drug and alcohol abuse in the young pediatric population.

Gender

Most studies of gender differences in suicide come from the ER literature. Adolescent boys are six times more likely to commit suicide than girls although attempts are more common in girls. Female attempters in North America and Europe most often choose overdose, while boys utilize more aggressive – and certain – means such as shooting or hanging. For some reason, girls in Third World countries are more likely than their counterparts in the U.S. and Europe to complete suicide.

Ethnicity

Suicide rates among whites are consistently higher than among blacks, no matter the age. There is some geographic variation, the difference being more dramatic in the South and less so in the North Central states. These differences are difficult to explain. There are cultural factors such as the positive value accorded suicide in certain parts of the Japanese and Native American populations. However, factors that inhibit suicide are also known among populations that regard suicide in a very negative light, such as in southern Ireland, which has the lowest rate in Europe.

Methods and Precipitants

Firearms, due to their wide availability, are the most commonly utilized method of suicide in the U.S. Ingestions account for very few successful suicides as males only occasionally utilize overdose. There are some variations in method depending on the setting. Firearms are most common in rural areas while jumping is frequently utilized in urban environments.

Suicides most frequently occur shortly after a major stress event such as a disciplinary crisis, a poor grade, or failure to obtain a job or

... poor communication between a parent and child appears to be a significant risk factor

make a team. Rejection by or a fight with a boyfriend/girlfriend also proves to be a frequent precipitant. of a suicide attempt or completion.

Risk Factors

Socio-environmental factors seem to play little effect in whether someone attempts or completes suicide, although black suicides occur most frequently in individuals from higher socioeconomic status than lower ones. Concomitantly, in the general population, those who complete suicide are less likely to have attended college than a same-age, same-sex general population. There appears to be little relationship between family disharmony or parent-child friction and suicide. However, poor communication between a parent and child appears to be a significant risk factor. Children who have had a close family member or friend who has attempted or completed suicide are more likely to attempt or complete a self-injurious act. However, it is not clear if this is a genetic or imitative phenomenon. Approximately 33% of suicide victims have made an attempt in the past and about 50% have had previous contact with a mental health provider. Since firearms are the method of choice for most suicides, they are a significant risk factor that must be evaluated for in all suicide assessments. A study by David Brent in 1991 found that 72% of completers came from homes where guns were present as compared to 37% of attempters and 38% of controls.

In the past ten to fifteen years some neurochemical abnormalities have been discovered in these suicides. Adult and late

adolescents (age > 16 years) have been found to have abnormally low levels of 5HIAA and HVA, both metabolites of serotonin; decreased concentration of 5HT transporter enzymes in the pre-frontal cortex; decreased presynaptic 5HT receptor density; and increased post-synaptic 5HT receptor density. The take away message about the neurochemical abnormalities is that they are associated with impulsive and volatile mood states.

Diagnoses in Suicide Completers

The single most important point about suicide is that a psychiatric diagnosis is present in approximately 90% of completers. Alcohol and cocaine abuse occurs in approximately 66% of adolescents older than 17 years and depression alone or in combination with aggression and /or substance abuse or anxiety is found in approximately half of all suicides. Aggressive and impulsive behavior is common in both sexes of completers while schizophrenia and bipolar disorder accounts for only a small number of suicides.

Evaluation

The goal of the evaluation of the generalist is to determine whether the adolescent or child can be discharged home or if further evaluation/hospitalization is needed. The following are factors that indicate further evaluation/consultation is needed:

- Males older than 12 years
- Teenagers who are depressed, hopeless, psychotic, or uncommunicative.
- Teens who are intoxicated.
- A potentially lethal method was utilized other than superficial lacerations.
- Past history of previous attempt within the past year.

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- History of unpredictable or volatile behavior.
- Absence of a significant parent or guardian who can supervise the patient.

Disposition

A child or teenager may be released from the emergency or primary care setting only after the following has been accomplished:

- Detailed history of the attempt recorded and corroborated by the child's caretaker.
- Caretaker must agree to remove and/or secure any firearms or potentially lethal medication.
- A *definitive* follow-up appointment must be made for the patient and caretaker.
- A phone number must be given to the patient and family to call in the event the suicidal ideations return.
- A suicide contract must be signed by the individual agreeing not to make another suicide attempt before attending the follow-up appointment (this is a controversial issue).

Conclusion

Suicide, although uncommon, is a significant source of morbidity and mortality in the adolescent population. Frequently the pediatrician or adolescent medicine

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physician is the first provider to interview and evaluate the suicidal teen. Prompt attention and timely consultation can make a significant impact on the outcome of the patient and lead to appropriate interventions and treatment.

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Abstinence Only Programs—For Adults Only

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Over 40% of adolescent girls in the US are pregnant by their 20th birthday. Although teen pregnancy and birth rates have steadily declined since the early 1990s, the United States has the highest rate of both teen pregnancy and birth, by far, of any industrialized country. (1) Teenagers are also initiating sexual activity earlier. The age of coitarche has steadily declined with 8.3% of adolescents reporting having sex before age 13; a 15% increase from 1997. (2) Sexually transmitted infections effect a large number of the teen population. Prevalence rates for many of the common STIs range up to 25-50% of all teenagers.(3) The issues surrounding adolescent sexuality are truly problematic and should be recognized openly and addressed with a multifaceted approach.

The numbers for Texas are even more impressive. According to the Youth Risk Behavior Survey, 62.1% of high school students admitted to having sexual intercourse (vs. 48.4% nationally). Texas ranked considerably higher than the national average in sexual coitarche prior to age 13 years (16.2% vs. 7.2%), Greater than 4 lifetime partners (25.6% vs. 16%) and having become or gotten someone else pregnant (9.7% vs. 6.5%). (4)

Teenager sexual activity is not a new problem but the mind-body gap has changed. Around the year 1900, the average age at menarche was 16-17. That declined steadily

until the 1950's largely because of improved nutrition and health care and have remained relatively stable since then at about 12 years of age. (5) Some research reports that it continues to decrease by 3months per decade. (6) Since the 1950s the average age of first marriage has increased steadily to the age of 25 to 30 years. An increasing time when a teenager or young adult is suppose to abstain from sexual intercourse until marriage. The mind-body gap. (7)An increasing disparity from the time when the body is physically ready to engage in sexual activity and the time when they are told it is socially acceptable. Waiting until marriage is not the same as it was one hundred, fifty or even twenty-years ago.

Waiting 13 to 18 years until coitarche is a daunting task for a concrete-thinking adolescent. This is a task that often results in feeling of guilt because of the fight to achieve the perceived societal goal. And if the teen fails to abstain, it often results in increased feeling of guilt and at times a vicious cycle of promiscuity because abstinence can never be achieved once sexual activity has occurred. Abstinence only programs do not offer all the options to teenagers. You either do or you don't. As the data supports, although improving, the majority of teenagers don't abstain until marriage.

If Abstinence-ONLY programs are not the solution, then what would work? The solution is to use the adolescent's own cognitive abilities to address the problem. As an adolescent develops, he/she becomes increasingly abstract in his/her abilities to evaluate situa-

Abstinence only programs do not offer all the options to teenagers

I use the approach of delaying (not abstaining) intercourse

tions; to use what they learn from one situation and apply it to another. However, some people never achieve abstract thought processing and most others become concrete thinkers under times of stress (e.g. risk-taking situations). The problem should be addressed from a concrete thinker's perspective. Concrete thinkers cannot plan for things even 1 year in the future, let alone 13 to 18 years. As far as they are concerned, these things will never happen.

I use the approach of delaying (not abstaining) intercourse. This approach uses the adolescents own concrete thought process to handle the task of waiting to have sex. Concretely thinking, I ask adolescents if they can DELAY intercourse until they have been in a relationship long enough for it to be built upon other features first. We talk about communicating with ones boyfriend or girlfriend and getting to know them first without having intercourse. I stress how this strengthens the relationship, understanding that it is a normal desire to want to initiate sexual activity. Then, I ask them how long they think it would be appropriate to wait to have intercourse once they are in a steady relationship. More times then not, they say a longer time then I was going to suggest. I usually recommend waiting three months from the time that a boy and girl are going out and dating monogamously. This is a concrete time that the teenagers see that is a real possibility. A time that they can realistically see waiting to give the relationship time to grow and develop without the interference and complications of sexual activity. I tried six months of delaying but wasn't very successful.

I think this was pushing the concrete-thinking envelope. I nearly always can get an adolescent to commit to this plan for a 3 month delay and in follow-up have seen that they usually stay with it.

The real advantage of this plan is the positive effects it has on the teenager. The task seems much less ominous than abstaining and they now feel back in control. For teenage girls, it allows them the opportunity to practice techniques such as saying "I'm not ready yet," when only she knows she is delaying intercourse to strengthen the relationship. This helps build her self-esteem, which is both a significant cause and result of early and frequent sexual intercourse. For many teenagers, once they get to the three-month mark in their relationship they choose not to change things, and others realize that the partner is really more of just a friend. So, sexual activity does not occur. Finally, most teenage relationships don't last 3 months and therefore the clock is reset for their next relationship.

I don't use, or I don't need to use this approach on all teenagers. A complete sexual history, to include asking how far a non-sexually active teen has gone is important in evaluating the appropriate approach to any given teenager. Some teenagers use oral or even anal intercourse in attempts to "abstain" from intercourse. This is a bit of a loop-hole in the way sexual activity is often perceived in this country. An early adolescent (12-14) who has never had any physical contact and who plans to abstain until marriage, can be approached by reaffirming their position and letting them know that abstinence until marriage can be achieved. I offer my support to answer questions when they arise. They are low risk for a sexual contact within the immediate future

but should be reassessed periodically, at least annually.

Any adolescent who has done some light petting or who is unsure about how long they will wait require a different approach and are at a higher risk. For them, I discuss what they are waiting for to "cross the line." Then, I affirm the difficulty of the task, recognizing that it is the safest path for them, then discuss the plan of delaying. All the while, discussing their comfort level and that abstinence is safest both physically and mentally. Adolescents who experience coitarche can be approached the same way.

It is not all doom and gloom. Teen pregnancy and births have steadily declined in the last decade, largely the result of decreased sexual activity and improved and more readily available contraception. (8) More teens are choosing to delay coitarche or use contraception. This is felt to be the result of fear of STIs, more cautious attitudes regarding casual sex, the availability of more effective and long-acting contraception, and a strong economy (gives teen a positive outlook for their future)(9). Parents, physicians and educators need to be available to teens and pre-teens to answer questions and support their transition to adulthood.

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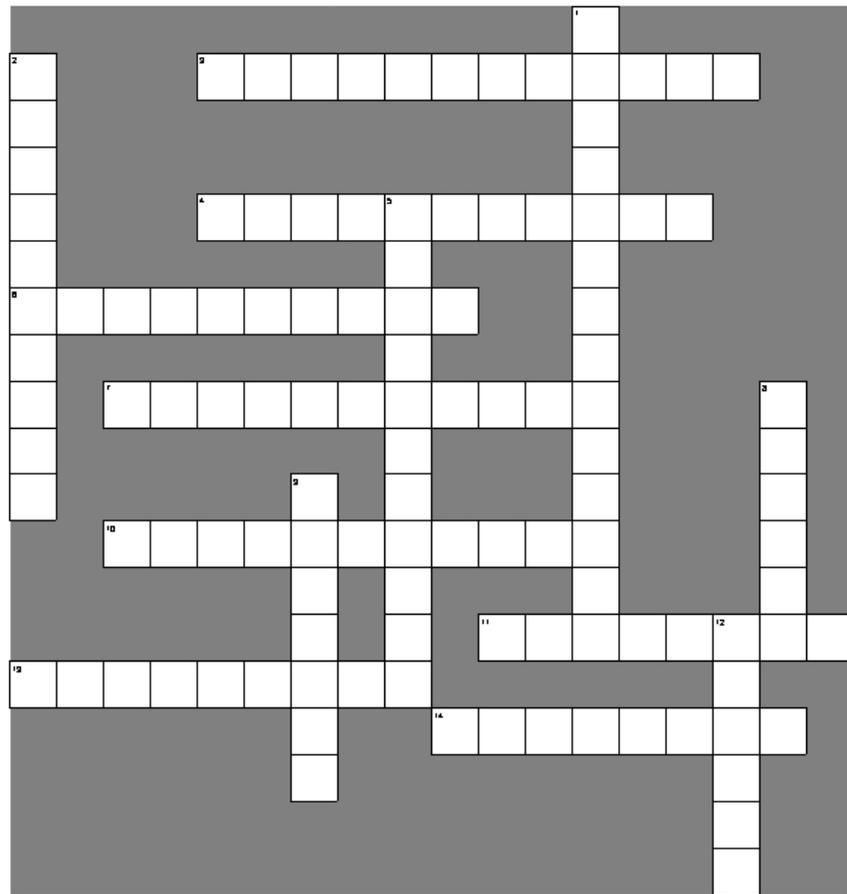
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February 2001 Pediatric News Review



Across

Down

3. application of oils in small quantities through inhalation, massage or other application to the skin
4. the science of motion
6. that on which the results of provocation-neutralization tests are based
7. vagal nerve stimulators are now used by the Pediatric Neurosurgery Team at WHMC to treat these seizures
10. suicide is a rare event in a child in this age group
11. most commonly used method of suicide in the US
13. this developmentalist at BAMC has a multidiscipline team that specializes in children with autism
14. if this particular type of vocalization is not present by 12 months of age, then further developmental evaluation is necessary

1. allergy therapy based on use of nutritional supplements
2. evaluation of a child for ADHD should also include assessment for these conditions
5. this type of two-word phrases should be present by 24 months of age
8. children failing routine developmental surveillance should be screened for this developmental abnormality
9. method of suicide frequently used in urban settings
12. method of immunotherapy based on determining skin-testing end point