

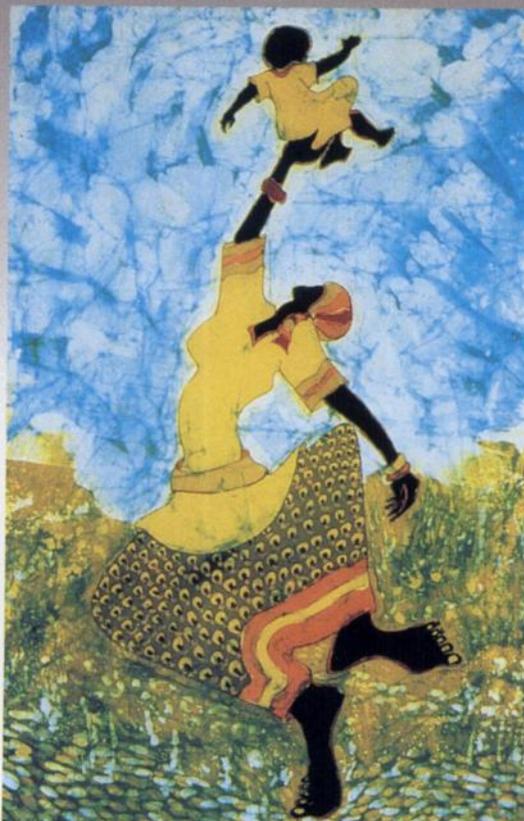
Pediatrics in Review

Vol. 16 No. 9 pp. 323-359 September 1995

Children Who Have Difficulty in School — *McInerney*

Behavioral Side Effects of Medications Used to Treat
Asthma and Allergic Rhinitis — *Milgrom and Bender*

Developmental Testing — *Gilbride*



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CONTENTS

COMMENTARY

- 323 **The Man Who Has Two Watches: Dealing with Discrepancies in Clinical Guidelines**
Lawrence F. Nazarian

ARTICLES

- 325 **Children Who Have Difficulty in School: A Primary Pediatrician's Approach**
Thomas K. McInerney
- 333 **Behavioral Side Effects of Medications Used to Treat Asthma and Allergic Rhinitis**
Henry Milgrom and Bruce Bender
- 338 **Developmental Testing**
Kathleen E. Gilbride
- 347 **Consultation With the Specialist: Shock**
Jon Tingelstad
- 349 **Index of Suspicion**
Sanjiv B. Amin, Jeffrey M. Devries, Patricia McQuilkin, Nathalie Quion, Thomas G. DeWitt

IN BRIEF

- 336 **Lice**
- 345 **Tongue-tie: Management of a Short Sublingual Frenulum**
- 352 **Trace Elements in Nutrition**
- 353 **Arbovirus Infections**
- 354 **Babies Who Are Small for Gestational Age**
- 355 **Hymenoptera Reactions**
- 356 **Physiologic Anemia**
- 357 **Vancomycin**
- 358 **Vitamin A Supplementation and Measles**

COVER

Working in the medium of batik, Paul Nzalamba creates images that are drawn from his native country, Uganda, and that reflect the strength, struggle, and beauty of all people, especially children and adolescents. We chose to use his "At Play" (1988) to show a modern, indigenous artist's work that illustrates the color and joy of such artists. Mr. Nzalamba's works are on display at his studio in Los Angeles, California. Reproduced with permission.

ANSWER KEY

1. C; 2. B; 3. D; 4. B; 5. E; 6. C; 7. A; 8. B; 9. B; 10. C; 11. D; 12. A; 13. B; 14. C; 15. D

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PIR QUIZ

- Victoria is an 8-year-old girl who is in the third grade. Her teacher has told her parents that she is having increasing difficulty with her schoolwork. Victoria is a quiet child who interacts well with her fellow students, likes to look at books, and enjoys TV. You feel that she has no emotional problems. You explain to the parents that each of the following conditions must be explored, but the *most* likely cause of Victoria's problem is:
 - Attention deficit disorder.
 - Chronic illness.
 - Learning disability.
 - Mental retardation.
 - Motivational difficulties.
- Victoria's parents have asked for your help in dealing with her problem. Following a history and complete physical examination, including an expanded neurologic examination, the first and *most* important aspect of your management would be to:
 - Assist in the development of an Individualized Education Plan.
 - Counsel parents and child.
 - Explain their rights under PL 94-142.
 - Order Wechsler Intelligence Scale for Children—Revised for administration to Victoria.
 - Prescribe appropriate drug therapy.
- Charles is a 10-year-old fifth-grade student. His progress in school has been borderline, but this year he has had marked difficulty handling schoolwork. His parents have discussed his problems with his teacher, who has recommended psychoeducational testing. They would like your advice about the use of these tests. You can advise them that the cognitive functioning test *most* widely used at the present time is the:
 - Kaufman Assessment Battery for Children.
 - Stanford-Binet Intelligence Scale.
 - Vineland Adaptive Rating Scale.
 - Wechsler Intelligence Scale for Children—Revised.
 - Woodcock-Johnson Psychoeducational Battery—Revised.
- Agatha is a 7-year-old girl who has been struggling with the schoolwork in her second-grade class. You have cared for Agatha since her birth and, in cooperation with her teacher, have reviewed her psychoeducational tests. You agree that Agatha has moderate learning disability and that the *best* school placement for her would be:
 - Grade retention.
 - Mainstreaming.
 - Resource room.
 - Special class.
 - Special school.
- Eric is a busy, disruptive 6-year-old first-grader. His health is good. A complete history and physical examination, including an expanded neurologic examination, have convinced you that Eric has attention deficit disorder (ADD). The current management of choice for ADD is:
 - Antidepressant drugs.
 - Elimination of sugar.
 - Facilitated communication.
 - Glasses with tinted lenses.
 - Stimulant drugs.

PIR QUIZ

6. Carolyn is a 12-year-old girl who has had increasingly frequent bouts of asthma for the past 4 years. She responded at first to housekeeping changes and antihistamines, but you feel now that she should be treated with corticosteroids. In discussing this change with Carolyn and her parents, you point out that side effects may occur and that the *most* likely adverse effect would be:
- Drowsiness.
 - Hand tremors.
 - Mood changes.
 - Schizoid activity.
 - Verbal memory deficit as long as 48 hours.
7. Greg is a 13-year-old boy who first had bouts of asthma starting at 5 years of age. Under your care, his asthma attacks have been controlled by inhalant beta agonists for the past 3 years. You wish to implement theophylline therapy. You advise Greg and his parents that the *most* likely adverse side effect may be:
- Anxiety.
 - Decreased school performance.
 - Drowsiness.
 - Manic activity.
 - Verbal memory deficits.
8. Charles is a 16-year-old boy who has had recurrent bouts of sneezing, itchy nose and eyes, and copious nasal discharge for 8 years. He was told he had allergic rhinitis. After only moderate success with various medical regimens, he began taking large doses of antihistamines, which he purchased over the counter. He has some concern about prolonged use of antihistamines and asks your advice. You tell him that the *most* frequent adverse side effect is:
- Decreased school performance.
 - Drowsiness.
 - Impaired memory.
 - Impaired motor skills.
 - Mood changes.

Lice

Clinical Pediatric Dermatology, 2nd ed. Hurwitz S. Philadelphia, Penn: WB Saunders Company; 1993:405-412, 416-421

Red Book: Report of the Committee on Infectious Diseases, 23rd ed. Elk Grove Village, Ill: American Academy of Pediatrics; 1994:349-351, 417-419

Three forms of pediculosis affect the human host, each with a predilection for certain parts of the body.

Pediculosis capitis, or head lice, is the most common type and is seen primarily in preschool and school-age children, especially girls. Transmission occurs by coming into direct contact with lice or by sharing infested brushes, combs, and hats. Adult lice and their eggs (nits) are found principally in the occipital region and behind the ears. Symptoms include severe itching, often resulting in excoriation and secondary bacterial infection.

Pediculosis pubis is seen most commonly in sexually active adolescents and young adults, although occasionally it may be found on the eyelashes of small children who come in contact with infected individuals. Although the pubic region usually is affected, lice may spread to other short-haired areas, such as thighs, trunk, axilla, beard, mustache, and eyelashes. As with head lice, intense pruritis is the predominant symptom. Evaluation should include investigation for other sexually transmitted diseases and possibly sexual abuse when found on children's eyelashes.

Pediculosis corporis is unusual in children and generally is associated with poor hygiene. The body louse lives in clothing or bedding and rarely is found on a person's skin. Of note, in addition to causing a localized dermatitis, the body louse is a carrier for some rickettsial diseases.

Whereas treatment of pediculosis corporis consists mainly of proper hygiene and thorough cleaning of all clothing and bedding, several different medicinal preparations are available for the treatment of pediculosis capitis and pubis. For pediculosis capitis, the treatment of choice is permethrin 1% cream rinse applied thoroughly for 10 minutes. A synthetic pyrethroid is readily available

without a prescription, is very efficacious, and has little risk of toxicity. It also is highly ovicidal, so that in most instances a single treatment suffices. Nonetheless, some experts advise a second application 7 to 10 days after the first.

Alternative treatments include:

1) natural pyrethrin shampoos applied for 10 minutes and repeated 1 week later; 2) lindane 1% shampoo applied for 4 minutes and repeated 1 week later; and 3) malathion 0.5% lotion applied once for 8 to 12 hours (may be flammable when wet).

Although lindane has been used for years as an effective treatment for both lice and scabies, concern over potential toxicity and possible resistance has made some of the other treatments more attractive. It is important to note, however, that even though serious side effects have been reported with lindane (ie, neurotoxicity, aplastic anemia), they have occurred predominately when the product has been misused—as with prolonged, repetitive administration or accidental ingestion. Furthermore, the risk for toxicity is greater when treating infants and small children (greater skin surface) and when treating scabies, which requires application over a much wider body area. After treatment, nits may be removed with a fine-toothed comb (although not necessary). All household members and close contacts should be examined closely and treated if infested. All clothing, bedding, combs, and brushes should be washed thoroughly in hot water. All sexual contacts should be treated. For infestation of eyelashes, petrolatum ointment should be applied three to four times daily for 8 to 10 days, and nits should be removed mechanically.

Scabies, another common childhood dermatosis, is caused by the mite *Sarcoptes scabiei*. Transmission occurs by close personal contact and, after a 4- to 6-week incubation period, results in an intensely pruritic eruption consisting of papules, vesicles, and burrows. The burrow, if present, is the pathognomonic sign of scabies. It consists of a small, scaly, linear papule with pinpoint vesicles at the ends. In older children and

adults, lesions of scabies typically are found in the interdigital webs, the flexor aspects of the wrists, the extensor surfaces of the elbows, the axilla, the areola, and the abdomen. In infants and young children, however, lesions are found more commonly on the head, neck, palms, and soles. Severe itching often results in excoriation, secondary eczematization, and bacterial infection. Diagnosis most often is based on the history and physical examination, but it may be confirmed by identification of the

mite, its eggs, or feces from skin scrapings of intact burrows.

As with pediculosis, a number of agents are available for the treatment of scabies. The treatment of choice, particularly for infants, young children, and pregnant women, is permethrin 5% cream applied and left on for 8 to 14 hours. A second application may be required 1 to 2 weeks later. Alternative treatments include lindane 1% cream or lotion applied for 8 to 12 hours or crotamiton applied daily for 2 to 5 days and left on

for 24 hours each day. All treatments should be applied over the entire body from the neck down except in infants and young children, in whom the head should be treated as well. All household members and close contacts should be treated concurrently to prevent reinfestation. Clothing and bedding should be cleaned thoroughly in hot water.

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PIR Quiz-CME Credit

The American Academy of Pediatrics is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

The American Academy of Pediatrics designates this continuing medical education activity for 56 credit hours in Category 1 of the Physician's Recognition Award of the American Medical Association.

This program has been reviewed and is acceptable for 56 Prescribed hours by the American Academy of Family Physicians. (Term of approval: beginning date January 1995. Enduring materials are approved for 1 year, with option to request renewal.) For specific information, please consult with the AAFP Office of Continuing Medical Education.

This program has been reviewed and is acceptable for 32 AOA Category 2-B CME hours by the American Osteopathic Association. For specific information, please consult with the AOA Department of Education.

In addition, this course has been approved for 56 NAPNAP contact hours. An individual requesting

contact hours should submit proof of participation and verification of PREP accreditation to the NAPNAP National Office.

The questions for the PIR quiz are located at the end of each article in this issue. Each question has a SINGLE BEST ANSWER. To obtain credit, record your answers on the PIR Quiz Card found in the January issue and return the card to the Academy. (PREP group participants will receive the PIR Quiz Card and Self-Assessment Credit Reply Sheet under separate cover.) To receive CME credit on the 1995 annual credit summary, you must be enrolled in PREP or subscribe to *Pediatrics in Review* and return the PIR Quiz Card by February 28, 1996. PIR Quiz Cards received after this deadline will be recorded in the year they are received, with cards from the 1995 PIR journals accepted through December 31, 1997.

The PIR Quiz Card is bound into the January issue. Complete the quizzes in each issue and send to: American Academy of Pediatrics, PREP Office, PO Box 927, Elk Grove Village, IL 60009-0927.

PREP EDUCATION AWARD:

The PREP Education Award provides recognition and support for those Academy Fellows and Candidate Fellows who participate in PREP. Individuals who qualify for the PREP Education Award will receive their award automatically. To be eligible for this award, a Fellow or Candidate Fellow of the American Academy of Pediatrics must receive, over a 3-year period, 150 hours of Category 1 CME credits from the following sources:

- 75 hours must be obtained from participation in PREP (the Self-Assessment Exercise and/or *Pediatrics in Review*) or PREP: The Course.
- The balance (75 hours) of the 150 CME credits may be obtained through other programs sponsored or approved by the Academy. These include: the AAP Spring Session or Annual Meeting, CME courses, Academy-approved courses, the Pediatric UPDATE audiocassette tape program, or AQUIP.

The correct answers to the questions in this issue appear on the inside front cover.

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SUGGESTED READING

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PIR QUIZ

9. When a test report indicates that a child has an intelligence quotient or developmental quotient between 85 and 115 and that the child, therefore, is "average," it will be appropriate to conclude that the child:
- Does not need further testing.
 - Has scored within 1 standard deviation of the average (mean) score for a reference group.
 - Is neither dull nor bright.
 - Is normal.
10. Among the following screening tests, the one that appears to be *best* for the evaluation of school readiness is the:
- Battelle Developmental Inventory Screening Test.
 - Denver Developmental Screening Test (DDST II).
 - Early Screening Inventory (ESI).
 - Minnesota Child Developmental Inventory (MCDI).
11. When a developmental test standardized on a group of children drawn from an affluent community is applied to children from a lower middle class or economically disadvantaged group, the test likely will suffer *most* importantly from impaired:
- Reliability.
 - Sensitivity.
 - Specificity.
 - Validity.
12. A test that gives widely divergent results on early repetition with a child who appears to be in the same clinical state on both occasions may have low:
- Reliability.
 - Sensitivity.
 - Specificity.
 - Validity.
13. The ability with which a screening test can identify all affected persons in a clinical sample is a measure of the test's:
- Reliability.
 - Sensitivity.
 - Specificity.
 - Validity.
14. The ability of a screening test to identify all nonaffected persons in a clinical sample is a measure of its:
- Reliability.
 - Sensitivity.
 - Specificity.
 - Validity.
15. The ability of a test to measure what it purports to measure is an aspect of its:
- Reliability.
 - Sensitivity.
 - Specificity.
 - Validity.

IN BRIEF

Tongue-tie: Management of a Short Sublingual Frenulum

- The Tongue.** Gorlin RJ, Sedano HO. In: *Human Malformations and Related Anomalies, Volume II*. Stevenson RE, Hall JG, Goodman RM, eds. New York, NY: Oxford University Press; 1993:401-403
- Tongue-Tie.** Catlin FI, De Haan V. *Arch Otolaryngol*. 1971;94:548-557
- Assessment of Lingual Function When Ankyloglossia (Tongue-tie) Is Suspected.** Williams WN, Waldron MM. *JADA*. 1985; 110:353-356
- Sublingual Dimensions in Infants and Young Children.** Fletcher SG, Daly DA. *Arch Otolaryngol*. 1974;99:292-296
- Neonatal Frenotomy May Be Necessary to Correct Breast Feeding Problems.** Marmet C, Shell E, Marmet R. *J Human Lact*. 1990; 6:117-120

Tongue-tie, or ankyloglossia, historically has been believed to cause speech defects, as well as breastfeeding difficulties and dental problems. St. Mark wrote, "The string of his tongue was loosed and he spoke

plain," and midwives in the 15th century reportedly kept a fingernail sharp to cut the frenula of all newborns in an attempt to prevent possible speech problems. Only within the last century has it become acceptable *not* to perform frenulotomy for children who have ankyloglossia.

During early development the tongue is fused to the floor of the mouth. Cell death and resorption free the tongue, with the frenulum left as the only remnant of the initial attachment. Tongue-tie results from a short and thickened lingual frenulum, which restricts (or ties) movements of the tongue. Limitation of movement may vary from very mild to complete fusion of the tongue to the floor of the mouth. Fusion is referred to as *complete* ankyloglossia.

Tongue-tie, really *partial* ankyloglossia, is defined as a limitation of movement severe enough that notching of the tip of the tongue occurs when an attempt is made to protrude it from the mouth.

The incidence of significant tongue-tie has been estimated to be less than 0.5 per 1000. This still should be frequent enough for complications to have been reported in the literature, but no definitive picture has emerged of partial ankyloglossia as a cause of speech defects, breastfeeding difficulties, or dental problems. In fact, reviews of the literature generally suggest that ankyloglossia is not the significant cause of speech defects it was believed to be historically. Most speech pathologists feel that partial ankyloglossia rarely inter-