



POLICY STATEMENT

The Crucial Role of Recess in School

COUNCIL ON SCHOOL HEALTH

KEY WORDS

play, recess, school

ABBREVIATION

AAP—American Academy of Pediatrics

This document is copyrighted and is property of the American Academy of Pediatrics and its Board of Directors. All authors have filed conflict of interest statements with the American Academy of Pediatrics. Any conflicts have been resolved through a process approved by the Board of Directors. The American Academy of Pediatrics has neither solicited nor accepted any commercial involvement in the development of the content of this publication.

All policy statements from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.

www.pediatrics.org/cgi/doi/10.1542/peds.2012-2993

doi:10.1542/peds.2012-2993

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2013 by the American Academy of Pediatrics

abstract

FREE

Recess is at the heart of a vigorous debate over the role of schools in promoting the optimal development of the whole child. A growing trend toward reallocating time in school to accentuate the more academic subjects has put this important facet of a child's school day at risk. Recess serves as a necessary break from the rigors of concentrated, academic challenges in the classroom. But equally important is the fact that safe and well-supervised recess offers cognitive, social, emotional, and physical benefits that may not be fully appreciated when a decision is made to diminish it. Recess is unique from, and a complement to, physical education—not a substitute for it. The American Academy of Pediatrics believes that recess is a crucial and necessary component of a child's development and, as such, it should not be withheld for punitive or academic reasons. *Pediatrics* 2013;131:183–188

THE BENEFITS OF RECESS FOR THE WHOLE CHILD

The Centers for Disease Control and Prevention defines recess as “regularly scheduled periods within the elementary school day for unstructured physical activity and play.”¹ The literature examining the global benefits of recess for a child's cognitive, emotional, physical, and social well-being has recently been reviewed.² Yet, recent surveys and studies have indicated a trend toward reducing recess to accommodate additional time for academic subjects in addition to its withdrawal for punitive or behavioral reasons.^{3–6} Furthermore, the period allotted to recess decreases as the child ages and is less abundant among children of lower socioeconomic status and in the urban setting.^{4,7}

Just as physical education and physical fitness have well-recognized benefits for personal and academic performance, recess offers its own, unique benefits. Recess represents an essential, planned respite from rigorous cognitive tasks. It affords a time to rest, play, imagine, think, move, and socialize.^{8–11} After recess, for children or after a corresponding break time for adolescents, students are more attentive and better able to perform cognitively.^{12–16} In addition, recess helps young children to develop social skills that are otherwise not acquired in the more structured classroom environment.^{8,11,17}

COGNITIVE/ACADEMIC BENEFITS

Children develop intellectual constructs and cognitive understanding through interactive, manipulative experiences. This type of exploratory

experience is a feature of play in an unstructured social environment.^{8,18} Optimal cognitive processing in a child necessitates a period of interruption after a period of concentrated instruction.^{19,20} The benefits of these interruptions are best served by unstructured breaks rather than by merely shifting from 1 cognitive task to another to diminish stresses and distractions that interfere with cognitive processing.^{9,11,15,20} Several studies demonstrated that recess, whether performed indoors or outdoors, made children more attentive and more productive in the classroom.^{11–13,16,19,21} This finding was true even though, in many cases, the students spent much of their recess time socializing. In fact, a student's ability to refocus cognitively was shown to be stimulated more by the break from the classroom than by the mode of activity that occurred during that break; any type of activity at recess benefited cognitive performance afterward.¹⁴ Although specified time afforded for recess diminishes with age, the benefits of periodic breaks in the academic day to optimize cognitive processing applies equally to adolescents and to younger children.

SOCIAL AND EMOTIONAL BENEFITS

Recess promotes social and emotional learning and development for children by offering them a time to engage in peer interactions in which they practice and role play essential social skills.^{8,17,18,22,23} This type of activity, under adult supervision, extends teaching in the classroom to augment the school's social climate. Through play at recess, children learn valuable communication skills, including negotiation, cooperation, sharing, and problem solving as well as coping skills, such as perseverance and self-control.^{8–11,15,17,22} These skills become fundamental, lifelong personal tools.

Recess offers a child a necessary, socially structured means for managing stress. By adapting and adjusting to the complex school environment, children augment and extend their cognitive development in the classroom.^{15,17}

PHYSICAL BENEFITS

There is a wealth of literature published on the need for and benefit of physical activity and fitness, not only for a child's physical well-being but also for academic and social maturation.^{5,12,22–33} Although not all children play vigorously at recess, it does provide the opportunity for children to be active in the mode of their choosing and to practice movement and motor skills. Importantly, recess affords young children free activity for the sheer joy of it.³⁴ Even minor movement during recess counterbalances sedentary time at school and at home and helps the child achieve the recommended 60 minutes of moderate to vigorous activity per day, a standard strongly supported by the American Academy of Pediatrics (AAP) policy, which can help lower risk of obesity.^{5,12,30–35}

SAFETY AND SUPERVISION

A child's safety during recess is a concern for many parents, teachers, and administrators. Some schools even have chosen to ban games or activities deemed unsafe and, in some cases, to discontinue recess altogether in light of the many issues connected with child safety.^{10,36} Although schools should ban games and activities that are unsafe, they should not discontinue recess altogether just because of concerns connected with child safety. There are measures schools can take to address these concerns and protect children while still preserving play during recess.^{5,11,24,28,34,37,38} Compliance with the Consumer Product Safety Commission's

Playground Safety Handbook (<http://www.cpsc.gov/CPSCPUB/PUBS/325.pdf>) will help to ensure proper maintenance of playground equipment that meets all of the following applicable federal guidelines:

1. Provision of adequate safe spaces and facilities.
2. Maintenance of developmentally appropriate equipment with regular inspections.
3. Establishment and enforcement of safety rules.
4. Implementation of recess curriculum in physical education classes to teach games, rules, and conflict resolution.
5. Establishment of a school-wide, clear policy to prevent bullying or aggressive behavior.
6. Provision of adequate supervision by qualified adults who can intervene in the event a child's physical or emotional safety is in jeopardy.

Some playgrounds in areas with a high risk of violence may require additional protective measures to ensure the safety of children.

THE EMERGING ISSUE OF STRUCTURED RECESS

Structured recess is a recess based on structured play, during which games and physical activities are taught and led by a trained adult (teachers, school staff, or volunteers). Proponents for structured recess note that children often need help in developing games and require suggestions and encouragement to participate in physical activities. Recently, policy makers and funding organizations have called for more opportunities for daily activity as a means to address childhood obesity. These statements have strengthened the argument to maintain or reinstate recess as an integral component of the school day.^{12,25,30,34} Although this new dimension to the recess debate has

increased attention on its role, it also has created tension. Some have promoted recess time as a solution for increasing children's physical activity and combating obesity. If recess assumes such a role, then, like physical education, it will need to be planned and directed to ensure that all children are participating in moderately vigorous physical activity.^{4,7,12,31,33,38} Pediatric health care providers, parents, and school officials should be cognizant, however, that in designing a structured recess, they will sacrifice the notion of recess as an unstructured but supervised break that belongs to the child; that is, a time for the child to make a personal choice between sedentary, physical, creative, or social options.^{2,8–10,18,22–24,30,34,37,39} However, there are many cited benefits of structured recess to consider, including¹²:

- Older elementary children may benefit from game instruction and encouragement for total class inclusion.
- Children can be coached to develop interpersonal skills for appropriate conflict resolution.
- More children can actively participate in regular activity, irrespective of skill level.
- Anecdotally, teachers have reported improved behavior and attention in the classroom after vigorous structured recess.

To be effective, structured recess requires that school personnel (or volunteers) receive adequate training so that they are able to address and encourage the diverse needs of all students.^{12,38} One aspect of supervision should be to facilitate social relationships among children by encouraging inclusiveness in games. A problem arises when the structured activities of recess are promoted as a replacement for the child's physical education requirement. The replacement of physical

education by recess threatens students' instruction in and acquisition of new motor skills, exploration of sports and rules, and a concept of lifelong physical fitness.^{24,30,34}

There are ways to encourage a physically active recess without necessarily adding structured, planned, adult-led games, such as offering attractive, safe playground equipment to stimulate free play; establishing games/boundaries painted on the playground; or instructing children in games, such as four square or hopscotch.^{37,38,40} These types of activities can range from fully structured (with the adult directing and requiring participation) to partly unstructured (with adults providing supervision and initial instruction) to fully unstructured (supervision and social guidance). In structured, partly structured, or unstructured environments, activity levels vary widely on the basis of school policy, equipment provided, encouragement, age group, gender, and race.^{4,7,30,38,40} Consequently, the potential benefits of mandatory participation of all children in a purely structured recess must be weighed against the potential social and emotional trade-off of limiting acquisition of important developmental skills. Whichever style is chosen, recess should be viewed as a supplement to motor skill acquisition in physical education class.^{5,23,24,33,34}

DURATION AND TIMING OF RECESS

In the United States, the duration and timing of recess periods vary by age, grade, school district, and sometimes by building.^{4,7} The majority of elementary schools that offer lunch-time recess do so after the students eat lunch.^{4,37,41–44} Many school wellness councils have adopted the "Recess Before Lunch" concept which stems from studies that examined food waste by students in relation to the

timing of their recess.^{42–44} When students have recess before lunch, more time is taken for lunch and less food is wasted. In addition, teachers and researchers noted an improvement in the student behavior at meal time, which carried into the classroom in the afternoon. The Centers for Disease Control and Prevention and the US Department of Agriculture support the concept of scheduling recess before lunch as part of a school's wellness policy.^{2,45}

Peer-reviewed research has examined the timing and type of activity during recess and chronicled the many benefits of recess for children, without establishing an optimal required duration.^{2,8,12,13,18,19,21} There is consensus about the need for regularly scheduled recess based on national guidelines, even though the length of the recess period has not been firmly established. In schools, the length specified for recess ranges widely, from 20 to 60 minutes per day.^{24,30} In other countries, such as Japan, primary school-aged children have a 10- to 15-minute break every hour, and this is thought to reflect the fact that attention spans begin to wane after 40 to 50 minutes of intense instruction.⁴⁶ On the basis of this premise, to maximize cognitive benefits, recess should be scheduled at regular intervals, providing children sufficient time to regain their focus before instruction continues.

CONCLUSIONS

School attendance represents a unique opportunity to address nutrition and physical fitness. Each day, 55 million US students attend school, which constitutes nearly one-half of their wakeful hours.⁴⁷ In light of rising rates of overweight and obesity, schools have come under increased scrutiny. Within the school environment, there are competing calls for stricter standards and greater academic achievement as

well as calls for schools to provide greater opportunities for nonsedentary daily activity. Even with ample evidence of a whole-child benefit from recess, significant external pressures, such as standardized cognitive testing mandated by educational reforms, have led some to view recess as time that would be better spent on academics.⁴ Time previously dedicated to daily activity in school, such as physical education and recess, is being reallocated to make way for additional academic instruction.

Ironically, minimizing or eliminating recess may be counterproductive to academic achievement, as a growing body of evidence suggests that recess promotes not only physical health and social development but also cognitive performance.^{10,37} Although recess and physical education both promote activity and a healthy lifestyle, it is only supervised but unstructured recess that offers children the opportunity to actually play creatively. In this sense, then, pediatricians' support of recess is an extension of the AAP's policy statement supporting free play as a fundamental component of a child's normal growth and development.¹⁶ On the basis of an abundance of scientific studies, withholding recess for punitive or academic reasons would seem to be counterproductive to the intended outcomes and may have unintended consequences in relation to a child's acquisition of important life skills.

RECOMMENDATIONS

In their role as child health experts, the pediatricians of the AAP stress the following perspective to parents, teachers, school administrators, and policy makers:

1. Recess is a necessary break in the day for optimizing a child's social, emotional, physical, and cognitive development. In essence, recess should be considered a child's personal time, and it should not be withheld for academic or punitive reasons.
2. Cognitive processing and academic performance depend on regular breaks from concentrated classroom work. This applies equally to adolescents and to younger children. To be effective, the frequency and duration of breaks should be sufficient to allow the student to mentally decompress.
3. Recess is a complement to, but not a replacement for, physical education. Physical education is an academic discipline. Whereas both have the potential to promote activity and a healthy lifestyle, only recess (particularly unstructured recess) provides the creative, social, and emotional benefits of play.
4. Recess can serve as a counterbalance to sedentary time and contribute to the recommended 60 minutes of moderate to vigorous activity per day, a standard strongly supported by AAP policy as a means to lessen risk of overweight.
5. Whether structured or unstructured, recess should be safe and well supervised. Although schools should ban games and activities that are unsafe, they should not discontinue recess altogether just because of concerns connected with child safety. Environmental conditions, well-maintained playground equipment, and well-trained supervisors are the critical components of safe recess.
6. Peer interactions during recess are a unique complement to the classroom. The lifelong skills acquired for communication, negotiation, cooperation, sharing, problem solving, and coping are not only foundations for healthy development but also fundamental measures of the school experience.

LEAD AUTHORS

Robert Murray, MD
Catherine Ramstetter, PhD

COUNCIL ON SCHOOL HEALTH EXECUTIVE COMMITTEE, 2011–2012

Cynthia Devore, MD, Chairperson
Mandy Allison, MD, MSPH
Richard Ancona, MD
Stephen Barnett, MD
Robert Gunther, MD, MPH
Breena Welch Holmes, MD
Jeffrey Lamont, MD
Mark Minier, MD
Jeffery Okamoto, MD
Lani Wheeler, MD
Thomas Young, MD

FORMER EXECUTIVE COMMITTEE MEMBER

Robert Murray, MD, Immediate Past Chairperson

CONSULTANT

Catherine Ramstetter, PhD

LIAISONS

Mary Vernon-Smiley, MD, MPH — *Centers for Disease Control and Prevention, Division of Adolescent and School Health*
Linda Grant, MD, MPH — *American School Health Association*
Veda Johnson, MD — *National Assembly on School-Based Health Care*
Carolyn Duff, RN, MS, NCSN — *National Association of School Nurses*

FORMER LIAISON

Linda Davis-Alldritt, RN, MA, PHN — *National Association of School Nurses*

STAFF

Madra Guinn-Jones, MPH

REFERENCES

1. Centers for Disease Control and Prevention. Promoting better health for young people through physical activity and sports; 2000. Appendix 7. Available at: <http://www2.ed.gov/offices/OSDFS/physedapndc.pdf>. Accessed September 13, 2011
2. Ramstetter CL, Murray R, Garner AS. The crucial role of recess in schools. *J Sch Health*. 2010;80(11):517–526

3. McMurrer J. *NCLB Year 5: Choices, Changes, and Challenges: Curriculum and Instruction in the NCLB Era*. Washington, DC: Center on Education Policy; 2007. Available at: www.cep-dc.org/displayDocument.cfm?DocumentID=312. Accessed September 13, 2011
4. Lee SM, Burgeson CR, Fulton JE, Spain CG. Physical education and physical activity: results from the School Health Policies and Programs Study 2006. *J Sch Health*. 2007;77(8):435–463
5. Centers for Disease Control and Prevention. Guidelines for school and community programs to promote lifelong physical activity among young people. *MMWR Recomm Rep*. 1997;46(RR-6):1–36
6. Henley J, McBride J, Milligan J, Nichols J. Robbing elementary students of their childhood: the perils of No Child Left Behind. *Education*. 2007;128(1):56–63
7. Parsad B, Lewis L. *Calories In, Calories Out: Food and Exercise in Public Elementary Schools, 2005*. Washington, DC: US Department of Education, National Center for Education Statistics; 2006. Publication No. NCES 2006-057
8. National Association of Early Childhood Specialists in State Departments of Education. *Recess and the Importance of Play: A Position Statement on Young Children and Recess*. Washington, DC: National Association of Early Childhood Specialists in State Departments of Education; 2002. Available at: www.naecs-sde.org/recess-play.pdf. Accessed September 13, 2011
9. Jarrett O. Recess in elementary school: what does the research say? ERIC Digest. ERIC Clearinghouse on Elementary and Early Childhood Education; July 1, 2002. Available at: www.eric.ed.gov/PDFS/ED466331.pdf. Accessed September 13, 2011
10. Sibley B, Etnier J. The relationship between physical activity and cognition in children: a meta-analysis. *Pediatr Exerc Sci*. 2003;15:243–256
11. National Association for Sport and Physical Education. *Physical Activity for Children: A Statement of Guidelines for Children Ages 5-12*. 2nd ed. Reston, VA: National Association for Sport and Physical Education; 2004
12. Robert Wood Johnson Foundation. *Recess Rules: Why the Undervalued Playtime May Be America's Best Investment for Healthy Kids and Healthy Schools Report*. Princeton, NJ: Robert Wood Johnson Foundation; 2007. Available at: www.rwjf.org/files/research/sports4kidsrecessreport.pdf. Accessed September 13, 2011
13. Jarrett O, Maxwell DM, Dickerson C, Hoge P, Davies G, Yetley A. Impact of recess on classroom behavior: group effects and individual differences. *J Educ Res*. 1998;92(2):121–126
14. Stellino MB, Sinclair CD. Intrinsically motivated, free-time physical activity: considerations for recess. *J Phys Educ, Recreat Dance*. 2008;79(4):37–40
15. Bjorklund DF, Brown RD. Physical play and cognitive development: integrating activity, cognition, and education. *Child Dev*. 1998;69(3):604–606
16. Ginsburg KR; American Academy of Pediatrics Committee on Communications; American Academy of Pediatrics Committee on Psychosocial Aspects of Child and Family Health. The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*. 2007;119(1):182–191
17. Pellegrini A, Kato K, Blatchford P, Baines E. A short-term longitudinal study of children's playground games across the first year of school: implications for social competence and adjustment to school. *Am Educ Res J*. 2002;39(4):991–1015
18. Action for Healthy Kids. *Action for Healthy Kids Commitment to Change*. Chicago, IL: Action for Healthy Kids; 2008. Available at: www.actionforhealthykids.org/resources/files/commitmenttochange.pdf. Accessed September 13, 2011
19. Pellegrini AD. *Recess: Its Role in Education and Development*. Mahwah, NJ: Erlbaum; 2005
20. Barros RM, Silver EJ, Stein RE. School recess and group classroom behavior. *Pediatrics*. 2009;123(2):431–436
21. Pellegrini A, Huberty P, Jones I. The effects of recess timing on children's playground and classroom behaviors. *Am Educ Res J*. 1995;32(4):845–864
22. Council on Sports Medicine and Fitness; Council on School Health. Active healthy living: prevention of childhood obesity through increased physical activity. *Pediatrics*. 2006;117(5):1834–1842
23. Centers for Disease Control and Prevention. Promoting better health for young people through physical activity and sports, 2000. Available at: www.fitness.gov/betterhealth/ppar.pdf. Accessed September 13, 2011
24. National Association for Sport and Physical Education. *Recess for Elementary School Students*. Reston, VA: National Association for Sport and Physical Education; 2006
25. Grissom J. Physical fitness and academic achievement. *J Exerc Physiol*. 2005;8(1):11–25. Available at: www.asep.org/files/Grissom.pdf. Accessed September 13, 2011
26. Stanford University, Stanford Prevention Research Center and Stanford University School of Medicine. Building "Generation Play": addressing the crisis of inactivity among America's children, 2007. Available at: www.playeveryday.org/Stanford%20Report.pdf. Accessed September 13, 2011
27. Strong WB, Malina RM, Blimkie CJ, et al. Evidence based physical activity for school-age youth. *J Pediatr*. 2005;146(6):732–737
28. US Department of Health and Human Services and US Department of Agriculture. *Dietary Guidelines for Americans, 2005*. 6th ed. Washington, DC: US Government Printing Office; 2005. Stock Number 001-000-04719-1
29. US Department of Health and Human Services. The Surgeon General's call to action to prevent and decrease overweight and obesity: overweight in children and adolescents, 2007. Available at: www.surgeongeneral.gov/topics/obesity/calltoaction/fact_adolescents.htm. Accessed September 13, 2011
30. Centers for Disease Control and Prevention. *Education and Community-Based Programs. Healthy People 2010*. Washington, DC: US Government Printing Office; 2000. Available at: www.healthypeople.gov/document/HTML/Volume1/07Ed.htm. Accessed September 13, 2011
31. Zygmunt-Fillwalk E, Bilello TE. Parents' victory in reclaiming recess for their children. *Child Educ*. 2005;82(1):19–23
32. Kahan D. Recess, extracurricular activities, and active class-rooms: means for increasing elementary school students' physical activity. *J Phys Educ, Recreat Dance*. 2008;79(2):26–39
33. Wechsler H, Devereaux AB, Davis M, Collins J. Using the school environment to promote physical activity and healthy eating. *Prev Med*. 2000;31:S121–S137
34. National Association for Sport and Physical Education. *Comprehensive School Physical Activity Program*. Reston, VA: National Association for Sport and Physical Education; 2008
35. Ridgers ND, Stratton G, Fairclough SJ, Twisk JW. Long-term effects of a playground markings and physical structures on children's recess physical activity levels. *Prev Med*. 2007;44(5):393–397
36. Stratton G, Leonard J. The effects of playground markings on the energy expenditure of 5-7 year old school children. *Pediatr Exerc Sci*. 2002;14(2):170–180
37. Pellegrini A, Bohn C. The role of recess in children's cognitive performance and school adjustment. *Educ Res*. 2005;34(1):13–19
38. McKenzie TL, Kahan D. Physical activity, public health, and elementary schools. *Elem Sch J*. 2008;108(3):171–180

39. United Nations, Office of the High Commissioner of Human Rights. Convention on the Rights of the Child. November 20, 1989. Available at: <http://www2.ohchr.org/english/law/crc.htm>. Accessed September 13, 2011
40. Holmes R, Pellegrini A, Schmidt S. The effects of different recess timing regimens on preschoolers' classroom attention. *Early Child Dev Care*. 2006;176(7):735–743
41. Pellegrini AD, Smith K. School recess: implications for education and development. *Rev Educ Res*. 1993;63(1):51–67
42. The University of Mississippi, National Food Service Management Institute. Bergman EA, Buerge NS, Englund A, Femrite T. Relationships of meal and recess schedules to plate waste in elementary schools; 2003. Available at: www.nfsmi.org/ResourceOverview.aspx?ID=191. Accessed September 13, 2011
43. Getlinger MJ, Laughlin VT, Bell E, Akre C, Arjmandi BH. Food waste is reduced when elementary-school children have recess before lunch. *J Am Diet Assoc*. 1996;96(9):906–908
44. The Montana Office of Public Instruction School Nutrition Programs. Pilot project report: a recess before lunch policy in four Montana schools, April 2003–May 2003. Available at: <http://opi.mt.gov/PDF/SchoolFood/RBL/RBLPilot.pdf>. Accessed September 13, 2011
45. Ralston K, Buzby JC, Guthrie JF. A healthy school meal environment. Washington, DC: US Department of Agriculture, Economic Research Service; July 2003. FANRR-34-5. Available at: www.ers.usda.gov/publications/fanrr34/fanrr34-5/fanrr34-5.pdf. Accessed September 13, 2011
46. Stevenson HW, Lee SY. Contexts of achievement: a study of American, Chinese, and Japanese children. *Monogr Soc Res Child Dev*. 1990;55(1–2):1–123
47. National Center for Education Statistics. Fast facts: enrollment trends. Available at: <http://nces.ed.gov/>. Accessed September 13, 2011

The Crucial Role of Recess in School
COUNCIL ON SCHOOL HEALTH
Pediatrics originally published online December 31, 2012;

Updated Information & Services

including high resolution figures, can be found at:
<http://pediatrics.aappublications.org/content/early/2012/12/25/peds.2012-2993>

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<https://shop.aap.org/licensing-permissions/>

Reprints

Information about ordering reprints can be found online:
<http://classic.pediatrics.aappublications.org/content/reprints>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since . Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2012 by the American Academy of Pediatrics. All rights reserved. Print ISSN: .

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

The Crucial Role of Recess in School COUNCIL ON SCHOOL HEALTH

Pediatrics originally published online December 31, 2012;

The online version of this article, along with updated information and services, is
located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/early/2012/12/25/peds.2012-2993>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since . Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2012 by the American Academy of Pediatrics. All rights reserved. Print ISSN: .

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

