

There is good news and bad news to report on the issue of childhood obesity. The good news is that First Lady Michelle Obama has announced her campaign to combat childhood obesity.¹ The bad news is that a major study² of almost 5000 children published in the prestigious *New England Journal of Medicine* shows that obese kids are more likely to die prematurely (before age 55) from illness and self-inflicted injury than their normal-weight peers. The death rate among the obese children was more than double that of the leanest children.

To prevent childhood obesity and keep kids healthy, what's a family to do? Actually, there is a lot you can do. This will be the first in a series of articles that will link TV and other screen time management to childhood obesity prevention.

The month of April heralds the coming of TV Turn Off³ Week – an initiative begun more than 15 years ago to encourage families to try living for an entire week without turning on the television. Today, children use even more screens: Gameboys, video devices and computers for recreational (rather than educational) purposes. So managing ALL screen time is increasingly a challenge for families who want their children to be healthy and maintain a healthy body weight and active lifestyle.

In February 2010 a study⁴ of more than 8500 four-year-old children was published in *Pediatrics* that provided evidence that three household routines are associated with obesity prevention:

(1) Regularly eating the evening meal as a family (6 or 7 times per week)

(2) Obtaining adequate sleep (10.5 hours or more per night)

(3) Limiting screen-viewing (TV plus videos or DVDs) time to ≤ 2 hours per day

In children from homes supporting all three household routines, the obesity rate was 14.3% whereas in homes supporting none of the routines the rate almost doubled to 24.5%. In other words, the children exposed to all three routines had approximately a 40% lower prevalence of obesity as compared to children exposed to none of these routines.

The problem is that there is also scientific evidence that TV and other recreational screen viewing can interfere with eating meals as a family and can prevent children from getting sufficient sleep. For example, one group of researchers found that eating dinner together as a family was associated with a higher number of servings of fruits and vegetables by preschoolers,⁵ but that this

¹ www.letsmove.gov

² PW Franks, RL Hanson, WC Knowler, et al. Childhood obesity, other cardiovascular risk factors, and premature death. *NEJM* 2010; 362(6):485-493

³ www.screentime.org

⁴ SE Anderson, RC Whitaker. Household routines and obesity in US preschool-aged children. *Pediatrics* 2010; 125:420-428.

⁵ E Fitzpatrick, LS Edmunds, BA Dennison. Positive effects of family dinner are undone by television viewing. *J Am Diet. Assoc.* 2007; 107:666-671.

positive effect was undone by having the TV on during the family meal. This study is important because a higher intake of fruits and vegetables is considered a key obesity prevention strategy, and the intake patterns in childhood predict the intake patterns in adulthood.⁶

Evidence is increasing that adequate sleep is important for maintaining both physical and mental health as well as academic performance. Research is linking inadequate sleep to a higher risk of obesity in children and adults. The TV and other forms of recreational screen viewing (including texting on phones) interfere with sleep in a variety of ways that will be explored in greater depth in subsequent articles but the top line summary⁷ is that the location of TVs, videos, DVDs and cell phones in the bedroom invite late night screen viewing that can delay bedtimes or interrupt sleep. The content of shows can cause nightmares and delay the onset of sleep or cause sleep disturbances.⁷

The bottom line is that limiting screen viewing to 2 hours or less per day, taking meals together as a family and insuring your young child gets at least 10.5 hours of sleep each night will reduce the risk of childhood obesity.

⁶ SH Kelder, CL Perry, KI Klepp, LL Lytle. Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviors. *Am J Public Health*. 1994; 84:1121-1126.

⁷ FJ Zimmerman report for the Henry J. Kaiser Family Foundation. Children's media use and sleep problems: Issues and unanswered questions. June 2008.

Screen Time: Know when it's too early, Know when it's too much

Written by Barbara J. Moore, PhD

Obesity and early childhood development experts were shocked and dismayed when President George W. Bush honored the founder of the Baby Einstein¹ video series in his State of the Union address in January 2007. Many scientists see this as the triumph of marketing hype over science² with infants and toddlers as the big losers. Six years earlier the American Academy of Pediatrics recommended that television viewing among children under two years old be “discouraged altogether”³ and more than a half dozen other scientific, child and health advocacy organizations and agencies have made similar recommendations.⁴

But Baby Einstein videos are purported to improve cognitive and language development of infants, so isn't that good? There is evidence that the very opposite may occur. In addition to raising the risk of childhood obesity, some studies suggest that propping an infant in front of these videos is associated with:

- Poorer (or at least no improvement in) social, linguistic and cognitive development
- Decreased imaginative and creative play and reduced social interaction
- Reduced language (new word) acquisition and language development (formation of sentences)
- Reduced parent-child bonding
- Decreased learning and decreased subsequent academic achievement
- Increased habitual screen viewing (including TV viewing) as the child grows older

For children under 2 years, no recreational screen viewing is recommended

The brain of an infant is one of the very first structures to develop *in utero* and brain growth and development continues at a very rapid pace until approximately age 5. There is widespread agreement that this period of rapid growth is critical for the functional development of children's brains because this is when the foundation for learning and subsequent academic achievement and social development is laid.

¹ Baby Einstein and Baby Wordsworth are now owned by the Walt Disney Company

² Gardner A. Watching Special Videos May Not Make Kids Brainier: Real-life interaction is more apt to enhance verbal skills, experts say. HealthDay: News for Healthier Living. March 1, 2010 [accessed March 5, 2010 www.healthday.com/printer.asp?AID=636557]

³ AAP (American Academy of Pediatrics) Children, adolescents, and television. *Pediatrics* 2001; 107(2):423-426

⁴ Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance*. National Academies Press, Washington DC 2005, p. 304. This report cites comparable recommendations made by the American Psychological Association, American Medical Association, American Academy of Pediatrics, National Education Association, Department of Health and Human Services, American Academy of Child and Adolescent Psychiatry, National Parent Teachers Association.

Children are Active Learners

Sometimes described as tiny scientists, toddlers walk around things to see what's on the other side, infants drop things to see what happens (including the effect repeated droppings might have on their caregivers!), they attend to words and sounds, they put things in their mouths to taste them – all in order to learn about their world. But most important of all, they learn through interactions – language as well as emotional exchanges with their caregivers⁵. The widespread practice⁶ of using a video to mesmerize and distract an infant may be convenient for stressed out parents, but it is not optimal for the emotional or cognitive development of the child,⁷ for language acquisition,⁸ or for deepening the parent-child relationship⁹ and a growing number of studies link screen viewing with decreased play,¹⁰ increased body fatness,^{11,12} and a heightened risk of childhood obesity.^{13,14} For children up to two years old, the wisest course of action is to eliminate screen time entirely and that is the current recommendation for the prevention of childhood obesity.¹⁵

For older children: Limit recreational screen viewing to a maximum of 2 hours per day

For children over two, the current recommendation to prevent childhood obesity is to limit recreational screen time to no more than 2 hours per day. The origins of this limit stem from early research documenting a relationship between TV viewing and body fatness.^{16,17} These early studies showed that the more hours of TV viewing, the higher the BMI, although not all studies have shown this

⁵ Lewis T, Amini F, Lannon R. *A General Theory of Love*. Vintage Books. A Division of Random House, New York. 2000.

⁶ Zimmerman FJ, Christakis DA, Meltzoff AN. Television and DVD/video viewing in children younger than 2 years. *Arch Pediatr Adolesc Med*. 2007; 161(5):473-9

⁷ Robb MB, Richert RA, Wartella EA. Just a talking book? Word learning from watching baby videos. *Br J Dev Psychol*. 2009; 27(Pr 1): 27-45.

⁸ Richert RA, Robb MB, Fender JG, Wartella E. Word learning from baby videos. *Arch Pediatr Adolesc Med* 2010; Mar 1; 164(5) [Epub ahead of print; doi: 10.1001/archpediatrics.2010.24]

⁹ Kirkorian HL, Pempek TA, Murphy LA, et al. The impact of background television on parent-child interaction. *Child Development* 2009; 80(5): 1350-1359.

¹⁰ Schmidt ME, Pempek TA, Kirkorian HL, et al. The effects of background television on the toy play behavior of very young children. *Child Development* 2009; 79(4): 1137-1151

¹¹ Robinson TN. Television viewing and childhood obesity. *Pediatr Clin North Am* 48(4): 1017-1025

¹² Jackson DM, Djafarian K, Stewart J, Speakman JR. Increased television viewing is associated with elevated body fatness but not with lower total energy expenditure in children. *Am J Clin Nutr* 2009; 89:1031-1036.

¹³ Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance*. National Academies Press, Washington DC 2005; pp. 301-305.

¹⁴ Mendoza JA, Zimmerman FJ, Christakis DA. Television viewing, computer use, obesity, and adiposity in US preschool children. *International Journal of Behavioral Nutrition and Physical Activity* 2007, 4:44doi:10.1186/1479-5868-4-44 [The electronic version of this article is the complete one and can be found online at: <http://www.ijbnpa.org/content/4/1/44>; accessed March 13, 2010]

¹⁵ Institute of Medicine. *Progress in Preventing Childhood Obesity: How do we Measure Up?* National Academies Press, Washington DC 2007: p. 327.

¹⁶ Robinson TN et al. Does television viewing increase obesity and reduce physical activity? Cross-sectional and longitudinal analyses among adolescent girls. *Pediatrics* 1993; 91(2):273-280

¹⁷ Gortmaker SL et al. Television viewing as a cause of increasing obesity among children in the United States, 1986-1990. *Arch Pediatr Adolesc Med* 1996; 153(4): 356-362

relationship.¹⁸ One study of more than 4000, 8 to 16 year olds¹⁹ used nationally representative NHANES data (considered to be methodologically superior to other studies) and found that obesity prevalence was highest among those children watching 4 or more hours of TV per day and lowest among those watching one hour or less. But evidence was needed that interventions to reduce TV viewing would indeed lead to reduced body fatness or BMI.

This evidence was provided by Tom Robinson²⁰ who designed a school-based intervention to decrease TV viewing and documented improvements in body mass index (BMI). Planet Health, another school-based intervention that included reductions in TV viewing as one component,²¹ found improvements in BMI in some groups of children, but not all. Subsequent research has broadened the 2 hour per day limit to all forms of recreational screen viewing combined.^{22,23}

¹⁸ Sallis JF, Prochaska JJ, Taylor WC. A review of correlates of physical activity of children and adolescents. 2000; *Med Sci Sports Exerc* 32(5):963-975.

¹⁹ Crespo CJ, Smit E, Troiano RP et al. Television watching, energy intake, and obesity in US children: Results from the third National Health and Nutrition Examination Survey, 1988-1994. *Arch Pediatr Adolesc Med* 155(3): 360-365.

²⁰ Robinson TN. Reducing children's television viewing to prevent obesity. A Randomized controlled trial. *JAMA* 1999; 282(16):1561-1567.

²¹ Gortmaker SL, Peterson K, Wiecha J, et al. Reducing obesity via a school-based interdisciplinary intervention among youth: Planet Health. *Arch Pediatr Adolesc Med* 1999; 153(4):409-418

²² Institute of Medicine. *Progress in Preventing Childhood Obesity: How do we Measure Up?* National Academies Press, Washington DC 2007: p. 327.

²³ Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance*. National Academies Press, Washington DC 2005; p. 308.

Separate Viewing From Chewing: make meal time...family time

By Barbara J. Moore, PhD

In January, 2010, the U.S. Surgeon General, Dr. Regina M. Benjamin, issued a report¹ on the epidemic of overweight and obesity in America. In the discussion of the various causes of obesity, Dr. Benjamin's report stated that "[t]he more time children spend watching television, the more likely they are to eat while doing so and the more likely they are to eat the high-calorie foods that are heavily advertised on television."² In other words, eating in front of screens – TV screens, computer screens and video screens – promotes mindless munching on high calorie foods and increases exposure to commercial messages for unwholesome snacks and many other products such as movies and DVDs that encourage sedentary forms of entertainment for kids. An earlier report from the Institute of Medicine [IOM]³ details the extent and impact of marketing food to children and its impact on childhood obesity.

Health experts are urging America's children to increase their levels of physical activity and reduce their intake of high-calorie/low-nutrient foods and snacks and limit their intake of sugar-sweetened beverages. But the reality is that consumption patterns of America's youth reflect the marketing strategies of the \$900 billion⁴ food, beverage and restaurant industries. How are foods marketed to children? Primarily through screens – TV, computer, DVD and cell phone screens.

According to the IOM,⁵ the food and beverage industries spend approximately \$10 billion a year on marketing their products through various channels and "the preponderance of the products introduced and marketed for children and youth are high in total calories, sugars, salt, fat, and low in nutrients."⁶ When the report was released in 2006, Senator Harkin of Iowa remarked: "The food industry doesn't spend \$10 billion a year on ads to kids because they like

¹ U.S. Department of Health and Human Services. The Surgeon General's Vision for a Healthy and Fit Nation. Rockville, MD: Office of the Surgeon General, January 2010.

² U.S. Department of Health and Human Services. The Surgeon General's Vision for a Healthy and Fit Nation. Rockville, MD: Office of the Surgeon General, January 2010, p. 4.

³ Institute of Medicine [IOM]. *Food Marketing to Children and Youth: Threat or Opportunity?* National Academies Press 2006, 500 Fifth Street NW, Washington DC 20001 [The Institute of Medicine was established in 1970 by the National Academy of Sciences. The IOM convenes appropriately credentialed professionals to examine "policy matters pertaining to the health of the public."]

⁴ Annual sales of these three industries combined. See IOM report (reference 3), page 4.

⁵ See the IOM report (reference 3), page 4.

⁶ See IOM report (reference 3), page 4

to waste money. Their ads not only work, they work brilliantly.”⁷ There is evidence to support Senator Harkin’s statement.⁸ Dr. Thomas Frieden, current Director of the Centers for Disease Control and Prevention (CDC), predicted that 20 years from now people will look back and say: “What were they thinking? They’re in the middle of an epidemic and kids are watching 20,000 hours of commercials for junk food.”⁹

Through the use of cartoon characters recruited to pitch products to children and the development of “advergames” and other strategies targeting kids, the Internet, cell phone, DVD and TV marketers are collaborating in their efforts to control “share of mind.” This marketing concept refers to the objective of building “cradle to grave” brand loyalty that threatens to turn our children into passive “super consumers” – indeed supersized consumers.¹⁰ Advertisements for unhealthy foods and sedentary forms of entertainment provide children with “pester power” – and parents get worn down by their children’s constant requests for candy, sweetened cereals, cookies, cupcakes and sugary soda, not to mention the latest movies, computer games and DVDs – all sedentary forms of entertainment.

The percentage increase in the number of new food products targeted to children has skyrocketed¹¹ and this is because our children and teens have money to spend – as much as \$365 billion a year according to one estimate.¹² According to the IOM, television marketing strategies are contributing to the growing problem of childhood obesity: “Statistically, there is strong evidence that exposure to television advertising is associated with adiposity in children ages 2-11 years and teens ages 12-18 years.”¹³

The consequences for children’s health are alarming. In one study, 70% of obese young people had at least one risk factor for cardiovascular disease, while 39% had two or more.¹⁴ Type 2 diabetes, historically referred to as “adult-onset” diabetes was virtually unknown in children

⁷ Quoted by M. Burros, “Federal Advisory Group Calls for Change in Food Marketing to Children” NYTimes.com, December 7, 2005

⁸ Borzekowski DL, Robinson TN. The 30-second effect: an experiment revealing the impact of television commercials on food preferences of preschoolers. *J Am Diet Assoc* 2001; 101(1):42-46

⁹ Quoted by N.R.Kleinfield, “Diabetes and Its Awful Toll Quietly Emerge as a Crisis” NYTimes.com, January 9, 2006

¹⁰ Samuels et al. “Food and Beverage Industry Marketing Practices Aimed at Children: Developing Strategies for Preventing Obesity and Diabetes”, November 2003, A Report on the Proceedings from a meeting sponsored by the California Endowment, held in San Francisco June, 2003.

¹¹ See Williams J. “Product Proliferation Analysis for New Food and Beverage Products Targeted to Children 1994-2004. University of Texas at Austin Working Paper.

¹² See Samuels et al. (reference 9).

¹³ IOM report (reference 3), page 9.

¹⁴ Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: The Bogalusa Heart Study. *J Pediatr*. 2007 Jan; 150:12–17.e2

and adolescents 30 years ago, but in some parts of the U.S. it now accounts for almost 50 percent of newly diagnosed pediatric cases of diabetes.¹⁵ It has been predicted that one out of every three children born in the year 2000 will develop diabetes in their lifetimes (for Hispanics, the prediction is one out of two).¹⁶ Children and adolescents who are obese are more likely to remain obese into adulthood.¹⁷ Obese adults who became obese as young children tend to be more severely obese¹⁸ and have earlier onset of co-morbidities such as diabetes, cardiovascular disease, and some cancers.¹⁹

A growing number of studies link screen viewing with decreased play,²⁰ increased body fatness,^{21,22} and a heightened risk of childhood obesity.^{23,24} Since the publication of the IOM report in 2006, a number of studies have examined how the use of media affect food intake, behavior and body fatness of children^{25, 26, 27, 28, 29, 30, 31, 32, 33} and the evidence continues to

¹⁵ American Diabetes Association (ADA). 2000. Type 2 Diabetes in Children and Adolescents. *Pediatrics* 105:67-80

¹⁶ Venkat Narayan KM. (Chief of the Diabetes Epidemiology section, Centers for Disease Control and Prevention [CDC]) 2003 Presentation to the ADA Annual Scientific Sessions. Report published in *JAMA* Oct. 8, 2003.

¹⁷ Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting Obesity in young adulthood from childhood and parental obesity. *N Engl J Med* 1997;337(13): 869–873.

¹⁸ Relationship of Childhood Obesity to Coronary Heart Disease Risk Factors in Adulthood: The Bogalusa Heart Study. *Pediatrics*, 2001;108(3): 712–718.

¹⁹ Ferraro, K.S., R.J. Thorpe Jr., and J.A. Wilkinson. 2003. The Life Course of Severe Obesity: Does Childhood Overweight Matter? *Journals of Gerontology, Series B, Psychological Sciences and Social Sciences* 58(2):S11-19

²⁰ Schmidt ME, Pempek TA, Kirkorian HL, et al. The effects of background television on the toy play behavior of very young children. *Child Development* 2009; 79(4): 1137-1151

²¹ Robinson TN. Television viewing and childhood obesity. *Pediatr Clin North Am* 48(4) 1017-1025

²² Jackson DM, Djafarian K, Stewart J, Speakman JR. Increased television viewing is associated with elevated body fatness but not with lower total energy expenditure in children. *Am J Clin Nutr* 2009; 89:1031-1036.

²³ Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance*. National Academies Press, Washington DC 2005; pp. 301-305.

²⁴ Mendoza JA, Zimmerman FJ, Christakis DA. Television viewing, computer use, obesity, and adiposity in US preschool children. *International Journal of Behavioral Nutrition and Physical Activity* 2007, 4:44doi:10.1186/1479-5868-4-44 [The electronic version of this article is the complete one and can be found online at: <http://www.ijbnpa.org/content/4/1/44>; accessed March 13, 2010]

²⁵ Chamberlain LJ, Wang Y, Robinson TN. Does children's screen time predict requests for advertised products? Cross-sectional and prospective analyses. *Arch Pediatr Adolesc Med*. 2006; 160(4):363-368.

²⁶ Bellissimo N, Pencharz PB, Thomas SG, Anderson GH. Effect of television viewing at mealtime on food intake after a glucose preload in boys. *Pediatr Res*. 2007; 61(6): 745-749.

²⁷ Blass EM, Anderson DR, Kirkorian HL, et al. On the road to obesity: Television viewing increases intake of high-density foods. *Physiol Behav*. 2006; 88:597-604

²⁸ Francis LA, Birch LL. Does eating during television viewing affect preschool children's intake? *J Am Diet Assoc*. 2006; 106(4): 598-600

²⁹ Fitzpatrick E, Edmunds LS, Dennison BA. Positive effects of family dinner are undone by television viewing. *J Am Diet Assoc*. 2007; 107:666-671

³⁰ Kirkorian HL, Pempek TA, Murphy LA, et al. The impact of background television on parent-child interaction. *Child Development* 2009; 80(5): 1350-1359

grow. Some studies suggest that parental limits on TV viewing and other screens is helpful for changing behavior and preventing childhood obesity^{34, 35, 36} but that parents need guidance and support to implement changes in screen-viewing policies.³⁷

Children derive many benefits from family meals, including improved nutritional quality of foods eaten and an opportunity for meaningful parent-child interaction. In fact, higher BMI in children is associated with a lower frequency of family meals^{38, 39} and eating dinner together as a family 6-7 times per week has been identified as one household routine that is associated with obesity prevention.⁴⁰ It is important to keep the TV turned off during family meals because the benefits of family meals are apparently cancelled by background TV.⁴¹

In summary, reducing screen time and not allowing eating in front of screens is one part of the solution to childhood obesity. It is recommended that parents establish rules limiting the use of all recreational screens to a maximum of two hours per day and permit eating only at the table with the TV turned off. We are all role models for children so we need to set a good example by turning off the TV, DVDs, cell phones and computers, choosing foods and beverages carefully, and going outside to get more fresh air and physical activity on a daily basis – and take some kids along for the fun!

³¹ Chou S-Y, Rashad I, Grossman M. Fast-food restaurant advertising on television and its influence on childhood obesity. *J Law Economics* 2008; 51:599-618

³² Martin CK, Coulon SM, Markward N, et al. Association between energy intake and viewing television, distractibility, and memory for advertisements. *Am J Clin Nutr* 2009; 89:37-44

³³ Anschutz DJ, Engels RCME, VanStrien T. Side effects of television food commercials on concurrent nonadvertised sweet snack food intakes in young children. *Am J Clin Nutr* 2009; 89:1328-1333

³⁴ Anderson SE, Whitaker RC. Household routines and obesity in US preschool-aged children. *Pediatrics* 2010; 125:420-428

³⁵ Coon KA, Goldberg J, Rogers BL, Tucker KL. Relationships between use of television during meals and children's food consumption patterns. *Pediatrics* 2001; 107(1):E7

³⁶ Robinson TN, Saphir MN, Kraemer HC et al. Effects of reducing television viewing on children's request for toys : a randomized controlled trial. *J Dev Behav Pediatr* 2001; 22(3): 179-184

³⁷ Jordan AB, Hersey JC, McDivitt JA, Heitzler CD. Reducing children's television-viewing time: A qualitative study of parents and their children. *Pediatrics* 2006; 118:e1303-e1310

³⁸ Taveras EM, Rifas-Shiman SL, Berkey CS, et al. Family dinner and adolescent overweight. *Obesity* 2005; 13(5):900-906.

³⁹ Veugelers PF, Fitzgerald AL. Prevalence of and risk factors for childhood overweight and obesity. *CMAJ* 2005; 173(6):607-613.

⁴⁰ Anderson SE, Whitaker RC. Household routines and obesity in US preschool-aged children. *Pediatrics* 2010; 125:420-428

⁴¹ Fitzpatrick E, Edmunds LS, Dennison BA. Positive effects of family dinner are undone by television viewing. *J Am Diet Assoc.* 2007; 107:666-671

Toward a Family Summit on Screen Viewing: Screen Smart Tips 4-7

By Barbara J. Moore, PhD

About 2/3 of America's children have a television in the bedroom.^{1,2,3} If parents were to convene a family summit on home screen viewing policies, the odds are that children and parents would have some pretty strong opinions about removing the TV and other screens from bedrooms or limiting the use of screens to a maximum of two hours per day.

There is a growing body of evidence linking screen viewing with decreased play,⁴ increased caloric intake⁵ and body fatness,^{6,7} and a heightened risk of childhood obesity.^{8,9,10,11,12,13,14,15,16,17,18} leading to subsequent serious health problems.^{19,20,21,22,23} On the other hand, qualitative research²⁴ shows that the institution of new family policies to limit recreational screen viewing time or removing screens entirely from the bedroom will meet with stiff opposition from children and from parents themselves.

Research shows that parental limits on TV and other media screens is helpful for preventing childhood obesity^{25,26,27} but it has many other benefits such as less interference with homework²⁸ improved quality of sleep²⁹ and improved relationships within the family and with peers.³⁰ Parents have asked for guidance and support to implement changes in screen-viewing policies,³¹ so this article focuses on issues and barriers that have been identified by parents in managing screen time policies.

Monitor Content

Tip #4 for screen smart parents urges them to monitor the content of programs that children are viewing through the various media channels they use every day. The goal is to know what your child is watching and to look for quality educational programs that will convert screens into a tool that can enhance learning. Nearly all parents report concerns over exposure to sexual content, violence and foul language but they are also concerned about academic success and a child "tuning out" because of excess viewing.³² Here are methods parents say they use³³ to limit media usage or restrict program content:

- Limit access to only approved shows
- Limit access to only approved channels
- Limit access to only certain types of programs (e.g., educational)
- No TV after a certain hour of night
- No TV on school nights
- No TV after school
- No shows with "nasty talk" or "grown-up shows" or music videos
- No channel changing or channel surfing
- Select and pay for specific cable channels that are appropriate and trusted
- Program remote controls or use a chip to block certain program content
- Require children to ask permission before watching a given show

Although they are practical, the problem with these suggestions is that they are mainly negative. They don't help parents identify quality programs that children would benefit

from. Enlisting children to work with parents to identify educational programs^{34,35} is something to discuss at the family summit.

Remove Screens from the Bedroom (Tip #5)

The presence of a TV in the bedroom is associated with heavy TV viewing³⁶ and obesity.^{37,38} But removing the TV from the bedroom of a child can be difficult and some parents recognize that they too have heavy viewing habits that may have to change.³⁹ The goal here is to move screens out of the bedroom to a place where parents can monitor both viewing time and program content. One study showed that parents underestimate the amount of TV viewing by children by 63%⁴⁰ but this study also showed that 6 to 7 year olds are using TVs, videos and computers for nearly 4 hours per day⁴¹ and older children average 6 hours per day. This reflects the confusion reported by parents⁴² over what constitutes “screen time” – which is all screen viewing for entertainment (i.e., non-educational) purposes. An important consideration is the negative impact of screen viewing on sleep patterns, duration⁴³ and the quality of sleep^{44,45,46} – which plays a central role in maintaining good health and academic achievement as well as obesity prevention.⁴⁷ A ringing cell phone in the middle of the night is an obvious disruption of sleep that parents may or may not be aware of. The location of TVs, videos, DVDs and cell phones in the bedroom invite late night texting and screen viewing that can delay bedtimes or interrupt sleep. The content of shows can cause nightmares and delay the onset of sleep or cause sleep disturbances.⁴⁸ The removal of screens from bedrooms should be included on the agenda for the family summit.

Promote Mindful Viewing

Tip #6 calls for mindful viewing which means turning on the TV to watch a selected program and turning it off when the program is finished. Purposeful viewing extends to other media. One family has a rule that only video games that involve other family members are permitted. Mindful viewing means no background TV. Kids are exposed to “background TV” when the TV is on even when no one is really watching or when children are exposed to shows that are not meant for them (i.e., adult programming). An adult watching a favorite program is less responsive to a young child who may be in the room⁴⁹ and children are distracted from developmentally important activities by the TV and other screens. The goal here is to be selective about viewing and avoid channel surfing, especially in the presence of very young children who should not be exposed to inappropriate adult program content.⁵⁰ And remember...keep the TV off when no one is actually watching.

Watch With Your Child – Avoid TV as Babysitter

Tip #7 urges parents to watch TV and other media along with your young child and to avoid using the TV as a babysitter. The goal here is to monitor your child’s reactions to program content and be prepared to answer questions or concerns. Children need guidance when watching certain programs and many children under the age of 8 lack the skills to understand the distinction between programs and commercials.⁵¹ Marketers intentionally blur the boundaries between the two by having cartoon characters step out of a program and into a commercial. Nor do young children understand the persuasive intent of commercials – the fact that someone is trying to sell them something. Parental

involvement can help children learn to make these distinctions and can help turn them into more discriminating consumers of media.

“What We Do In Our House”

Tip #8 Urges families to arrive at a consensus about the management of screen time and the enforcement of media usage policies. The goal here is to discuss and agree on issues such as program content, whether screens are permitted in bedrooms and the establishment (and enforcement) of time limits on media usage for recreational purposes. Everyone should be clear about: “This is what we do in our house.”

¹ Dennison BA, Erb TA, Jenkins PL. Television viewing and television in bedroom associated with overweight risk among low-income preschool children. *Pediatrics* 2002; 109:1028-1035.

² Barr-Anderson DJ, van den Berg P, Neumark-Sztainer D, Story M. Characteristics associated with older adolescents who have a television in their bedrooms. *Pediatrics* 2008; 121:718-724.

³ Zimmerman FJ for Kaiser Family Foundation. Children’s media use and sleep problems: Issues and unanswered questions. June 2008 Research Brief [www.kff.org]

⁴ Schmidt ME, Pempek TA, Kirkorian HL, et al. The effects of background television on the toy play behavior of very young children. *Child Development* 2009; 79(4): 1137-1151

⁵ Wiecha JL, Peterson KE, Ludwig DS, et al. When children eat what they watch: Impact of television viewing on dietary intake in youth. *Arch Pediatr Adolesc Med* 2006; 160:436-442.

⁶ Robinson TN. Television viewing and childhood obesity. *Pediatr Clin North Am* 48(4): 1017-1025

⁷ Jackson DM, Djafarian K, Stewart J, Speakman JR. Increased television viewing is associated with elevated body fatness but not with lower total energy expenditure in children. *Am J Clin Nutr* 2009; 89:1031-1036.

⁸ Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance*. National Academies Press, Washington DC 2005; pp. 301-305.

⁹ Mendoza JA, Zimmerman FJ, Christakis DA. Television viewing, computer use, obesity, and adiposity in US preschool children. *International Journal of Behavioral Nutrition and Physical Activity* 2007, 4:44doi:10.1186/1479-5868-4-44 [The electronic version of this article is the complete one and can be found online at: <http://www.ijbnpa.org/content/4/1/44>; accessed March 13, 2010]

¹⁰ Chamberlain LJ, Wang Y, Robinson TN. Does children’s screen time predict requests for advertised products? Cross-sectional and prospective analyses. *Arch Pediatr Adolesc Med*. 2006; 160(4):363-368.

¹¹ Bellissimo N, Pencharz PB, Thomas SG, Anderson GH. Effect of television viewing at mealtime on food intake after a glucose preload in boys. *Pediatr Res*. 2007; 61(6): 745-749.

¹² Blass EM, Anderson DR, Kirkorian HL, et al. On the road to obesity: Television viewing increases intake of high-density foods. *Physiol Behav*. 2006; 88:597-604

¹³ Francis LA, Birch LL. Does eating during television viewing affect preschool children’s intake? *J Am Diet Assoc*. 2006; 106(4): 598-600

¹⁴ Fitzpatrick E, Edmunds LS, Dennison BA. Positive effects of family dinner are undone by television viewing. *J Am Diet Assoc*. 2007; 107:666-671

¹⁵ Kirkorian HL, Pempek TA, Murphy LA, et al. The impact of background television on parent-child interaction. *Child Development* 2009; 80(5): 1350-1359

¹⁶ Chou S-Y, Rashad I, Grossman M. Fast-food restaurant advertising on television and its influence on childhood obesity. *J Law Economics* 2008; 51:599-618

¹⁷ Martin CK, Coulon SM, Markward N, et al. Association between energy intake and viewing television, distractibility, and memory for advertisements. *Am J Clin Nutr* 2009; 89:37-44

¹⁸ Anschutz DJ, Engels RCME, VanStrien T. Side effects of television food commercials on concurrent nonadvertised sweet snack food intakes in young children. *Am J Clin Nutr* 2009; 89:1328-1333

¹⁹ Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: The Bogalusa Heart Study. *J Pediatr*. 2007 Jan; 150:12–17.e2

²⁰ American Diabetes Association (ADA). 2000. Type 2 Diabetes in Children and Adolescents. *Pediatrics* 105:67-80

-
- ²¹ Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting Obesity in young adulthood from childhood and parental obesity. *N Engl J Med* 1997;337(13): 869–873.
- ²² Relationship of Childhood Obesity to Coronary Heart Disease Risk Factors in Adulthood: The Bogalusa Heart Study. *Pediatrics*, 2001;108(3): 712–718.
- ²³ Ferraro, K.S., R.J. Thorpe Jr., and J.A. Wilkinson. 2003. The Life Course of Severe Obesity: Does Childhood Overweight Matter? *Journals of Gerontology, Series B, Psychological Sciences and Social Sciences* 58(2):S11-19
- ²⁴ Jordan AB, Hersey JC, McDivitt JA, Heitzler CD. Reducing children’s television-viewing time: A qualitative study of parents and their children. *Pediatrics* 2006; 118(5):e1303-e1310
- ²⁵ Anderson SE, Whitaker RC. Household routines and obesity in US preschool-aged children. *Pediatrics* 2010; 125:420-428
- ²⁶ Coon KA, Goldberg J, Rogers BL, Tucker KL. Relationships between use of television during meals and children’s food consumption patterns. *Pediatrics* 2001; 107(1):E7
- ²⁷ Robinson TN, Saphir MN, Kraemer HC et al. Effects of reducing television viewing on children’s request for toys : a randomized controlled trial. *J Dev Behav Pediatr* 2001; 22(3): 179-184
- ²⁸ Wiecha JL, Sobol AM, Peterson KE, Gortmaker SL. Household television access: associations with screen time, reading, and homework among youth. *Ambul Pediatr*. 2001; 1(5):244-251.
- ²⁹ Zimmerman FJ for Kaiser Family Foundation. Children’s media use and sleep problems: Issues and unanswered questions. June 2008 Research Brief [www.kff.org]
- ³⁰ Richards R, McGee R, Williams SM, et al. Adolescent screen time and attachment to parents and peers. *Arch Pediatr Adolesc Med* 2010; 164(3):258-262.
- ³¹ Jordan AB, Hersey JC, McDivitt JA, Heitzler CD. Reducing children’s television-viewing time: A qualitative study of parents and their children. *Pediatrics* 2006; 118:e1303-e1310
- ³² See Jordan et al., page e1305.
- ³³ See Jordan et al., page e1305-e1306.
- ³⁴ American Academy of Pediatrics [AAP] Smart Guide to Kid’s TV. <http://www.aap.org/family/smarttv.htm> accessed 3/5/2010.
- ³⁵ American Academy of Pediatrics [AAP] Parenting Corner Q&A: TV and Your Family. http://www.aap.org/publiced/BR_TV.htm accessed 3/5/2010.
- ³⁶ Barr-Anderson DJ, van den Berg P, Neumark-Sztainer D, Story M. Characteristics associated with older adolescents who have a television in their bedrooms. *Pediatrics* 2008; 121:718-724.
- ³⁷ Dennison BA, Erb TA, Jenkins PL. Television viewing and television in bedroom associated with overweight risk among low-income preschool children. *Pediatrics* 2002; 109:1028-1035.
- ³⁸ Adachi-Mejia AM, Longacre MR, Gibson JJ, et al. Children with a TV in their bedroom at higher risk for being overweight. *Int J Obes (Lond)* 2007; 31(4):644-651.
- ³⁹ See Jordan et al. page e1305.
- ⁴⁰ See Jordan et al. page e1305: parent mean is 116 minutes, but child mean is 189 minutes (63% higher).
- ⁴¹ See Jordan et al. Figure 1, p. e1305.
- ⁴² See Jordan et al. page e1306.
- ⁴³ For obesity prevention, 10.5 hours sleep per night is recommended. See SE Anderson, RC Whitaker. Household routines and obesity in US preschool-aged children. *Pediatrics* 2010; 125:420-428.
- ⁴⁴ Li S, Jin X, Wu S, et al. The impact of media use on sleep patterns and sleep disorder among school-aged children in China. *Sleep* 2007; 30(3): 361-367.
- ⁴⁵ Paavonen EJ, Pennonen M, Roine M et al. TV exposure associated with sleep disturbances in 5- to 6-year old children. *J Sleep Res*. 2006; 15: 154-161.
- ⁴⁶ Zimmerman FJ for Kaiser Family Foundation. Children’s media use and sleep problems: Issues and unanswered questions. June 2008 Research Brief [www.kff.org]
- ⁴⁷ SE Anderson, RC Whitaker. Household routines and obesity in US preschool-aged children. *Pediatrics* 2010; 125:420-428.
- ⁴⁸ Zimmerman FJ for Kaiser Family Foundation. Children’s media use and sleep problems: Issues and unanswered questions. June 2008 Research Brief [www.kff.org]
- ⁴⁹ Schmidt ME, Pempek TA, Kirkorian HL. Et al. The effects of background television on the toy play behavior of very young children. *Child Development* 2008; 79(4): 1137-1151.
- ⁵⁰ Zimmerman FJ for Kaiser Family Foundation. Children’s media use and sleep problems: Issues and unanswered questions. June 2008 Research Brief [www.kff.org]

⁵¹ Institute of Medicine. Food Marketing to Children and Youth: Threat or Opportunity. National Academies Press Washington, DC 2006. P. 5. [www.nap.edu]

Tip #9 LESS SCREEN TIME...MORE GREEN TIME:

Go outside and play!

By Barbara J. Moore, PhD

Many adults remember spending long hours after school, on weekends, and during the summer playing outdoors, mostly in unstructured and unsupervised play. But today, children are spending 25% less time engaged in outdoor play than their parents did.¹ Dramatic increases in screen time and other factors have contributed to this decrease in active play, yet play is critically important for child health, especially unstructured play in the great outdoors.^{2,3} Many opportunities for play are not “child-driven” but are structured games and sports in which some children are active while others sit “on the bench”. Children are often “over scheduled” leaving little time for free play. And the environment in which many children live does not offer free and safe opportunities for outdoor play. Yet play is considered so important for optimal child development that it has been identified by the United Nations High Commission for Human Rights as a right of every child.⁴

The physical, psychological, social, and emotional benefits of play have been well documented.^{5,6,7,8} Unstructured play and physical activity promote healthy brain development⁹ as well as the development of imagination and creativity.^{10,11} Active play with friends develops important social skills such as conflict resolution and negotiating skills, and fosters constructive group interaction and cooperation.^{12,13,14} Play can stimulate curiosity and develop skills of self-regulation.¹⁵ Too often children are glued to screens: TV, computer, video games, and cell phones rather than playing. There are shorter periods of both indoor and outdoor play at home as well as at school. Schools are decreasing the time for recess and physical education^{2,16} in part due to curricular changes resulting from No Child Left Behind mandates.^{2,17} Even kindergarten children have decreased time for free play.² Yet there is evidence that the strategic placement of recess, which offers a physical release, can actually help children focus and support cognitive function.¹⁸

Young children engage in greater amounts of physical activity, and at a higher intensity level, when they are allowed to play outdoors.¹⁹ For each additional hour of time outdoors, children engage in over 20 minutes of moderate-to-vigorous physical activity.²⁰ Outdoor play, especially when children make up their own games, provides an opportunity to exercise imagination and decrease “nature-deficit disorder.”²¹ Whether our goal is to prevent childhood obesity or promote personal and social development of children, less screen time and more physical activity and unstructured outdoor play are crucial.

The relationship between screen viewing and physical activity is difficult to study especially since some children may turn off the TV or computer to read a book instead of actively play. One study of 2 to 6 year olds used state-of-the-art techniques to quantify fat gain associated with TV viewing.²² The researchers measured total daily energy expenditure using doubly labeled water and body fat using dual-energy X-ray absorptiometry and physical activity using accelerometry. This exceptionally well

designed study showed that each extra hour a child spent watching TV was associated with an increase of about 1 kilogram (2.2 pounds) in body fatness.²²

Obesity and low aerobic fitness are now considered common among American youth and data are emerging that both are associated with poorer academic performance.²³ One study of nearly 2000 5th, 7th and 9th graders found consistent positive associations between aerobic fitness and math, reading and language test scores and consistently poorer scores in children whose BMI-for-age was elevated.²⁴ Unpublished data collected by Dr. Steve Gaskill on children in Missoula, MT are consistent with these findings. These data point to the importance of decreasing screen time and encouraging vigorous active play, ideally outdoors, that builds aerobic fitness.

When kids are instructed to turn off the TV or other screens, parents²⁵ need to be prepared. Kids might complain they are bored and don't know what to do. My mother led me to believe that boredom was a moral failing on my part that could be remedied only by going outside or reading a book. Arming a parent with enjoyable ideas to suggest to a whining child is a good defensive tactic. Shape Up America! created three small posters²⁶ that can be taped to the refrigerator door offering ideas of what kids (and families) can do when they turn off the TV. Sitting down with your children to develop your own list of ideas can be fun. A separate list of rainy day activities is a good idea. Here are some additional ideas to think about:

- For birthdays and holidays, buy gifts that promote physical activity, especially outside activities
- To reward good behavior or good grades, do something active with your child like go for a hike or go ice skating.
- Emphasize having fun, rather than winning
- Designate one area inside your home where rolling, climbing, jumping and tumbling is permitted
- Insure that your child's school curriculum includes adequate time for recess and physical education with instruction provided by qualified PE teachers
- Team up with other parents of young children to devise safe opportunities for outdoor play after school and on weekends. Can school facilities become a part of the solution?

The website of the Montana Nutrition and Physical Activity [www.MontanaNAPA.org] program is a useful resource for those seeking to implement screen time reduction activities including ways to participate in Screen-Free Week. For more information about screen time reduction see the WE CAN! Website produced in collaboration with the National Institutes of Health.

[<http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/reduce-screen-time/tips-to-reduce-screen-time.htm>] WE CAN! offers a parent handbook and other useful tools and resources. [See <http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/tools-resources/tools-reduce-screen-time.htm>] See also the Center on Media and Child Health [<http://www.cmch.tv/>].

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- ¹ Burdette HL, Whitaker RC. Resurrecting free play in young children. *Arch Pediatr Adolesc Med.* 2005;159(1):46-50
- ² 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.
- ³ Louv R. *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder.* Chapel Hill, NC: Algonquin; 2008
- ⁴ Office of the United Nations High Commissioner for Human Rights. Convention on the Rights of the Child. General Assembly Resolution 44/25 of 20 November 1989. Cited by Ginsburg (reference 2 above) [See also <http://www.unicef.org/magic/briefing/uncorc.html>]
- ⁵ Burdette HL, Whitaker RC. Resurrecting free play in young children. *Arch Pediatr Adolesc Med.* 2005;159(1):46-50
- ⁶ 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
- ⁷ Tamis-Lemonda CS, Shannon JD, Cabrera NJ, Lamb ME. Fathers and mothers at play with their 2- and 3-year-olds: contributions to language and cognitive development. *Child Dev.* 2004;75(6):1806-1820
- ⁸ Ericson RJ. Play contributes to the full emotional development of the child. *Educ.* 1985;105:261-263
- ⁹ Tamis-Lemonda CS, Shannon JD, Cabrera NJ, Lamb ME. Fathers and mothers at play with their 2- and 3-year-olds: contributions to language and cognitive development. *Child Dev.* 2004;75(6):1806-1820
- ¹⁰ See references 5 and 6
- ¹¹ Shonkoff JP, Phillips DA, eds. *From Neurons to Neighborhoods: The Science of Early Childhood Development.* Washington, DC: National Academy Press; 2000:165-169
- ¹² See references 5 and 6
- ¹³ McElwain EL, Volling BL. Preschool children's interactions with friends and older siblings: relationship specificity and joint contributions to problem behavior. *J Fam Psychol.* 2005;19:486-496
- ¹⁴ Pica R. Beyond physical development: why young children need to move. *Young Child.* 1997;52:4-11
- ¹⁵ See references 5 and 6
- ¹⁶ Pellegrini AD, Bohm CM. The role of recess in children's cognitive performance and school adjustment. *Educ Res.* 2005;34:13-19
- ¹⁷ Dillon S. Schools cut back subjects to push reading and math. *New York Times.* March 26, 2006;1:1
- ¹⁸ See reference 2, page 184.
- ¹⁹ Baranowski T, Thompson WO, DuRant RH, Baranowski J, Puhl J. Observations on physical activity in physical locations: age, gender, ethnicity, and month effects. *Res Q Exerc Sport.* 1993;64(2):127-133
- ²⁰ Cleland V, Crawford D, Baur LA, Hume C, Timperio A, Salmon J. A prospective examination of children's time spent outdoors, objectively measured physical activity and overweight. *Int J Obes (Lond).* 2008;32(11):1685-1693
- ²¹ Louv R. *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder.* Chapel Hill, NC: Algonquin; 2008
- ²² Jackson DM, Djafarian K, Stewart J, Speakman JR. Increased television viewing is associated with elevated body fatness but not with lower total energy expenditure in children. *Am J Clin Nutr.* 2009; 89(4):1031-1036
- ²³ Roberts CK, Freed B, McCarthy WJ. Low aerobic fitness and obesity are associated with lower standardized test scores in children. *J Pediatrics* 2010; Jan 25 online.
- ²⁴ Roberts CK, Freed B, McCarthy WJ. Low aerobic fitness and obesity are associated with lower standardized test scores in children. *J Pediatrics* 2010; Jan 25 online.
- ²⁵ The word "parent" is used to represent the entire range of adult caregivers who raise children
- ²⁶ http://www.shapeup.org/fittips/20T_with%20Circles_FINAL_WEB.pdf
http://www.shapeup.org/fittips/15_MORE_FINAL_WEB.pdf
http://www.shapeup.org/fittips/ANOTHER_15_FINAL_WEB.pdf

ACTIONS SPEAK LOUDER THAN WORDS

By Barbara J. Moore, PhD

Tip #10 calls upon parents and caregivers to model the very behaviors that they want their children to adopt. When it comes to recreational screen time this tip asks parents to:

- Limit the time spent viewing TV and other screen media to quality programs
- Watch no more than 2 hours per day (this limit applies to all recreational screen viewing combined)
- Turn off the TV when no one is actually watching

Some parents¹ recognize that changing the behavior of their children may require reducing their own heavy viewing habits or even removing the television from their own bedroom. ² U.S. Surgeon General Regina M. Benjamin points out that “children and teenagers look to their mothers and fathers and other caregivers to model healthy lifestyle habits, and adults need to teach by example.”³ As a medical doctor who spent years in family practice she knows what she is talking about when she says that parents “need to be role models by limiting their own television time and spending more time with their children.”⁴

An investigation of the science that explores the role of parents in shaping the viewing habits of children turned up surprisingly few studies. One study of TV viewing of girls aged 9 and 11 years old⁵ found that the girls were more likely to watch more than the recommended maximum of 2 hours per day if UUtheir parents :

- Were heavy viewers (i.e. watched more than 2 hours/day) themselves
- Relied on TV as a recreational activity
- Failed to limit their daughter’s access to TV

A study of 1926 Australian children ages 4 – 12 years old⁶ included a survey of parents to assess factors in the home environment that influenced television viewing. Parent reports identified the following factors that were associated with low levels of TV viewing:

- Tight rules governing TV viewing
- No TV watching during dinner
- None or only one TV in the household
- No TV in the bedroom

Using data based on measured weight and height, this study also found that overweight or obese children had higher levels of TV viewing.

An interesting study of 2670 3rd and 9th graders in Denmark, Portugal, Estonia and Norway⁷ found that after-school TV viewing AND computer game playing were increased in families where TV viewing was

part of the home culture and where children had “more autonomy” over their own behavior. This is one of the few studies of the role of parents that included use of the computer.

A study of the television viewing habits of both boys (n=520) and girls (n=525) ages 10 – 18 years old⁸ found that parents can significantly influence the number of hours the children watched each week. Parental TV viewing increased the volume of TV watching by their children and parental enforcement of rules limiting their child’s TV viewing decreased it.

Another Australian study of young adolescents (n=343) that included both mothers (n=338) and fathers (n=293)⁹ found heavy viewing habits (TV, videos and DVDs) in the children were associated with:

- More than one child present in the family
- Access to pay television
- Eating of snacks while watching TV
- Mothers who watched 2 or more hours per day

These workers concluded that interventions targeting parents, in particular, are more likely to be effective than interventions targeting only the children. Turkish researchers reached a similar conclusion and suggested that pediatricians should take a “TV history” when they examine children in order to help parents better understand the need to limit screen time by their children.¹⁰

Studies of the role of parents in very young children are particularly scant. Qualitative research conducted in the UK¹¹ suggests that parents of preschoolers are not concerned about the screen viewing habits of their children nor do they associate screen viewing in children so young with the establishment of lifelong screen viewing habits or the risk of obesity. One particularly troubling study of low-income preschoolers (n=295) looked at the influence of maternal obesity and the presence of maternal depressive symptoms on television viewing time.¹² This study showed that heavy TV viewing (3 or more hours per day) by these 3-4 year old children was more common if the mother was either obese or had depressive symptoms¹³ and was particularly common in mothers who were both obese and had symptoms of depression.

Taken together, these studies point to the crucial role that parents play in the screen viewing habits of children and present us with the challenge of finding effective ways to help parents understand how to change their own behavior and set appropriate limits for themselves and their children. This may be particularly difficult for parents of limited means, especially if other problems, such as depression, are present. It is worth keeping in mind that ALL adults serve as role models for children. And parents need support as they change their own behavior and that of their children. So here is Dr. Benjamin with the final word for all of us:

“Every one of us has an important role to play in the prevention and control of obesity. Mothers, fathers, teachers, business executives, child care professionals, clinicians, politicians, and government and community leaders – we must all commit to changes that promote the health and wellness of our families and communities.” -- Regina M. Benjamin, MD, MBA, VADM, USPHS, U.S. Surgeon General¹⁴

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- ¹ The word "parent" is used to represent the entire range of adult caregivers who raise children
- ² Jordan AB, Hersey JC, McDivitt JA, Heitzler CD. *Pediatrics* 2006; 118:e1303-e1310
[<http://www.pediatrics.org/cgi/content/full/118/5/e1303>]
- ³ Regina M. Benjamin, US Surgeon General, *The Surgeon General's Vision for a Healthy and Fit Nation*. U.S. Department of Health and Human Services. Office of the Surgeon General, January 2010
[<http://www.surgeongeneral.gov>], page 5
- ⁴ Reference 1, page 7
- ⁵ Davison KK, Francis LA, Birch LL. Links between parents' and girls' television viewing behaviors: a longitudinal examination. *J Pediatr* 2005; 147(4): 436-442.
- ⁶ van Zutphen M, Bell AC, Kremer PJ, Swinburn BA. Association between the family environment and television viewing in Australian children. *J Paediatr Child Health*. 2007 Jun;43(6):458-63.
- ⁷ Jago R, Page A, Froberg K, Sardinha LB, Klasson-Heggebø L, Andersen LB. Screen-viewing and the home TV environment: the European Youth Heart Study. *Prev Med*. 2008 Nov;47(5):525-529. Epub 2008 Aug 3.
- ⁸ Barradas DT, Fulton JE, Blanck HM, Huhman M. Parental influences on youth television viewing. *J Pediatr*. 2007 Oct;151(4):369-73, 373.e1-4. Epub 2007 Aug 24.
- ⁹ Hardy LL, Baur LA, Garnett SP, Crawford D, Campbell KJ, Shrewsbury VA, Cowell CT, Salmon J. Family and home correlates of television viewing in 12-13 year old adolescents: the Nepean Study. *Int J Behav Nutr Phys Act*. 2006 Sep 10;3:24.
- ¹⁰ Songül Yalçın S, Tugrul B, Naçar N, Tuncer M, Yurdakök K. Factors that affect television viewing time in preschool and primary schoolchildren. *Pediatr Int*. 2002 Dec;44(6):622-627.
- ¹¹ He M, Irwin JD, Sangster Bouck LM, Tucker P, Pollett GL. Screen-viewing behaviors among preschoolers parents' perceptions. *Am J Prev Med*. 2005 Aug;29(2):120-125.
- ¹² Burdette HL, Whitaker RC, Kahn RS, Harvey-Berino J. Association of maternal obesity and depressive symptoms with television-viewing time in low-income preschool children. *Arch Pediatr Adolesc Med*. 2003 Sep;157(9):894-9.
- ¹³ Center for Epidemiologic Studies Depression Scale (CES-D) scores of 16 or higher
- ¹⁴ Regina M. Benjamin, US Surgeon General, *The Surgeon General's Vision for a Healthy and Fit Nation*. U.S. Department of Health and Human Services. Office of the Surgeon General, January 2010
[<http://www.surgeongeneral.gov>]