Engaging families in the fight against the overweight epidemic among children.

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"Epidemic!" "Alarming!" "A threatening storm!" These powerful descriptors have been used by the Centers for Disease Control and Prevention (CDC) (Polhamus et al., 2004), the American Academy of Pediatrics (Committee on Nutrition, 2003; Council on Sports Medicine and Fitness and Council on School Health, 2006), and other medical professionals (Olshansky et al., 2005) to describe the increase in the number of U.S. children who are overweight. Indeed, data compiled from the National Health and Nutrition Examination Survey by the CDC (2007) show that the prevalence of overweight preschool-age children, 2 to 5 years old, increased from 5% in the period 1971-74 to 13.9% in the period 2003-04. During the same time periods, the prevalence of overweight 6- to 11-year-olds increased from 4% to 18.8% and the prevalence of overweight 12- to 19-year-olds increased from 6.1% to 17.4%. Across age groups, the prevalence of overweight children remains higher among low-income and minority groups than among children as a whole (Anderson & Butcher, 2006).

In this article, we provide an update on the overweight epidemic with early childhood educators in mind. We begin with information about the consequences of being overweight for children's health. We then examine the multiple factors that contribute to the overweight epidemic. Next, we look at the case for involving families in the fight against the overweight epidemic among children. Finally, we share three principles and associated strategies that early childhood educators can use to help families guide their children toward a healthy lifestyle.

Consequences Associated With Children Being Overweight

Cardiovascular Disease. It is estimated that a majority (61%) of overweight children from 5 to 10 years old have one or more cardiovascular risk factors (Freedman, Dietz, Srinivasan, & Berenson, 1999), such as high blood pressure, high cholesterol and hardening of the arteries (Daniels, 2006; Freedman et al., 1999). While these biological processes can take decades to progress to a stroke or heart attack, it is feared that becoming overweight during childhood may accelerate their impact and lead to an early death (Daniels, 2006).

Diabetes. Diabetes in children also is attributed to the increased incidence of children being overweight (Daniels, 2006; Ludwig & Ebbeling, 2001). Diabetes, in turn, can lead to blindness, heart disease, kidney disease, and loss of limbs (The Center for Health and Health Care in Schools, 2005).

Asthma. The risk of asthma is higher among children who are overweight (Gilliland et al., 2003). In addition, overweight children with asthma have been found to use more medicine, make more
visits to the emergency room, and spend more days wheezing than non-overweight children with asthma (Belamarich et al., 2000).

Sleep Apnea. Being overweight carries a higher risk of sleep apnea, an abnormal collapse of the airway during sleep, both in adults and children (Daniels, 2006). As a result, overweight children may exhibit daytime sleepiness, which, in turn, can lead to a decrease in physical activity and further heighten the risk for being overweight (Daniels, 2006). In addition, daytime sleepiness can negatively impact children's classroom performance. Over the long term, sleep apnea also can increase blood pressure, further raising the risk of heart disease.

Quality and Length of Life. Overweight children and their parents report significantly lower quality of life scores for physical, emotional, social, and school functioning than do families with children diagnosed as "healthy" (Schwimmer, Burwinkle, & Varni, 2003). Perhaps more alarming, because of the increased incidence of childhood overweight, young children today may live less healthy and shorter lives than their parents (Olshansky et al., 2005). Should this occur, being overweight would indeed prove to be the "threatening storm" that reverses the steady rise in life expectancy observed during previous centuries.

Factors Contributing to the Overweight Epidemic Among Children

Children become overweight when they eat too many calories and do not get enough physical activity to burn off those calories (Anderson & Butcher, 2006; U.S. Department of Health and Human Services, 2001). Although genetics and body metabolism both contribute to this imbalance, certain lifestyle factors also must be considered (Anderson & Butcher, 2006; Council on Sports Medicine and Fitness and Council on School Health, 2006).

The Food Environment. Children in the United States have an overwhelming abundance of food choices. Unfortunately, not all foods found in grocery stores are healthy, few fast food meals are healthy, and pre-packaged foods and soft drinks are often high in fat, sugar, and calories. Advertisements also can be confusing and sometimes misleading. For example, although many prepackaged foods are advertised as healthy (e.g., "reduced fat"), they may contain as many or more calories than the foods they are designed to replace (CDC, 2005a). We only need to look at the vending machines at our work sites to realize that milk juices, and healthy snacks are far less available than their less healthy counterparts. Unfortunately, vending machines and food advertising through television programming remain a fact of life in too many elementary and middle schools, perhaps, in part, because of the added income they bring to schools (Anderson & Butcher, 2006; Cawley, 2006).

Portion Sizes. Yet another factor contributing to the confusing food environment is portion size (Cawley, 2006). Food manufacturers began producing larger portion sizes in the 1970s and continued to do so at an increasing rate through the 1980s and 1990s, leading children and adults to eat more and take in more calories during meals and snacks (CDC, 2005a; Young & Nestle, 2002). It easy to understand why children have difficulty establishing healthy eating patterns.

Schedules. Skipping breakfast and eating fast food are characteristics of a national mindset in which food quantity and convenience override considerations of food quality and health. Even though many ready-to-eat healthy foods are available (e.g., fruits), families often prefer
prepackaged foods because they have longer shelf lives, do not require cleaning, and appeal to
the tastes of children. Nevertheless, results from research suggest that eating food away from
home, especially at fast food establishments, contributes to children becoming overweight (Davis
et al., 2007). Likewise, skipping breakfast is a risk factor for becoming overweight (Davis et al.,
2007).

Technological Advances and Urban Design. While technology has contributed to the quality of
our lives, it also has reduced our level of physical activity. For example, as children spend more
time watching television, they spend less time engaged in outdoor physical activities. Likewise,
many families live in communities designed more for vehicles than for walking and biking
(Fierro, 2002). Urban sprawl, combined with inadequate sidewalks and heavy traffic, prevents
children from walking or riding bikes to school and parks (Anderson & Butcher, 2006).

Play and Physical Education. Recess and time for free play have been eliminated or shortened in
many school systems (U.S. Department of Health and Human Services, 2004). In addition, rules
regarding physical education for elementary school children vary widely (National Conference
of State Legislatures, 2005). These changes have come about at least in part due to the increased
concern over preparing children to meet mandated test scores (Anderson & Butcher, 2006). In
response, such groups as the American Association for the Child's Right to Play
(www.ipausa.org) are advocating for the 60 minutes of daily physical activities often
recommended by the medical profession (Council on Sports Medicine and Fitness and Council
on School Health, 2006; Davis et al., 2007).

The Case for Engaging Families as Health Educators

Increasingly, families are being viewed as essential in the fight against the overweight epidemic
among children. Families, more than any other social institution, serve as both mediators and
monitors of children's health behaviors.

Families as Mediators. Families mediate their children's eating behaviors through their choice
and preparation of snacks and meals, as well as through their decisions of where to eat when
outside the home. Families serve as mediators of children's physical activities through the rules
they set regarding the amount of time children spend watching television and playing computer
games. Likewise, families determine the degree to which children are involved in such physical
activities as games, recreational pursuits, home chores, and yardwork.

Families as Monitors. Families also serve as monitors of their children's eating and physical
activity patterns. Although some families appear to have difficulty recognizing the potential
health risks associated with being overweight (Young-Hyman, Herman, Scott, & Schlundt, 2000),
a number of family-based intervention programs have achieved success in lowering the weight of
overweight children (see Epstein, Valoski, Wing, & McCurley, 1994; Golan & Crow, 2004;
Golan, Weizman, Apter, & Fainaru, 1998; Harvey-Berino & Rourke, 2003; Lindsay, Sussner,
Kim, & Gortmaker, 2006). Indeed, one of the most basic ways that parents can monitor and
contribute to their children's development of healthy eating patterns is by establishing a family
rule about eating dinner together (Lindsay et al., 2006).
The importance of a family-based approach to addressing the overweight epidemic becomes even clearer when we consider how families must juggle multiple schedules and unique demands, which can interfere with their ability to serve as effective monitors of their children's eating patterns and exercise activities. As a result, consideration must be given to respecting the realities of family life when planning family activities to promote healthy eating and exercise. Table I presents guides that we have followed in carrying out training related to healthy living. These guides also were the foundation for our development of the activity ideas found in Table 2 and Figure 1.

Involving Families in the Fight Against the Overweight Epidemic

Early childhood educators have the expertise to bridge the gap between factual health information and the application of family involvement practices to promote family-oriented healthy eating and exercise. Three recommendations from the CDC (2005b) for involving families in promoting a healthy approach to eating and physical activity are especially relevant to early childhood teachers' work with families.

Guide 1. Encourage Families To Serve as Role Models. A family-based approach to fighting against the factors contributing to children being overweight is in keeping with current recommendations that recognize the importance of parents as children's most important role models in adapting a healthy lifestyle (Council on Sports Medicine and Fitness and Council on School Health, 2006; Davis et al., 2007; Lindsay et al., 2006). Families that model healthy eating patterns, regularly participate in physical activities, and talk about the benefits associated with a healthy lifestyle set an example for children to follow. Younger children, in particular, are more likely to mimic the behavior of important adults like parents and guardians. Some ideas to share with families to help them model healthy living habits can be found in Table 2.

Guide 2. Encourage Families To Engage in Healthy Activities in Different Settings. Help families discover practical ways to eat healthy meals and exercise throughout the week. Family activity calendars, like the one presented in Figure 1 for families of preschool and kindergarten children, can provide the encouragement families need to work toward a healthy lifestyle within and outside the home.

Guide 3. Advocate for Quality School and Community Physical Activity Programs. Families may not always see themselves as having the knowledge or skills needed to serve as health advocates for their children. Help promote families' knowledge, confidence, and skills in the following ways:

* Note how your center or school promotes healthy eating and physical activity. Point out classroom menus and outdoor play equipment to families when conducting registration and orientations. Explain how menus and physical activities are developed. Encourage dialogue by asking families about their children's favorite foods and physical activities.

* Make health part of parent-teacher conferences. Address children's nutritional habits and physical activities that you have observed in the classroom. Compare your observations to those made by families in the home environment. Provide families with a list of community youth
groups that offer free or inexpensive age-appropriate activities, like dance and swimming. Visit with a local school nutritionist or your local cooperative extension agent to gather ideas for quick and healthy snacks for families to try at home. Invite these experts to conduct family night workshops on such topics as childhood nutrition, reading and understanding food labels, using the food pyramid, and identifying misleading food advertisements. Invite professionals from your local department of recreation to demonstrate noncompetitive games that families can play at home, as well as fun activities that promote children’s fundamental motor skills, like those presented in Figure 1.

* Encourage families to share. Inviting family members to the classroom to share their recreational hobbies is an inexpensive way to introduce children to a variety of physical activities. If children do engage in the activity being demonstrated, pair the visiting parent with an early childhood physical education teacher to ensure that developmentally appropriate practices are followed.

* Engage families in the learning process. Recruit families to work with children in growing a garden of herbs and vegetables in pots or raised beds. Families that are unable to come to the classroom can be provided with tip sheets on how to grow herbs and vegetables at home. Invite families to help children prepare healthy salads and other dishes using the herbs and vegetables they harvest.

Conclusion

There are no easy solutions to addressing the epidemic of children who are overweight. The authors hope that the information and ideas presented in this article will help early childhood educators play an active role in working with families to help children develop the eating and activity patterns needed for a healthy lifestyle.

References


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Family-based Activities. In order to make healthy living truly a family affair, strive to develop activities that involve all family members in a household and not just a child or a parent-child dyad. Otherwise, efforts to fight family overeating and inactivity may not be successful.

Time Efficiency. Because families lead busy lives, develop family involvement activities that can be incorporated into their usual routines (e.g., dinner, bedtime, housework). Families are more likely to try healthy lifestyle activities if they fit into their daily schedules.

Simplicity. The fewer materials and directions needed to complete an activity, the better. Families may not bother to attempt a healthy lifestyle activity if that activity involves numerous materials and directions.

Clarity. Check all printed materials for clarity. If doubt remains about certain words or phrases, ask a few families to read the materials and provide you with feedback. Identify volunteers to translate printed materials into the languages represented in your classroom.

Fun. No one wants to eat bland food or engage in boring or unpleasant physical activities. Use your creativity and consult with community nutritionists and recreation specialists to develop fun and creative activities that reinforce healthy eating and exercise.

Encourage Rather Than Preach. Avoid a "preaching" stance by acknowledging that we all have a right to watch television, play video games, and eat a piece of cake. Disallowing these things altogether will only serve to sabotage families' efforts. Note the importance of moderation, not total elimination, when suggesting activities that help move families toward a more active and healthy lifestyle.

Table 2
Ideas for Helping Families Become Healthy Role Models

Incorporate the following ideas into classroom newsletters, family workshops, and parent-teacher conferences to help families become healthy role models for their children.

Starting Smart: Teaching Young Children About Healthy Foods While Grocery Shopping

1. Help your child name the different types of vegetables and fruits on display in the produce section. Note that these foods are good for our bodies. When passing by the cookie and candy aisles, note that we should eat only a little of these items, and only occasionally. Help reinforce this message by "skipping" past these aisles with your child as you move on to more healthy foods.

2. Make a shopping list using pictures of healthy foods. Help your child cut out and paste the pictures onto sheets of paper. As your child decorates each page, note that the foods in the pictures are
good for our bodies because they give us energy and help our bodies stay strong and healthy. Arrange the pictures in an order that reflects the layout of your grocery store. Hand your child a few pictures of the healthy food you are shopping for before entering each aisle. Your child can use the pictures to help you look for the healthy food. This game will also help distract him from looking for less healthy foods.

3. Point out the different colors, shapes, and textures associated with such foods as bell peppers, apples, onions, grapes, tomatoes, nuts, and lettuces. Help your child pick foods with the colors, shapes, or textures she would like to try in a snack or meal.

Eating In, Eating Out: Managing the Food Environment

1. Make sure that fresh and dried fruit, juice, milk and water are readily available and easily accessible to everyone in the family. Putting juice and water in colorful pitchers will help catch your child's attention. Ask your child to draw pictures of his favorite fruits. Paste the pictures onto serving bowls to encourage him to go to those bowls for his snacks.

2. Ask your child to name her favorite healthy foods and write these on a large sheet of paper. Work with your child to write her own recipe, using some of the foods from her list. Use the recipe when preparing a family snack or meal.

3. When eating out, help your child find and make healthy choices by limiting your and his choices to only healthy items. Share the healthy choice you have made and repeat the healthy choices available to your child.

Serve as an Exercise Role Model

1. Take your child shopping for your exercise clothing and equipment. Talk about why you wear these clothes and how you use the equipment.

2. When dressing for exercise, talk to your child about why you are stretching, drinking water, and dressing in certain types of clothes. After exercising, talk to your child about how you feel.

3. Allow your child to play with your exercise equipment in a supervised and safe environment. Do not try to teach athletic skills. Instead, let her experiment with different movements.

Exceptions to the Rule

1. Practice moderation, not elimination. Allow your child to eat sweets now and then, explaining the importance of not making them a part of our daily diet. Repeating this message will help your child develop the mindset needed to follow a balanced diet.

2. At the end of holiday celebrations, help your child divide the candy he received into small portions and put them into individual sandwich bags. Give him two bags each week. One can serve as a special snack for the week. Encourage him to share the other bag
with a family member. Serve something healthy (milk, water, or an apple) to drink or eat with the candy.

Practices To Avoid

1. Avoid the mindset of "Do as I say, not as I do," as it strikes children as being unfair. When they see adults eating candy or fast food, they have a difficult time understanding why they cannot do the same. Eating healthy is a family affair. Everyone should follow the same rules.

2. Avoid forcing your child to eat foods she does not like. Instead, use a "try me" approach to encourage your child to try new foods. Visit the following United States Department of Agriculture website to learn about the variety of foods you can serve that have similar nutritional qualities: www.mypyramid.gov/pyramid/index.html

3. Avoid using food as a reward. Such rewards often consist of unhealthy sweets, and this can promote unhealthy food choices and eating patterns.

4. Avoid placing your child on a strict diet. This will only interfere with her ability to develop the knowledge, skills, and motivation needed to follow a balanced diet. If you believe your child is overweight, consult with a nutritionist or your family physician to develop a plan of action that addresses both eating and physical activity patterns of behavior.

Television and Electronic Games

1. Follow the recommendation of the Council on Sports Medicine and Fitness and the Council on School Health (2006) of limiting your child's television viewing to no more than 2 hours per day. Help remind your child of this family rule by monitoring his television viewing and using the hands of a clock to show how much time he has left to watch television before it is turned off for the day.

2. Take inventory of the number of electronic games in your home versus games and materials that promote physical activity, such as bikes, badminton sets, jump ropes, balls, and rackets and bats. Are your purchases more heavily weighted toward sedentary electronic games? If so, make a concentrated effort to balance out your purchases when selecting gifts for your child during the holidays and on her birthday.

3. Take television shows and electronic games outside. Work with your child to plan a version of her favorite television show or an electronic game that can be played outside. Follow two rules. First, the game must be safe and nonviolent. Second, it must involve movement. For example, you may plan a game called the human pinball machine. Friends and family members can take turns serving as stationary "bumper" located at arm's length from each other (the bumpers cannot move from their spot) and "balls." Each "ball" attempts to run through the pinball machine without being touched by the stationary "bumper."
## Figure 1: Themes and Ideas for an Activity Calendar

<table>
<thead>
<tr>
<th>Theme</th>
<th>Mon</th>
<th>Tue</th>
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<tbody>
<tr>
<td><strong>Practice</strong></td>
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<tr>
<td><strong>Fundamental Motor Skills</strong></td>
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<tr>
<td>Trapping, Sit on the floor</td>
<td></td>
<td>Catching. Help your child practice catching a large ball by rolling it down a slide or chute. Then, toss the ball back and forth to each other.</td>
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<tr>
<td>and roll a large ball back</td>
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<tr>
<td>and forth. Roll it to one</td>
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<tr>
<td>side, then the other side.</td>
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<td>Roll it slowly, then quickly.</td>
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<tr>
<td>**Encourage Creative</td>
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<tr>
<td>Movement**</td>
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<tr>
<td>Attach a large scarf to your</td>
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<td>Observe how bugs move on the ground.</td>
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<tr>
<td>child's pants or around her</td>
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<td>Take turns making up your own creative bug movements.</td>
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<tr>
<td>waist. Do the same for</td>
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<tr>
<td>yourself. Pretend you have</td>
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<tr>
<td>been swept up by the wind</td>
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<tr>
<td>and are floating in the sky.</td>
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<tr>
<td>What do you see below?</td>
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<tr>
<td>**Family Relaxation and</td>
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<tr>
<td>Recreation**</td>
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<tr>
<td>As a family, take a stroll</td>
<td></td>
<td>As a family, color and decorate heavy paper plates. Use them as frisbees.</td>
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<tr>
<td>around the neighborhood</td>
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<td>Aim for a tree or play toss and catch.</td>
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<tr>
<td>after dinner. Using hints,</td>
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<tr>
<td>play a game of &quot;guess what I</td>
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<td>see.&quot;</td>
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<tr>
<td><strong>Movement Games</strong></td>
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<tr>
<td>Try walking in a straight</td>
<td></td>
<td>Play &quot;Simon Says&quot; by directing your child to move in different ways. Repeat, with your preschooler giving you directions.</td>
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<tr>
<td>line while balancing a</td>
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<td>balloon or foam ball in your</td>
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<tr>
<td>hand. Repeat, this time</td>
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<tr>
<td>walking in a circle or along</td>
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<td>a winding path.</td>
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<tr>
<td><strong>Practice</strong></td>
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<tr>
<td><strong>Fundamental Motor Skills</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hopping. Hop like a rabbit</td>
<td></td>
<td>Weaving. Weave through an obstacle course of chairs or sheets hung over an outdoor line.</td>
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<tr>
<td>or grasshopper. See how long</td>
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<tr>
<td>you can hop on one foot.</td>
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<tr>
<td>**Encourage Creative</td>
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<tr>
<td>Movement**</td>
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<tr>
<td>Use ribbons attached to your</td>
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<td>Some communities have free introductory dance classes. Take your family to different classes. Which ones do family members</td>
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<tr>
<td>wrists as butterfly wings.</td>
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<tr>
<td>Fly around and visit your</td>
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<tr>
<td>favorite flowers and plants.</td>
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</table>
Family Relaxation and Recreation

Read a book with or to your child. Use the Internet or library to look up dances from different cultures.

Makeup a story together. Be sure to write it down and draw pictures so you can enjoy it again later.

Try a new dance each week.

Movement Games

Make up your own family movement game. Remember to keep it simple so everyone can play and have fun.

Divide into pairs and play a game of opposites. If your partner hops forward, you hop backward. If you partner crouches on her knees, you jump up in the air.

Theme

Fri

Practice Fundamental Motor Skills

Throwing. Practice throwing a ball through a hula hoop from different distances and angles.

Encourage Creative Movement

Put on a fast song. Everyone make up a silly dance, the sillier the better.

Family Relaxation and Recreation

As a family, bowl, play a round of miniature golf, ride bikes, dance, etc. Don't make it competitive. Just have fun.

Movement Games

As a family, form a line and play a movement game of follow the leader. Take turns being the leader.