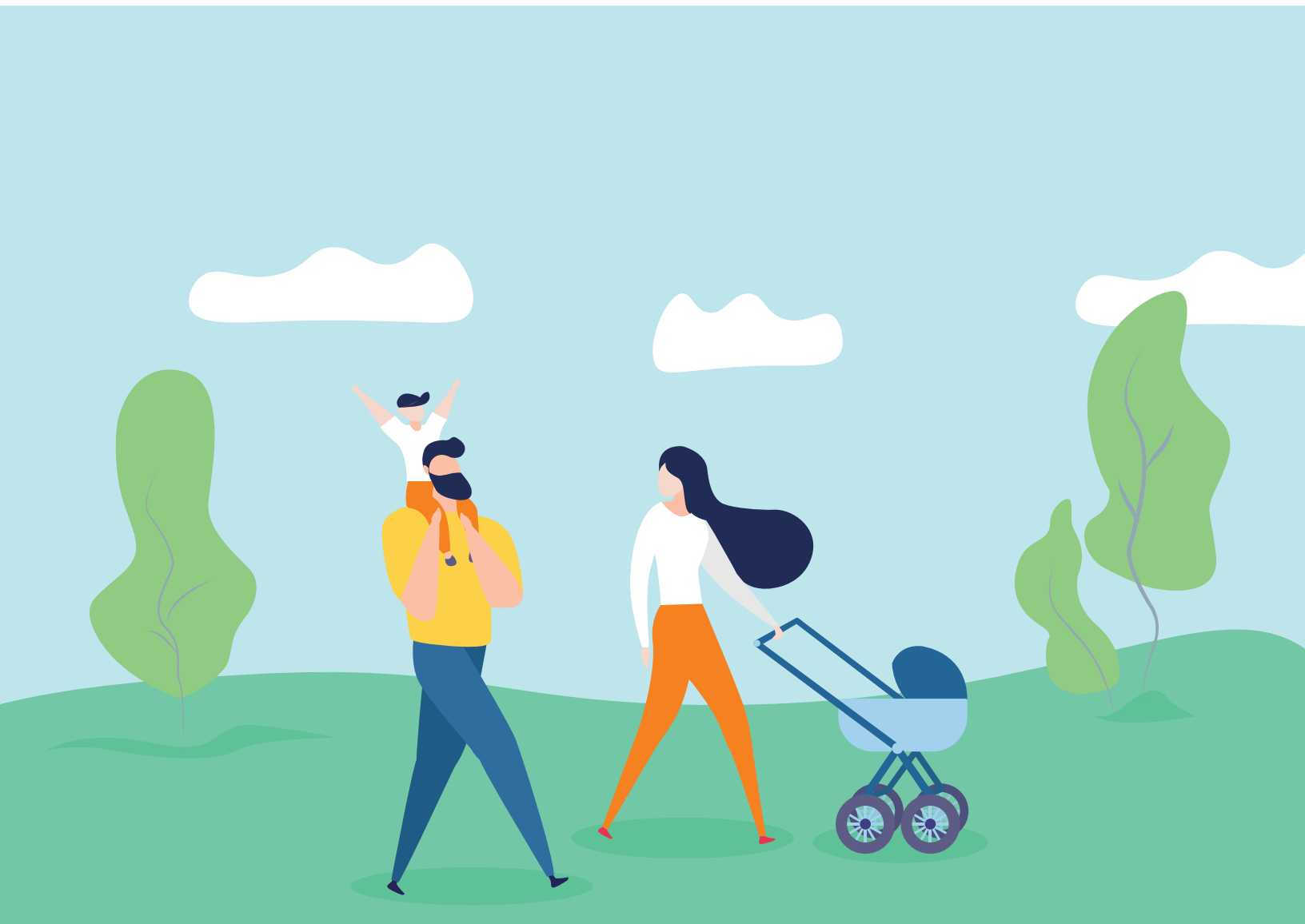


Active Start

A Statement of Physical Activity Guidelines for
Children From Birth to Age 5



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Introduction

Children are a top priority in the United States. Each has the right to lead long, healthy, and productive lives. Good health habits should be fun, and they should start early. Physical activity with friends, family members, or classmates should take place in a relaxed, safe, supportive environment. Young children should enjoy physical activity — laughing, singing, dancing, and exploring. Positive, joyful experiences will reinforce the continued desire to move and establish long-term behaviors.

Unfortunately, the reduction of physical activity levels and poor eating behaviors have caused significant health issues throughout our nation and around the world. Children who do not engage in regular physical activity are at greater risk of developing poor social well-being and chronic illnesses as adults to include heart disease, hypertension, and obesity-related conditions. If changes are not implemented, we will have the first generation of young children that will have a shorter lifespan than their parents. This document recommends specific changes for young children – birth to age 5 – with guidelines for physical activity patterns that may last a lifetime.



Over the last decade, studies have indicated that preschool children are not as active as we once assumed. The Centers for Disease Control and Prevention (CDC), American Academy of Pediatrics, American College of Sports Medicine, and SHAPE America have indicated that young children are not achieving the recommended minimum of 60 minutes per day of physical activity. Physical activity behaviors are low among preschoolers. For instance, only 50%-54% of children between the ages of 2-6 meet the 60-minute per day physical activity recommendation. Additional findings indicate:

- As children age, their physical activity levels decline.
- Boys are more active than girls.
- Due to a child's environment and access to resources they may not be as physically active.
- Children spend significant blocks of time during the day in sedentary behaviors.
- Preschool children use screen media approximately three hours per day; this number increases throughout middle-high school years to seven hours per day.
- Children with motor skill deficiencies are less physically active than those with more developed motor skills.
- Children who are overweight are less physically active than those who are not overweight for their age.

We have also learned that:

- Children are more physically active when given the necessary adult support and opportunity. Studies have indicated that the childcare environment, policies, and practices have a clear impact on a child's activity levels. When provided with large indoor and outdoor space, children will be more active. Furthermore, children who spend more time indoors tend to be less active than those who are outdoors, and children exposed to structured activities tend to be more active during unstructured activity time.



- Participation in regular physical activity is an important strategy to prevent health issues later in life. Just think how healthy children would be if they started at a very young age on a pathway of lifetime physical activity. The benefits of physical activity include:
 - Maintaining a healthy weight
 - Maintaining a healthy blood pressure
 - Lowering the risk of heart disease
 - Increasing bone density
 - Reducing the risk of diabetes
 - Increasing strength, flexibility, and cardiovascular endurance
 - Improving the quality of life and psychological well-being
 - Enhancing cognitive abilities and learning readiness
 - Improving one's self-esteem

Heart Disease Can Begin in Childhood

Despite a significant reduction in heart disease mortality rates during the last decade, cardiovascular heart disease remains the primary cause of death, disability, and disease in the United States among adults. Adults exhibiting an active lifestyle develop less coronary heart disease than inactive adults and when they do it's later in life and less severe. Physical activity can play a major role in controlling heart disease by mitigating the major risk factors of hypertension, obesity, elevated cholesterol, and diabetes. Furthermore, estimates have indicated that the number of deaths and incidences associated with sedentary lifestyles will soon equal or exceed that associated with cigarette smoking.

| So what does this have to do with young children?

Unfortunately, most parents and caregivers are unaware that heart disease can begin early in childhood. In fact, for over 40 years, the Bogalusa Heart Study, originating in 1972, has studied more than 30,000 children into adulthood, compiling the world's largest data bank of research on the progression of heart disease. The findings indicate:

- Heart disease progression can begin as early as age 2.
- Cardiovascular risk factors in children are interrelated as they are in adults.
- More than 50% of children consume high levels of sodium, fat and sugar.
- Overweight children have more than a 70% chance of becoming overweight adults.
- Most school-aged children already possess one or more CV risk factors of heart disease.
- Families with a history of heart disease have children with much higher risk factors.
- Sedentary children are more likely to become inactive adults.

The Bogalusa Heart Study (2002) provides clear evidence for adults who teach or care for children that intervention must begin in the early stages of life if we are to have a significant impact in reversing the incidence of heart disease and other health disparities.

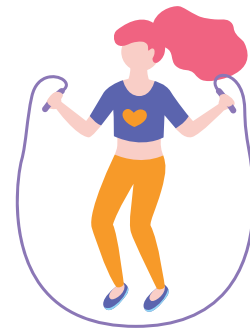
“Physical activity can play a major role in controlling heart disease by mitigating the major risk factors of hypertension, obesity, elevated cholesterol, and diabetes.”



Guiding Principles About Physical Activity for Children of All Ages

The SHAPE America Active Start document is founded on the major concept that early intervention is the key to success. The overall approach is to help young children develop the long-term attitudes, beliefs and behaviors that will help establish a set of core values for the importance of an active lifestyle. A second concept is the importance of a team approach, such as the Whole School, Whole Community, Whole Child (WSCC) model now purported by the CDC (2018). Caregivers, parents, and preschools should embrace the need for working together in a home, school and community approach to help support the health and well-being of young children. The following are principles of physical activity to reinforce the Active Start guidelines:

- Children should know why physical activity is important to their lives and well-being. It is not enough to just tell children it is good for them – show them, explain the benefits to preschoolers and become a good role model for physical activity.
- Physical activity is for everyone. All children are entitled to the benefits of physical activity. Children with disabilities, children with obesity, and those reared in low-income urban environments are often left out and not provided the same opportunities. Design activities that include all children by modifying equipment, rules, and boundaries among other adaptations as warranted.
- Physical activity should be reinforced through a child’s innate desire to move. All children begin life with an inherent need to be active. This may be reinforced in a positive, non-competitive manner. Children are motivated to move because of their need to play, interact with others, express themselves, and learn new skills.
- Design developmentally appropriate activities that are success oriented, leading to renewed confidence and continued participation. Competition should never be the focus of an activity. Concentrate more on teaching the process or technique of the skill and enjoyment of the experience — rather than the skill performance outcome. For example, when teaching young children how to throw, look at their body placement, leg/arm opposition, and throwing pattern — not where the ball is traveling.



Using This Document

For many years, physical activity was guided by a specific prescription of exercise — frequency, intensity, time, and type (FITT) — to achieve a health effect for adolescents and adults. However, children birth to age 5 should never be confused as being miniature adults. This document tries to avoid the traditional structured workout approach often used by older children in high school or adults. Considering the developmental ages highlighted in this document (i.e., birth-age 5) a more simplified model will be employed. After each guideline, an expansive explanation will be provided with duration recommendations. This will be followed by specific activities to help facilitate each guideline and provide the parent or caregiver with practical examples.

The need for a document to guide parents, caregivers, and teachers about physical activity recommendations to promote healthy and active children was critical in previous editions (2002, 2009, and now in 2020). Subsequently, SHAPE America has updated and revised this document to address the physical activity needs of children from birth to age 5. This new edition complements other current national consensus documents addressing physical activity recommendations for children birth to age 5, and it incorporates new information found in research studies. The document also offers the reader an expanded list of activities to implement with a particular age level.

To better understand the content and ease in implementing the suggested activities, the guidelines are organized according to three categories:

1. Infants
2. Toddlers
3. Preschoolers

In keeping with the concept that young children have changing developmental needs, and different terms are used to describe varying age levels in early childhood education, “infants” refers to children from birth to about 1 year (around the onset of walking); “toddlers” refers to children between ages 1 and 3; and “preschoolers” refers to children ages 3 to 5. Each of the three age groups carries five Active Start guidelines.

Thus, these guidelines are intended to answer questions regarding the kind of physical skill and activity that is considered “most commonly” appropriate for an infant, a toddler, and a preschooler while recognizing that individual children may vary in their level of development.

Finally, it is SHAPE America’s goal to give all children from birth to age 5 an active and healthy start to developing lifelong habits of daily physical activity. The 2020 recommendations in this document are intended to highlight the responsibility of adults who interact with infants, toddlers and/or preschoolers to promote movement and motor competency and establish healthy patterns of physical activity and exploration of the physical environment. In turn, those experiences can enhance children’s overall physical, cognitive, and social development.

Physical Activity Guidelines

Guidelines for Infants

Infants are born with a collection of reflexes that ensure their immediate survival, and they learn quickly to move and manage their bodies in an ever-changing world. For example, most 2-month-old infants can hold their head up and push upward while lying on their stomach. After the second month, infants typically gain one pound of weight each month resulting in tripling their birth weight by their first birthday. The infant’s height (length) also doubles during the first year. This physiological change in body size assists the child in developing several movement capabilities that allow them to greater explore and interact with their surroundings.

An appropriate physical activity environment provides unique and important opportunities to foster an infant’s developing movement skills. Exploring, repeating, and refining movements help infants gain control over their bodies and provides the foundation for developing more skillful movement and motor performance in the toddler and preschool years. Infancy is also a critical time for developing brain-neuromuscular connections. Research shows that stimulating experiences, in which the infant participates actively, affect brain development positively.



Guideline 1. Infants should interact with caregivers in daily physical activities that are dedicated to exploring movement and the environment.

The ability to move is one of the most fundamental characteristics of life. Although it might appear that activities such as sitting up, rolling over and crawling emerge naturally, those behaviors are influenced by the parent and/or caregiver and the stimulation available to the infant. Promoting physical activity and urging infants to explore the environment – through both structured and unstructured activities across the day – are critical. Even in the child’s first year of life, caregivers should ensure that the infant’s day incorporates a variety of opportunities for:

- Being on his/her tummy and back and supported and unsupported sitting.
- Being held comfortably and rocked rhythmically.
- Engaging in manipulative searching and playing with different kinds of objects and/or toys.
- Interacting physically with the caregiver to facilitate motor skills.
- “Dancing” while being held under the arms.
- Singing and clapping to consonant pleasing sounds or songs designed for this age.
- Engaging in locomotor activities through crawling, rolling, scooting, or walking.

Caregivers should strive for an environment that is rich in different kinds of sensory information, including toys in a variety of textures, colors, weights, and shapes. Obtain playthings that have bright contrasting colors like black and white or black and yellow. The environment also should engage children’s auditory senses, with music and noise-making toys.

Carrying the child around and being certain to support the newborn’s head engages the vestibular senses and helps the child make sense of his/her world. Whenever possible, caregivers should place the child on her/his stomach (on a clean or blanketed floor) and encourage him/her to creep and crawl. The American Academy of Pediatrics and American Public Health Association’s Caring for Our Children: National Health and Safety Performance Standards: Guidelines for Early Care and Education Programs, 3rd Edition recommends that caregivers place the infant’s toys in a circle formation just outside of the child’s reach. The movement that takes place as the child reaches to different points of the circle help to develop a range of different muscles that promote crawling, rolling over, and scooting along the floor.

Guideline 2. Place infants several times a day in settings that encourage and stimulate movement experiences and active play for short periods of time.

It might seem that older infants enjoy spending large amounts of their day in a baby swing or vibrating seat, but it is important to vary infants’ environments regularly during the hours that they are awake. Caregivers must place infants in settings that allow them to move and explore. An infant who is confined to a small play space or spends most of the day in an infant seat is likely to take more time to reach key physical milestones such as rolling over, sitting, crawling, and walking. Sample settings should contain mobiles for newborn infants to view, playthings that move or make noise when manipulated, and soft toys that can be tossed and peak the child’s curiosity.

Guideline 3. Infants’ physical activity should promote movement skill development.

Newborn infants display a variety of reflexes and involuntary actions that occur due to stimuli from their surroundings. Medical professions sometimes elicit the expected reflex to determine the strength of the child’s neurological functions. The child’s early movements include using the upper and lower limbs to perform a version of vertical climbing, a swimming movement, and creeping when the right stimuli are used. During the first year of life, infants grow rapidly and should be provided with opportunities to reach several important developmental milestones as part of their regular movement and motor repertoire. To become skillful movers later in life, infants need to master a wide range of fundamental movement skills such as rolling, reaching, grasping, sitting, scooting along the floor, creeping, crawling, sliding, standing, and walking. Those basic movements allow infants to interact with their environment, and they lay the foundation for movement competency and physical activity later in life.

Table 1 shows some of the key motor milestones and the average age for reaching each milestone, along with a typical age range. It is important to remember that each child follows his/her own path to reach each milestone. Any caregiver concerned about a child’s physical development should recommend consultation with the child’s pediatrician.

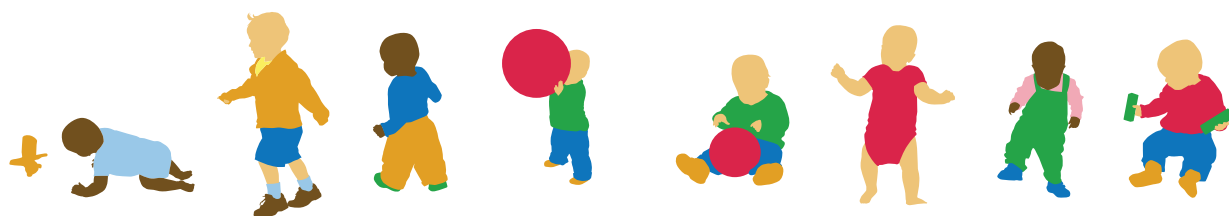


Table 1 Average Age & Age Range for Common Motor Behaviors to Appear During Infancy

Average Age (in months)	Age Range (in months)	Motor Behavior
1.6	0.7 – 4	Holds head erect and steady
2.3	1 – 5	Can prop sit (placed in position with support)
3.5	2 – 4.5	Lifts head & shoulders, full forearm in prone position
5.3	4 – 8	Sits alone momentarily
5.4	4 – 8	Unilateral reaching
6.4	4 – 10	Rolls over (back to front)
8.1	5 – 12	Crawls/pulls to stand
8.8	6 – 12	Cruises along furniture
11	9 – 16	Stands momentarily without support
11.7	9 – 16	Walks independently
12	12 – 18	Creeps Upstairs, Walks 10-12 min.

(Adapted from *Manual for the Bayley Scales of Infant and Toddler Development*, (4rd ed., 2019)

Guideline 4. Whenever possible, infants should be placed in an environment that meets or exceeds recommended safety standards for performing large-muscle activities.

Safety should loom as a major consideration when planning an infant’s physical environment. Parents and/or caregivers should supervise infants’ physical activity closely to ensure both a safe and positive movement experience and that a wide variety of age-appropriate and developmentally appropriate equipment is available that promotes movement and motor skill acquisition. Such equipment includes a variety of play objects of relatively light weight for handling and grasping that:

- Contain no pieces that the child can swallow.
- Have no sharp points or edges.
- Are non-toxic.

Infant walkers are not advisable, because of the danger of children falling down steps. For ideal movement opportunities, an infant requires a minimum of a 5-by-7 rug or blanket for playing, rolling, crawling and other large-muscle activities.

Guideline 5. Those in charge of an infant’s well-being are responsible for understanding the importance of physical activity and should promote movement skills by providing opportunities for structured and unstructured physical activity.

Informed parents and caregivers are aware of infants’ movement and motor skills development milestones and recognize their need for physical experiences. Toward that end, parents and caregivers should:

- Provide an open environment for exploring and developing body movements – such as rolling over, sitting up, crawling, creeping, and standing – that is free from furniture or objects that restrict the child’s movement.
- Provide safe objects of different textures, sizes, colors, shapes, and weights, to allow the infant to practice hand control (i.e. reaching, grasping, and releasing playthings).
- Use facial, verbal, and nonverbal expressions to motivate the infant’s physical participation.
- Take every opportunity to interact verbally with infants while they are attentive to playful activity.

SHAPE America's Recommendations for Infants

Please Note: Parents and caregivers should always supervise the following recommended structured and unstructured activities during the infant's participation.

| Sample Unstructured and Structured Physical Activities

Unstructured Physical Activity Examples:

- Lying or supported sitting within range of a hanging mobile.
- Lying on the back or tummy on an activity mat or in an activity center.
- Kicking and banging objects to music.
- Creeping around stacked pillow and playthings on the floor assists infants in developing spatial awareness.
- Moving from a seated position to hands and knees while playing.
- Crawling forward to explore the playing area usually involves only one side of the body (i.e., one hand and one leg), then the other side, and sometimes both hands and then both feet to move across a surface. Additional playtime can result in the child's more mature cross-pattern crawl (known to parents as the alligator crawl).

Structured Physical Activity Examples:

- Lying on the stomach or back, with the caregiver engaging the infant with a variety of toys (e.g., rattle, stuffed animal, and ball) about an arm's length from the child's eyes.
- Playing games such as patty cake or peek-a-boo, during which the caregiver manipulates the infant's limbs carefully.
- Providing objects within and just out of the infant's reach, particularly at and across the midline to encourage reaching and grasping.
- Assisting the child in holding rattles in his or her hands.
- Providing safe play objects of different size, texture, color, and shape.
- Encouraging the child to play with textured blocks, squeeze toys, and other safe play objects that are too large to swallow increases the child's motor dexterity.
- Assisting the infant with developmentally appropriate movement skills, such as sitting, crawling forward and backward, standing, or stepping.
- Rolling balls on a table toward the child, sitting in a supported position such as in a highchair.
- Holding the infant on an exercise ball on her/his stomach and back, while moving the ball back and forth slowly.
- Holding the infant upright so that the child's feet contact the floor.
- Encouraging crawling and creeping to develop the child's brain pathways.
- Supervising a child's first steps since by one year most children can move to a sitting position without help, pulls on objects to stand up, and may take a few steps with (or without) the aid of an adult.

| How Often:

Several times daily during hours that the infant is awake. It is recommended that parents or caregivers provide many opportunities for daily physical activity that vary in length rather than designating one large block of activity time.

| Activity Duration:

Let infants determine their own duration and intensity of activity. When infants are alert and happy, caregivers can capitalize by engaging them in facilitated motor activities. At other times, infants can self-engage in unstructured movement and motor activities in safe environments and can decide upon their own intensity of activity. Infants will let caregivers know by crying or looking away when an activity is not engaging.

| Physical Skills:

Parents, caregivers, and teachers should provide infants opportunities to perform: Rolling, reaching, grasping, squeezing soft objects, sitting, creeping, crawling, standing, and walking.

| Equipment/Playthings:

Parents, caregivers, and teachers should make the following equipment accessible to all infants: Rattles, blocks, soft tossing balls, and other safe play objects that are too large for the child to swallow.

Guidelines for Toddlers

A new world of movement possibilities occurs when children no longer need to use their hands for stability or balance to walk upright. With this increased opportunity for exploration and learning, the toddler will develop fundamental movement skills such as running, jumping, throwing, and kicking.

These skills emerge and develop best when the child is exposed to a stimulating environment that includes regular structured and unstructured movement experiences that take into account the child's physiological potential. For example, a toddler who has no access to stairs might experience a delay in stair climbing. Likewise, a child who is discouraged from bouncing and chasing balls might lag in hand/eye coordination. Toddlers must be provided with developmentally appropriate movement experiences that facilitate their motor skill development, as well as opportunities to explore their environment.



Guideline 1. Toddlers should experience at least 30 minutes of structured physical activity each day.

Success-oriented, structured physical activity (generally in the form of facilitated play) is planned and directed by the parent, caregiver or teacher and is designed to accommodate the toddler's developmental level. The primary goal of this structured learning environment is to acquire age-appropriate movement and motor skills by engaging the toddler in short sessions of moderate-to-vigorous physical activity. For example, the caregiver might use movement songs that promote different kinds of locomotor movements (e.g., growl and run like a tiger/lion, stomp like an elephant, jump like a frog/kangaroo) to increase the child's heart rate.

It is not necessary to plan for a 30-minute session of physical activity; rather, the child can accumulate shorter periods of activity (e.g., five to 10 minutes) over the day to meet this guideline.

Typical objects for structured physical activity sessions should include child-size equipment and musical instruments, as well as rhythmical tapes with active follow-along songs and basic rhythms. Toddlers also can increase their physical activity level by acting out imaginative poems or storybooks and participating in simple body-awareness and chase games. Outside, caregivers can assist in helping toddlers climb toddler-size playground structures such as 4" platforms, tunnels to climb through, and wide balance beams.

Physical activities of that nature are intended to enhance movement skill ability, promote control of the body, and increase understanding of how to move and play with an adult or small group of children. They also help develop creative and expressive abilities such as pretending to be strong, brave, or silly.

Guideline 2. Toddlers should engage in at least 60 minutes and up to several hours per day of unstructured physical activity and should not be sedentary for more than 60 minutes at a time except when sleeping.

While the growth rate is slower than that of infancy, 2-year-old toddlers grow on the average of 3 inches per year and can easily gain 4 or more pounds a year until they reach age 6. In fact, most children reach one half of their adult height by the time they are 22 to 24 months old. Toddlers need to develop new interests that help them to adapt to these physiological changes. Unstructured physical activity experiences for toddlers should provide opportunities for them to experiment and discover different physical environments, to move and play alongside peers, and to imitate adult roles and actions.

Common unstructured physical activity experiences include carrying toys while walking, squatting to pick up toys, crawling under and around playground structures, grasping large balls and inflatable toys, jumping, balancing on different body parts, riding a tricycle, digging and building in sandboxes, and being physically active with other toddlers or siblings in activities. Parents and caregivers also should supply an ample number of objects for toddlers to ride, push, pull, balance on, climb up and jump safely down from to ground level. Regular exposure to these physical activities enables young children to gain the knowledge and skills they need to explore and master the physical environment, and they help develop strength, balance, flexibility, and cardiovascular endurance.

Although television might appear to be an engaging activity for toddlers, caregivers should be cautioned about allowing young children to watch television or any type of screen entertainment for more than one hour a day. In fact, while examining the toddler's day, parents and caregivers should ensure that he/she will not be sedentary for more than 60 minutes at a time except when sleeping. Caregivers are responsible for providing short activity bursts throughout the day to interrupt sedentary periods. A movement center or station in a toddler classroom can be an engaging way to provide opportunities for unstructured physical activity.

Guideline 3. Toddlers should develop movement skills that will serve as the building blocks for future motor skillfulness and physical activity.

During the toddler years, fundamental movement and motor skills begin to emerge, and it is important to offer a variety of opportunities to practice and learn those skills. Fundamental movement skills consist of locomotor skills, in which the child moves his/her body from place to place. Toddlers should be allowed to run, gallop, jump, and – for those children who are ready – hop.

Fundamental motor skills include manipulative skills, in which the child controls objects (such as a ball), primarily with the hands or feet. Toddlers should be allowed to roll, toss, throw, catch, kick, bounce and strike. Manipulative skills are complex motor skills that are just beginning to emerge in the toddler years, so they require regular practice opportunities within a developmentally appropriate learning environment. For example, early studies that looked at throwing velocity and distance showed a typical 2 ½-year old child can throw a 9 ½-inch circumference ball (e.g., slightly larger than a tennis ball) a distance of 4 to 5 feet. This distance increases another 2 feet by the time the child is in preschool, and by age 5 the child can increase the distance to 12 or 13 feet. Environments that provide the toddler with ample different size balls and space to throw and kick can foster these manipulative skills.

Non-locomotor skills involve activities that require the child to maintain balance over the body's base of support (typically, the feet), while moving other parts of the body, such as the trunk or arms. These activities include bending, swaying, twisting, pushing, and pulling and should be practiced in both structured and unstructured settings.

All these physical activity skills are important to the young child's healthy development, because they are prerequisites for more complex skills such as those later used in dance, fitness and advanced sport activities performed during childhood and adulthood. Research also suggests that if children do not master these fundamental skills during the early childhood years, they might be less physically active as an adult. Therefore, appropriate movement, motor, and manipulative experiences during the toddler years are vital for developing these important skills.

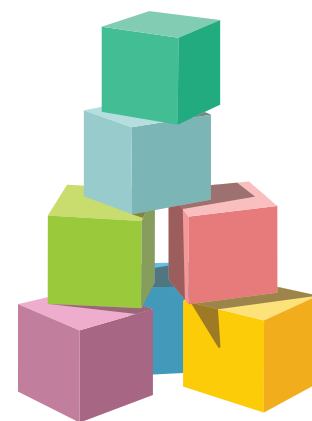


Table 2 describes the age range of typical motor and movement skills seen in toddlers.

Table 2 Descriptions of Typical Motor Skills in Toddlers		
Description of Motor Behavior by Age and Skill		
Skill	Age range of initial skill (in months)	Description of early skill
Locomotor		
Walking alone	9 – 17	Independent steps: arms raised at sides; feet wide apart, with toes out.
Running alone	16 – 20	Arms extended, with little motion; both feet off the ground for brief periods; limited range of motion.
Jumping	16 – 30	Arms stationary or “wing” at side; one foot used for take-off; knees extend first; more vertical than horizontal.
Galloping	16 – 30	Arms stationary; legs stiff, with short step length; flat-footed landing.
Manipulative		
Overhand throwing	12 – 30	Hand comes back by flexing the elbow; throw is completed by extending the elbow. No trunk or foot motion.
Kicking	15 – 30	Hinge action of leg; ball is pushed forward.
Catching	15 – 30	Arms held out rigidly; ball trapped against the chest. No movement toward ball.

Active Start: A Statement of Physical Activity Guidelines for Children From Birth to Age 5

Guideline 4. Whenever possible, toddlers should have access to ample indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.

The environment plays a significant role in toddlers’ physical activity behaviors. Not only should the room or play area have adequate space and be child-proofed, but it should also be accessible and friendly for all children, including those with disabilities. Indoor play areas should afford each toddler at least 35 square feet of activity room, and outdoor areas should afford at least 75 square feet per toddler. Caregivers should also acknowledge that the 2-year old’s brain is nearly 75 percent of its adult weight, and it is in a critical stage of development. Subsequently, toddlers should always wear helmets when engaged with riding toys such as tricycles, Big Wheels® or scooters that can descend quickly down pavements, hills, and other natural inclines.

Guideline 5. Those in charge of toddlers’ well-being must understand the importance of physical activity and should promote movement skills by providing opportunities for structured and unstructured physical activity and movement experiences.

Informed parents and caregivers are familiar with the typical toddlers’ developmental milestones and structure the learning environment appropriately for increased physical activity. They help children explore the world safely by setting appropriate boundaries within each child’s physical capabilities. They recognize the toddler’s desire to imitate adult actions, and they also encourage physical activities that foster creativity and imagination.

Because toddlers learn best through physical activity, knowledgeable parents and caregivers encourage them to repeat and expand upon previous learning. They also recognize that toddlers seldom engage in activities that do not hold their continuing interest or do not offer knowledge to be gained. Attention is given to providing the toddler with activity challenges designed specifically for their developmental ability.

Typically, toddlers are also highly motivated by their caregivers' enthusiastic participation, modeling, and engagement in physical activity. For example, early research showed that 2-year old toddlers typically walk and take steps about half the stride as that of an adult. However, they greatly enjoy moving quickly and can perform 170 steps per minute when left free to move. Overseeing a toddler's excitement in learning to move quickly should be part of a caregiver's role. In addition, toddlers are well known for showing a preference for a specific toy. Parents and caregivers can enhance toddlers' continuing interest in physical activity through planned sessions involving child-size equipment and toys that facilitate multiple movement possibilities.

SHAPE America's Recommendations for Toddlers

Please Note: Parents and caregivers should always supervise the following recommended structured and unstructured activities during the toddler's participation.

| Sample Unstructured and Structured Physical Activities

Unstructured Physical Activity Examples:

- Playing on and around outside playground structures.
- Walking independently while exploring a new play environment.
- Stretching upward on tiptoes to explore different levels for objects outside of the child's immediate reach.
- Riding on a variety of toddler-size tricycles, scooters, and riding toys.
- Digging and building in a sandbox.
- Pushing and pulling toys such as a wagon or push car.
- Jumping on and off floor patterns (e.g., footprints, stones, spots, hoops).
- Running and chasing bubbles or butterflies; finding treasures.
- Playing an informal game of chase or tag.
- Making sand or snow angels with both arms and both legs.
- Exploring low stairs, ladders, and low slides designed for toddlers.

Structured Physical Activity Examples

- Setting up obstacle courses that provide opportunities to engage in locomotor and manipulative skills.
- Arrange the furniture so that the child has ample objects to pull up from and use to maintain his or her stability if needed.
- Playing hide and seek where the caregiver counts and searches for the child, or hiding objects for the child to find.
- Providing a variety of developmentally appropriate equipment, and encouraging different manipulative skills through modeling.
- Setting up creative and motivating movement tasks for different fundamental skills (e.g., placing paper tape on the floor about a foot apart, with pictures of fish in it, to play "Can you jump over the river with the fish in it?").
- Kicking a stationary ball.
- Stepping and tossing a ball or small objects to buckets or hoops on the floor.
- Following commercial music or videos that promote movement.
- Make use of homemade or store-bought tunnels to crawl through.
- Playing games that ask the child to identify larger body parts (e.g., head, feet, hands, legs).

| How Often:

Caregivers should build in sessions of structured activity multiple times into the toddler's day, accumulating to a total of at least 30 minutes each day. Bouts of activity will vary in length depending on the toddler's age and developmental characteristics. Caregivers should provide multiple opportunities for inside and outside unstructured physical activity across the day. Toddlers should accumulate at least 60 minutes and up to several hours of unstructured physical activity across the day.

| Activity Duration:

Caregivers should encourage and motivate toddlers to accumulate short sessions of moderate-to-vigorous physical play across the day. Play should be intense enough to raise toddlers' heart and breathing rates for short periods of time. Toddlers should determine their own intensity of activity, but caregivers can capitalize on movement opportunities by engaging toddlers when they are alert and attentive. At other times, toddlers can engage in unstructured motor activities and be left in charge of their own intensity of activity.

| Physical Skills:

Parents, caregivers, and teachers should provide toddlers opportunities to perform: Patting, reaching, grasping, releasing, stretching, creeping, chasing, crawling, climbing, walking, clapping, grabbing, squeezing, pressing, arching, stamping, pushing, pulling, rising, squatting, walking, swaying, jumping, rolling, tossing, kicking.

| Equipment/Playthings:

Parents, caregivers, and teachers should make the following equipment accessible to all toddlers: Ride-on vehicles (propelled by feet with no pedals and four wheels are the most desired), lightweight balls, plastic bowling set, wagon (low and open), musical instruments such as cymbals, drums, shakers, maracas, wooden spoons and plastic cartons, tot tunnels, playground equipment with ample infant/toddler low platforms and rubberized texture flooring to decrease slips.

Guidelines for Preschoolers

These guidelines recognize that preschoolers are naturally active, gravitate toward physical activities that are enjoyable, and require time to learn and refine fundamental movement and motor skills. The guidelines recognize that the extent to which a preschooler actively participates will depend on his or her developmental status, ability level, personal interest, prior physical activity experience and normal tendency to alternate short bursts of vigorous activity with periods of rest and recovery.

Parents and caregivers should also acknowledge that a preschooler's body typically grows at a similar rate in height and weight throughout the remainder of the child's years in school. When 3- to 5-year-old children participate in sessions of physical activity involving large muscle groups resulting in energy being expended for 60 minutes or longer, the resulting increase in daily caloric expenditure (combined with a balanced nutritional intake) can help prevent excessive weight gain, a condition that has become prevalent in preschoolers, children and adolescents.



Guideline 1. Preschoolers should accumulate at least 60 minutes of structured physical activity each day.

The need to provide structured movement and motor skill activities for children ages 3 to 5 is of critical importance. Research has found that preschool children who receive high-quality movement and motor skill instruction demonstrate significant improvements in their physical development. In contrast, preschool children who are offered only free play (non-instructed) opportunities do not show the same degree of improvements in the quality of their motor skill performance.

Subsequently, the purpose of structured physical activity experiences for children ages 3 to 5 should be to reinforce and refine a variety of fundamental motor skills rather than having the children achieve a high level of movement competence in any one skill. Initially, they should direct attention at having the child explore a variety of movement skills individually, then with a partner, and, finally, in a small group. This normal sequence exists for the three to five-year-old child because participating with other preschoolers helps to stimulate the learning process. Research has shown that individuals tend to become more physically active, display more expressions of enjoyment, and remain active longer when more than one or two children are present in a session.

Simple interactive games that encourage children of both genders to use their imagination while demonstrating locomotor, non-locomotor, and manipulative skills are also an appropriate means to develop physical skills and increased fitness. Games selected for this age level should promote individual skill development, should be non-competitive or focused on having the child compete against his/her prior performance. The games should only use simple rules. Examples include having one child be the chaser while the other children flee, or one half of a group of children assume the role of being an animal while the other half assume a different role. All activities should maximize opportunities for the child to engage in movement.

By age 3 most children can hop three to four times on their preferred foot and perform balance stunts. Simple tumbling activities can help increase the child's strength and ability to effectively manipulate his/her body in space. The child also should have opportunities to practice a variety of movement skills to music involving scarfs, hand-held rhythmical instruments, beating on child-size drums or shakers, and circle games where the children follow along the caregiver's clapping movement. Offering structured physical activity experiences to preschoolers helps extend their awareness of their bodies' capabilities and promotes their ability to interact socially with parents or peers.



Guideline 2. Preschoolers should engage in at least 60 minutes and up to several hours of unstructured physical activity each day and should not be sedentary for more than 60 minutes at a time, except when sleeping.

This guideline coincides with the key activity guidelines from the U.S. Department of Health and Human Services' Physical Activity Guidelines for Americans, 2nd Edition (2018) that stress "that children ages 3 through 5 years should be physically active throughout the day to enhance growth and development." The government agency also states that "adult caregivers of preschool-aged children should encourage active play that includes a variety of activity types."

In addition to structured physical activities, preschoolers should have multiple opportunities to engage in unstructured activities, which provide them with opportunities for child-initiated movement and physical play. Unfortunately, many preschoolers are left to engage in sedentary activities – watching television, playing video or computer games, playing with dolls or board games, coloring or playing with blocks – for long periods of time. Beginning in 2002, SHAPE America began recommending that young children should engage in sedentary activities for no more than 60 minutes at one time.

Unstructured physical activity experiences in the outdoor settings should encourage children to explore large outdoor toys and equipment, including wheeled vehicles (while wearing a safety helmet) and preschool playground equipment. Opportunities for climbing, balancing, swinging, hanging, and sliding spark children's interests and increase their desire for more physical challenges. Other desirable activities include moving on different surfaces of varying heights that test the child's physical ability in a safe environment and playing in outdoor settings that provide natural obstacles to move vigorously around or through. Taking preschoolers on walks around the local environment, while varying the pace and distance, can also enhance the child's level of cardiovascular fitness.

Guideline 3. Preschoolers should develop competence in fundamental movement and motor skills that will serve as the building blocks for future more advanced physical activity.

Whereas the toddler period is a time to be exposed to a wide variety of movement and motor skills, the preschool years offer opportunities for refining and combining fundamental motor skills that will lead to more complex movement tasks. During the preschool years, caregivers should encourage children to practice fundamental motor skills in a variety of activities and settings. Instruction, practice, positive reinforcement, and feedback are critical during this time, so that children develop basic proficiency in most of the skills before entering school.

Studies on brain development and child development indicate that the window of opportunity for developing large muscle skills is open the widest during the preschool years. This implies that caregivers and parents are likely to see vast physical skill improvements when this age level is given ample opportunities to enhance their movement repertoire. Unfortunately, this also means that preschoolers who do not acquire fundamental movement and motor skills before the age of 5 might never realize their full physical potential as they age.

For example, preschoolers begin to acquire greater levels of locomotor competence in basic skills such as running and galloping. With appropriate practice experiences, locomotor skills such as jumping, hopping, sliding, leaping, and skipping also will continue to emerge and develop, enabling the child to perform the skills for greater distances or faster speeds. The skills of galloping and skipping are often rudimentary for the 3-year-old but become much more refined after basic instruction by the time the child is 5 or 6 years old.

The preschool years also are critical for developing manipulative skills such as rolling, bouncing, tossing, throwing, catching, kicking, and striking. Caregivers and parents should acquire a variety of different size balls or varying weights and textures to learn and practice these basic motor skills. Young children do not instinctively know how to perform fundamental motor skills with proficiency. Typically, they pass through a series of developmental sequences or levels that start with more crude and inefficient patterns of the skill. Appropriate instruction, practice, and feedback lead them to more proficient and skillful results even when, for example, rolling a ball at a pin target or tossing a yarn ball to a caregiver. Instruction during motor skill activities assist preschoolers in developing more advanced skills.

Research in motor development has provided us with an understanding of “typical” patterns of fundamental motor skill performance for girls and boys. But it is important to understand that patterns of motor skill development are not age-related. At any age, different children can perform all levels of performance for a skill. The ability to catch a tossed ball from a short distance, for example, includes visual tracking and timing. Some 4-year-old children who have developed an interest watching actual baseball players and pretending to be a favorite player will demonstrate greater maturation in this skill than many 5-year-old children who have not experienced this image.

The preschool years are when we begin to see differences in motor skills between girls and boys. Research on preschool motor development has found that girls and boys are similar in locomotor skill development but shows significant differences between boys and girls when performing manipulative skills – with boys outperforming girls in throwing and other manipulative skills.

And yet, no significant physical differences in preschool boys’ and girls’ bodies account for these gender differences. Instead, investigators have suggested that there may be differences in sociocultural factors. The number of available practice opportunities, the availability of role models, and the interest and instructional cues that



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“Studies on brain development and child development indicate that the window of opportunity for developing large muscle skills is open the widest during the preschool

parent delivers might account for the gender difference in skills. Hence, more studies are showing that girls can acquire these basic motor skills when appropriate instruction, practice, and adult feedback is given. Therefore, attention should be given to designing or selecting activities, which are developmentally appropriate for both boys and girls.

Table 3 describes the “typical” patterns of movement for different locomotor and manipulative skills for children ages 3 and 5. The first column defines the skill; the next two columns describe “typical” children ages 3 and 5 in terms of the patterns of movement they might demonstrate. These descriptions arise from research in motor development that identified what 60% of children of a specific age showed, relative to a specific level of performance.

It is important to note that, although these descriptions and patterns might be “typical” for children ages 3 and 5, 40% of such children will show other patterns of development that might be more advanced or delayed. That is, caregivers cannot assume that a child of a specific age will demonstrate a specific level of performance. Research studies and teacher training motor development textbooks provide a more detailed overview of the developmental sequences of each of the fundamental motor skills.

Table 3 Typical Levels of Performance and Patterns of Locomotor and Manipulative Skills for Children Ages 3 and 5		
General Descriptions of Motor Skill Patterns		
Skill	Typical Patterns of Performance For 3-Year-Olds	Typical Patterns of Performance For 5-Year-Olds
Locomotor Skills		
Running	Shifts from flat-footed running to running heel-toe and begins to use the arms in opposition to legs.	Runs with competence with heel-toe contact and arm-leg opposition, and heel to buttocks as the leg comes through.
Hopping	Stands on one foot, with free leg flexed to 90 degrees and in front of support leg. Arms are flexed at the elbows. Has difficulty leaving the ground.	Stands on one foot, with the free foot alongside the support leg. The body leans forward a little on take-off, and the hop is of a greater distance. Arms help to swing the body off the ground.
Skipping	Typically, will not skip in an alternating step/hop pattern.	Uses a deliberate step/hop pattern that looks like a skip, typically with an exaggerated step or hop. Often cannot keep up the rhythmical skip pattern over distance.
Standing Long Jump	Jumps forward from two feet to two feet, with more upward than forward motion. The body shows little forward lean on take-off. Arms swing back toward the body on take-off.	Arms swing forward and back before take-off, but out to the side in the air like a winging action. The body is still more upright on take-off and jump distance forward is still about 3 feet. As the child advances, the arms swing forward but not higher than the head. The take-off angle is less than 45 degrees. (Jumps upward about one foot)
Manipulative Skills		
Kicking	Is stationary behind the ball. The kicking foot picks up in front of the support leg and kicks the ball forward by extending the kicking leg. As the child advances, he/she is still stationary behind the ball but swings the kicking leg behind the support leg and then quickly extends the kicking leg to contact the ball and kick it forward.	Takes two to three deliberate steps into the ball. The support leg is placed close to the ball. The kicking leg swings from behind, staying close to the floor, to kick the ball. The child might step forward after the kick.

Continued...

Table 3 Typical Levels of Performance and Patterns of Locomotor and Manipulative Skills for Children Ages 3 and 5

General Descriptions of Motor Skill Patterns		
Skill	Typical Patterns of Performance For 3-Year-Olds	Typical Patterns of Performance For 5-Year-Olds
Manipulative Skills (continued)		
Catching	Presents the arms in front and tries to catch the ball by trapping it to the chest in a delayed response. As the child progresses, he/she puts arms in front of the body, and the arms encircle the ball in a hugging action as it comes close.	Starts by presenting the arms in front of the body. Scoops the ball to the chest as it arrives to trap it or grabs with the hands and brings it to the chest to secure. As the child progresses, he/she puts hands in the front of the body and reaches for the ball, securing it in both hands.
Striking	Stands stationary facing the tossed ball. “Chops” at the ball, swinging the bat from high to low in front of the face. As the child advances, he/she stands sideways and swings the bat across the front of the body, with the hip, trunk and shoulder rotating in one unit.	Stands sideways and swings at the ball with the bat. Steps toward the ball with the back foot (dominant hand, same foot). As the child advances, he/she stands sideways, with the bat starting up by the shoulder. Swings at the ball and steps with the opposite foot to dominant hand. The bat follows through across the body.
Throwing (Involves both sides of the body and both sides of the brain.)	Often moves to a sideways-standing orientation; the throwing arm “slings” the ball by swinging across the body, with the hips, trunk and shoulders moving as one unit.	Steps and throws to the target. At first, the step is with the same foot as throwing hand. As the child advances, she/he steps with one foot, throws with the opposite arm. The arm comes from the ear, with little or no wind-up before the throw.

Note: It is important to understand that the typical levels of performance identified above are not true for all children ages 3 and 5. At each age, children demonstrate a variety of levels of performance.

(Modified from the early works of Seefeldt, V., & Haubenstricker, J. (1982). Patterns, phases, or stages: An analytical model for the study of developmental movement. In J.A.S. Kelso & J. E. Clark (Eds.), *The Development of Movement Control and Coordination* (pp. 309-318). New York: John Wiley & Sons Ltd).

Guideline 4. Whenever possible, preschoolers should have indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.

Space and materials for preschoolers should provide opportunities for child-initiated and adult-supervised physical activity. The learning environment should allow for creative play areas in which children can mold, shape, change, build and reconstruct their surroundings through physical activity and play. A minimum of 75 square feet of accessible outdoor play space is required for each preschooler.

Concerning indoor space, the entire room or area should be childproofed, and – ideally – each child should have at least 5-by-7 for structured movement and activities. Of course, more space is needed for children to engage in more advanced movement and motor skills such as running, skipping, kicking, and striking. We urge childcare centers to offer a large physical activity space for children to move freely.

Guideline 5. Caregivers and parents in charge of preschoolers' health and well-being are responsible for understanding the importance of physical activity and for promoting movement skills by providing opportunities for structured and unstructured physical activity.

Knowledgeable parents and/or caregivers value physical activity and place emphasis on expanding the young child's movement-skills repertoire. It has been suggested that children who are motor-competent also are more physically active and maintain a healthy weight. A preschooler's desire to move vigorously represents the first step toward increased physical activity.

The informed parent and/or caregiver acknowledges the preschooler's developmental milestones and need for peer interaction and should initiate small-group activities that are cooperative and non-competitive in nature.

The extent to which family members, parents and/or caregivers serve as physically active role models can influence the child's motivation to move and explore her or his surroundings. Also, research suggests that parent involvement plays a significant role in successful preschool interventions. It is reasonable to assume, then, that parents and/or caregivers who appreciate the importance of movement and physical activity are better able to facilitate movement experiences for their children and promote a physically active lifestyle. They are also most likely to detect developmental delays in young children and to seek help regarding such delays.

SHAPE America's Recommendations for Preschoolers

Please Note: Parents and caregivers should always supervise the following recommended structured and unstructured activities during the preschooler's participation.

| Sample Unstructured and Structured Physical Activities

Unstructured Physical Activity Examples:

- Developing a movement and motor skill center at home, or in the classroom, and allowing children to move through this center at their own choice.
- Playing on and around outside playground structures such as safety regulated slides, swings, suspension bridges, tunnels, and playground ladders.
- Riding on a variety of pedal tricycles, bikes, scooters, and riding toys (while wearing a safety helmet).
- Engaging with various physical activity equipment, such as bats and balls, velcro catching mitts.
- Digging and building in a sandbox and water play.
- Action-oriented creative play through dress-up or creative play structures.
- Climbing on equipment and climbing up and down inclines and declines.
- Running up and rolling down small hills and other sloping terrains.
- Running to chase bubbles, rings, balls, hoops, and other moving objects.
- Going on a "treasure hunt," using a variety of locomotor skills.
- Setting up a "racetrack," racing with peers, and running at different speeds.
- Engaging in "shadow time," in which one child performs an activity and a partner follows the activity, thereby providing opportunities to lead and follow.
- Providing opportunities for the preschooler to play with one peer and/or small group of children since the early social development of the child is closely linked with the way he or she first shares playthings and interacts positively with other preschoolers (and group play helps the child learn how to deal with his or her expanding world).

Structured Physical Activity Examples

- Setting up obstacle courses that provide opportunities to engage in locomotor and manipulative skills, along with promoting muscular strength and endurance.

- Using covered balloons with lightweight cloth or nylon encourage the practice hand striking with bare hands or lightweight paddles.
- Marching in a single file to child-friendly music in the pattern of alphabet letters and geometric shapes.
- Creating a series of movement stations where individual children can self-select the level of difficulty at each station (e.g., choosing to jump over objects of different heights before moving on to the next station's challenge.) The caregiver acts as a facilitator and provides feedback.
- Engaging in developmentally appropriate fitness activities, such as creative stretching rhythms and or poems, participating in foot races, and pretending to be objects that move quickly.
- Securing a traffic cone and a tennis ball to take the place of a batting tee
- Challenging the child to imitate the different ways animals move to promote muscular strength (e.g., cheetahs running, monkeys swinging, alligators crawling, bats flying, snakes slithering, and penguins waddling).
- Providing direct instruction in a movement setting. That consists of guiding preschoolers through a range of developmentally appropriate tasks, with all children having their own equipment and receiving individualized feedback on their movement and motor performance.
- Utilizing simple games that incorporate a variety of physical challenges involving age appropriate concepts – big/little, right/left, up/down, fast/slow, in/out, light/heavy, push/pull such as “Simon Says, “Be _____.”
- Responding when the child speaks, answering questions, and providing verbal encouragement is recommended by the American Academy of Pediatrics to better facilitate ongoing parent/child interactions. The Academy also recommends letting children move between active make-believe play sessions (such as playing house) and physically helping with minor housekeeping tasks.
- Dancing and clapping to follow-along songs and moving to different tempos of music.
- Challenging the child to move to a series of different locomotor patterns (e.g., “Run 3 steps, hop once, jump-twice,” “Walk backward 4 steps, crawl 4 steps, gallop 3 times”).
- Following commercial songs that promote movement, led by the caregiver.
- Offer the child sessions that include kicking a stationary ball, a rolling ball, different size balls, and kicking a ball into a goal (example: between two chairs).
- Utilizing a 4-inch-wide beam no higher than 6 inches off the floor, or challenging the child to balance on his or her preferred foot for several seconds, or walk through varying pathways.
- Asking the child to move in different directions (e.g., forward, back, to the side, in a circle or box shape, in a zig-zag pathway).
- Providing opportunities for the child to jump in place, for height, for distance, and to jump down from low objects.
- Imitating certain animal movements to facilitate arm and leg strength (e.g. bear walks, seal crawl, and crab walks).
- Throwing a small ball or bean bag through a target (e.g. a clown's or animal's face) at a 6- to 8-foot distance.

| How Often:

SHAPE America recommends one or more sessions per of structured physical activity, along with multiple opportunities per day to engage in unstructured physical activity. Caregivers should incorporate structured activity into the preschooler's day, accumulating a total of at least 60 minutes per day. Preschoolers can engage in 30 to 45 minutes of structured, developmentally appropriate physical activity at one time. Caregivers also should provide multiple opportunities for inside and outside unstructured physical activity across the day, lasting from 60 minutes to several hours.

| Activity Duration:

During structured physical activity, caregivers should plan sessions of moderate-to-vigorous physical activity (any activity that causes increases in heart rate and breathing). Note: Increased heart rate will lead to these sessions sometimes lasting only six to 10 minutes long. At other times, preschoolers should engage in unstructured movement and motor activities and should take charge of their own intensity of activity. Caregivers should encourage preschoolers to engage in shorter bouts of moderate-to-vigorous physical activity throughout the day.

| Physical Skills:

Parents, caregivers, and teachers should provide preschoolers opportunities to perform: Marching, tip-toeing, charging, chasing, tramping, shuffling, running, climbing, sliding, strutting, waddling, rolling, balancing, collapsing, turning, twisting, jumping, hopping, darting, dashing, dodging, trudging, tumbling, swinging, tossing, galloping, striking, kicking, throwing, catching, (skipping in some cases).

| Equipment/Playthings:

Parents, caregivers, and teachers should make the following equipment accessible to all preschoolers: yarn balls and other easy grip balls, beach balls, rhythm band instruments, ribbon wands, juggling scarfs, 12-foot parachute for group play, 4-by-6 tumbling mats, lightweight hand paddles, foam flying disks, bowling sets, whiffle balls and plastic bat, Velcro catching mitts, hand scoops, tennis balls, junior size playground and soccer balls, 9-by-12 floor spots, cones for boundaries in games with simple rules. Realistic ride-ons with pedals, tricycle with spokeless wheels/wide tires and 12- to 16-inch seat height, light wheelbarrow, wagon, and adult look-alike toys (lawn mower, shopping cart, gardening objects, and doll strollers).

Active Start Summary

All children from birth to age 5 should engage in daily physical activity that promotes movement skillfulness and foundations of health-related fitness.

Guidelines for Infants

- Guideline 1.** Infants should interact with caregivers in daily physical activities that are dedicated to exploring movement and the infants' environment.
- Guideline 2.** Caregivers should place infants in settings that encourage and stimulate movement experiences and active play for short periods of time several times each day.
- Guideline 3.** Infants' physical activity should promote their development of movement skills.
- Guideline 4.** Whenever possible, caregivers should ensure an environment for infants that meets or exceeds recommended safety standards for performing large-muscle activities.
- Guideline 5.** Those responsible for infants' well-being are responsible for understanding the importance of physical activity and promoting movement skills by providing opportunities for structured and unstructured physical activity.

Guidelines for Toddlers

- Guideline 1.** Toddlers should engage in a total of at least 30 minutes of structured physical activity each day.
- Guideline 2.** Toddlers should engage in at least 60 minutes – and up to several hours – per day of unstructured physical activity and should not be sedentary for more than 60 minutes at a time, except when sleeping.
- Guideline 3.** Toddlers should develop movement skills that will serve as the building blocks for future motor skillfulness and physical activity.
- Guideline 4.** Whenever possible, caregivers should provide toddlers with indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.
- Guideline 5.** Those in charge of toddlers' well-being are responsible for understanding the importance of physical activity and promoting movement skills by providing opportunities for structured and unstructured physical activity and movement experiences.

Guidelines for Preschoolers

- Guideline 1.** Preschoolers should accumulate at least 60 minutes of structured physical activity per day.
- Guideline 2.** Preschoolers should engage in at least 60 minutes – and up to several hours – of unstructured physical activity per day and should not be sedentary for more than 60 minutes at a time, except when sleeping.
- Guideline 3.** Preschoolers should develop competence in fundamental movement and motor skills that will serve as the building blocks for more advanced physical activity.
- Guideline 4.** Whenever possible, caregivers should provide preschoolers with indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.
- Guideline 5.** Those in charge of preschoolers' health and well-being are responsible for understanding the importance of physical activity and promoting movement skills by providing opportunities for structured and unstructured physical activity.

Frequently Asked Questions

1. My infant is only a few months old. Should I wait until she is older before I encourage her to move and be physically active?

Encourage your infant to be active from the time he or she is born. Infants will signal their distress – by crying or turning away from you – if you push them beyond their capabilities. To promote your infant’s physical development, offer a small challenge just outside her ability and see how she reacts. For example, place a toy just out of her reach. Move the toy closer or farther to encourage reaching and grasping.

Put Velcro® soft rattles on your infant’s ankles or wrists to encourage her exploration of hands and feet and begin to teach her cause-and-effect relationships. Seize opportunities to encourage movement during common daily tasks, such as offering toys to grasp and keeping hands busy during diaper changes or splashing and pouring water during bath time.

2. How do I know whether my child is participating in appropriate physical activities?

Physical activity should form a daily part of your infant’s or child’s life. Involve both the body’s large and small muscle groups and ensure that the activity is enjoyable and builds success. Remember to remain sensitive to your child’s disinterest or distress; those are signs that the activity might be too stressful. Start with an easy activity and progress to more challenging activities.

3. Should I force a child to become physically active if he or she is not motivated?

Physical activity should be a part of the child’s daily life with fun and enjoyable activities. For infants, finding the “right” time for physical activity play is critical. Encourage the infant to move and explore his/her environment when he/she is active and alert. If the child is fussy or sleepy, discontinue the interactive movement activities until he or she shows interest. Most important, there should be positive interaction between the parent and/or caregiver and infant during the sessions to increase the likelihood that the infant will engage in active play for longer periods of time.

For toddlers and preschoolers, encourage increased physical activity through modeling or by example. Show the child how to move, demonstrate an interest in learning to move, and model or mimic expressions of pleasure when engaging in physical activity. Most toddlers and preschoolers crave the attention of an adult playmate while they are being physically active. Allow the child to choose and/or alter the activity in her/his own way.

Another strategy is to provide developmentally appropriate activities, objects and environments that are novel and stimulating, and have specific movements in mind for each activity. Music is a wonderful medium to use to promote physical activity, and even the youngest children will naturally move when presented with music.

Most important: Avoid forcing a child to “exercise” and never use exercise as a means of punishment.

4. Do children learn fundamental motor skills “naturally”?

Many people think that fundamental motor skills “just develop” as children age. That is not true. Acquiring motor skills requires instruction, modeling, and practical experience and encouragement. In fact, while it is common for parents to teach the alphabet and counting to their children during early childhood years, rarely do parents make the same commitment to teaching their children fundamental movement and motor skills.

Certain skills – walking and running, for example – seem to emerge in a more natural fashion than do jumping, hopping, galloping, sliding, catching, throwing, bouncing, kicking, and striking. Research suggests that children might perform a skill to a certain level of proficiency by imitating the movements of others but never reach an advanced level without instruction, practice, and encouragement. In other words, children need instruction, practice, encouragement, and an appropriate environment to learn the basic skills for a variety of adult sports and leisure activities.

Research also suggests that preschoolers who receive movement and motor skill instruction make remarkable improvements in their physical development.

5. What if my child is much more active than you recommend?

You should view the recommendation for young children to accumulate at least one hour of daily structured physical activity as a minimum requirement. Given the fact that healthy young children are naturally active and are learning to become proficient in a variety of motor skills, encouraging them to engage in physical activity for longer periods can help them become proficient in a variety of motor skills. Active children enjoy an advantage in their degree of health, motor skill development, and cognitive learning over non-active children.

6. What is the difference between ‘moderate’ and ‘vigorous’ physical activity?

“Moderate” physical activity is sustained easily for a lengthy time (e.g., brisk walking or slow jogging), whereas “vigorous” physical activity produces fatigue in a relatively short time (e.g., running for one to three minutes). Most young children likely will combine moderate and vigorous physical activity intermittently.

7. Does it matter what time of day my child performs physical activity?

Given the sporadic physical activity patterns of young children, they will probably be active throughout the day. The time of day is not critical. What is important is the accumulation of many episodes of physical activity daily.

Some children, though, work better when they can predict their day and know what is expected. In those cases, schedule regular times for physical activity. In the preschool childcare environment, teachers should plan time for structured physical activities as part of the regular classroom schedule.

8. Should the parent and/or caregiver participate in the movement activities?

The parent and/or caregiver are the primary role model for physical activity. If your children see you as physically active, they will see that as normal. When parents and/or caregivers provide instruction using a direct approach (e.g., demonstrating a physical skill), they should join in the activity. When facilitating activities that encourage children to explore and be creative, the adult should refrain from participating, so that the children do not simply imitate you.

9. How many children should the parent and/or caregiver work with at a time?

In determining group size, consider space and equipment availability, the activity that you have planned, and the children’s abilities. For preschool children ages 4 or 5, the National Association for the Education of Young Children (NAEYC) suggests one adult for every 10 children, but the most important guideline for grouping is safety.

10. What do you mean by the term “practice” in early childhood physical activity programs?

“Practice” for a young child should always be fun. Repeating a movement task and activity is inherently joyful for children. Be sure to encourage variability in the child’s opportunities to practice movement by varying the amount of force used to perform the skill, the speed of the activity, and the different directions, pathways and levels that the child can move or perform while doing the skill.

11. Are there appropriate ways to manage groups of children during physical activity sessions?

Success-oriented programs are likely to encounter fewer behavioral problems and managing children’s behaviors starts with prevention. Children who experience success are less likely to stray from the parent and/or caregiver’s directions. Providing motivating tasks, consistent supervision, and adequate space and equipment also help to keep children on task.

Caregivers should also provide each child with simple rules and suggestions for participating in physical activity. For example, establish a clear “stop” signal, such as “Freeze!” (We recommend that you pre-cue children before a “stop” signal, so they have time to respond. Example: “Aaand freeze!”) Children also respond well to musical signals, such as a drumbeat.

12. What does the non-professional need to know to provide the essential components involved in planning and directing a physical activity session?

At the very least, those responsible for young children’s well-being should know their expectations and physical activity needs at each age and developmental level. Caregivers must be able to provide a safe and developmentally appropriate environment that is stimulating and motivating to the children. It would be most valuable for those working with young children to have obtained an understanding of the developmental sequences of movement and motor skill development.

13. What kind of person is effective in facilitating young children’s physical activity experiences?

Parents know their children’s detailed histories and the ways they react to new situations, and they can provide a secure atmosphere for their children to learn movement skills. Parents and/or caregivers can structure the environment and children’s schedules to offer daily opportunities for physical activity. Both parents and professionals can show appreciation for physical activity by modeling and projecting enthusiasm. In childcare environments, it would be ideal to have an early-childhood movement and motor specialist to plan physical activity experiences for children.

14. Where can I find resources to help plan and implement early childhood activity?

In the past decade, several teacher resources have been published that assist parents and/or caregivers in offering young children appropriate physical activity experiences. Most of those resources emphasize creative movement and motor-skill challenges that serve as the foundation for children’s increased physical activity. SHAPE America’s website, www.SHAPEAmerica.org, offers a variety of resources.

15. What should form the content of a movement program for preschoolers?

Regardless of the kinds of skills planned (e.g., manipulative, gymnastic, rhythmic), it’s vital that young children first acquire fundamental movement and motor skills, including the locomotor skills of walking, running, jumping, leaping, galloping, hopping, sliding, and skipping. The program also should include:

- Non-locomotor skills such as stretching, bending, shaking, turning, rocking, swaying, swinging, and twisting.
- Object-manipulation skills such as throwing, catching, striking, and kicking.
- The movement concepts of time, space, and force, which allow children to practice and develop skills at a variety of speeds, in different directions, at different levels, along different pathways and with different degrees of muscle force.

Activities also should challenge the children’s physical fitness capabilities (e.g., strength, flexibility, cardiovascular endurance), but not to excess.

16. What happens if a child fails to master the fundamental movement and motor skills?

The Centers for Disease Control and Prevention (CDC) has developed a free app to track a child’s developmental milestones. It is called the “CDC Milestone Tracker” (see www.cdcgov/ActEarly). It features photographs, videos, and tips and activities that reflect a child’s developmental changes from birth to age 5. More importantly, it offers suggestions for when to contact a pediatrician if a parent or caregiver has a concern about a child’s physical development. The CDC reinforces that the app is not a replacement for the use of standardized screening tools that are used by the American Academy of Pediatrics, but it does contain useful information about differences in developmental levels.

Fundamental movement and motor skills form the basis for sports and lifetime leisure activities. In other words, a child who does not learn a specific skill well enough to apply it to sports and lifetime activities very well might avoid participating in that activity in the future. Many adults, for example, avoid joining their friends in softball, line dancing, ice-skating or other fun physical activities because they do not have the foundational skills.

Children first should learn fundamental movement and motor skills through structured and unstructured experiences, guided exploration, and physical play activities before trying to perform them in simple games and more complex sport skills.

Overall, a person's physical development is a process that begins at birth and continues throughout a lifetime with every new physical interest that we add to our repertoire. This document is aimed at insuring children get an active start beginning at birth through age 5 and recommends that parents contact their pediatrician, their child's physical education teacher, and other trusted resources if modifications are warranted.

17. Will my children be more intelligent if they are physically active?

Research concerning brain development indicates that young children need a substantial amount of physical activity to meet their developmental needs. Scientists now believe that, for infants and young children to achieve their maximum potential, their activities and environments must stimulate their brains.

Genetics plays an important role in determining the basic circuits in the brain, but what infants experience exerts a strong influence on the trillions of brain connections that develop after birth. For example, research has shown that intensive early education using such objects as blocks and beads and playing a variety of games exerts long-term positive effects on IQ and academic achievement. Physical activity is important for a child's physical development, but scientists now realize that it also contributes to the child's brain development.

18. Should I enroll my 3- or 4-year-old in an organized sport program?

Organized sport programs are appropriate only for children who have attained the level of fundamental skills that the sport requires. Children age 6 might or might not be able to execute these fundamental skills. Typically, preschool children have not had enough practice, experience, or instruction to perform these skills at a level high enough to succeed in organized sports. Participating in an organized sport might develop motor skills further, but not if the child's skill level is rudimentary and does not match what the sport program requires.

In addition, preschoolers do not have the cognitive and social development to benefit from such experiences. Being on a "team" is a difficult concept for a preschooler. Playing in an organized sport program too early in life can lead to frustration and loss of interest in sport. Look for specific programs for preschoolers that stress learning and practicing fundamental motor skills – or fun movement concepts – not ones that focus on sports and competition. Encourage your child, over time, to experience a variety of different sports and not just "specialize" in one sport.

19. Will restricting television watching and video game playing help promote physical activity in my child?

Unfortunately, watching television is the No. 1 leisure-time activity for many youngsters, and "screen time" – a combination of viewing television, DVDs, video/digital games, and computer time – in preschoolers is tied to decreased physical activity. There is a natural tendency for preschoolers to develop poor habits and behaviors when too much time is spent in front of a screen. This includes slumping into a chair when seated, showing an actual physical resistance when the screen is removed from his or her possession, or when a television is turned off by a parent. This overreliance on computerized toys or electronic toys deprives the child of opportunities to develop a love for physical play.

Spending hours in front of a screen also has been linked to greater body weight and body fat in children and less physical activity. Being active from the start means motivating toddlers and preschoolers to be physically active and preventing them from getting hooked on screens as the major form of entertainment. Children should be limited to no more than one hour of screen time per day.

Glossary

Balance: A component of fitness that involves maintaining the young child's equilibrium while he or she is moving or stationary.

Developmentally appropriate: Refers to the suitability of the activity, equipment or instruction for the child's performance or ability level.

Exercise: Planned, structured and repetitive physical activity that is designed to improve and maintain a child's physical fitness.

Fine motor skills: Those actions that require controlling the body's small muscles to achieve skillfulness. Examples: drawing, cutting with scissors, handwriting, playing a musical instrument.

Fundamental movement and motor skills: The foundational physical activity skills that provide the building blocks for later participating in games, dance, and sport. Examples: running, jumping, hopping, throwing, kicking, and striking.

Gross motor skills: a term the medical profession uses to discuss actions that make use of the child's large muscles to achieve skillful movement. Examples: walking, jumping, skipping, and throwing.

Health-related fitness: Those components of physical fitness that are related in a positive manner to health and well-being. They include cardiovascular fitness, body composition, flexibility, and muscular endurance and strength.

Infancy: The period from birth to 12 months of age.

Locomotor skills: Movements that transport the child from one place to another. Examples: rolling, walking, running, jumping, hopping, galloping, and skipping.

Manipulative skills: Controlling objects primarily with the hands or feet. Examples: throwing, catching, dribbling, kicking, and striking.

Moderate physical activity: Activity that is easily maintained and performed at an intensity level that increases heart and breathing rates.

Motor skill: A physical skill directed toward a specific function or goal that serves to improve the child's performance when working with balls and equipment. Serves as a foundation for more advanced games and later in sports such as kicking, tossing, throwing, and catching.

Movement task: A physical skill and/or physical gesture involving a change of body position within a structured or unstructured challenge. Commonly used in early childhood and primary age children physical activity sessions.

Motor and movement skillfulness: Occurs when the goal of the action is adaptively and efficiently achieved and with maximum likelihood of success.

Non-locomotor skills: Activities that require minimal or no movement of the body's base of support (i.e., the feet). They usually require the child to maintain balance over the base while moving other parts of the body, such as the trunk or arms. Examples: bending, swaying, and twisting.

Play: The means by which infants and young children explore their environment physically and increase their language, imagination, and creative thinking. Play can be vigorous, but it does not always involve movements that result in a significant energy expenditure.

Physical activity: Any bodily movement produced by skeletal muscles that results in energy expenditure. For infants and very young toddlers, the term "movement" is a more common way to describe young children's physical activity.

Physical fitness: A condition in which the body enjoys a state of well-being and is readily able to meet the physical challenges of everyday life. Most experts say that physical fitness results from practicing a physically active lifestyle. For young children, appropriate movement tasks and experiences can enhance overall muscular strength and endurance, bone density and developmental functioning of the cardiovascular system.

Preschooler: A child who is 3 to 5 years old.

Sedentary: A condition of physical inactivity.

Structured physical activity: An activity planned and directed by a parent, caregiver or teacher, that is designed to accommodate the infant, toddler or preschooler's developmental level.

Toddler: A child who is 12 months to 3 years old.

Unstructured physical activity: Child-initiated physical activity that occurs as the child moderately or vigorously explores his or her environment in a playful way.

Vigorous physical activity: Activity that produces fatigue in a short period of time and is performed at an intensity in which the heart rate and breathing are elevated to levels higher than those observed for moderate physical activity. Examples: running, jumping rope, and biking.

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- SHAPE America (2010). *101 Tips for Increasing Physical Activity in Early Childhood*. Brochure. 12pp. ISBN: 978-0-88314-961-4.
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Websites

American Academy of Pediatrics

<http://www.aap.org>

Provides information on attaining optimal physical, mental and social health and well-being for all infants, children, adolescents and young adults.

American Association for the Child's Right to Play

<http://www.ipausa.org>

Offers program information, web links, newsletters and projects of play day, recess and play work.

American Heart Association

www.heart.org

Includes a section on children's health, including knowledge, games and activities.

Bright Futures

<http://www.brightfutures.aap.org>

Provides information about mental health, nutrition, oral health, physical activities and training tools.

Centers for Disease Control and Prevention

<http://www.cdc.gov>

Offers a significant amount of information on health and physical activity, including handouts and brochures about physical activity for children.

Centers for Disease Control and Prevention: Physical Activity Recommendations for Children

<http://www.cdc.gov/nccdphp/dnpa/physical/everyone/recommendations/children.htm>

Offers information on how much physical activity children need and provides different types of activities, including aerobic, and muscle- and bone-strengthening activities.

Centers for Disease Control and Prevention: Physical Activity Recommendations for Children: Making Physical Activity a Part of a Child's Life

<http://www.cdc.gov/physicalactivity/everyone/getactive/children.html>

Offers parent recommendations to meet the physical activity guidelines for children.

Children, Youth and Women's Health Service

<http://www.cyh.com/HealthTopics/HealthTopicDetails.aspx?p=114&np=301&id=1977>

Provides information about how children can benefit from exercise and information specific to the needs of individual children. Example: a section on exercise for children with asthma.

Eat Smart, Play Hard

<http://teamnutrition.usda.gov/Resources/eatsmartmaterials.html>

Designed to promote healthy eating habits for children. Provides additional links that parents can use as resources.

Growth and Development

<http://www.kidshealth.org>

Offers information about children's health and development.

Center for Motor Behavior and Pediatric Disabilities

<http://www.umich.edu/~cmbds>

Provides current research and review papers on Down syndrome, cerebral palsy and spina bifida.

National Association for the Education of Young Children

<http://www.naeyc.org>

Provides information about improving the well-being of children from birth to age 8, with emphasis on education.

National Program for Playground Safety

<http://www.uni.edu/playground>

Offers information on childcare, elementary schools, residential areas and youth organizations.

Neuroscience for Kids

<http://faculty.washington.edu/chudler/neurok.html>

Offers students and teachers information about how the nervous system functions. Includes an array of activities, games and experiments to help students learn about the nervous system.

Office of Head Start

<http://www.acf.hhs.gov/programs/ohs/>

Offers program information, services, policy, legislation, regulations and research.

PE Central

<http://www.pecentral.com/>

A resource site for physical educators. Includes lesson plans for both general and adapted physical education, information about equipment and research in action.

Prenatal Development

<http://www.visembryo.com>

Provides information on human development from conception to birth.

President’s Council on Sports, Fitness, and Nutrition

<http://www.fitness.gov>

Sesame Workshop

<https://www.sesameworkshop.org/>

Provides information about health and wellness, respect and understanding, literacy and numeracy, and emotional well-being.

SHAPE America

www.shapeamerica.org

Provides information for early childhood professionals, as well as K-12 and higher ed health and physical educators.

Society for Neuroscience

<http://www.sfn.org>

Offers information about the human brain and nervous system.

Society for Research in Child Development

<http://www.srcd.org/>

Provides information on research in human development.