

Early Childhood Physical Activity Toolkit



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Introduction

It is well known that inactivity and poor nutrition can negatively impact adult health. Through reviews of various studies and analyses over the years, we now know that sedentary behavior is linked to higher risks of developing chronic disease and poor health outcomesⁱ. When adults follow public health guidelines regarding nutrition, sleep, and physical activity, they tend to live high quality lives. New research is providing more information on the benefits of regular exercise and proper nutrition for adolescents as well. However, research regarding the importance of these factors on children 5 years of age and under, and the effects on their health long-term are poorly studied. Approximately 1 in 5 children nationwide has obesity and 1 in 3 are overweight, with higher rates for the Hispanic and Black population, as well as those children in families with low socioeconomic statusⁱⁱ. The prevalence of obesity in children raises concern over the health of future generations, and possible strain on the healthcare system.

The Early Childhood Physical Activity Toolkit is resource for educators and caregivers seeking to incorporate physical activity throughout the day and integrate structured play to promote healthy habits in children aged 0-5.

Children under 5 experience rapid growth and development, so proper exercise and nutrition is essential to foster growth and learning. Anisa Kelly, MD, of Lurie Children’s Hospital has stated, “There is massive growth and development of the brain in the first couple of years of life – 90 percent of brain development is complete by age 5.”ⁱⁱⁱ Regular physical activity is essential for the physical, cognitive, and social development of children. A systematic review found that physical activity was associated with improved motor and cognitive development in children under 5^{iv}. The review also noted a positive connection between physical activity and bone health for the same age group. A recent study from 2022 has shown a connection between regular physical activity and the brain's ability to perform important mental processes, like attention, memory, and learning.^v

The **Physical Activity Training Toolkit** will assist caregivers, teachers, and teaching aides in incorporating physical activity throughout the day so children under 5 will meet the following recommended activity levels. It includes:

- Age-appropriate activities
- Schedule suggestions
- Sample activities and games
- Activity focused on locomotor, balance, and coordination

Background

This toolkit promotes healthy habits form in early childhood years and continue throughout the lifespan. The *Food, Activity, and Nutrition (FAN) Initiatives* team at Lurie Children’s Hospital has developed several educational programs including 5-4-3-2-1 Go! Junior©, *Healthy Food, Healthy You, Healthy Planet*, the *fiveSMART Curriculum for Pregnant People, Infants, and Young Children*, and the *Neighborhood Walkability and Accessibility Initiative Toolkit* to promote healthy habits for Chicago area children and their families.

In 2020, the World Health Organization released recommendations on sleep, screen time, and physical activity for children under 5 years of age^{vi}. Children in this age group should engage in a minimum of 180 minutes/3 hours of physical activity daily. Children 3-5 should follow the same guideline previously stated, except 60 minutes of that ought to be moderate to vigorous intensity.

Babies younger than 12 months need to move as much as possible to encourage proper motor development.^{vii} Since babies are more dependent on caregivers, constant supervision during activities is required for this age group.

This toolkit can be used by any early childhood educator, caregiver, school staff, or family members to help encourage physical activity for children under 5 years of age through fun and games to ensure proper physical, cognitive, and social development. The toolkit has been developed with developmental stages, attention spans, and safety of children under 5 years of age in mind.

The Early Childhood Physical Activity Toolkit can be used to:

- Incorporate physical activity throughout the day
- Promote fine motor and gross motor skills
- Enhance brain development
- Encourage social interaction
- Foster a love for physical activity at an early age
- Maximize structured play
- Optimize health and wellness
- Promote Social skills

Age-Appropriate Activities

Movement is important for all ages from birth to the golden years of life. Starting physical activity as early as possible will help ensure regular exercise remains a part of the daily routine. Although physical activity is recommended for all ages to help ensure optimal wellness, the activities should be age-appropriate with a focus on reaching physical and cognitive developmental milestones. The **Physical Activity Training Toolkit** makes recommendations for children under 5 year by year, starting with infants 0-1 year. While these recommendations are age appropriate, it's important to realize that children develop at their own pace. Incorporating early relational health into these activities involves fostering positive interactions and emotional bonds between children and their caregivers, which supports both developmental and social growth.^{viii} Educators and caregivers should apply modifications to activities as appropriate for each child, ensuring that these experiences also nurture their emotional well-being and relational skills.

0-1 years (Infants)^{ix}

Babies under 12 months of age should move around as much as possible.^x Educators and caregivers can use interactive toys like rattles and bright toys to help stimulate baby and promote reaching and grasping, kicking and stretching. Educators can also use gentle movement like holding their hands to provide tactile stimulation. Infants are the most vulnerable age group. For babies that are able to maintain a seated position, time spent in walkers, bouncers, or swings should be limited to no more than 20 minutes at a time. Educators and caregivers should always supervise infants, especially while in prone position. Pillows should not be used and toys should be clean and free from sharp edges or small parts that are easily swallowed.

Benefits of Common Infant Playing Positions	
Tummy Time (Prone position)	<ul style="list-style-type: none">• Strengthens neck, shoulders, and back musculature• Increases ability to raise head• Increases ability to press up on elbows• Start with 2-minute increments, increasing gradually• Frequency: 3 times per day• Time: 20 minutes
Lying on the back (Supine position)	<ul style="list-style-type: none">• Stretching and kicking strengthens core muscles• Prepares baby for rolling over• Reaching and grasping for toys• Encourages exploration of their surroundings

Sample Activity: Floor play

Benefit: Gross and fine motor development, prepares baby for rolling over and crawling

Area: indoors/outdoors

Materials:

- Blanket
- Colorful blocks and rattles

Example: Baby can be prone or supine. Place toys where the baby can view, but has to stretch or turn to reach.

****Safety Note: Never leave baby unattended.**

1-2 Years (Toddlers)

Toddlers 1-2 years old should engage in at least 180 minutes/3 hours of physical activity throughout the day.^{xi} Educators and caregivers can encourage play that includes standing, walking, running, rolling, skipping, hopping, and climbing. Push/pull toys encourage balance and walking. The American Academy of Child & Adolescent Psychiatry recommends limits on screen time for kids under 2. This age group should be limited to video chatting with family and viewing educational programming only in the presence of a caregiver.^{xii}

Sample Activity: Balloon Baseball

Benefit: Enhances hand/eye coordination, increases gross motor skills

Area: large indoor area or outdoor

Materials: Balloon and Pool noodle cut in half

Example: Balloon is “pitched” to the toddler holding the pool noodle as a bat. The toddler tries to hit the balloon back towards the pitcher. No need to use bases. Kids love balloons!

****Safety Note: Make sure balloons are put away afterward. If balloons pop, make sure to collect all pieces to prevent choking hazard.**

2-3 Years (Toddlers)

It is recommended for children ages 2-3 to engage in at least 180 minutes/3 hours of physical activity throughout the day. Activities don’t have to be complex or structured. To maintain recommended activity levels, children ages 2-3 can participate in standing, walking, skipping, hopping, or running. Structured group games like kickball or follow the leader can be included to help achieve the daily recommended amount. Even taking a supervised walk to explore the outdoors is a way for children in this age group to engage in physical activity. On average, screen time should not exceed two hours per day.

Sample Activity: Hopscotch

Benefit: Increases gross motor development, enhances balance and coordination, familiarization with numbers

Area: indoors/outdoors

Materials:

- Chalk to mark outdoor area
- Colored masking tape to mark indoor area
- Small bean bag

Example: After the area has been marked with chalk or tape, toddlers take turns tossing a bean bag onto a numbered square. They hop all the way down and back on one foot, skipping the square the bean bag is on.

****Safety Note: Make sure the area is large enough for activity and free from furniture and other dangerous items.**

3-4 Years (Toddlers)

For children ages 3-4, recommendations from the World Health Organization change to include moderate to vigorous activity. Children in this age group should maintain at least 180 minutes/3 hours of physical activity daily, 60 minutes of which should be moderate to vigorous activity⁶. Educators can include more group games like Simon Says or Follow the Leader. Games can be tailored to encourage activities that include jumping, hopping, running or stretching. Sedentary behavior like sitting should be limited to no more than one hour at a time, including screen time. Screen time should be limited to 2 hours per day on average.

Sample Activity: Freeze Dance

Benefit: Enhances gross motor function, increases listening skills, expression of individuality and creativity, increases balance and coordination

Area: indoors/outdoors

Materials: Music and speaker

Example: Play energetic music while children dance and sing. At a random time, stop the music. Children must “freeze” their position and hold until music comes on again.

****Safety Note: Make sure the area is large enough for activity and free from furniture and other dangerous items**

4-5 Years (preschoolers)

As children grow into preschoolers, their abilities increase. They are now able to hold basic yoga poses that require good balance and strength. Their hand-eye coordination is now appropriate to engage in basic sports skills like kicking or catching a ball, running relay races, or participating in bean bag toss. They may even like to participate in yoga, sports skills, and imaginative play like pretending to be different characters or animals. Activity recommendations for kids 4-5 are consistent with the previous recommendation, maintain 180 minutes/3 hours of physical activity daily, 60 minutes of which should be moderate to vigorous activity. Screen time should be limited to no more than 2 hours per day on average.

Sample Activity: Animal Pretend Play

Benefit: Enhances gross motor function and coordination, fosters imagination and creativity

Area: indoors/outdoors

Materials:

- Tumbling mats
- Activity die with animals (dog, cat, lion, etc.)
- Activity die with movements (run, jump, skip, etc.)

Example: Roll the dice. Children act like an animal and perform the activity, e.g. jumping frog.

****Safety Note: Make sure the area is large enough for activity and free from furniture and other dangerous items.**

Safety Reminders

Supervision Tips: Provide constant supervision for tummy time with infants and close supervision for activities involving climbing or ride-on toys for all children, especially toddlers.

Environment Safety: Ensure the play area is free from sharp objects and that surfaces are cushioned where falls are likely.

Equipment Check: Weekly inspections of toys and equipment for wear and tear are recommended.

Need a little more inspiration?

Just look to the kids! Providing basic equipment, like the list below, can be enough for kids to create their own games and ways to move.

Indoor Equipment

Soft floor mats
Bean bags
Balls (all sizes, foam, plastic)
Blocks
Ride on toys
Music and speakers

Outdoor Equipment

Jump ropes
Hula hoops
Sidewalk chalk
Cones
Water sprinklers
Bubbles
Balance beams or tape to practice balance

Here's a few more movements that are great for kids:

Walking	Running
Dancing	Biking
Jumping	Swimming
Climbing	Skipping
Catching	Throwing
Hiking	Playground activities
Group games	

Resources for Educators

Use this library of resources to keep exploring ways to promote physical activity among young children.

<p>Parent Involvement</p>	<ul style="list-style-type: none"> • Encourage parents to be active at home • Provide local walking trails and sites to visit
<p>Activity Calendars</p>	<p>Day to Day Parenting SHAPE America</p>
<p>Kid-Friendly YouTube Channels</p> <p>Note: Screen time should be limited!</p>	<ul style="list-style-type: none"> • GoNoodle • The Kilboomers • The Moververse • KIDZ BOP • Cosmic Kids • Pancake Manor • Debbie Doo Kids TV
<p>Additional Activity Ideas</p>	<p>KIDZ BOP dance along: https://youtu.be/iiiuFwh_MDM?si=A2J8fRM5L7iUsjnM</p> <p>YouTube hand eye coordination activities: https://youtu.be/kqXcovnpuBU?si=5nUrOHo37KV5-4PX</p>
<p>Free Kid-Friendly Apps</p>	<ul style="list-style-type: none"> • Super stretch yoga HD includes 12 yoga poses for pre-k to 2nd grade • GoNoodle aimed at Pre-k to 6 years old • Sworkit Kids features fun fitness and yoga exercises • Exercise for Kids at Home is family-friendly, animated, easy

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