

## Reach, Grasp, and Release

### GOAL 1 Simultaneously brings hands to midline

**Objective 1.1** Makes directed batting and/or swiping movements with each hand

**Objective 1.2** Makes nondirected movements with each arm

### IMPORTANCE OF SKILLS

Fine motor skills provide the child with opportunities to explore his or her own body and the external environment. The child begins to actively explore and to visually regard fingers and hands. The child is able, with one hand, to explore objects placed in the other hand. Simultaneously bringing hands to midline aids the development of self-awareness, eye–hand coordination, and the use of the hands to attain desired ends. This is a skill that will be used by the child to hold an object (e.g., bottle) with both hands.

The ability to make directed and nondirected movements indicates the beginning of coordination between motor and visual responses. The child who coordinates looking with hand movements begins to learn the relationship between the position of objects in space and his or her own body movements. The child discovers the relationship between objects as well. The child also develops initial cause and effect relationships and increases his or her attention span as objects are moved and transformed by the child's own activity. The child's random movements with his or her arms will lead to directed movements as the repeated, nondirected movements contact objects. Eventually, the child will learn to purposefully reach and grasp for objects, thus allowing greater independence in exploration and play. Other goals/objectives that can be targeted at the same time as Goal 1 are listed on the following page.

### TEACHING SUGGESTIONS

#### Activity-Based

##### *Playtime*

- For the child who holds head erect and bears weight on forearms in prone position (on stomach), present small toys on the floor at midline to encourage manipulation with two hands. (1)
- Encourage the child to play with hands and objects in the sidelying position. Encourage the child to mouth hands and objects if this response is age appropriate. (1, 1.1)

- During face-to-face play or during feeding or bathing, place an object in the child's hand. Activate toys or objects within the child's visual field (e.g., rattle, squeak-toy, bells). (1, 1.1, 1.2)
- Have siblings or older children play face-to-face with the child and see if the child will bat or swipe at their faces. (1, 1.1, 1.2)

### *Travel*

- Encourage nondirected movements with each arm by using your voice and easily accessible toys. When the child is on his or her back or sitting in an infant carrier or car seat, talk to and engage the child in "conversation," pause and wait for a response; activate crib gym or toy, wait for the child's response by quieting, looking, or moving, and then activate the toy again. (1.2)
- When the child is moving his or her arms and legs, synchronize your voice to the movement. Stop talking when the child stops moving; begin again when the child moves again. (1.2)

### *Bathing*

- Place the child on his or her back on a large sponge in the bathtub. Fill the tub with water so that the child's arm movements will cause splashing, but do not use so much water that the child's ears, mouth, or nose will be submerged. During bathing, hold the child in a secure sitting position. (1.1, 1.2)
- Float an object near the child and encourage batting or swiping. (1.1, 1.2)

### *Throughout daily routines*

- When offering an object to the child, be sure to present the object from the front, to encourage reaching with both hands toward midline. (1)
- Encourage the child to hold the breast or the mother's hand as the child feeds. The child's shoulders should be encircled with the mother's arms while she holds the child close and secure. This will help the hands come to the midline. (1, 1.1)
- Present your face within the child's visual field and talk to the child while changing diapers, bathing, or picking the child up. Activate a variety of simple or mechanical toys such as rattles or squeeze-toys when the child is lying on his or her back or in a supported sitting position (in crib, in infant carrier). (1.2)

## **Environmental Arrangements**

- Position the child to provide increased opportunities for hands to reach toward midline; for example, holding the child with neck and shoulders supported or sitting the child in the corner of the couch both provide easier opportunities for the child than lying flat on the back. (1)

- Arrange soft support for the child's shoulders or elbows when lying or sitting to encourage hands to move toward midline; for example, position a rolled-up towel behind the elbows when the child sits. Gradually remove support as the child begins to bring his or her hands together at midline. (1)
- In order to stimulate the child's interest, present familiar objects in novel ways (use a hand puppet to present a toy, make funny noises and exaggerated facial expressions). Alternate speed and movement pattern to maintain the child's interest. (1.1)
- Present toys or objects within the child's reach. Slowly move the toy or object in a horizontal, vertical, or circular direction, keeping it within the child's visual field. Use objects that are likely to attract the child's attention. Hang or dangle objects or toys (e.g., bells, rattle, crib gym, mobile) within the child's visual field and at the child's midline. Pay special attention to safety with hanging objects. (1.1, 1.2)
- Dangle or wave a pocket mirror near the child's hands so that movement of the arms produces an immediate visual event. Make sure that the child can see the reflective part. Touch the mirror to the child's hand, then remove it slightly. Wait for the child to bat or swipe. (1.1, 1.2)
- Use talking toys or bright-colored objects. Help the child associate movement of the arm with activation. Tie a soft yarn "bracelet" to the child's wrist and to an easily activated toy or mobile. Add noise-producing objects such as jingle bells to produce immediate auditory as well as visual events. Once the child begins to associate movement of the arm with activation, remove the yarn and encourage the child to activate the toy directly. (1.2)
- When the child grasps an adult's finger while feeding, have the adult hold the child's fingers for a moment then release. Repeat as often as the child initiates the behavior. (1.2)

### **Instructional Sequences**

- Place an adult's index fingers in the child's palms and allow the child to grasp the fingers. Slowly move the child's hands to midline while securing the child's grasp on the adult's fingers. (1)
- Pair presentation of a toy or object with auditory or verbal cues by tapping or shaking the object, making exaggerated sounds, or altering the pitch and volume of your voice. (1.1)
- Provide tactile cues by gently touching or tickling the child's arms with the toy, kissing, or making "raspberries" (i.e., putting mouth against skin and blowing) on the child's hands. (1.1, 1.2)
- Physically assist the child in different ways to bring his or her hands to midline and encourage swiping movements by touching the child's arms or shoulders and by stroking and touching the child's arms or hands. (1, 1.1, 1.2)

Combining or pairing different levels of instructions may be helpful when beginning to teach a new and difficult skill. Fade to less intrusive instructions as soon as possible to encourage a more independent performance.

## TEACHING CONSIDERATIONS

1. The child should be in a quiet and alert state.
2. Position the child so that his or her head, trunk, and shoulders are stable and symmetrical.
3. Approach the child straight on and to the middle of the body.
4. Free the environment of objects or events that compete with the toy or object presented to the child.
5. Objects should be used that provide cues to which the child with a sensory impairment can respond; for example, use noise-producing toys for a child with a visual impairment.
6. Allow adequate time for the child to respond.
7. Activation of objects should be continued or facilitated to reinforce the child's interest (e.g., help child shake rattle).
8. Consider safety with all objects that the child handles.

## GOAL 2 Brings two objects together at or near midline

### Objective 2.1 Transfers object from one hand to the other

- PS2.1a The child brings hands together and touches an object with one hand while holding an object in the other hand.

### Objective 2.2 Holds an object in each hand

- PS2.2a The child holds an object in one hand.

### Objective 2.3 Reaches toward and touches object with each hand

*Note:* PS = Programming Step

## IMPORTANCE OF SKILLS

The ability to bring objects together at the midline, to transfer objects from one hand to the other, and to hold an object in each hand provides new opportunities to combine movements using actions and objects. The transfer of objects from one hand to the other indicates that the child has increased wrist

mobility. This facilitates motor activities such as banging objects in an up-and-down vertical pattern and shaking objects from side to side. Holding an object in each hand indicates that the child's grasp is now voluntary. The child begins to perform actions on objects held in each hand.

By directing a reach toward an object and touching it, the child accomplishes a means to an end. The child's actions are purposeful. This skill also fosters eye-hand coordination and visual control as the child uses the eyes to assist directing the hand toward the object. Being able to reach toward and touch an object offers opportunities to explore and learn about objects in the environment.

These skills are important because the hands begin to work independently. The child begins to explore and develop new schemes for acting on objects in the environment, allowing the child to learn more about objects and their relationship to each other and to him- or herself. The child also gains sensory input through visual, auditory, and tactile means. Other goals/objectives that can be targeted at the same time as Goal 2 are listed on the following page.

## TEACHING SUGGESTIONS

### Activity-Based

#### *Playtime*

- Take advantage of opportunities at play to help the child put hands and objects together; for example, play social games such as Pat-a-cake or sing nursery songs such as "Clap, Clap, Clap Your Hands" while the child is holding an object in each hand. Use "rhythm band" instruments that produce exciting auditory and tactile experiences when banged together at midline (e.g., cymbals, sticks, blocks, tambourines). (2, 2.1)
- Encourage the child to transfer objects from one hand to another; for example, during playtime when the child is holding light objects with both hands (e.g., diaper, stuffed animal, foam block), present another object to encourage letting go with one hand to facilitate the transfer of the object to the other hand. (2.1)

#### *Bathing*

- During bath time look for ways to help the child bring objects to midline; for example, encourage the child to put the washcloth and soap together or bring bath toys (e.g., toy person and boat) together. (2, 2.1)
- Provide sponges and toys that float for the child to reach for and touch. (2.3)

#### *Throughout daily routines*

- Throughout daily routines and activities, provide the child with an object to hold in each hand. Name the objects for the child. Give the child a spoon during feeding or a washcloth during bathing. Increase to two objects to

encourage an object to be held in each hand. Engage the child in “giving” games in which the adult gives the child objects such as blocks or pop beads to hold in each hand. (2, 2.1, 2.2, 2.3)

- Use opportunities at mealtimes and playtimes to have child hold an object in each hand; for example, present food that the child can hold and feed him- or herself such as crackers or slices of fresh fruit; engage the child in Peek-a-boo in which the adult’s or child’s eyes are covered by hands or cloth. Play finger games such as placing the adult’s fingers in the palms of both of the child’s hands and letting the child grasp the fingers. When the child grasps one finger of your hand, place another finger in the other hand. (2.1, 2.2)
- During daily routines, encourage the child to reach toward and touch objects with each hand in a variety of ways; for example, when dressing, present the child with his or her own socks and a shoe. Encourage the child to stroke the fur of a household pet or a stuffed animal. Activate a mobile within the child’s reach when the child is lying on his or her back or is in a supported sitting position (e.g., in crib, in infant carrier). (2.2, 2.3)
- At changing time, put a small powder or lotion bottle in one or both of the child’s hands. Encourage the child to bring hands together. (2, 2.1)

### **Environmental Arrangements**

- Have the child hold a container at midline and drop small objects inside or remove small objects. (2)
- Introduce objects to the child’s hands when arms are positioned close to the body. Vary the size and shape of objects. Objects with different properties of texture, sound, or color will offer interest and variety. (2, 2.1, 2.2, 2.3)
- Provide the child with toys or objects that have surfaces that both hands can touch or hold at the same time (e.g., stacking ring, rattle, diaper, big spoon). Use objects of different textures and firmness for the child to hold, such as a sponge and a plastic rattle. (2, 2.1, 2.2, 2.3)
- Present objects to the left of the child’s midline for grasping with the left hand and to the right of the child’s midline for grasping with the right hand. Put a container of objects such as small balls or beanbags to one side of the child as he or she is sitting. Give the child objects to put away in the container, offering objects on the child’s side that is not next to the container. (2, 2.1, 2.2)
- Find two objects to hold, one in each hand, similar to the objects already held by the child. Imitate the child’s actions with the objects, then introduce novel actions; for example, activate the toys by banging them together at midline to gain the child’s attention. (2, 2.2)
- Hold an object in each hand and then hold them out to the child. As the child touches the objects, bring them together to activate them. Give the objects to the child. (2.2, 2.3)

- Use objects that produce visual as well as auditory effects when brought to the midline, such as clear rattles with objects inside. Give the child objects that make noise when they are brought together (e.g., blocks, bells). (2.2, 2.3)
- When the child is holding an object in one hand (e.g., spoon during meal-time), present another object (e.g., cracker) at midline for the child to grasp and hold. (2.1, 2.2)
- When the child is holding one object in each hand, clap your hands and say, “Bang, bang, bang!” or “Clap, clap, clap!” Encourage the child to imitate. If grasping and holding onto objects is difficult for the child, then use toys that can be safely attached to the child’s hands and allow the child to practice bringing them together. (2.2)
- Use materials such as clay or playdough that the child can initially pull apart and then stick back together. (2.2)
- Initially present objects to the child at chest height at the midline where reaching is easiest. (2.3)
- Blow large bubbles with nontoxic bubble solution, catch the bubble with the bubble wand, and touch it to the child’s hand. Pair the activity with the verbal exclamation, “Pop!” (2.3)

### Instructional Sequences

- To help the child bring objects to the midline, model the behavior and/or physically assist the child in several ways; for example, model banging two blocks together and say, “Bang, bang, bang!” When the child is holding one object in each hand, face the child and grasp a part of each object without touching the child’s hands. Guide the two objects to midline. Pair the action with a verbal statement (e.g., “Bang, bang, bang!” “Boom, boom, boom!”). (2)
- Use verbal, tactile, and physical cues to encourage the transfer of objects from one hand to another such as exaggerated vocal and gestural cues to engage the child’s interest. Touch, tickle, or nudge the occupied hand with a second object. Gently guide the occupied hand toward the empty hand. Fade assistance as the child becomes more proficient. (2.1)
- Encourage the child to hold an object in each hand by modeling behavior, using verbal cues, or providing physical assistance if needed; for example, model reaching, or verbally instruct the child to “Get the soft ball.” (2.2)
- When the child is holding one object in each hand, tap or support the child’s arms behind the elbow; hold the child’s shoulders in a stable, slightly forward position and guide the hands to midline from the shoulder. (2.1)
- Initially present objects that the child can most successfully hold (e.g., rattles, squeeze-toys). Slowly introduce slightly more difficult objects. Hold your hand over the child’s hand when the child is grasping the object to provide additional sensory input. Gradually fade assistance as the child becomes more proficient. (2.2)

- Use a variety of ways to help the child reach and touch objects with each hand; for example, model reaching toward and touching an object with each hand; use verbal cues to direct the child to reach for and touch an object or make exaggerated sounds, altering voice pitch and volume when presenting a toy or object. (2.3)
- Provide tactile cues by touching or tickling the child with a toy or object; physically assist the child's reaching by holding his or her shoulders or elbow in a stable, slightly forward position and guiding the arm to the object. Gradually fade assistance as the child becomes more proficient. (2.3)

### TEACHING CONSIDERATIONS

1. The child should be in a quiet or active alert state.
2. Position the child so that the child's head, trunk, and shoulders are stable and symmetrical.
3. Initially, the grasping behavior will be most successful when the child's hands are positioned with the palms downward.
4. Place objects within reach of the child to prevent frustration.
5. Use objects that can be easily held (e.g., squeeze-toys, rattles) and cannot be swallowed.
6. The environment should be free of objects or events that compete with the toy or object presented to the child.
7. Objects should be used that provide cues to which the child with a sensory impairment can respond; for example, use noise-producing toys for a child with a visual impairment.
8. Allow adequate time for the child to respond.
9. Activation or exploration of objects should be continued or facilitated to reinforce the child's interest.
10. Consider safety with objects that the child handles.

**GOAL 3** Grasps hand-size object with either hand using ends of thumb, index, and second fingers

- Objective 3.1** Grasps hand-size object with either hand using the palm, with object placed toward the thumb and index finger
- Objective 3.2** Grasps cylindrical object with either hand by closing fingers around it
- Objective 3.3** Grasps hand-size object with either hand using whole hand

- PS3.3a The child grasps hand-size object with either hand, holding the object on the little finger side of hand and against the palm. The thumb is not holding the object (ulnar palmar grasp).
- PS3.3b The child briefly holds an object placed in either hand.

## IMPORTANCE OF SKILLS

Grasping objects allows the hand to explore, manipulate, and control objects of different textures, shapes, sizes, and weights. Using the ends of the thumb and second fingers to grasp demonstrates control and refinement of the grasp skill. Using the palm to grasp with the object held toward the thumb and index finger is a step toward refinement of the grasping response. This refined grasp allows the child greater control for holding onto and manipulating objects. Grasping a hand-size object with the whole hand marks the beginning of the grasp progression in which repetition and modification produce more sophisticated responses. This skill is also the first voluntary grasp and aids in development.

With these skills, the child becomes aware that the object is separate from the self and can be transformed by the child's actions. As the child grasps and manipulates objects, the child learns about properties of objects. The child begins to discriminate between objects and selects different movements to use on various objects. Manual exploration of people and objects stimulates learning and provides the child with greater dexterity for holding and manipulating objects. This is an important skill for later activities such as holding a crayon to color and holding a spoon to eat. These skills also help the child become more discriminating in perception and motor skills and allows the child more interesting exploration and play. Other goals/objectives that can be targeted at the same time as Goal 3 are listed on the following page.

## TEACHING SUGGESTIONS

### Activity-Based

#### *Playtime*

- Allow the child to explore objects that pull apart (e.g., pop beads, Legos, Mr. Potato Head). (3)
- Activate interesting or mechanical toys (e.g., rattle, wind-up toy) in which the child indicates interest. Wait for the child's response. (3, 3.1)
- Set hand-size objects or toys (e.g., blocks, beads, balls) in front of the child whenever the child indicates an interest. Encourage the child to grasp them. (3, 3.1, 3.2, 3.3)
- When passing a toy to the child, offer the part that is easiest to grasp (e.g., leg of teddy bear, wide end of rattle). (3.1, 3.2, 3.3)

- Encourage the child to take hand-size objects out of a container (e.g., blocks in a basket, cars in a can). (3.1, 3.2, 3.3)

### *Feeding*

- Encourage the child to finger feed self hand-size bits of food (e.g., crackers, cheese sticks). Present cylindrical pieces of finger food at snack times and mealtimes. (3, 3.1, 3.2)
- Encourage the child to hold his or her own bottle or cup. Allow the child to grasp spoon or bottle when he or she is being fed. (3)

### *Throughout daily routines*

- During daily routines, provide the child with cylindrical objects to grasp (e.g., hairbrush with handle when dressing, spoon when feeding, tube of ointment when changing diapers). (3, 3.1)
- Encourage the child to grasp in a variety of ways. Help the child pull up a droopy diaper or pair of pants by grabbing material at waist. When the child is lying on his or her back, encourage him or her to grasp knees or feet. Hold the child's hand briefly when he or she grasps your fingers. (3, 3.1, 3.2, 3.3)

## **Environmental Arrangements**

- Provide the child with toys or objects that activate or produce noise when grasped (e.g., rattle, squeeze-toy). (3)
- Offer the child a hand-size object at chest level toward the center of his or her body. (3)
- Provide objects that pull apart with pieces partially pulled out (e.g., pop beads, Legos). (3.1)
- Put a bead or block on the end of the string of pull-toys (e.g., See-N-Say, Farmer Says) to facilitate pulling. (3, 3.1)
- Use a variety of hand-size objects or toys (e.g., small cars, balls, blocks). Find a preferred grasping object and change gradually to less preferred objects. Pay special attention to safety with small objects. (3, 3.1, 3.2, 3.3)
- Set cylindrical objects or toys in front of the child (e.g., rattle with handle, stick). Encourage child to grasp the toy or object by closing his or her fingers around it. (3.2)
- Hold a toy to the child's mouth and allow oral exploration. Let the object fall to the child's chin and wait for his or her response. (3.3)
- Lower crib gym so that the child can grasp toys while lying on his or her back and bring them to the mouth. (3.3)

## Instructional Sequences

- When presenting an object to the child, continue to hold the object until the child approximates grasping the object with the ends of his or her thumb, index, and second fingers. Assist the child's fingers to close around an object by tapping the child's palm. (Be sure that the wrist is in a neutral position, neither extended nor flexed.) (3)
- Model picking up blocks one at a time. Place a block toward the child's thumb and index finger. Have the child grasp the block with the palm. Model holding a cylindrical block with your fingers. (3, 3.1, 3.2, 3.3)
- Place an object in the child's grasp. Allow the child to explore it, then model grasping the object to remove it. Reintroduce the object in a slightly different position. This action should result in the child's involuntary orienting, groping, and, finally, grasping. (3.3)
- Verbally direct the child to pick up objects. Hold an object to the right of the child and say, "Here you go." Touch the child's hand with the object. (3.3)
- Place an object in the child's hand in a position that gives him or her the sensation of the response. Close the child's hand around the object. Prompt the child's fingers to close around an object by tapping or stroking the child's palm or hand with the object or your hand. (3.3)

## TEACHING CONSIDERATIONS

1. The environment should be free of objects or events that compete with the toy or object presented to the child.
2. Objects should be used that provide cues to which the child with a sensory impairment can respond; for example, use noise-producing toys for a child with a visual impairment.
3. Use objects that can be easily grasped (e.g., small squeeze-toys, rattles).
4. Allow adequate time for the child to respond.
5. Activation or exploration of objects should be continued or facilitated to reinforce the child's interest.
6. Place objects directly in front of the child so that he or she can grasp objects with either hand.
7. Consider safety with all objects that the child handles.



Paul H. Brookes Publishing Co.  
Post Office Box 10624  
Baltimore, Maryland 21285-0624

[www.brookespublishing.com](http://www.brookespublishing.com)

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"AEPS" is a trademark of Paul H. Brookes Publishing Co., Inc.

Typeset by Barton Matheson Willse & Worthington, Baltimore, Maryland.  
Manufactured in the United States of America by  
Versa Press in East Peoria, Illinois.

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Second printing, December 2004.

#### Library of Congress Cataloging-in-Publication Data

Assessment, evaluation, and programming system for infants and children  
edited by Diane Bricker . . . (et al.)—2nd ed.

p. cm.

Includes bibliographical references and index.

ISBN 1-55766-562-1 (v. 1) — ISBN 1-55766-563-X (v. 2) — ISBN 1-55766-564-8 (v. 3) —

ISBN 1-55766-565-6 (v. 4)

1. Assessment, Evaluation, and Programming System. 2. Child development—Testing.  
3. Child development deviations—Diagnosis.

RJ51.D48 A87 2002

618.92'0075—dc21

2002071124

British Library Cataloguing in Publication data are available from the British Library.