

Script for Slide Presentation

The Development of Infants and Toddlers

<u>Slide #</u>	<u>Description</u>
1)	<p>Rachel On Back</p> <p>The trainer should ask the group, "How old is this child? The group's answers may range from "newborn" to "seven months." The trainer should tell the group that Rachel is two weeks old, and ask the group to describe characteristics that indicate she is a newborn.</p> <ul style="list-style-type: none">* Her overall appearance is skinny, with "scrawny" arms and legs and a large, rounded belly. The skinny extremities result from limited muscle development and is the same even in a heavier newborn.* Rachel is still "bent" from her position in the womb; her feet and legs are bowed and turned in; knees are bent up toward the chest, her arms are close to her body. <p>Note the size of Rachel's head in proportion to her body. An infant's head is about $\frac{1}{4}$ of the whole body. In adults, the proportion is approximately $\frac{1}{7}$. The proportionately large head size of the newborn results from rapid fetal brain growth.</p> <p>This illustrates an important developmental concept: development progresses from the head down (cephalocaudal, which literally means from "head to tail") and from the inside out (proxidistmal). The brain and central nervous system are the first organs to develop after conception. The upper body develops before the legs and feet, and, the internal organs develop before the extremities.</p> <p>Rachel's eyes do not focus well at all distances. This gives her the "glassy-eyed, vacant stare." Newborns can focus at distances of 8-10 inches at birth, but their eyes aren't as well focused at other distances until 4-5 weeks.</p> <p>Most of the infant's movements for the first weeks are reflexive. Large muscle activity is often jerky, random, and very uncoordinated.</p> <p>The newborn infant displays many reflexes, many of which disappear within a few months. This slide illustrates the ATNR or</p>

asymmetric tonic neck reflex, sometimes called the "fencing posture." When the infant's head turns to one side, the arm on that side of the body extends, and the arm on the opposite side bends up toward the ear. This is normal for a newborn. Persistence of this reflex beyond a few months may indicate developmental problems, such as cerebral palsy.

Other reflexes are the grasping reflex (the child will reflexively close his hand around an object placed in his palm;) the sucking reflex (the child will turn his head toward an object brushing his cheek and will make sucking movements with his mouth;) a startle reflex (which will be demonstrated in another slide shortly;) and a Babinski reflex, (an extension of the foot when the bottom is stroked.)

A newborn's general health is rated in the delivery room using the Apgar rating scale. The Apgar is determined twice; once within a minute of birth, and again at 3-5 minutes. Up to two points are given for each of five characteristics; heart rate, respiration, muscle tone, color, and reflexes. An Apgar rating of 7-10 points indicates a healthy infant; an Apgar under 5 often indicates that the child is in distress. A low Apgar at the 5-minute reading may indicate the infant is ill, injured, or otherwise at risk. Infants with developmental disabilities often have low Apgar ratings at birth.

2) Rachel Flailing

Healthy newborns exhibit a lot of gross motor activity with active movement of arms and legs. Most of this movement is reflexive, and therefore, rough, random, unrefined, and uncoordinated.

Some developmental theorists thought that infants were born as "blank slates." Recent research has demonstrated this is not true. Infants have many abilities.

They can see. They like to look at things with high stimulus value, such as contrasting colors, and patterns. They delight in looking at human faces. They see best at a distance of 8-10 inches, which is the approximate distance between a nursing infant and the mother's face.

Infants hear well, even in utero. They "orient" to sounds by turning in the direction of the sound. They recognize voices of their significant caretakers within a few days of birth.

Their senses of touch, smell, and taste are also developed. When they are fed sour or salty foods, they'll grimace and make faces. They like to be touched. Newborns are often more comfortable

when their skin is covered, and will often settle down better when wrapped tightly in a blanket.

Several "states" of alertness and awareness have been observed in infants. In this picture, Rachel is in the "active alert" state.

- * In the active alert state the infant looks around, listens, and responds vigorously to stimuli.
- * In the quiet alert state, the infant is quieter and less physically active, but seems to be "taking things in" by looking and listening.
- * A drowsy state occurs just before the infant is ready to fall asleep. The child is physically very quiet and will not normally respond to stimuli.

Parents and Child Welfare Professionals should be able to recognize the various states for several reasons.

- * An assessment of the infant's development should be conducted during the "active alert" state. An assessment during the "drowsy" state may lead to misjudgements about the child's development.
- * Parents should try to interact with their infants during the "active alert" state, when the child is naturally involved with the environment. An infant is not likely to respond to a parent's attention when quiet or drowsy. The Child Welfare Professional may have to teach the parent that this doesn't mean the infant is not interested in the parent.
- * Infants in the quiet alert state who becomes cranky can often be soothed by simply turning the infant to a different view, changing rooms, or providing new stimuli.

- 3) Fetal Position Lying in the "fetal position" is a common posture for the first few weeks of life. Rachel is "drowsy" in this slide. You can see the vacant stare and apparent lack of interest in her surroundings.
- 4) Head Up The infant's head control is limited due to lack of muscle development. The back and neck muscles are not strong enough to support her head, and it will wobble if not supported. However, all newborns should be able to lift and turn their faces to the side, like Rachel is doing, when placed face down. This prevents suffocation. Hypotonic infants (with very poor muscle tone) are

often not able to do this.

- 5) "Standing"

The newborn's legs will not support any weight. Instead, when her foot touches the ground you see the "stepping reflex," a reflexive withdrawal of one leg and an extension of the other leg. The baby looks like she is "walking in air." Notice that even this very young infant is showing interest in the photographer and is making visual contact. You'll see this evidence of early cognitive development throughout these slides.
- 6) On Stomach

Susan is five weeks old. In this picture you can see the development of muscle control. The first muscles to develop strength and control are those of the head, neck and shoulders, following the "cephalocaudal" pattern. Susan can raise her head and shoulders off the floor.

Notice that her hands are fisted. The infant's hands will be fisted most often when at rest during the first 3-4 months of life.
- 7) Susan on Back

Susan makes eye contact with her mother. She appears to be in an "active alert state."

Susan will also demonstrate the Moro, or startle reflex. When a loud noise or quick movement startles the infant . . .
- 8) Arms Up

. . . her arms fly up above her head in a jerking motion, and she arches backward. This normal reflex disappears after several weeks.
- 9) Visual Tracking

By five weeks, Susan's eyes are well focused. She can keep an object in view as it moves from the periphery (edges) of her visual field . . .
- 10) Focusing

. . . to the "midline," which is an imaginary line that transects the center of the body from head to toe. Following an object with the eyes is called "tracking." At five weeks, Susan can track to the midline, but she cannot track through the midline to the other side of her visual field.
- 11) Mom & Infant

Attachment between a mom and her baby is visible in the way the mother holds, cuddles, and responds to the baby's needs.

The attachment process is satisfying to both the parent and the infant. The baby's needs for security and comfort are met; the parent's feeling of love and competence are increased when the baby "molds," or conforms comfortably into their arms and quiets.

The baby's first smile strengthens the attachment.

Attachment responses are instinctive between most parents and their infants. They should not, however, be taken for granted. Some parents who never developed strong attachments as children may not recognize these cues, but they can often be trained to do so.

- 12) En Face
One of the signs of healthy attachment is when the parent engages the infant in the "en face" position. In this position, the baby can easily gaze at the parent's face and maintain direct eye contact.
- 13) Siblings
Brothers and sisters also form strong attachments to the baby. Renee and Raymond were trying to comfort 7-week-old Toya.
- 14) Erin Propped
Erin is three months old. You can see advances in muscle strength and control. She's holding her head at a 90-degree angle to the floor. To determine the angle, you draw an imaginary line from the top of the baby's head through her ear to the floor. The newborn could barely raise her head. A two-month old infant should be able to raise its head to a 45-degree angle.

Erin is also using her arms and shoulders to support her upper body. Remember the principle of cephalocaudal development. The muscles of the arms, chest, and shoulders are next to develop after those of the head and neck.
- 15) Erin Rocking
Three month old infants experiment with their bodies. They are beginning to use the large muscle groups in their abdomen and legs, and strengthen them by trying out new physical activities. Here she is "air planing," lifting her head and feet at the same time.
- 16) Head Lag
Erin's head control is not as well developed when she is pulled up from her back. Her head falls backwards in what is called head lag.
- 17) Head Falls Back
This head lag is normal for a child of three months. It will disappear at age 5 months, when the muscles in the neck and back are stronger.
- 18) Erin Standing
Erin can bear some weight on her legs, but she is very unsteady.

Notice how curious and interested she is in the photographer. Alertness, intense interest, and curiosity are early signs of cognitive development. These signs are often not evident in abused or neglected infants.

- 19) Focus at Midline At three months, Erin can visually track an object all the way through the midline. Here she focuses on the finger at the midline . . .
- 20) Tracking . . . tracks it as it moves toward the edge of her visual field . . .
- 21) Head to Side . . . and she turns her head far to the side to keep it in view.
- 22) Jen on Belly Jennifer, at four months, demonstrates head control at a 45-degree angle from the floor.
- Jennifer's eyes are slightly crossed. This is called strabismus and is the result of a muscle weakness in the eyes. It usually corrects itself as the child develops. Untreated strabismus can, however, lead to serious vision defects. Children with abnormal eye positioning should be evaluated by an ophthalmologist when the problem is noted. Surgery can correct the condition if performed before the child is age 2. Surgery after this time may not fully restore normal vision. Jennifer's strabismus did correct itself within the first year.
- 23) Jen Head Up Notice that Jennifer is not using her arms to prop herself as Erin did. Both Erin and Jennifer are normally developing infants, even though their rates of development are different. These two infants illustrate a normal range for the accomplishment of developmental tasks.
- 24) Sitting Notice Jennifer's attentiveness and interest in the camera. She didn't know the photographer, and didn't recognize the new face. Her look is appropriately skeptical. Jennifer is too young to sit unassisted. While her head and neck control are good . . .
- 25) Falls Forward . . . she cannot maintain her balance and she slumps forward . . .
- 26) Slumps to Side . . . and will fall over if she is not held up.
- 27) Looks at Rattle Jennifer visually focuses on the toy rattle, indicating her interest in it. Notice her hands; by four months, the infant's hands are open for longer periods of time, but they may still be fisted when at rest.
- 28) Grasps Rattle Jennifer still doesn't reach for objects, but she will close her hand around them. Her fine motor control is still quite primitive. Notice how awkward her grasp is. At four months it's hard to know whether her grasp is reflexive or purposeful. The early "grasping" reflex is replaced by purposeful, goal-directed activity by 4-5 months.

- 29) Rattle in Mouth It is common for infants this age to put objects into their mouths. Putting the rattle in her mouth is a way to explore it, as well as to suck.
- 30) Looks at Duck At four months, Jennifer shows a lot of interest in objects. Attending to and responding to objects is a sign of early cognitive development. Here she focuses intently on the duck . . .
- 31) Laughs . . . and laughs when it is squeaked. By this age, infants are beginning to anticipate events, and may become visibly excited when she sees the duck.
- 32) Jen Propped A month later, Jennifer has made significant gains in motor development. Her head is now held at a full 90-degree angle, and she props on her hands and pushes her shoulders and chest up off the floor.
- 33) Looking Back She has much improved upper body control, and can turn her head and body around to see what is going on all around her.
- 34) Plays With Feet The five-month old is developing coordination in the lower body. Much of Jennifer's physical activity now involves her legs and feet. Here she "exercises" by stretching her legs and touching her feet.
- 35) Knees Bent She pulls her knees up to her chest deliberately. This is no longer reflexive, as was the fetal position.
- 36) Rolls Over Babies learn new skills by experimenting. One day, quite by accident, Jennifer swings her legs far to the side, and her shoulders automatically follow. She discovers that she can roll over onto her stomach.
- Once a new motor skill is learned, the baby will repeat it many times until she has become proficient. Then she integrates it into her regular activities and uses it. Jennifer quickly learned to roll to the opposite corner of the room and back again.
- 37) Standing Jennifer can now support weight on her legs. She looks strong, steady, and has excellent head control. Note also that her hands are relaxed and open. By five months, the baby's hands are rarely fisted unless they are purposefully closed for grasping objects. Hands that remain fisted in older infants may be an early warning sign of cerebral palsy.

- 38) Being Pulled The head lag has disappeared. Jennifer's head and neck are now supported by stronger muscles.
- 39) Stretching The infant's play is still centered around using and mastering her body. Her she's "air planing" from her back, and increasing her muscle coordination and control.
- 40) Reaching As the baby reaches for objects she is practicing and perfecting fine motor control and eye-hand coordination. Here Jennifer looks at and reaches directly for the rattle . . .
- 41) Holds Rattle . . . grasps it in her hand and shakes it, while continuing to keep it in view. Notice that when one hand closed over the rattle, the other one fistled also. Closing her hand on the rattle is no longer reflexive for Jennifer. This is purposeful, goal directed behavior.
- 42) Block in Hands Jennifer grasps a block with both hands at the midline.
- By age 5 months, children can transfer objects from one hand to the other across the midline. If an infant cannot do this, it may indicate cerebral palsy.
- Children use both hands interchangeably, with no clear hand preference, for the first year to 18 months. They will usually reach for an object with the hand that is closest to it, and rarely reach across their bodies. A clear hand preference before 12-18 months may be a symptom of cerebral palsy.
- 43) Block in Hand Jennifer can also hold the block with one hand. The smaller muscles of the hand and fingers are beginning to develop coordination. This illustrates the developmental principle of "proxidistmal" . . . muscles of the hands and fingers develop later than muscles closer to the center of the body.
- 44) Reach for Ball Jennifer's reach for the ball is purposeful. The five-month old child is very interested in objects. Most of her "play" involves exploring and manipulating objects of various kinds, and anything new is interesting. This attention to objects is a critical component of cognitive development during the first year.
- 45) Ball in Lap Even though she's interested in objects, Jennifer doesn't yet understand them very well. This was a "mini-experiment" to see whether Jennifer had developed object permanence. According to Piaget, object permanence is the most important cognitive milestone of the first year.

Object permanence is the concept that objects do not "vanish" or

"cease to exist" when they are removed from view. Infants under a year of age quickly "forget" objects that are not in view, and they don't search for them, even if the child has watched the object being hidden. However, once a child has developed object permanence, she will search for the object because she knows it still exists.

At five months, Jennifer is too young to have developed object permanence. This experiment will tell us something about her relationship with objects.

- 46) Towel in Mouth The photographer covered Jennifer's ball with the paper towel, which hid the ball from her view. Jennifer removed the paper towel, but not to find the ball. The towel was a new object that had entered her field of vision, and she found it interesting. She forgot the ball, and examined the towel instead by putting it into her mouth.
- 47) Play with Feet Jennifer amuses herself by playing with her feet. Babies this age use gross motor "play" to practice and refine their ability to coordinate and control the movements of their bodies.
- 48) Feet Up Jennifer can amuse herself for long periods trying out all different positions.
- 49) Stretching Her mother says she enjoys curling into a ball and chewing on her toes.
- 50) With Bottle Despite the important task at hand, Jennifer is very aware of photographer and shows clear interest and curiosity.
- 51) Reaching The five-month old is very responsive to social stimuli. When something interesting happens, she responds with vigorous physical activity, direct eye contact, big smiles, and loud vocalizations. In this photo, her mother is standing behind the photographer and talking to her.
- 52) Laughing Jennifer laughs in response to her mother. Other people can easily recognize the infant's emotional states, including pleasure, anger, fear, pain, and protest. The infant is more animated and interactive, and most parents feel they can "communicate" better with the infant. The baby's responses to the parent can be very pleasurable and reinforcing.

- 53) Chris Sitting This is Christopher, at 7 months. He has progressed to sitting without assistance, but he can't "get to sitting" by himself. He must be placed in position, and can maintain his balance only as long as he sits in this "tripod" (3 points on the floor) position. If he moves, he will lose his balance and topple over. Sitting this way frees his hands to play with objects.
- 54) Propped By seven months, the baby has developed considerable upper body strength. Christopher can push his chest and abdomen fully up off the floor.
- 55) Moving Legs He adds leg movements, which he learned and perfected during his earlier periods of lower body play. He is now in a position to being the next major gross motor task of crawling.
- 56) Standing Chris can support weight on his legs with ease, but he is not able to balance without being held.
- 57) Holds Bottle Improvement of fine motor skills enables Chris to hold his own bottle and feed himself.
- 58) Raking At 7 months, the child's fine motor coordination has improved, but finer-thumb opposition has not yet developed. Here Charnell demonstrates a typical hand position for babies between 6-8 months, sometimes called "raking." The baby drags the whole hand across an object, like one would use a rake, and then she closes all five fingers around the object to grasp it.
- 59) Holds Toys Here Chris shows us some early problem solving skill. He has figured out how to have his bottle and his toys too. This is another sign of developing cognitive ability.
- 60) Colored Sticks Children of this age are attracted to objects because of their shapes, colors, and textures. Chris creeps on the floor until he can reach his colored sticks and pulls at them. Note he is using a palmar, whole hand grasp, to grab at the toy.
- 61) Pulling Stick Chris has a primitive understanding that you can pull at things and they'll come apart. He has discovered how to remove the sticks from their holes, but he doesn't yet understand that they can be put back together.
- Chris will amuse himself for several minutes pulling at the sticks. Babies this age repeat the same activity many times in succession,

they appear to get pleasure from repetition and mastery. We begin to see the development of "attention span."

- 62) Toy under Cloth Here's another "test" to demonstrate Christopher's understand (or rather, lack of it) of "object permanence." All but a corner of his favorite toy was covered with a handkerchief while Christopher watched. He spotted the corner that wasn't covered, and pulled at the sticks he could see. He didn't move the handkerchief.
- 63) Covered Toy The handkerchief was then pulled over to cover all but a small corner. After a few seconds, Christopher spotted the still visible sticks, and began to pull them out.
- 64) Perplexed The entire toy was then covered with the handkerchief. The toy was, for all practical purposes, gone, and Christopher's attention quickly drifted to another thing.
- 65) Ebani Sitting This is Ebani at 9 months. Compare how she is sitting to Christopher's "tripod." She is well balanced and stable.
- 66) Gets to Sitting Becky, also 9 months, demonstrates how she can get to and from a sitting position by herself without falling over. She can reach for toys and return to a sitting position without falling.
- 67) Crawling Becky crawled at 8 months in the typical manner . . . on hands and knees. Not all children crawl in this manner, but they do find some way of getting from place to place before they learn to walk. Some scoot like a snake, or roll across the floor, or pull with their arms (the G.I. Joe Crawl.) Some "early walkers" progress quickly to standing and walking without a long period of coordinated crawling.
- 68) On All Fours Jason demonstrates his unique method of getting around. He never crawled on hands and knees, but developed what his neighbors called his "elephant walk."
- 69) Jason's Crawl Jason, who is 13 months old, began to walk at 8 months. He still occasionally reverts to his first successful method of getting around.
- 70) Pull to Stand Becky, at 9 months, crawls to furniture and pulls herself up to standing. She can stand for long periods, as long as she holds on. She has increased strength, but as yet, lacks balance.

- 71) Standing She can stand alone, but only for a few seconds. Her balance is precarious, and she quickly topples. Notice how her arms are outstretched for balance. Her bowed legs are not quite ready to support her weight fully.
- 72) With Blocks The nine-month old has well-developed eye-hand coordination. Here she reaches for a block. Note that she is using her left hand to reach for an object on the left side of her body. She has still not developed hand preference.
- 73) With Red Block Several developmental tasks are demonstrated in this picture. Becky holds the block with her thumb and finger tips, indicating she has developed finger-thumb opposition. She holds the block and manipulates it with both hands at midline. The picture also demonstrates the transfer of objects from one hand to the other across the midline. This skill was first seen at 5 months.
- 74) 2 Blocks Becky uses both hands equally to manipulate objects, another indication that she has not yet developed "handedness."
- 75) Finger Feeding With the development of finger-thumb opposition, the baby graduates from "raking" to "finger feeding." Here Becky goes after Cheerios, one at a time, closing her thumb and forefinger around each one.
- 76) Reaching Is there any doubt that this child has developed finger-thumb opposition?
- 77) Stoops This picture demonstrates milestones of gross motor, fine motor, and cognitive development. Becky's squat to get the block is called "stooping and recovering." She can squat to the floor and then return to a standing position without falling over. She uses her hand to balance herself.
- Becky is also reaching directly for the block, and yet she is not looking directly at it. This would suggest she has a "memory" or "picture" in mind of the location of the block, and the beginnings of object permanence. Finally, notice the purposiveness of her behavior. Her activities are clearly planful and goal directed.
- 78) Film Box More evidence of goal-directed behavior; in this case, problem solving. Becky had the empty film box in her right hand. She was using her other hand to hold on to the fireplace for balance. She

was offered a second object . . . the block, which she also wanted. A younger child would have dropped the film box to take the block. Becky solved her dilemma by putting the film box in her mouth, allowing her to have both.

This illustrates a lot about early cognitive development. The child demonstrates her ability to manipulate her environment to solve problems. The baby's activities are purposeful; she does things with an end in mind. She also has a beginning understanding of how activities may be sequenced to reach the desired end.

79) With Mother

The nine-month old is socially interactive. This is a game Becky plays with her mother. They make faces at each other and then laugh. Either one can start it, and the baby is easily engaged in the game. Mothers typically feel "in communion" with their babies when they are playing together in this "en face" position.

At this age, the baby's "sociability" is directed toward people to whom she is closely attached. She will not play with, nor be this animated, with people she doesn't know. The child's ability to discriminate between people, and to relate differently to them, is both an advance in cognitive development and a sign of healthy and strong attachment.

80) Fearful

The baby's ability to differentiate between people often results in "stranger anxiety." Becky is now 11 months old, and she displays an initial suspiciousness of the photographer, whom she doesn't know. She hangs safely back behind the chair and watches the photographer's activities from a distance.

81) Behind Chair

When the photographer moves closer, Becky reacts by withdrawing further. If approached too quickly by a stranger, the child may cry loudly. When permitted to "go at their own pace," most children will eventually "warm" to the stranger and go about their activities.

Stranger anxiety may develop between 8-10 months in children who were previously happy interacting with almost anyone. Stranger anxiety results from the infant's cognitive ability to discriminate between people, and their stronger attachments to important people.

Separation anxiety may also develop around this same time. The child may cry, for example, any time she is separated from her mother, even if the mother is only in the next room. The baby is

usually most comfortable if the mother is in view.

Cultural variables may affect children's responses to separation and to strangers. A child who is rarely left in the care of others may show greater anxiety with strangers, and may be greatly distressed when separated from the parent. A child who is cared for by multiple caregivers and is often with large groups of people may show almost no distress when separated from the parent or in the presence of strangers. Some children will warm quickly to new people after an initial period of shyness or hesitance.

Constitutional factors and temperament can also influence the degree of a child's distress in strange situations.

Some insecurely attached infants show greater separation and stranger anxiety through whining and desperate, forlorn clinging. Severely abused or neglected children may show no attachment, and relate indiscriminately to people. It is important to differentiate this symptom of poor attachment from the genuine comfort shown by children who grow up in the midst of large groups of family and friends.

- 82) Walking After a few minutes, Becky feels comfortable enough to come out and visit. She also performs her newly developing skill . . . walking. You can tell she is just recently walking; her arms are still held outstretched to help her balance.
- 83) Resting It takes many months to perfect the skill of walking. Walking involves balance, coordination, and excellent motor control. When a child is first learning to walk, we can see their intense concentration. Children often revert to earlier methods of getting around, such as crawling, or standing holding on, especially when they are tired.
- 84) Laundry Basket Beau practiced walking by taking his "prop" with him . . . he held onto a laundry basket full of toys for balance, and pushed it around the room in front of him. This ingenious method demonstrates the child's increasing problem solving abilities.
- 85) Becky Out Door Walking ushers in a new sense of freedom and independence for the child. The child is entering the developmental stage of "autonomy." Becky has learned to push open the screen door and lets herself onto the porch . . .
- 86) Going in Door . . . and returns when she wants. This is often referred to as "safe base

exploration." A securely attached infant can separate from the parent to explore the environment, but will return to the parent for reassurance or comfort after a period of time, or when distressed.

An insecure or poorly attached infant cannot find comfort from the parent when they are under stress, nor can they resume exploration after a reunion with the parent. This inhibits their willingness to explore their environments.

- 87) Beau Stoops Having mastered the basics of walking, Beau learns other gross motor skills that require balance and coordination. Here he "stoops" to get an interesting object in the grass . . . without holding on . . .
- 88) Beau Recovers . . . and returns to a squat, from which he will stand up.
- 89) Becky Tantrum Physical independence has its parallel in emotional development. Becky's tantrum expresses her displeasure at being restrained by her mother. This developmental period is often referred to as "the terrible twos": even though it may begin as early as 12-18 months. The age of the child, and the degree to which they express autonomy will vary among children. In general, the placid, friendly, responsive and cooperative child of last year suddenly becomes willful, uncooperative, and stubborn. Nonverbal children usually express their autonomy through tantrums. Verbal children may also exhibit autonomy through language. (The two year old's favorite words are NO! ME DO IT! and MINE!)
- 90) Beau Reading Early in the second year, the child begins to develop symbolic thinking. This is a major step in cognitive development.
- Children begin to look at books or magazines and will look for familiar objects.
- 91) Pointing They will point to objects and figures of interest, often in response to a verbal cue. Attaching names to familiar objects is the beginning of language development.
- There is a wide range within which children develop language. Some children can produce meaningful words at a year; and some don't begin to talk until they are two. Most children develop "receptive language" many months before "expressive language," that is, they can understand language earlier than they can speak it.
- 92) Film Canister This was one final object permanence "experiment." Becky at 12

months will demonstrate the skill. She was playing with the film canister and box.

- 93) With Towel Becky watched while the film box was taken from her and placed on the floor, and then covered with the towel.
- 94) Reaching Becky immediately crawled to the towel and grabbed it,
- 95) Pulls Towel . . . pulled it aside . . .
- 96) Uncovers Box . . . and found the film box. Becky knew the film box had not ceased to exist. She looked for it in the place she had last seen it. The child is aware that the object has a permanent existence, independent of her immediate perception of it. This is a very important cognitive milestone.

The child's understanding of objects is still primitive, however. If she had not watched the film box being covered, she would have been much less likely to look for it. As another example, if the film box had disappeared through a trap door in the floor, she would have ceased looking for it rather quickly. A school-age child, would have continued to wonder, and investigate, where it had gone.

- 97) Becky and Jar Becky is confronted with another problem . . . how to get puffed rice cereal out of the jar. She first tries her well-practiced skill of pinching cereal between her thumb and forefinger. She cannot reach the cereal.
- 98) Jar to Mouth Next she tries to eat the cereal by putting the jar to her mouth. That doesn't work either.
- 99) Crawling After having tried everything she knows, Becky gives up and turns her attention elsewhere. It will be another year before she will understand that she can make the contents fall out by tipping the jar. Once discovered, however, this will be included in the child's repertoire of problem solving skills.

Trainer The trainer should turn off the slides and distribute Part I of the "Timmy Brown Psychological Assessment" Handout #1 to trainees.

The trainer should introduce the activity by explaining that Becky represents a fairly typical one-year old infant. Timmy Brown is a neglected infant of the same age who was referred for

developmental assessment by his social worker. Trainees should compare Becky and Timmy's development.

Trainees should be instructed to work with a partner. They should:

- 1) Read Part I of the psychological assessment and identify Timmy's developmental delays. How does Timmy differ from Becky in all four developmental domains?
- 2) Identify the conditions in the family that could potentially contribute to Timmy's delays.
- 3) If you were the Child Welfare Professional, what services would you provide for Timmy? For his family? What would your role be? How would you go about implementing the psychologist's recommendations?

Trainees should discuss the case with their partners for approximately 15 minutes. The trainer should then distribute the remainder of the assessment (Part II of Handout #2) and direct trainees to compare their conclusions and recommendations with those of the psychologist.

The trainer should then lead full group discussion on the use of development assessments to assist in case planning. The trainer should point out how the assessment is organized and the type of information included. This may be used as an example of an appropriately performed developmental assessment.

At the completion of the discussion, the slide presentation should be continued.

- 100) Brian At Door Brian is 15 months. He still has some initial stranger anxiety, and hovers behind the door.
- 101) Stands By Door After a short time, he ventures out and curiously assesses the photographer. Brian has been walking for several months, and he has good balance and stability. He need no longer think about it; the skill has been fully mastered and integrated.
- 102) Crawling Stairs The child is now developing more complex motor skills, such as climbing, which he uses to get up and down the stairs . . .
- 103) On Mother's Lap . . . and onto his mother's lap.
- 104) Walking Stairs Brian is physically strong for 15 months. Most children do not attempt this until much later. Here Brian is imitating his 3-year old brother, who immediately preceded him down the stairs.
- The imitation of complex behaviors begins at this time. This can have an affect on the rate with which children acquire new skills, as children may learn more quickly when they can imitate the actions of other children and of adults.
- 105) Stooping Brian's balance is much more well developed than was Beau's at 12 months. Brian can stoop to retrieve a toy and return to standing without having to use his hands and arms for balance.
- 106) High Chair Fine motor skills, including finger-thumb opposition, are more refined and coordinated. Brian routinely finger-feeds himself . . . demonstrating with finesse how to eat a cheerio . . .
- 107) Holding Cup . . . and how to drink from a cup, unassisted. Notice how Brian holds the cup using his finger tips rather than his whole, palmed hand.
- 108) With Beads Brain's cognitive development is reflected in his more complex use of objects. His play with plastic beads includes removing them from, and returning them to, the container.
- 109) Push Mower He also uses objects for particular purposes. He knows that a toy lawn mower should be pushed . . .
- 110) Ball . . . and that a ball is to be thrown. These skills are often the result of imitative learning.

- 111) Give me Five The 15-month old child is very social. He learns and repeats games. Here, upon a verbal request from his mother, Brian plays "give me five" with great pleasure. His response to verbal cues also illustrates his comprehension of spoken language.
- 112) Patty Cake This is "patty cake," again on a verbal request from his mother. Children this age look to their parents for social cues, and for approval.
- 113) Peek-A-Boo This spontaneous exhibition of "peek-a-boo" occurred with no verbal cue from his mother. It illustrates Brian's development of memory, as well as his social attempt to engage his mother into play.
- 114) Comb Brian's proper use of the comb illustrates, again, his understanding that objects are used for particular purposes.
- 115) Combing Hair Here, without being prompted, Brian combs his sister's hair, imitating a behavior he had seen his mother perform many times.
- 116) On Ladder At 15 months we begin to see imitative behavior. This baby had ignored the slide on the playground until her 3-year old sister decided to climb it. Then she had to try it also.
- 117) Climbing Imitating the behavior of other children is a primary means of learning for preschool aged children. Imitation promotes earlier and faster acquisition of skills than if the child had to discover them herself.
- 118) Katie With Doll Katie is 22 months old. Notice her awkward stance. Katie's gross motor development is still within normal limits, but it lags behind her cognitive and language skills. The wide gait and bracing may be a sign of mild hypotonia, or poor muscle tone.
- Katie carries her favorite doll with her wherever she goes. Around the age of two, many children become emotionally attached to a toy, blanket, or other object and show great distress when the object is taken away. Developmental theorists believe that these "transitional objects" serve as "security blankets" (as in "Peanuts" character Linus) during a time when the child is developing more exploratory behaviors that take her farther away from the caretaker.
- 119) Katie on Step Katie's gross motor skills are slower than average, as we can see in

her awkward, hands and knees approach to this very low porch step.

- 120) Katie on Stairs Katie climbs stairs, both up and down, on her hands and knees as well. This is still within normal expectations, particularly coming down the stairs. Most children will climb stairs on their feet sooner than coming down.
- 121) Katie on Bike Katie knows the proper use of the tricycle and how she should position her body in order to ride it.
- 122) Stands on Bike But, she stands on the back of it rather than sitting on the seat. . .
- 123) Walking Bike . . . And, she moves it by walking it along with her feet, rather than using her feet to pedal.

Let's talk for a minute about how children can develop at different rates in the four domains and still be within normal limits.

Katie is a good example. She's slow in gross motor development, but her language development is above average and her fine motor coordination is good for her age.

As a rule, children should show some degree of consistency in developmental rates in the four domains. However, most children will be more advanced in some areas than in others and still be within normal limits.

The greater the disparity in the rates of development between the four domains, the more difficult the developmental process becomes for the child.

Significant delays in all domains may indicate the presence of a disability, such as mental retardation. A significant delay in one developmental domain might indicate a circumscribed developmental lag, such as a speech problem, learning disability, or emotional problems.

- 124) Katie on Floor Katie's use of language can be seen in her social interactions and in her play. She uses an early language form called "duos," which are two-word phrases. The phrase "play toys" told her mother that she wanted to go indoors and play. As she sat down, she said, "Katie sit." She then told her mother "Mommy sit," and then told the photographer, "You sit" before she was satisfied and began to

play.

The complexity of a child's toys and the ways she uses them provides clues to the child's level of cognitive development.

We've seen a lot of children playing with colored beads. The 7-month old child visually explores, bangs, drops, and otherwise manipulates the beads. At 15 months, Brian took them out of a container and put them back in again.

Notice the differences in how Katie uses them. At 22 months she realizes that the ends of the beads fit together, but she hasn't mastered how. She is using imitative learning and trial-and-error problem solving.

- 125) Plastic Rings This toy requires that the rings be placed on the stick in a particular sequence from the biggest to the smallest. Katie understands the sequence. Here she takes the center stick . . .
- 126) Stick in Hole . . . and anchors it into the hole.
- 127) Ring on Stick She then drops the ring over the stick.
- 128) Wood Bus This toy has parts that go in specific places. The "people" go in the "bus." She is beginning to understand the rules of order. She calls the toy "people bus," using the two most obvious elements with which to identify it.
- 129) Book Katie calls this "Katie book." She finds pictures of things she knows and names the objects. In response to her mother's request to "find the baby in the book," Katie complies and says "here baby."
- 130) DUO Chart We will use Katie's language development to illustrate the process of language acquisition.

Infants produce their first sound at around three months, when they appear to "discover they have a voice." They babble and imitate sounds at around 6 months. This must be considered "vocalization" rather than "language," because the sounds are random and have no symbolic meaning.

Most children begin to consistently produce spoken language between 18 months and 2 years.

The development of language is dependent upon a cognitive "leap" that occurs during the second year, the emergence of symbolic thought.

Sounds that were originally unattached vocalizations become associated with specific objects, people, or activities. At some point, the child realizes that a particular pattern of sounds can represent the object. The sounds take on meaning for the child. This ability characterizes "symbolic thought."

Once the child achieves this understanding, language develops rapidly. The typical pattern of language development makes sense when it is viewed within the context of the child's world view.

The child's development during the first year is centered around two primary areas; mastery of his own body, and an understanding of objects. At the end of the first year, the child has mastered many gross and fine motor tasks. The child has also learned that objects exist, and then that they have permanent identities and characteristics.

It is, therefore, not surprising that the first words the child understands, and speaks, are the names of things he knows and understands. This includes the objects and people that are important to him (mama, dada, bottle, juice, baby, Teddy, apple, ball, kitty, chair); and his activities (sit, eat, play, sleep, go bye-bye.)

The next milestone occurs when the child combines two words into a duo, a phrase that usually combines the object and the action, or the object and a place.

The duo is "shorthand" language. The meaning of the duo greatly exceeds that which is reflected by the two words. For example, "ball chair" might mean the ball is in the chair, the ball is under the chair, or I want to throw the ball at the chair.

The child understands more than he can communicate; in other words, receptive language is more highly developed than expressive language.

(Review the types of duos' as illustrated on the chart, and describe their functions.)

- 131) With Cloth Imitation is a primary means of play and learning at this age. In Katie's words, this is "Katie Dust." Katie has watched her mother dust many times, and "help mommy" is a favorite activity. She has her own cloth and an empty can of Pledge.
- 132) Dust Table Note how well Katie imitates her mother's activities, and that she performs them in their proper order. First, she sprays the Pledge.
- 133) Wiping Then she wipes the table with the cloth . . .
- 134) Rubbing . . . working hard to remove a stubborn spot . . .
- 135) Move Lamp . . . and, finally, moving the lamp to dust under it.
- 136) Up Ladder The determination to imitate another child is often an incentive for a two-year -old to try new activities. After having watched 3-year old Alathia slide down the slide, and being an autonomous and gutsy two-year old, Cameron decided he had to try it . . . under Mom's watchful eye . . .
- 137) Sliding . . . and he did, with some . . .
- 138) On Back . . . rather amusing . . .
- 139) Off End . . . results! After the initial shock of hitting bottom, he got up to do it again.
- Think about the importance of growing up in an environment that stimulates and supports this type of learning.
- 140) Ear The two-year old knows her body parts and can point them out to you on demand. This is "Katie Ear."
- 141) Nose And "Katie Nose."
- 142) Feet This is "Katie Feet."
- 143) Sweeping Two-year olds like to be helpful. Here Beau "helps" his Dad by sweeping the front steps. The child will attempt even difficult activities. The broom is bigger than Beau, and hard to handle. Mastery and autonomy are important, and despite the difficulty of the task, the child will often insist "Me do it."

- 144) Blocks Fine motor skills and eye-hand coordination have improved. Two-year old Beau can build a tower of four blocks without toppling it.
- 145) Farm Beau plays with a toy farm and is putting the fence together. The child's ability to symbolize thought is expressed through play. Beau re-creates things he has seen in the world with his toys, such as a fence. Toddlers begin imaginative play as well, as in putting a stick between their legs and riding it like a horse, or racing through the house with arms extended pretending to be an airplane.
- 146) In Woods Autonomy is a state of mind, and it is reflected in all the child's activities. If secure, the two-year old will trot off . . . out the door, down the street, or as in Chris's case, into the woods, confidently striking out ahead.
- There are differences between children in how their autonomy is expressed. Some children are inherently more self-directed. Others more quiet and receptive. Cultural factors can affect the way in which the child expresses autonomy. However, the development of self direction and the mastery of situations characterize activities of all normally developing children of this age.
- Healthy toddlers are alert to their surroundings and eager to find out what's there. We talk about this child being "into everything" and naturally curious. Explorations provide the impetus for learning and the mastery of important skills.
- 147) By Steam At 2½, Chris talks in sentences. He also has learned the concepts to support words like "in," "out," "under," and "over." Here he finds his path blocked by a branch and confidently announces, "I go under here."
- 148) Concrete Block The always curious two-year old, Chris came upon this concrete block and peered into it. When asked "what's in there, Chris?" he grinned and replied, "nothing."
- 149) Drawing The child's fine motor coordination has improved. If children have the opportunity to use pencils or crayons, they can draw. Chris can identify shapes, including a circle and an X, both of which he has drawn on this paper.
- 150) Dressing Self Autonomy means wanting to do things for yourself. If allowed, the child will try to dress, wash, and feed himself. Here Chris tries

to put on his own clothes after a nap. Clearly he has the idea, but he hasn't mastered the art of putting on his pants . . .

- 151) Foot Caught . . . and he gets his foot caught.
- 152) Pulls Pants After a struggle, he got this far. His mother offered to help him.
- 153) Socks Undaunted, he now wants to try his socks. While not very efficient, letting children practice, these skills allow them to perfect the tasks and give them a feeling of accomplishment.
- 154) Sweeps By 2½, Chris has imitated sweeping often enough that he now can actually be of help to Mom. He handles the broom like a pro. The satisfaction we can see in the child who can master these skills is worth the dirt left on the floor.
- 155) Piano Between age 2 and 3, children's play patterns begin to change. Younger children usually engage in solitary play with objects and toys. Two-year old Terron is totally engrossed in playing with his toy piano . . .
- 156) 2 Boys . . . while Cameron watches. Playing in the presence of other children is called "parallel play." Children will watch each other play, or may even play side by side with the same toys, but they don't play cooperatively.
- At age two, children are still very self-centered and their interactive skills are primitive. They do not cooperate, and they don't always share. They lack the cognitive ability to understand another child's perspective. This is an aspect of "egocentric thinking" which will be more fully discussed later.
- 157) Sandbox We begin to see interactive play around age 3.
- The emergence of interactive play is stimulated by children's ability to communicate with each other. However, early social interactions don't always go smoothly.
- This sandbox scene is deceptively serene. Normally, things are not this quiet. This two-year old wants his own way, and often responds to frustration with aggression, including hitting, biting, and temper tantrums. The autonomous child is emotionally impulsive, and has not yet developed internal controls. Adults have to step in to resolve the battles and prevent children from

hurting each other. Children don't develop consistent internalized controls until about age 5.

Children in different cultures may show different amounts of aggression, depending upon whether it is allowed. Some cultures are more tolerant of aggression in boys than in girls. Aggression may be valued as being "tough" and "standing up for yourself," or, it may be viewed as a negative attribute that should be suppressed in the interests of cooperativeness and group cohesion. Therefore, different amounts of aggression may be evident, depending upon the cultural perspectives.

- 158) With Shovel Ryan, at age 2½, returns more often to solitary play in his own corner of the sandbox, while Michael, who is three, prefers, and is more adept at, interactive play.
- 159) Jungle Gym By age 3, the child has mastered skills such as walking, running, and climbing and can perform them easily without much concentration. These skills are developed by the child in a variety of physical play activities. Here Alathia learns to maintain her balance as she climbs on a jungle gym . . .
- 160) On Ladder . . . or climbs the tall ladder . . .
- 161) On Slide . . . and gracefully slides down the slide, having improved greatly on two-year old Cameron's performance.
- Three year olds love playground equipment and "rough and tumble" play. They will repeat new motor skills continuously, even though they have mastered the task; they appear to enjoy performing for its own sake. (As in sliding down the slide for the 30th time in a row.)
- 162) Catching Ball three-year old Trey practices throwing and catching the ball . . .
- 163) Hopping . . . and Michael learns to hop on one foot.
- 164) Puzzle The complexity of the child's toys again reflects their cognitive skills. Three year old children are adept at putting together puzzles. To do this, the child must be able to recognize shapes and colors, and see the relationships between the puzzle pieces. They must also understand that the parts comprise a whole when put together. Early attempts at working puzzles are "trial and error," or imitative. They can discriminate each piece and knows where it

fits in the picture . . .

- 165) Success and easily completes the puzzle, showing his pleasure at his accomplishment.
- 166) Sorting Sticks We saw Christopher playing with this toy at age 7 months by pulling the sticks from their holes. Jennifer uses the same toy quite differently. She recognizes colors, and can sort the sticks into piles, both by color and by size. This is early evidence of a cognitive ability that becomes important during the school years, the ability to classify objects into groups because of similar characteristics.
- 167) Block Tower Trey's eye-hand coordination will permit him to build a tower of many blocks without toppling it.
- 168) Brand and Horses At three, Brad's play is symbolic and very creative. Here he announces, "I'm gonna build a fence so my horses can't get out and run away."
- 169) Brad's Corral A few minutes later, he proudly displays his corral, with blocks and other objects placed in a tightly closed circle, high enough to prevent the escape of his horses. Notice how he has closed all open spaces. His level of cognitive development is reflective in his play: he understands the concepts of open and closed, the nature of horses, and the purpose of fences.
- 170) Shoes At three, self-help skills continue to improve. Michael can put his shoes on. Tying shoes is a complicated fine motor skill that will not normally be mastered until age 4 or 5.
- 171) Toothpaste Trey puts toothpaste on his brush . . .
- 172) Brushing . . . brushes his teeth . . .
- 173) Wash Hands . . . and washes his own hands.
- 174) On Potty By age three, Jennifer is toilet trained and is able to meet most of her own toileting needs.

Toilet training is one of the most difficult parenting tasks during the second year. It warrants more extensive discussion, because toileting accidents and other problems in toilet training are a common precipitant in the abuse of toddlers.

(Turn off slides.)

Toilet training problems may occur for several reasons:

- * The parent begins toilet training before the child is ready and the child, therefore, does not comply.
- * The toilet training process becomes a battle for control between the parent and the child.
- * The parent may have unrealistic expectations for the child, and may misinterpret the child's lack of bladder or bowel control as deliberate defiance.
- * Some children have problems with constipation. Painful bowel movements may result in children holding off the movements as long as possible. This results in more pain, which leads to further withholding. This can be misinterpreted by parents and other persons as uncooperativeness.

By waiting until the child demonstrates readiness to be trained, the toilet training process will be of shorter duration and will be less of a struggle for the parent.

In general, girls are ready to be trained somewhat earlier than boys. However, each child must be evaluated individually. Very few children are ready to begin before the age of two. Most children are ready to begin by age 2½, unless the child is developmentally delayed or there are complicating physical problems. Some children will have occasional accidents as late as age 5 or 6. It is usually because they are doing something they like and don't want to take time to go to the bathroom.

Readiness involves the following:

- * The child has developed language adequately to understand words that describe toileting activities, such as "potty," "poop," "BM," "peepee," "toilet," and "diaper."
- * The child has communication skills to let the parent know when she is about to wet or soil, or has already done so. These may be gestures or single words.
- * The child knows the difference between a wet diaper and a dry diaper, and shows discomfort, either verbally or by pulling at her clothes, crying, etc.
- * The child has developed adequate urinary control and remains dry for periods of at least two hours at a time during the day. Bowel movements should be regular.
- * The child demonstrates interest and willingness to try out the toilet or potty chair.

- * There are no physical or medical problems that further complicate the issue.

Trying to start training a child before she demonstrates readiness may increase both the parent's and the child's stress, and is more likely to fail.

The parent must approach toilet training with the following attitude:

- * It will take many months before the child no longer wets or soils. There will be frequent accidents for a while, and this is normal. The parent must not feel pressured that toilet training has to occur within a designated period of time.
- * The parent should not assume that accidents are defiant or deliberate, even from a very autonomous child. The parent must be able to accept accidents matter-of-factly without scolding or punishing the child.
- * The more consistent the parent is in making toileting part of a daily routine, the easier it will be. Knowing at what time of day the child normally wets or soils helps.
- * The parent will probably want the child to be out of diapers before the child is ready. This will probably be frustrating for the parent. However, if the child isn't interested, it's easier to change diapers for a while longer than to battle daily with the child.
- * The parent must be willing to provide the child with tangible rewards for successes. This should not be viewed as "bribery." It is an "incentive," and providing rewards for success will not be necessary when the child is a little older and better motivated.

Techniques to promote toilet training in a child who demonstrates readiness include:

- * Point out to the child when she is wetting or soiling, or has done so. "David went peepee in the diaper." "Susie pooped. Let's put on a clean diaper."
- * Introduce the potty chair and let the child become accustomed to it before she is expected to use it.
- * Take the child to the potty each time she demonstrates she wants to go. Don't expect that she should use it. If she does, reward her. If she doesn't, don't make a fuss. Don't leave her there for more than a few minutes, and don't give her toys and let her play.
- * Always reward for success. The reward should be something that the child likes.

- * Ignore accidents. Never punish the child for wetting or soiling.
- * Allow the child to watch, and model, older children. Being "a big girl like Molly" is a good incentive for younger children to imitate siblings and help to train themselves.
- * If a battle begins, and if the parent finds herself feeling angry and frustrated, stop for a while, and try again later, when the child may be more ready or willing. Don't push.