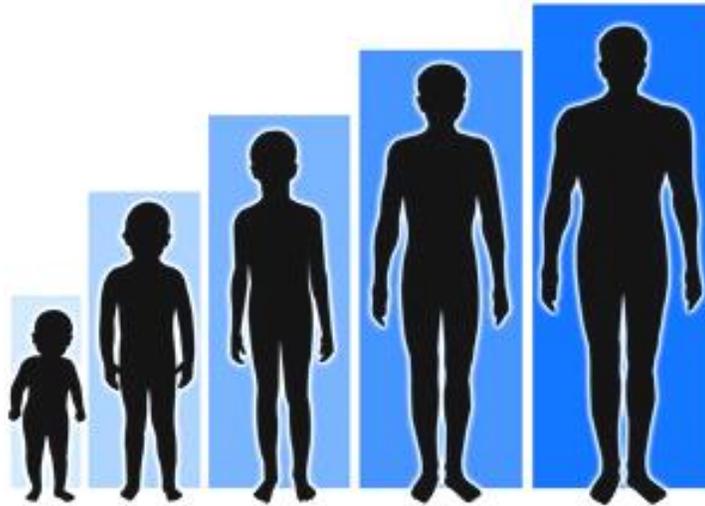




Human Growth and Development



Module 6, Section 2

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Developmental Milestones for Babies

At age one month, most children can...

- Raise their heads slightly when lying on their stomachs
- Briefly watch objects
- Make "noise in throat" sounds
- Pull away from a cloth or blanket on their faces

At age three months, most children can...

- Lift their heads and chests when lying on their stomachs
- Show vigorous body movement
- Follow a moving person with their eyes
- Recognize a bottle or breast
- Smile when someone speaks to them



At age six months, most children can...

- Sit with minimal support
- Roll from their backs to their stomachs
- Turn to locate and identify sounds
- Transfer objects from hand to hand and from hand to mouth
- Respond to friendly speech with a smile or coo

At age 12 months, most children can...

- Pull themselves up to stand and may step with support
- Pick things up with a thumb and one finger
- Nod their heads to signal "yes"
- Give affection
- Say two or three words

At age 2, most children can...

- Hand over toys upon request
- Kick a large ball
- Turn pages in a book (two or three at a time)
- Ask for items by name
- Recognize a familiar picture and know if it is upside down
- Use two or three words together, such as "more juice"

At age 3, most children can...

- Walk up stairs while holding the railing
- Stand momentarily on one foot
- Open doors
- Unbutton large buttons
- Verbalize toilet needs
- Stack objects of different sizes

A delay in any of these areas could be a sign of a developmental problem.

Factors Which Contribute to a Variety in Rate of Development

- Sex of the person
- Gland function or dysfunction
- A lack of proper nutrition
- Genes
- Rate of intellectual development
- Health status (sickly)
- Exposure to fresh air or pollutants
- Birth order of child in family in relation to siblings
- Level of motivation or drive
- Presence or absence of parents' attitudes: encouragement, interest or not
- Environmental stimuli
- Drugs or alcohol



Stages of Normal Human Development

<u>Stage</u>	<u>Characteristics</u>
Newborn	Senses are developed. Infants are attracted to the human face and can follow a moving light. Uses rooting reflex to obtain nourishment.
Infant	Grasp reflex of hands and toes. Imitation begins: motor (banging, tongue, peek-a-boo) and vocal (da, da, da)
Toddler	Knows environment and can make simple changes to it, such as getting someone's attention for the purpose of play, knowing that things which disappear still exist. Learns objects have names. Learns cause and effect relationships. Variety and repetition are keys to learning.
Young child	Communication skills improve. Learns best by doing. Learns abstract reasoning. Becomes more independent of caregivers. Likes to play with peers.
Pre-pubescence	Feels more secure interacting with same sex friends. Secondary sex characteristics appear, but the reproductive organs are not yet fully developed. Marked by growth spurts and marked changes in body proportions. (Varies by heredity) Girls' growth spurts are between 8-12 years and growth gradually declines until age 17 or 18. Boys begin their growth spurt between 10-15 years. Growth peaks between 14.5-15.5 years with growth gradually declining until age 20 or 21.
Pubescence	The first phase of adolescence when sexual maturation occurs. It climaxes when girls first menstruate and boys show the presence of live sperm in the urine.
Adolescence	Boys' testes and penises grow and nocturnal emissions occur. Pubic hair, underarm and facial hair begins to grow. Girls' reproductive organs grow and mature (breasts, uterus, ovaries, vagina, etc.) Pubic hair and widening of hips occur. Both sexes may experience acne, finicky appetites, increased desires to be alone, more easily bored, increasingly clumsy or awkward, heightened emotions, loss of self confidence and excessive modesty. Thinking shifts from concrete to abstract. Emotions are often intense, uncontrolled, and seemingly irrational. They are attempting to develop masculine or feminine social roles. Personalities and morals develop. Enjoys interacting with the opposite sex.

Adulthood Male and female roles established. More mature interest in opposite sex. Instinct is to have a family and settle down. Focus may be on marriage and raising children.

Old age Increased risk of bone fractures, loss of strength and muscle power. Osteoporosis or other types of ill health may interfere with ease of living. Life stressors may impact health. Skin becomes dry and wrinkled. May have more time to develop or pursue interests and hobbies.

People with Developmental Disabilities – Motor experience may be limited because of physical, psychological, or sociological issues. Person may have been raised in overly-structured, restrictive environment. This may inhibit exploration and reduce the person's opportunity to develop more varied perceptions and associations. Interpretations of environment may be unusual because of lack of normal set of experiences. The person may exhibit characteristics of a certain stage, even though their chronological age may be older.

Remember, a person with a developmental disability may have normal physical development, but have significant delays in cognitive or emotional development.

Stages of Language Development

1. **Babbling:** The first stage of language development is known as the babbling or cooing stage. During this period, which typically lasts from the age of three to nine months, babies begin to make vowel sounds such as *oooooh* and *aaaaaah*. By five months, infants typically begin to babble and add consonant sounds to their sounds such as *ba-ba-ba*, *ma-ma-ma* or *da-da-da*.
2. **Single Words:** The second stage is known as the one-word stage of language development. Around the age of 10 to 13 months, children will begin to produce their first real words. While children are only capable of producing a few, single words at this point, it is important to realize that they are able to understand considerably more. Infants begin to comprehend language about twice as fast as they are able to produce it.
3. **Two Words:** The third stage begins around the age of 18 months, when children begin to use two word sentences. These sentences usually consist of just nouns and verbs, such as "Where daddy?" and "Puppy big!"
4. **Multi-word Sentences:** Around the age of two, children begin to produce short, sentences that have a subject and predicate. For example, a child might say "Mommy is happy" or "Want more milk."

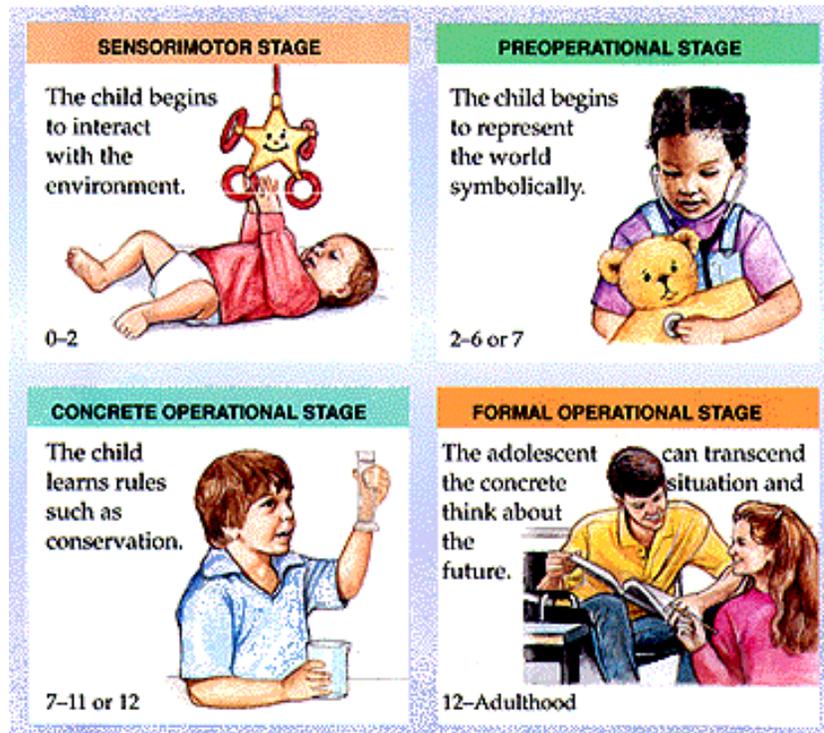
As children age, they continue to learn more new words every day. By the time they enter school around the age of five, children typically have a vocabulary of 10,000 words or more.

References

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Bjorkland, B. R. (1995). Language development and cognition. In David F. Bjorkland (Ed.), *Children's thinking: Developmental function and individual differences*. Pacific Grove, CA: Brooks/Cole.

Piaget's Developmental Ladder



Child psychologist Jean Piaget described the mechanism by which the mind processes new information. He said that a person understands whatever information fits into his established view of the world. When information does not fit, the person must reexamine and adjust his thinking to accommodate the new information. Piaget described four stages of **cognitive development** and relates them to a person's ability to understand and assimilate new information.

Stage 1: Sensorimotor

The child is incapable of solving problems. If something is not seen, it has ceased to exist. Around 18 months the child realizes the object has fallen and will search for it. The child can form a plan to retrieve it, but success tends to be a trial and error process. For example, a 20 month old may finally figure out how to open a door by turning the doorknob after many attempts, but may forget the next day and have to re-solve the problem.

Stage 2: Preoperational

By age 2, the child can use language to control the environment and help solve problems. The child can sing a song, tell what happened and can understand some opposites. However, s/he cannot understand abstract concepts, such as death or honesty.

Stage 3: Concrete Operations

From age 6-12, the child can see complex relationships, classify objects and put in order, solve simple arithmetic problems, and read. S/he still has difficulty dealing with hypothetical situations.

Stage 4: Formal Operations

This stage begins at about age 12 and continues throughout life. The person can project into the future and set up long range goals. They are more sensitive to the needs of others and can understand abstract concepts, isolate a problem, review it systematically and test possible solutions. They are no longer gullible and do not believe in fanciful stories.

Human Senses

- Hearing - ears



- Seeing - eyes



- Tasting - tongue



- Touching - skin, fingers



- Smelling - nose



Aging and People with Developmental Disabilities

People with Developmental disabilities are living longer now than ever before. This is because of improved medical technology and greater access to medical care. 12% of all people with developmental disabilities are over the age of 65 years. As a DSP, you will play a very important role in supporting people as they become older. You may be the first person to notice some of the subtle signs of aging, so it is important that you know what some of these signs may be. People with developmental disability need support and understanding by people that are compassionate and properly trained so they can live their lives with dignity and quality.

Just as with typical aging, people with developmental disabilities experience reductions in functional vision, hearing and balance. Depending on the nature of the person's disability, even minor deterioration of these senses can cause major life changes. Some of these changes may include:

Vision Changes

Vision Changes associated with aging include:

- Inability to see things clearly
- Difficulty seeing in the dark
- Difficulty in situations with reflected light or glare
- Loss of visual field (tunnel vision)

Indicators of a Visual Problem include:

- Rubbing eyes
- Squinting
- Shutting or covering one eye
- Tilting head forward
- Redness of eyes or around eyes
- Stumbling
- Hesitancy on a step or curb
- Holding objects close to eyes
- Sitting close to TV
- Changes in color perception (especially greens, blues and violets)

Support Strategies for Vision include:

- Getting regular eye exams
- Using high contrast colors (black on white, for example), non glare lighting and surfaces
- Providing increased lighting, using night lights
- Organizing belongings and keeping their locations consistent

Hearing Changes

Hearing changes associated with aging include:

- Decreased ability to locate the source of sound
- Decreased ability to detect sound or speech due to increased ear wax
- Decreased ability to understand speech (even though hearing environmental sounds may seem to be fine)
- Loss of hearing for high pitched sounds

Indicators of hearing loss include:

- Turning TV up loud
- Speaking loudly
- Inappropriate response to questions
- Confusion in noisy situations
- Self injurious behaviors

Support Strategies for hearing include:

- Getting regular exams with a hearing professional to check for wax, disease, gradual hearing loss
- Hearing aid if indicated
- Reducing background noise
- Speaking slower using lower pitched voice
- Facing the person when speaking with light on your face

Sense of Smell/Nose

As people age there is a decrease in nerve fibers in the nasal area. Mucous membranes become dry and people are less sensitive to odors.

Support Strategies for the sense of smell include:

- Using smoke detectors
- Exercising additional care if using propane stoves or water heaters
- Discarding food after recommended time, checking for spoilage
- Assisting with the awareness of body odor or over-use of fragrances

Sense of Touch/Skin

With aging there is a decrease in the elasticity and thickness of the skin. There is less blood supply and a decrease in the function of the sweat glands.

Protecting the Skin:

- Minimize use of harsh soaps and be sure to rinse well.
- Be sure to dry well and use moisturizers
- Reposition frequently if mobility is limited
- Check skin frequently for problems
- Clearly label hot and cold water and monitor water temperatures
- Use sun protection

Age related Muscle or Skeletal Changes

As people age changes in bones and muscles also occur. These changes include:

- Decrease in muscle mass (amount of muscle)
- Decrease in joint mobility
- Decrease in strength of bones (become more porous or sponge-like)
- Shortening of the spinal cord
- Increased likelihood of developing arthritis

Special Down syndrome Concerns:

While many of the issues with aging probably will not be of concern until the person is into their 50's or 60's, certain developmental disabilities such as Down syndrome, exhibit a special set of concerns. Research has shown that a significant number of individuals with Down syndrome over the age of 35 years develop Alzheimer's disease. The initial signs may just be very subtle changes, such as a decrease ability to carry out activities of daily living, but may eventually lead to more serious, life-changing problems. These signs appear much earlier than the general population for people with developmental disabilities and progress more rapidly. Some people may experience a new onset of seizure disorders.

Other age-related problems for people with Down syndrome include:

- Increased risk of heart valve disease later in life
- Joint problems of neck, knee, and hip
- Increased incidence of being overweight

References:

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http://www.nsn.com/graying_of_disabled_america.htm ; accessed 12/4/2011

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Characteristics of Sexual Development

Male Development

Increased body hair

Hair around genitals

Growth of beard

Growth of hair under arms

Lowering of voice

Nocturnal emissions (wet dreams)

Erections

Interest in opposite sex

Acne

Development of larger muscles
& broader shoulders

Mood swings

Female Development

Increased body hair

Hair around genitals

Appearance of menses

Growth of hair under arms

Appearance of breasts

Interest in opposite sex

Ability to become pregnant

Acne

Mood swings

Need to wear sanitary napkins
or tampons

Abdominal cramps

Sexuality Terms Worksheet

Directions: Draw a line from the word in the left-hand column to the correct description on the right.

Penis	Small, erectile organ near the opening of the vagina.
Vagina	Male sex gland which produces sperm.
Testes	Canal in the female that receives the penis during intercourse. Also, the fetus passes through it at birth.
Genitals	Male sex organ, also used for urination.
Clitoris	External sex organs.
Intercourse	Stimulation of the genitals through manipulation or means other than intercourse.
Masturbation	Sexual union of two people in which the penis is inserted into a body orifice of the other.
Ejaculation	Outer covering of skin at the tip of the penis.
Scrotum	Expulsion of semen from the male body.
Foreskin	Pouch of skin that hangs behind the penis and contains the testes.
Uterus	Opening where solid waste leaves the body.
Anus	Place in a woman's body where the fetus develops: the womb.