

Normal Age Related Changes and Developmental Disability

Excerpts From:
Growing Older with A Developmental
Disability:
Physical and Cognitive Changes and Their
Implications.
University of Illinois at Chicago

VISION:

Age Related Changes

- Changes in the lens, pupil size, dry eyes/inflamed eyelids, and in depth perception.
- Increased risk of age-related eye diseases, i.e. macular degeneration, glaucoma, cataracts, or a chronic illness like diabetes.

* Adults with Down Syndrome are at higher risk for vision problems and onset may be earlier.

Reminders for Caregivers

- Schedule periodic eye exams
- Vision changes occur gradually and for the person with a developmental disability, they may not recognize or be able to communicate that there is a problem.
- Watch for behaviors suggesting vision problems, i.e. squinting, rubbing the eyes, holding objects closer, tilting the head, hesitation when walking -especially on uneven surfaces.
- Night lights or large print materials.
- Allow time for the person to adjust to changes in light.
- Increase lighting levels.

HEARING:

Age Related Changes

- Harder to hear high pitched sounds.
- Ringing in ears (tinnitus)

Reminders for Caregivers

- Watch for increased volume with the radio, television, or the person begins speaking loudly.
- Periodic medical checks for wax build-up in ears.
- Some hearing problems correctable with hearing aid.
- Look directly at the person when speaking.
* Persons with Down syndrome are more prone to hearing loss prone to fluid in the middle ear and very small ear canals that can be blocked with wax (cerumen).

TASTE AND SMELL:

Age Related Changes

- Decrease in taste buds; smell may also be reduced.

Reminders for Caregivers

- Increase seasoning on foods, watch the salt.
- Ensure adequate fluids to avoid dehydration.
- Change in taste may be related to a medication or an illness.

SKIN:

Age Related Changes

- Thinner, dryer, wrinkles, age spots.
- Loss of layer of fat below skin decreases ability to stay warm in cool temperatures.
- Aging spots increase.

* Dry skin common in adults with Down syndrome

- * Fungal infections of skin and nails more common in Down Syndrome

Reminders for Caregivers

- Persons with cerebral palsy or those who have been nonambulatory are more susceptible to pressure sores because of decrease in mobility and thinner skin.
- Use moisturizing lotion
- Assist with repositioning.
- Inspect skin on a regular basis.

MUSCLE/BONES (musculoskeletal)

Age Related Changes

- Loss of muscle mass and decrease in strength.
- Joints less mobile.
- Bones get thinner (osteoporosis, woman at much greater because of estrogen lost after menopause); greater risk of fractures.
- Person may develop arthritis.
- 14% of people with Down syndrome have spinal column instability and may cause neck pain, gait changes.
- Adults with Down syndrome are also more likely to have problems with walking and balance because they are at greater risk of joint problems of the neck, knee and hip, and for developing bunions.

Reminders for Caregivers

- Persons with long-term history of taking anticonvulsants have a greater risk of developing osteoporosis.
- Persons with cerebral palsy due to any nutritional deficit, limited activity and medication usage are at risk for developing osteoporosis.
- Individuals with cerebral palsy are likely to experience reduced mobility due to overuse of joints and muscles. May need adaptive assistive equipment for ambulation.
- Encourage independence, promote regular exercise (if at possible, that it be weight bearing), home safety with non skid materials in bathtubs to prevent falls, etc.
- Proper use of assistive devices addressing the osteoporosis with increasing calcium intake and weight bearing exercises if possible.

HEART AND BLOOD VESSELS (cardiovascular system)

Age Related Changes

- Heart rate decreases and blood vessels less elastic with build-up of fat (cholesterol in the artery walls)
*An estimated 30-60% of individuals with Down syndrome are born with heart problems (congenital heart disease). In young adults with no history of heart problems, may develop heart valve dysfunction. Adults with these conditions may develop special needs as they grow older.

Reminders for Caregivers

- Undertake activities at the appropriate pace for the individual and allow enough time between position changes to prevent dizziness.
- Encourage exercise as tolerated.
- Lifestyle changes if needed, i.e. smoking cessation or a modified diet with decreased salt and fat.

LUNGS (Pulmonary System)

Age Related Changes

- Lungs are less elastic which means that the amount of oxygen that you can take in is reduced.
- Breathing becomes less efficient and tolerance for exercise decreases.
 - * Persons with cerebral palsy may experience the onset or increase of problems in breathing and muscle control which may make talking more difficult.

Reminders for Caregivers

- Encourage smoking cessation and deep breathing.
- Reduce the pace of activities with more rest periods.
- Make sure individuals have proper nutrition and drinking plenty of fluids.
- Immunizations in the fall for influenza, pneumonia and watch for signs of infection, i.e. coughing, shortness of breath, void sputum.

DIGESTIVE / GASTROINTESTINAL

Age Related Changes

- Caloric needs decline each decade that we age.
- More problems with indigestion because of a decrease in secretion of gastric juices.
- Decreased production of saliva, which increases risk for gum (parodontal disease).
- * Older persons with developmental disability at greater risk for severe problems with constipation. This is related to long term poor toileting habits, inactivity or medications, i.e. antidepressants, antipsychotic, anticonvulsant, or phenyl thiazine medications.
- * People with cerebral palsy and Down syndrome may begin to experience difficulty with eating and swallowing due to a loss of control of their throat muscles. Persons with a high degree of spasticity can be at risk of choking.
- * Ongoing bowel and bladder problems that are experienced by many people with cerebral palsy will intensify with age. Decreased movement and reduced fluid and fiber intake make people with cerebral palsy especially prone to constipation.
- * Individuals with cerebral palsy and Down syndrome are at greater risk for gum disease.

Reminders for Caregivers

- A balanced diet, include high fiber foods.
- Regular toileting schedule.
- Periodic dental exams and good oral hygiene. This includes evaluation of dentures for good fit since poorly fitting dentures can cause soreness and that limits the person's ability to properly chew food.
- Refer individuals with incontinence and swallowing problems.

URINARY SYSTEM

Age Related Changes

- Bladder capacity and the muscle tone of the bladder decrease which causes people to urinate more frequently.
- Kidneys are less efficient in removing waste from the blood.
- In men, enlargement of the prostate gland can restrict urinary flow.
- * Urinary incontinence may be more prevalent with individuals with Down syndrome. Predisposing factors are urinary tract infections, nervous systems, disorders, behavior issues, and variations in the body structure.
- * People with cerebral palsy spasticity results in urinary retention and curvature of the spine can result in incontinence.

Reminders for Caregivers

- Quick access to toileting facilities.
- Reminders to use the toilet.
- Encourage adequate fluid intake.
- Refer for evaluation when incontinence develops.
- Screen for prostate cancer and diabetes.

ENDOCRINE SYSTEM

Age Related Changes

- Decrease in the production of hormones, i.e. the pancreas releases less insulin, decrease in estrogen in females, decrease in testosterone in males.

* Individuals with Down syndrome may experience premature aging of the immune system. They may develop hypothyroidism; this is where the thyroid does not produce enough hormone. Symptoms can include sluggishness, change in functioning, confusion, constipation, fatigue, depression.

Reminders for Caregivers

- Provide GYN exams for women.
- Provide prostate exam for men.

SLEEP PATTERN

Age Related Changes

- Decrease in sound sleep and people are more likely to wake up during the night.

* Individuals with Down syndrome more likely to develop sleep apnea (obstruction of the airway, which symptoms would be loud snoring and pauses in breathing during sleep). The reason for this is that they have unusually small upper airways, increase secretions, obesity, poor muscle tone, tongue weakness and large tonsils and adenoids. Symptoms may also include excessive day time sleeping, behavioral disturbances, declining functional skills and disruptive sleep patterns.

Reminders for Caregivers

- Encourage regular sleep routine
- Reduce use of caffeine and fluids before bedtime.
- Watch for signs of sleep apnea such as excessive daytime sleeping, behaviors snoring.

PHARMACOLOGICAL CHANGES

Age Related Changes

- There are changes in the liver, kidney and GI systems which affect the person's ability to absorb distribute and eliminate medications.
- Risk of side effects from medication increases with a number of drugs. The number of medications the person must take on a daily basis usually increases with age.

Reminder for Caregivers

- Make sure that every treating physician knows all the medications that the individual is taking, prescription as well as over the counter.
- Know what each medication's purpose and its side affects.
- Encourage starting with a low dosage of a new medication and increase slowly.
- Watch for signs and symptoms of a drug reaction.

BEHAVIORAL AND COGNITIVE CHANGES

Age Related Changes

- Brain starts to decrease in size due to some atrophy, some loss of neurons and decreased blood flow. Plaques form reducing a slowing of the information transferred between the brain and nerve endings throughout the body. There is a general slowing of reaction time and physical movements of the body.
- Intelligence of the ability to learn does not necessarily decline in old age.
- Personalities are the same throughout life, but our personality traits are accentuated with aging.

- * Individuals with Down Syndrome may begin to show losses in cognitive and adaptive skills by age 50.
- * The onset of Alzheimer's may occur at a younger age and may result in a more rapid decline with individuals with Down Syndrome.
- * Male illness is more prevalent among people with mental retardation than among the general population.
- * Depression is the most frequently noted affective disorder among older people with mental retardation.

Reminders for caregivers

- Establish routines in activities of daily living.
- Use memory aids.
- Speak slowly, clearly and give short simple instructions.
- Refer person showing signs of dementia for a thorough clinical evaluation to rule out treatable conditions that may produce the same kind of symptoms, i.e., hypothyroidism; B-12 deficiency; stroke; kidney; liver and electrolyte disturbances; medications effects; depression, sensory changes and sleep apnea.