

October 2025



Decline in Skills and Behavioral Change in Adults with Down Syndrome

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Introduction

A decline in skills and/or a change in behavior are frequent presenting symptoms in adults with Down syndrome. There are many potential causes and often there are multiple, co-occurring contributing factors. Individuals with Down syndrome and other intellectual disabilities do seem to be more sensitive to a variety of stressors which can negatively impact function and behavior, although there is little research on the topic.^{1,2} In this article we review common health conditions in individuals with Down syndrome with emphasis on those that, when altered, can impair function and behavior.

Definition

For this article, a decline in skills is defined as a loss of previously acquired skills in an individual or development of behavior change that negatively impacts the individual's ability to enjoy and/or participate in activities. It may affect cognition, behavior, ability to perform activities of daily living, motor function, and/or speech. Causes and contributing factors include change in physical health, mental health, and/or social stressors. Changes in physical health, mental health, and social stressors commonly co-occur.

Factors That May Affect the Clinical Presentation and Management

Communication skills are a significant factor. Many individuals with Down syndrome have some limitation of communication skills.³⁻⁵ Often, their expressive language capabilities are less than their receptive language capabilities. This can create challenges for individuals with Down syndrome to verbally express discomfort, whether it is physical, mental, and/or social and, therefore, a functional or behavioral change may be a form of communication and/or presenting symptom.⁶

Memory and learning are also important factors. Visual memory and learning tend to be stronger in individuals with Down syndrome compared to auditory memory and learning.⁷⁻⁹ This can lead to observers misinterpreting their behavior as inappropriate or even mental illness when it is actually an issue of not having learned or retained the guidance provided, particularly when provided verbally.⁶

Another factor is unevenness of skill levels. It is not uncommon for an individual with Down syndrome to have stronger skills in certain areas and lesser skills in others.^{6,10} For example, some individuals, despite having good expressive language skills and cognitive skills, have less emotional skills and/or executive function and, therefore, may have difficulty managing stressors or have difficulty expressing their emotional

discomfort. To improve the assessment, assess the baseline level of function as well as the reported decline in each area.

Brain anatomy and physiology also have an impact in people with Down syndrome. Certain areas of the brain are less developed and can impact behavior and mental health.^{11,12} For example, the frontal lobe, parietal lobe, and cerebellum are reduced in size, and this can impact executive functioning including problem solving and adapting to new situations. As noted above, impairment in these abilities may result in behavioral or emotional responses to stressors.

Impairment of the ability to perform or the lack of opportunity to participate in health-promoting lifestyle factors can also affect skills, behavior, symptom presentation and management. Factors that promote physical, mental, and cognitive health are not well studied in individuals with Down syndrome.¹³⁻¹⁶ These include adequate sleep and sleep hygiene, regular exercise, healthy nutrition, social opportunities, occupational and educational opportunities, relaxation methods, optimizing physical health, limiting screen time, especially before bedtime, and self-determination. More information is available in the [Health Promotion for Adults with Down Syndrome](#) article.

Differential Diagnosis

Assessing physical, mental, and social health conditions is important to determine the cause or causes for loss of function and/or behavioral

or psychological change. A thorough history and physical as well as labs and possibly imaging are part of the initial investigation. Further evaluation is indicated as needed based on the initial findings and the success of the initial treatment.

A change in behavior and/or loss of skills may be a dominant part of the presentation of a clinical problem in a person with Down syndrome. This can make it challenging to diagnose and treat the underlying condition(s). However, it is important to consider that disease symptoms, aside from the decline in skills or change in behavior, are often similar in individuals with and without Down syndrome. The loss of skills or behavioral change seen in the individual with Down syndrome may be the predominant complaint at first, but when the underlying condition is treated, the skills and behavior may also improve.

There are many conditions that are more common or probably more common in individuals with Down syndrome that, if left untreated, can affect behavior and function. It is beneficial to focus the evaluation on these common conditions, but less common conditions can also contribute.

The following list includes possible testing to consider ordering when assessing an individual with Down syndrome with a complaint of a decline in skills and/or a behavior change. The list takes into consideration conditions that

can contribute to these changes as well as the conditions that commonly affect individuals with Down syndrome. Findings of the history and physical may direct the health professional to adjust this list.

- History and physical examination including medication history.
- Labs: CBC, CMP, TSH, T4, urinalysis, TTGA-IgA, total IgA, morning cortisol, morning ACTH, B12, folic acid
- Vision and hearing exams
- Sleep study
- EEG

Additional evaluation if other conditions are suspected:

- If Down Syndrome Regression Disorder (DSRD) is suspected: work-up as noted in the tables in the [Down Syndrome Regression Disorder: Clinical Features, Diagnosis and Therapeutics](#) article.
- Consider MRI of cervical spine.
- Consider computer tomography scan (CT scan) of the sinuses.
- Consider CT or MRI of the brain.
- Dental referral indicated if any question of dental pain.
- Consider abdominal X-ray, CT scan, ultrasound, colonoscopy, and/or

esophagogastroduodenoscopy (EGD) based on clinical presentation and index of suspicion.

- Additional testing as indicated by findings on the history, physical, lab and imaging findings, and treatment outcomes.

Some individuals may find it difficult to comply with phlebotomy, imaging studies, and other evaluations and treatments. Guidance for assisting the individual with Down syndrome through diagnosis and treatment is included in the article [Supporting an Adult with Down Syndrome in the Healthcare Setting](#).

The following is a review of some of the conditions that contribute to a decline in skills or a behavioral change. Additional information is in the [Common Health Conditions in Adults with Down Syndrome](#) article. The table below summarizes conditions to consider with an emphasis on the conditions that are more common or possibly more common.

Links to additional information in other articles are also provided.



Decline in Skills

Potential Causes of Decline in Skills:		Conditions that are probably more common and may cause a decline in skills:
Alzheimer's disease	Infectious diseases	Adrenal insufficiency
Amyloid angiopathy due to Alzheimer's disease	Leukemia	Embolitic strokes
Anxiety	Medication side effects	Pain (untreated or insufficiently treated)
Autoimmune conditions	Moyamoya disease	Post traumatic stress disorder
Celiac disease	Obsessive compulsive disorder	Type 2 diabetes mellitus
Cervical myelopathy	Psychiatric disorders	
Congenital heart disease complications	Reactions to social or psychological stress or grief	
Depression	Renal and urologic conditions	
Down syndrome regression disorder	Seizures	
Gastrointestinal motility disorders	Sleep apnea/sleep fragmentation	
GERD	Testicular cancer	
Hearing impairment	Type 1 diabetes mellitus	
Hypothyroidism and hyperthyroidism	Vision impairment	
	Vitamin deficiencies	

Other conditions to consider:

Dysmenorrhea
Menopause
Tic disorders

Pain, acute or chronic, can be difficult to assess in individuals with Down syndrome.¹⁷⁻²² Often, a change in behavior or functioning is the only clue to the presence of pain. Another clue, particularly in those with Down syndrome on the autism spectrum, can be self-injurious behavior. This behavior might be directed at the area of pain or elsewhere in the body. Common sources of pain in people with Down syndrome include dental disease,²³ nasal and sinus conditions²⁴ (although allergic rhinitis may be less common.^{25,26}), and gastrointestinal conditions.^{34,27}

Individuals with Down syndrome are more sensitive to some **medication side effects**, especially anti-cholinergic side effects²⁸⁻³⁰ which may affect behavior or function. Polypharmacy is also a common finding for individuals with Down syndrome and other intellectual disabilities, and it can contribute to behavioral and/or functional changes.³¹

Sleep apnea is very common in individuals with Down syndrome.³² In children with Down syndrome, family observation of symptoms has not

been shown to correlate well with sleep study results,³³ however, this has not been studied in adults with Down syndrome. Therefore, a sleep study (polysomnogram) may be indicated even if a description of symptoms of sleep apnea is not provided. In addition, sleep disturbance, fragmented sleep, and insomnia are more common.^{34,35}

Several **endocrine conditions** are more common including hypothyroidism or hyperthyroidism. Hypothyroidism is more common in Down syndrome and has a prevalence as high as 40%.³⁶⁻³⁹ Hyperthyroidism is also more common, although not as common as hypothyroidism. Adrenal insufficiency³⁵ may be more common, and it may be caused by autoimmunity in individuals with Down syndrome. Type 1 diabetes mellitus is more common, and type 2 may be more common.^{33,40}

Autoimmune conditions are more common in individuals with Down syndrome. One example is Down Syndrome Associated Arthritis, an autoimmune rheumatologic condition that can be difficult to diagnose. This can cause significant discomfort and joint dysfunction.⁴¹

In general, **infectious diseases**⁴² are more common due to impairments in the immune system and other factors, at least some infections are more common in individuals with Down syndrome. Individuals with Down syndrome are particularly susceptible to respiratory infections due to anatomical, physiological, and immunological differences.^{43,44} Clinical experience

indicates that a high index of suspicion of an infection is indicated when a person with Down syndrome has a behavioral or functional change because patient report and clinical signs (e.g., lack of a fever) may be limited.

Vision impairment⁴⁵ from a variety of conditions are more common in people with Down syndrome and individuals with Down syndrome often don't or can't report the change so it presents as a behavioral or functional change. Cerebral visual impairment is becoming more recognized as a common form of visual impairment in people with Down syndrome.⁴⁶ In addition, some older adults with Down syndrome have been found to have visual impairment like adults without Down syndrome who have developed Alzheimer's disease.⁴⁷

There are also several conditions that are more common in people with Down syndrome that affect the **ears and hearing**.⁵³ Cerumen impaction is common in people with Down syndrome, can affect function and behavior and is readily treatable. Inner ear or sensorineural hearing loss is also more common in individuals with Down syndrome and occurs at a younger age. The prevalence of hearing loss in children with Down syndrome ranges from 50-85% on up to 90% in older adults with Down syndrome.⁴⁸⁻⁵⁰

Gastrointestinal conditions such as celiac disease, gastroesophageal reflux, and other gastrointestinal motility disorders are more common. Celiac disease can cause vitamin B12 deficiency and other vitamin and mineral

deficiencies (see below), pain (see above), and general sense of ill-health all of which can contribute to neuropsychological changes.^{34,51,52} It may also have autoimmune effects on the brain.⁵³ Celiac disease may develop at any age even if previous antibody testing for celiac disease was normal. Gastroesophageal reflux and other gastrointestinal dysmotility can alter sleep patterns, cause discomfort, and cause nutritional deficiencies due to altered eating,⁵⁴ all of which can affect function and behavior.

Vitamin B12 and other vitamin deficiencies may be secondary to celiac disease. Vitamin B12 deficiency may also be caused by the autoimmune condition, pernicious anemia. As noted, autoimmune conditions are more common in individuals with Down syndrome.⁵⁵⁻⁵⁷ Vitamin B12 deficiency can cause a variety of neuropsychiatric symptoms.⁵⁸ Multiple different vitamin deficiencies have been described in individuals with restrictive diets secondary to autism (autism is more common in individuals with Down syndrome).⁵⁹

Cardiovascular conditions⁶⁰ can contribute to behavioral or functional changes. While atherosclerotic disease is less common in individuals with Down syndrome,^{61,62} congenital heart disease and its long-term complications are more common. For example, limited data indicate that embolic strokes are more common in individuals with Down syndrome, and this is likely a complication of congenital heart disease, even if it was surgically corrected in childhood.⁶³ However, the prevalence of throm-

botic stroke is likely lower than in adults without Down syndrome due to the lower prevalence of atherosclerotic disease. Prevalence of hemorrhagic strokes is not known but small microhemorrhages due to amyloid angiopathy occur in individuals with Alzheimer's disease. Amyloid angiopathy associated with Alzheimer's disease is more common in individuals with Down syndrome than in individuals who don't have Down syndrome. Moyamoya disease is not common in Down syndrome but is more common in individuals with Down syndrome than in those without Down syndrome. Moyamoya disease more commonly presents in childhood, but the initial presentation may occasionally be in adulthood.

Menopause occurs at a younger age in women with Down syndrome, in the mid-40's. Medications for symptoms may be indicated and beneficial.⁶⁴ Both functional and behavioral changes may be noted with menopause and even during the pre-menopausal stage. A guide for health professionals on women's health is available: [The Primary Care Provider's \(PCPs\) Guide to Women's Health and Down Syndrome](#).

Although the incidence of **dysmenorrhea** is not known in women with Down syndrome, some women with Down syndrome do note discomfort with menstruation which can present as psychological or functional symptoms. Additional information is available in [The Primary Care Provider's \(PCPs\) Guide to Women's Health and Down Syndrome](#).

There is little literature about **renal and urologic disease** in individuals with Down syndrome.⁶⁵⁻⁶⁷ Smaller kidneys and reduced number of nephrons seem to predispose to mild reductions in kidney function. Clinically, the level of impairment is typically in the range of chronic kidney disease stage G2 without proteinuria. A mild elevation of the creatinine level may be seen with the small reduction in glomerular filtration rate (GFR). More severe kidney impairment that may contribute to behavioral or functional change may be related to dehydration, anatomical (often congenital) or functional bladder and ureter abnormalities, chronic vesicoureteral reflux (often due to hypotonia of the bladder), urinary retention (as a complication of differences in autonomic nervous system function and/or behavioral issues—“holding” urine), or recurrent urologic infections (often related to the other conditions in this list). These conditions may contribute to functional or behavioral changes due to renal dysfunction, pain, or other causes.

Cancer^{34,68,69} can present with a decline in skills or change in behavior. Leukemia is more common in individuals with Down syndrome, primarily in children but sometimes in adults, and symptoms may include a change in function and/or behavior. In contrast, most solid tumors are less common in individuals with Down syndrome (except testicular cancer) and, therefore, are seldom a cause for a change in behavior or decline in function.

Mental illness⁷⁰ can commonly present with a change in behavior or loss of skills. A variety of mental health conditions are more common in individuals with Down syndrome and can cause these changes. For more information, see the article [Mental Health: Diagnosis and Treatment of Adults with Down Syndrome](#) and a brief summary below. The National Down Syndrome Society guide, [Practicing Inclusive Mental Healthcare of Individuals with Down Syndrome](#) can be a helpful tool for professionals. Assessing for possible contributing underlying physical causes presenting as a mental health change is important and may include sleep apnea, hypothyroidism, vitamin B12 deficiency, and others noted above.⁷¹ Inquiry about family history of mental illness provides valuable information for diagnosis and treatment.

Depression is the most common mental illness described in individuals with Down syndrome.^{72, 73} It commonly presents as a behavioral change rather than a self-report of sadness.

Obsessive-compulsive disorder (OCD) can cause significant behavioral and functional changes. When individuals get “stuck” in compulsive behaviors, they may not be able to participate in social activities or self-care.

Anxiety is more common in individuals with Down syndrome. Clinically, it is noted that anxiety and OCD may co-occur.

Psychotic disorders are more common. They can be difficult to diagnose since many individ-

uals with Down syndrome have limited verbal communication capability which can make it difficult to understand the individual's thought processes.

Post-traumatic stress disorder (PTSD) may be more common. The typical strong visual memories of individuals with Down syndrome, a common tendency towards perseverance, and a poorer sense of time can result in recurrent memories of traumatic events as if they occurred recently. Therefore, individuals with Down syndrome appear to be at higher risk for developing post-traumatic stress disorder. The diagnosis may be based on the symptoms of OCD, anxiety, depression, psychoses, and others, but the diagnosis of PTSD may be missed without a report of the trauma.

Psychological or Physical Response to Social or Psychologic Changes or Stress

Individuals with Down syndrome may display significant functional, emotional, and/or behavioral changes related to adjustment to change and/or grief. A wide variety of psychological and social stressors can contribute to a decline in skills and/or behavioral changes. The [*Mental Health: Diagnosis and Treatment of Adults with Down Syndrome*](#) article provides more information.

Adolescence and puberty can be challenging for individuals with Down syndrome leading to

changes in behavior and/or cognitive impairment. A variety of resources are available for individuals with Down syndrome and families in the [Resource Library](#) of the CARE Down Syndrome website. Counseling, mental health promotion, and/or medications that address dysmenorrhea or mental health changes (e.g., depression, anxiety) may be indicated and beneficial.⁷⁴

Psychological stress may contribute to or even be a triggering event towards the development of Alzheimer's disease⁷⁵ or Down Syndrome Regression Disorder^{76,77} in individuals with Down syndrome.

Medications that can cause the side effects of parkinsonism or **dystonia** are more frequently prescribed for individuals with Down syndrome⁷⁸ and, therefore, there may be a higher percentage of individuals with Down syndrome experiencing those side effects. Parkinson's disease is not common in individuals with Down syndrome. The incidence of Lewy Body Dementia, including the movement abnormalities associated with that diagnosis, occurring either on its own or with Alzheimer's disease, in individuals with Down syndrome is not known.

Cervical myelopathy may be a complication of cervical subluxation, degenerative changes, and/or congenital or acquired spinal stenosis. Atlantoaxial instability (AAI) is more common in individuals with Down syndrome.^{34,79,80} AAI can occur at any age even if previous x-rays were normal. Spinal stenosis and cervical myelopa-

thy can also occur without AAI.

Many **seizure** types are diagnosed in individuals with Down syndrome. There are two peaks of onset, childhood and older adults. In older adults, seizures are typically a complication of Alzheimer’s disease.⁶² Seizures are much more common in individuals with Down syndrome who develop Alzheimer’s disease than in individuals without Down syndrome who develop Alzheimer’s disease. It is important to identify and treat seizures, particularly recurrent seizures, due to the negative impact of untreated seizures on cognitive, mental, and physical health.^{34,81}

There are limited publications regarding **tic disorders** in individuals with Down syndrome. The available literature indicates Tourette’s syndrome is not more common in individuals with Down syndrome.⁸² When present, conditions like Tourette’s syndrome can cause both psychological and functional changes. In individuals with Down syndrome, motor tics may be present without vocal tics.

Autism spectrum disorder is more common in individuals with Down syndrome. Although the onset and/or diagnosis may be later than in children without Down syndrome, the onset is still in childhood.^{83,84} It is not typically part of the differential diagnosis in a change in function

or behavior in an adolescent or adult with Down syndrome. However, some individuals with Down syndrome may have autism that was not diagnosed in childhood. A new stressor may highlight or exacerbate their symptoms or established behaviors associated with autism. A thorough history will typically reveal that, while there may be new symptoms or changes in behavior or function, the patterns of behavior seen in a person with autism were present in childhood.

The onset of **Down Syndrome Regression Disorder (DSRD)** is most commonly in adolescence or early adulthood. DSRD was first described in the 1940s as “catatonic psychoses” in individuals with Down syndrome⁸⁵ and the etiology and treatment are still under study. It was not until a 2022 publication that there was some consensus on a tentative name of Down Syndrome Regression Disorder.²⁰ It appears to be a neurological condition with co-occurring psychological symptoms. It presents with a sub-acute decline over several weeks with changes in neurologic and psychologic function. Table 1 describes the diagnostic evaluation, and Table 2 the symptom criteria for diagnosis.⁸⁶ A summary of DSRD [is available here⁸⁷](#) as well as in the article [*Down Syndrome Regression Disorder: Clinical Features, Diagnosis and Therapeutics.*](#)

Table 1: Clinical criteria for the diagnosis of DSRD.

Category	Criteria	Possible DSRD	Probable DSRD
Symptom onset	Onset of new neurologic, psychiatric, or mixed symptoms over a period of <12 weeks in previously healthy individual with Down syndrome	Yes	Yes
Clinical evidence of neurologic dysfunction	<ol style="list-style-type: none"> 1. Altered mental status or behavioral dysregulation <ul style="list-style-type: none"> - Anorexia/decreased oral intake or hyperphagia - Confusion/disorientation - inappropriate laughter - Encephalopathy 2. Cognitive decline <ul style="list-style-type: none"> - Apathy - Abulia and/or avolition - Acute memory impairment (including new difficulty with recall) 3. Developmental regression with or without new autistic features <ul style="list-style-type: none"> - Social withdrawal - Loss of previously developmental acquired milestones - Inability to perform activities of daily living - Stereotypy - Rigidity around routine changes - Decreased eye contact 4. New focal neurologic deficits on examination and/or seizure 5. Insomnia or circadian rhythm disruption 6. Language deficits <ul style="list-style-type: none"> - Expressive and/or receptive aphasia - Global aphasia (mutism) - Whispered speech 7. Movement disorder (excluding tics)* <ul style="list-style-type: none"> - Catatonia - Bradykinesia - Freezing - Gait disturbance 8. Psychiatric symptoms <ul style="list-style-type: none"> - Anxiety - Delusions or hallucinations - Obsessive compulsive tendencies - Aggression/agitation 	>3 symptom clusters present	>6 symptom clusters present
Exclusion of other etiologies	Reasonable exclusion of alternative causes of regression including other systemic and central nervous system disorders. Other primary psychiatric disorders are also considered exclusionary.	Yes	Yes

* Must be included as one of the symptom clusters for possible or probable diagnosis.

Table 2: Diagnostic testing for individuals with suspected DSRD.

	All patients	As clinically indicated
Diagnostic Imaging	Brain MRI with and without gadolinium contrast on a 3T scanner	MRI spine with and without contrast PET/SPECT imaging MR angiography of the head and neck MR spectroscopy
Blood tests	Ammonia CBC w/differential CMP ESR CRP Lipid panel HbA1c B12 level Vitamin D 25-OH level TSH w/reflex T4 TPO antibodies Anti-thyroglobulin stimulating hormone receptor ANA Celiac serology or panel Cell-based autoimmune encephalitis panel	Infections testing ^{a,b} dsDNA Complement 3 and 4 Immunoglobulin levels Cytokine panel Celiac panel ASO Anti-DNAse B Vitamin B1 level Methylmalonic acid Vitamin B6 level Iron level, TIBC, and Iron Saturation Selenium level Heavy metal screen (lead, manganese, mercury, zinc, nickel, thallium) Myelin oligodendrocyte glycoprotein (MOG) antibodies (if not covered in cell-based panel) Lactate Advanced biochemical profiling (neurometabolic disorder evaluation) Fragile X testing Chromosomal Microarray Whole exome sequencing
Urine tests	n/a	Urinalysis with reflex culture Urine toxicology Total porphyrin and porphobilinogen Organic acids Acylglycines Glycosaminoglycans Oligosaccharides Sialic acid

Lumbar puncture	Cell count with differential	Infectious testing ^{a,b}
	Total protein	Opening Pressure
	Glucose	Neopterin
	Gram stain and culture	Angiotensin converting enzyme (ACE)
	IgG index	Lactate
	Oligoclonal bands	Pyruvate
	Cell-based autoimmune encephalitis panel	CSF amino acids
		Alpha aminoapodic semialdehyde
		Folate receptor antibody assay
		5-Methyltetrahydrofolate
	Tetrahydrobiopterin	
	Neurotransmitter metabolites (homovanillic acid, 3-0-methyl-dopa, and 5-hydroxyindole acetic acid)	
	Pyridoxal 5'-phosphate	
	Sialic acid	
	Succinyladenosine	
	Sepiapterin and dihydrobiopterin	
	Amyloid-beta 42/40	
	Phosphorylated tau	
Electroencephalogram	Routine (60 min) EEG	Prolonged EEG (4-6 h) Overnight EEG (24+ h)
Other testing	n/a	Polysomnogram (OSA evaluation) Audiogram (hearing evaluation) Neurocognition assessment

^a Potential bacterial/protozoal infectious testing: *Borrelia burgdorferi*, HIV, *Listeria monocytogenes*, *Mycoplasma pneumoniae*, *Mycobacterium tuberculosis*, *Treponema pallidum*.

^b Potential viral infectious testing: adenovirus, enterovirus, Epstein-Barr virus, herpes simplex virus 1 and 2, human herpes virus 6 and 7, influenzae virus A and B, John Cunningham virus, measles, rabies, varicella zoster, west Nile virus and other region-dependent viral testing.

Alzheimer's disease is significantly more common in individuals with Down syndrome. Symptom onset is usually after 40 years of age and is associated with decline in cognition, loss of skills, memory impairment, behavioral or psychological change, gait alteration, incontinence, seizures, and/or dysphagia.^{88,89} The National Task Group on Intellectual Disabilities and Dementia Practices has developed a [screening tool](#) for completion by family and/or care professionals. Like individuals without Down syndrome, the diagnosis is made by evaluating for a pattern of symptoms and ruling out other possible causes of decline. Neuropsychological testing accuracy and benefit may be limited in individuals with Down syndrome. Blood and cerebral spinal fluid biomarkers and imaging changes are being investigated to improve the diagnosis of Alzheimer's disease in individuals with Down syndrome.⁹⁰⁻⁹² Many resource links are available through the [National Institute on Aging](#). More in-depth information is also available in the article [Alzheimer's Disease in Adults with Down Syndrome](#) on the CARE Down Syndrome website.

Due to Alzheimer's disease being more common in people with Down syndrome, any decline in skills is often attributed to Alzheimer's disease without a thorough assessment for other causes. This error in diagnosis is referred to as "diagnostic overshadowing" and must be avoided when assessing older adults with Down syndrome. Additional information on diagnostic overshadowing can be found in the [Avoiding](#)

[Diagnostic Overshadowing when Caring for Adults with Down Syndrome](#) article.

If evaluation and treatment for the causes and contributing factors common in individuals with Down syndrome do not result in appropriate improvement, additional diagnostic and treatment approaches are indicated based on the symptoms, signs, clinical assessment, and outcomes.

Resources

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