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Course Objectives

The main topics that will be covered include, but are not limited to:

- Discuss these different types of irreversible dementias
 - Vascular Dementia
 - Frontotemporal Lobe Dementia
 - Dementia with Lewy Bodies
 - Huntington's Disease
 - Parkinson's Disease
 - AIDS dementia complex
 - Creutzfeldt-Jakob disease
 - Chronic Traumatic Encephalopathy dementia

The main topics that will be covered include, but are not limited to:

- Discuss these different types of reversible dementias
 - Reactions to medications
 - Metabolic issues
 - Depression
 - ▶ Infections
 - Nutritional deficiencies
 - Alcohol abuse
 - Normal pressure hydrocephalus
 - Delusions and delirium

Course Objectives

Course Objectives

The main topics that will be covered include, but are not limited to:

- Discuss the signs of each type of dementia
- Discuss how to deal with each type of dementia, including medication options

DSS = Department of Social Services

RCFE = Residential Care Facility for the Elderly

ARF = Adult Residential Facility

LPA = Licensing Program Analyst

SNF = Skilled Nursing Facility

AB = Assembly Bill

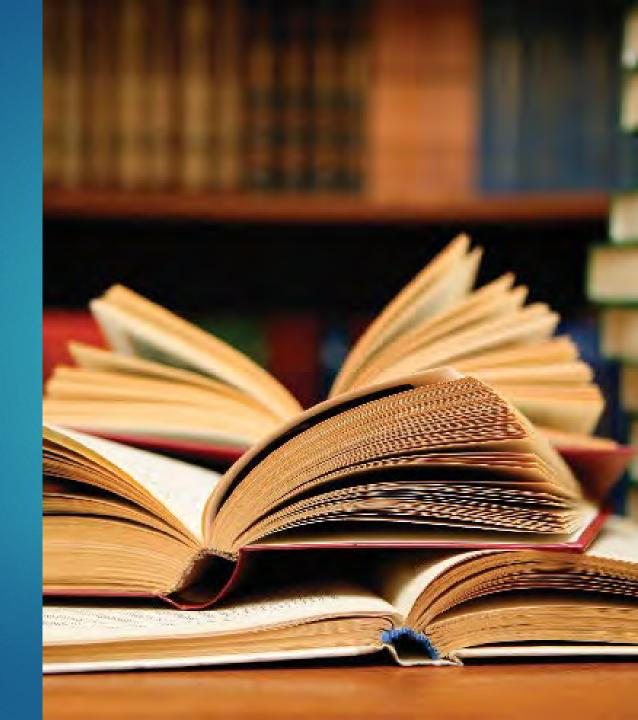
SB = Senate Bill

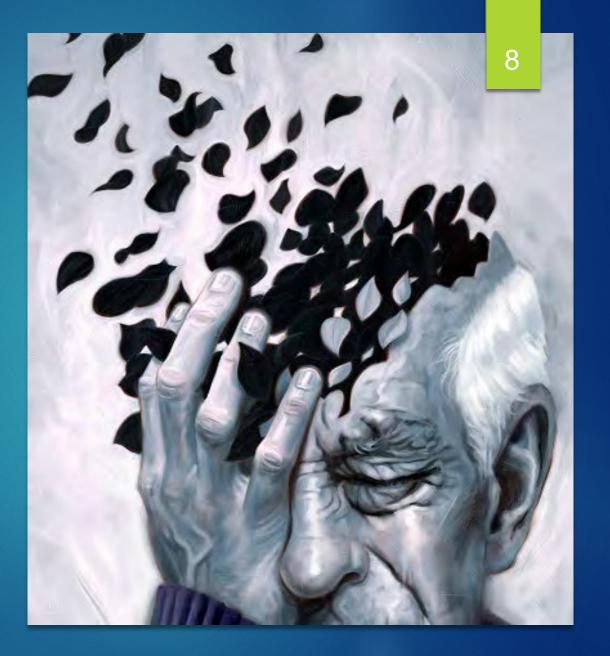
Resident = anyone living in long-term care

Sources

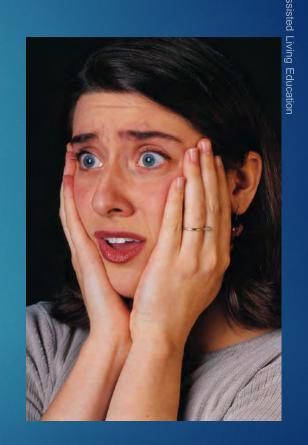
Many sources were consulted to prepare this course.

At the end of the course, these sources are listed.





Did you know that there are approximately 70-80 different types of dementia?*





As caregivers, why does it matter if our resident has one type or another? All I care about is getting them in the shower!

It **IS** important to know the differences because they have different behaviors and symptoms and you need to know how to deal with each one.

It is SO important that your resident has an accurate diagnosis of their condition because treatments vary widely depending upon the root cause of the dementia and effective treatment depends entirely upon accurately identifying what type of dementia is present.

Is it reversible? Is it irreversible?

You, as a caregiver, are an extremely important part of diagnosis solution.

You should keep a good record of your resident's symptoms and report them to the doctor. An accurate diagnosis can give your resident a better quality of life!



- Alzheimer's disease is considered to be the main cause of dementia and according to research, amounts to between 60 and 70%* of all cases.
- Vascular dementia is the second most common form of dementia and it is generally accepted that it accounts for 20% of all cases of dementia**.

^{*}Source: https://www.who.int/news-room/fact-sheets/detail/dementia#:~:text=Dementia%20is%20caused%20by%20many,60%E2%80%9370%25%20of%20cases.

^{**}Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8457333/



Dementia:

The general term describing the loss of the ability to think, remember, reason and communicate. It is not a disease, but a group of symptoms or a syndrome that is caused by certain diseases, conditions or temporary illnesses.

Degenerative diseases:

Diseases which are characterized by a progressive loss of nerve cells and synapses (i.e., Alzheimer's disease).

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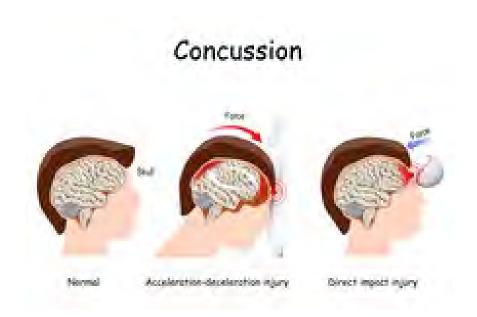
Infectious diseases:

Diseases caused by an infectious agent, such as a virus or prion (i.e., HIV).



Metabolic diseases:

A group of often treatable diseases which may lead to dementia and which are caused by an under-activity or over-activity of a part of the human metabolism (i.e., hyperthyroidism).

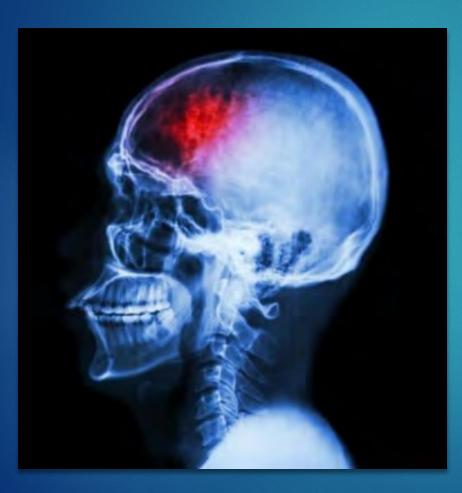


Traumatic diseases:

Diseases that are caused by a trauma, such as multiple concussions.

Cerebrovascular diseases:

Diseases of the blood vessels, arteries or blood supply in the brain, which are the second most common cause for dementia.



Irreversible Dementia:

A disease, injury or illness that causes a permanent dementia, like Alzheimer's disease or a stroke.

Anti-social

Reversible Dementia:

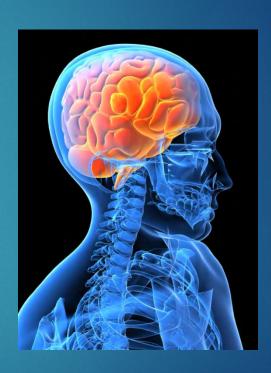
An injury, illness or condition that causes dementia but can be cured with proper treatment. Examples include substance abuse, infections, such as a UTI, and depression.



Irreversible Dementias

Types of Irreversible Dementias

- Vascular Dementia
- Frontol Lobe Dementia
- Dementia with Lewy Bodies
- Pick's Disease
- Huntington's Disease
- Parkinson's Disease
- AIDS dementia complex
- Creutzfeldt-Jakob disease



Vascular Dementia

FACTS:

- 2nd most common form of dementia.
- It is generally accepted that it accounts for 20% of all cases of dementia*.
- Untreated high blood pressure can account for 50% of all vascular dementias**.

*Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8457333/

**Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5341765/

Vascular dementia is caused by reduced blood flow to the brain – usually from a stroke or series of ministrokes called "TIA's".

If blood supply is blocked for longer than a few seconds, brain cells can die, causing damage to the cortex of the brain - the area that is associated with learning, memory, and language.



TIA – transient ischemic attack, aka "mini-strokes"



A TIA typically lasts about 2-7 minutes.



The patient may not even know they have had one because it is very short in duration and it passes without lingering symptoms.



A TIA can be followed by a serious disabling stroke within 24-48 hours!

How does a TIA occur?

It may start when a blood clot forms in an artery and blocks it right there or it can travel downstream to the brain or retina...or it could be plaque* that breaks off and heads to the brain.

*Plaque - composed of cholesterol, scar tissue and calcium mixed together.



What are the signs of a TIA?

- Numbness in an arm or leg, especially if it spreads to the shoulder or hip.
- Weakness in an arm and leg on the same side.
- Vertigo combined with numbness or weakness on the side of the face, a droopy eyelid or double vision.



While the mini-strokes may be unnoticeably small, the damage can add up over time, leading to memory loss, confusion, and other signs of dementia.



Vascular dementia can <u>also</u> result from other conditions that damage blood vessels and reduce circulation, depriving the brain of vital oxygen and nutrients, like:

- Poorly controlled diabetes
- High cholesterol
- High blood pressure

The most common type of vascular dementia is called multi-infarct dementia (MID).

This is a condition in which multiple small clots block blood vessels in the brain, destroying brain tissue.

Multi-infarct dementia:

An "infarct" is an area of tissue death in an organ caused when a blood clot blocks circulation of blood to the area.

More common with seniors and people with high blood pressure.



Symptoms can vary widely, depending on the severity of the blood vessel damage and the part of the brain affected.

Memory loss may or may not be a significant symptom depending on the specific brain areas where blood flow is reduced.



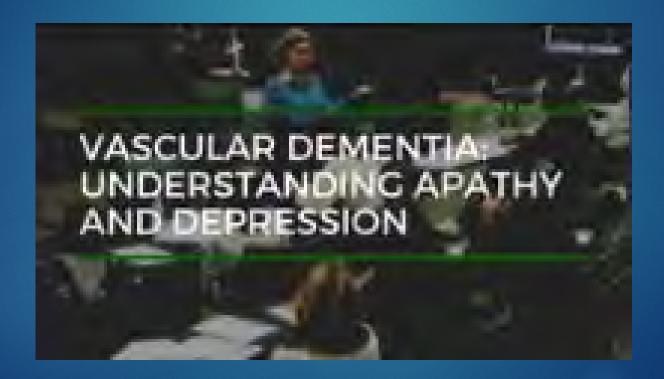
Vascular dementia symptoms include:

- Problems with memory
- Confusion
- Wandering at night
- Depression
- Trouble paying attention and concentrating
- Restlessness and agitation
- Unsteady gait

Vascular dementia symptoms include (cont'd):

- Reduced ability to organize thoughts or actions
- Reduced ability to analyze a situation, develop an effective plan, and communicate plan to others
- Difficulty deciding what to do next
- Sudden or frequent urge to urinate, or inability to control passing urine

Here is a video clip from Teepa Snow about vascular dementia:



Individuals at highest risk include those who:

- □ have had a stroke or a TIA
- have high blood pressure
- have high cholesterol
- have other risk factors for heart or blood vessel disease, like atherosclerosis (it reduces the flow of blood that nourishes the brain)
- □ are over the age of 80
- have diabetes
- □ smoke





Detecting vascular dementia:

There's no <u>specific</u> test that confirms you have vascular dementia, but the physician will conduct:

 Lab tests, such as blood tests for cholesterol and blood sugars and tests for thyroid disorders and vitamin deficiencies Assisted Living Educati

Detecting vascular dementia..... testing (cont'd):

- Neurological exams which include balance, coordination, reflexes, muscle strength, mobility and sense of touch and sight
- Brain imaging, such as CT scans and MRI's
- Carotid ultrasound (used to see if there is blockage of the carotid artery)



Detecting vascular dementia.....testing (cont'd):

- Neuropsychological tests, assessing for the ability to:
 - Learn and remember information
 - Speak, write and understand language
 - Work with numbers
 - Solve a problem
 - Respond effectively to hypothetical situations

Treatments and drugs:

- Possible prescription for an Alzheimer's drug, like Aricept
- Treatment for high blood pressure, high cholesterol
- Treatment for diabetes



Prevention:

- Do not smoke or stop smoking.
- Maintain a healthy blood pressure.
- Maintain healthy cholesterol levels.
- 4. Prevent or control diabetes.
- 5. Physical exercise.
- 6. Maintain a healthy weight.



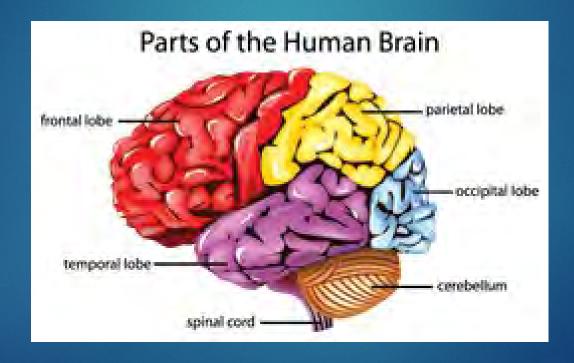
Frontotemporal Dementia

Frontotemporal dementia (FTD):

A group of related conditions resulting from the progressive degeneration of the temporal and frontal lobes of the brain. (see pic on next slide)

These areas of the brain play a significant role in decision-making, behavioral control, emotion and language.

Frontal lobe – area behind the forehead Temporal lobes – regions behind the ears



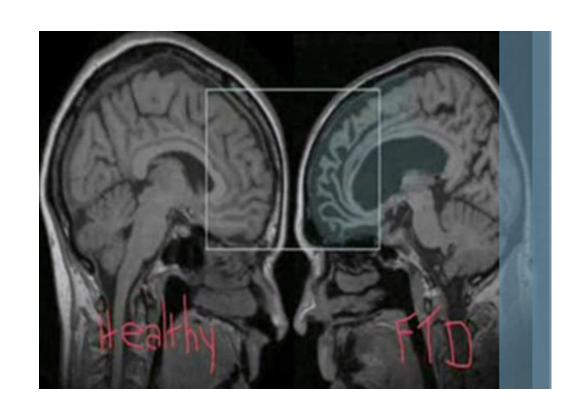
FTD facts*:

- In people under age 60, FTD is the most common cause of dementia (20-50% of dementia cases).
- The average age of diagnosis is about 57.
- It affects as many people as Alzheimer's disease in the 45-64 age group.
- Men are affected more commonly than women – 4 times more!.

^{*}Source: https://www.nia.nih.gov/health/what-are-frontotemporal-disorders

This slide illustrates what a normal brain looks like versus a brain affected by FTD.

The cell damage caused by FTD leads to tissue shrinkage and reduced function of the brain, as you can see in the next slide.





Due to the symptoms, FTD can be mistaken for Alzheimer's disease, Parkinson's disease or a primarily psychiatric disorder like schizophrenia, depression, manic-depression or obsessive-compulsive disease.

Let's watch a video from the LearnFTD website about Deb caring for her husband with FTD:

https://www.youtube.c
om/watch?v=ym1SKPS
qQFY



FTD used to be called Pick's Disease after Dr. Arnold Pick. Some doctors still refer to it as this.

Other terms used to describe it include:

Frontal lobe disorders; frontotemporal disorders; or frontotemporal degeneration



This type of dementia used to be considered rare, but it's now thought to account for up to 10-15% of all dementia cases, per the Alzheimer's Association.

Cases have been seen as early as 21 and as late as 80, but the disease typically hits during the 40s, 50s and 60s.

Signs and symptoms:



1. Apathy. This is sometimes mistaken for depression. The resident may become emotionally distant, withdrawn and avoid social contact. They most likely will not want to participate in previous hobbies or interests, like Bingo.

Signs and symptoms (cont'd):

- 2. Decline in personal hygiene. They may lack a concern for their personal appearance and hygiene and become increasingly unkempt as the disease progresses.
- 3. Disregard for the feelings of others. They can become very self-centered and unaware of the emotions of others. They can become very inflexible and difficult or laugh when such behavior is inappropriate.



Signs and symptoms (cont'd):

- Impulsive behavior. They lose their lack of inhibition which could lead them to steal or become sexually promiscuous. They could overeat, touch strangers, steal food off someone else's plates, etc. They may only want to eat sweets.
- 5. Compulsive behavior. This might include hoarding, doing or saying the same thing over and over again or pacing.
- 6. **Delusional behavior**. They might believe that they have a serious illness, like cancer, and become very fixated on it. They might also become very jealous or have bizarre false thoughts.
- 7. Speech and language problems. The person with FTD might have impairment or loss of speech and language difficulties. They may difficulty recalling the words for common objects.

People with FTD can usually keep track of day-today events, are aware of what's going on around them and their language skills and memory usually stay intact until late in the disease.





Diagnosis:

- There is no single test or any combination of tests — that can conclusively diagnose FTD.
- Magnetic resonance imaging (MRI) can play a key role in diagnosis because it can detect shrinkage in the brain's frontal and temporal lobes, which is the hallmark of FTD.

Causes and risks:

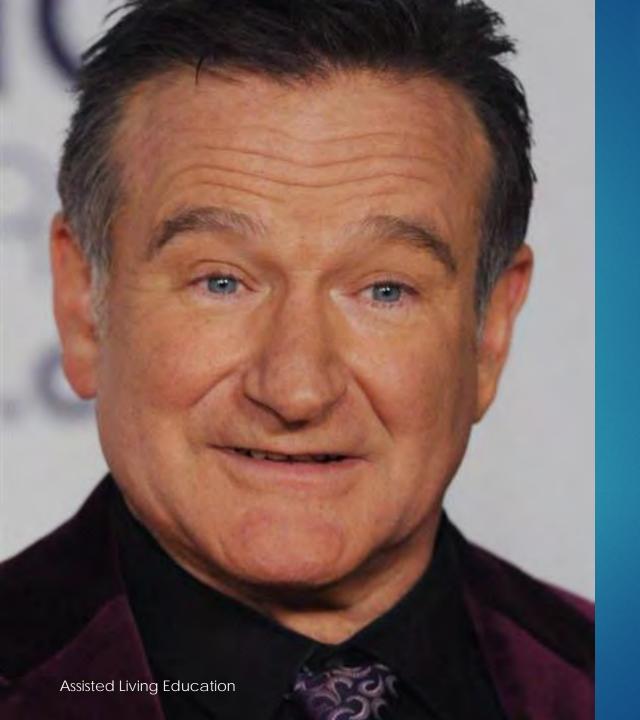
They are unsure what causes FTD.

The only known risk factor for FTD is a family history of the disease; scientists have found several genes linked to FTD.

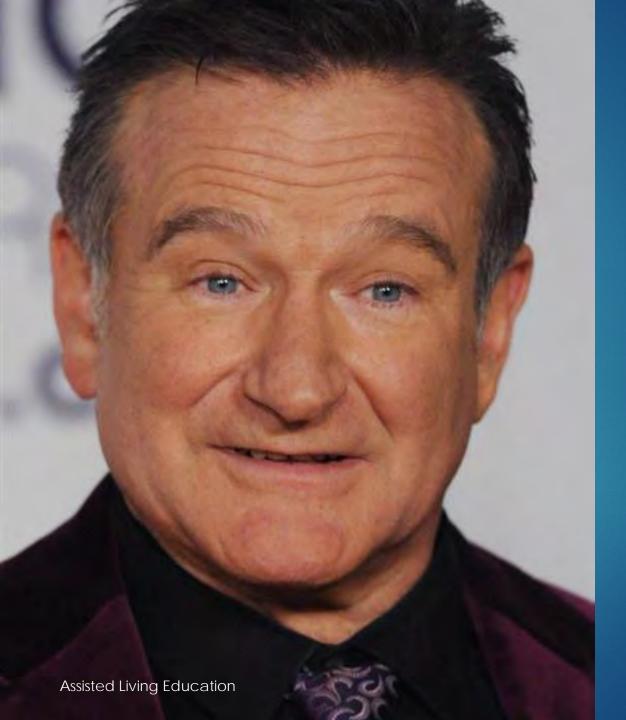
Per LearnFTD.com*, as FTD progresses, it can put people at risk for other conditions and complications—including pneumonia, infection, or injury from a fall—which could become fatal due to their weakened health.

Average life expectancy is 7 to 13 years after the start of symptoms.

*Source: https://www.learnftd.com/about-ftd/



Dementia with Lewy Bodies



Let's watch this 6 minute video about Robin Williams, as told by his wife:

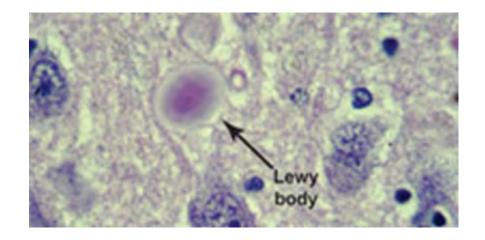
https://www.youtu
be.com/watch?v
=sVq0V7rKImk

Dementia with Lewy Bodies

According to the National Center for Biotechnology Information*, most experts estimate that dementia with Lewy bodies is the 3rd most common cause of dementia after Alzheimer's disease and vascular dementia, accounting for 10-15% of cases.



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3181810/



Facts of "DLB":

- Up to 80% of patients suffer vivid hallucinations.
- Average age of onset is 60-85.
- Death usually occurs 5-7 years from onset.
- Just like with Alzheimer's disease, it causes a progressive decline in mental abilities.
- It affects women and men equally.



What is a Lewy body?

- Named after Dr. Frederick Lewy, a neurologist who discovered them while working with Dr. Alois Alzheimer.
- Lewy bodies are tiny, spherical protein deposits found in nerve cells in regions of the brain involved in thinking, memory and movement (motor control).

Lewy bodies are also found in other brain disorders, including Alzheimer's disease and Parkinson's disease.

In fact, because Lewy bodies contain a protein associated with Parkinson's disease and the symptoms are similar, sometimes people are misdiagnosed.



Let's watch a 4 minute video that discusses the signs and symptoms of dementia with Lewy Bodies:

https://www.youtube.com/watch?v=IRh7y TIqNTs

Signs and symptoms:

1. Visual hallucinations. Hallucinations may be one of the first symptoms of DLB. The resident may have visual hallucinations, such as seeing colors, shapes, animals or people that aren't there. Some people also may experience sound (auditory), smell (olfactory) or touch (tactile) hallucinations.

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Signs and symptoms:

2. Cognitive problems.
Similar to Alzheimer's
disease, they may have
cognitive problems, such
as confusion, reduced
attention span and
eventually memory loss.



Signs and symptoms:

Movement disorders. Similar to Parkinson's Disease, they may experience tremors, involuntary movements, slowed movement, rigid muscles, a shuffling walk, hunched posture and balance problems. They may have problems with walking and mobility.



Signs and symptoms:

develop a sleep disorder called rapid eye movement (REM). This can cause them to physically, and sometimes violently, act out their dreams while they're asleep.

Signs and symptoms:

inconsistent attention. They may have inconsistent attention levels, frequent episodes of drowsiness, long periods of staring into space, long naps during the day or disorganized speech. Their confusion and alertness can vary from one time of the day to another or from one day to the next.

Signs and symptoms:

6. Decreased regulation of body function. Blood pressure, pulse, sweating and digestive process are regulated by a part of the nervous system that is often affected by DLB. This can result in dizziness, falls and bowel issues. It can also affect the nervous system.

Causes:

- Researchers have not yet identified any specific causes of DLB.
- Most people with DLB do not have a family history of the disorder.
- No genes linked to DLB have been conclusively identified.

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Diagnosis:

- Like with other types of dementia, there is no single test that can conclusively diagnose DLB.
- Doctors diagnose the condition through ruling out other conditions that may cause similar signs and symptoms.

Diagnosis (cont'd):

To be diagnosed with DLB, there must be a progressive decline in the ability to think, as well as 2 of the following:

Parkinsonian symptoms

Fluctuating alertness and thinking (cognitive) function

Repeated visual hallucinations

Diagnosis (cont'd):

In addition, one or more of the following features are considered supportive of the diagnosis of DLB:

- REM sleep behavior disorder (a condition in which people act out their dreams during sleep)
- Autonomic dysfunction, (involves instability in blood pressure and heart rate, poor regulation of body temperature, sweating, and related symptoms)

Key differences between AD and DLB:

Hallucinations – these are more frequent in early stage-DLB than in AD.

REM sleep disorder – more common in early stage-DLB than in AD.

Memory loss – tends to be more prominent in early AD than in early DLB.



Key differences between AD and DLB:

- Movement symptoms –
 more likely to cause
 disability issues earlier in DLB.
- Disruption of the autonomic nervous system (i.e., drop of blood pressure upon standing) – more common in early stage-DLB than in AD.



Treatments and medications:

Treatment can be challenging, and there is no cure for Lewy body dementia. Instead, doctors treat the individual symptoms with:

- Cholinesterase inhibitors (as with AD patients);
- Clonazepam for REM sleep disorders;
- Anti-depressants to treat depression that usually comes with DLB;
- Parkinson's disease medications (i.e., Sinemet) can help reduce parkinsonian symptoms, such as rigid muscles and slow movement but could cause increased confusion, hallucinations and delusions;

Treatments and medications (cont'd):

5. Antipsychotics – used for behavior issues but must be used with extreme care because serious side effects can occur, such as sudden change in consciousness, acute confusion, impaired swallowing and episodes of delusions or hallucinations. They can also cause the involuntary movements, like tremors, to become worse.





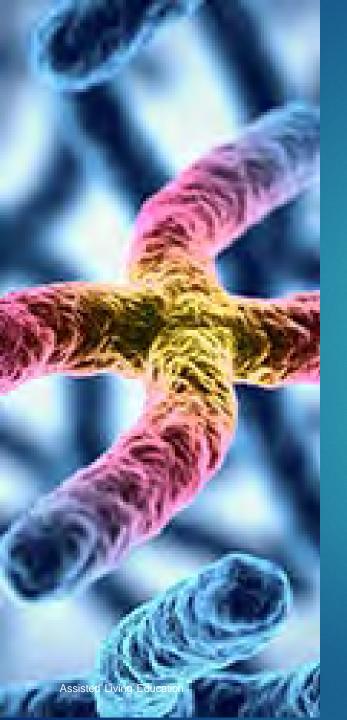
Caring for your resident:

- Reduce clutter and distracting noise so the resident can focus and function. It can also reduce the risk that the resident will misperceive objects in the environment and produce behavior similar to hallucinations (like watching TV).
- Do not try to convince the resident that there is nothing there when they hallucinate. It is better to try to provide reassurance and alternative distractions.
- 3. See if a mobility aid, like a walker, would help them with their balance and mobility issues.



Caring for your resident (cont'd):

- 4. Create a routine. It may help people with LBD to have predictable routines, especially around meal times and sleep times.
- To make sleeping easier, limit caffeine, discourage napping, and encourage exercise during the day.
- Enhance communication. When talking with the person with LBD, maintain eye contact. Speak slowly, in simple sentences, and do not rush the response. Present only one idea or instruction at a time. Use gestures and cues, such as pointing to objects.
- Encourage participation in games and thinking activities, like games, crossword puzzles and other activities that involve using thinking skills. These may help slow mental decline in people with dementia.



Huntington's Disease

Per the Alzheimer's Association, Huntington's disease is a progressive brain disorder caused by a single defective gene on chromosome 4 — one of the 23 human chromosomes that carry a person's entire genetic code.

Huntington's Disease

Facts:

- Symptoms of Huntington's disease usually develop between ages 30 and 50, but they can appear as early as age 2 or as late as 80.*
- Death occurs 10-20 years from onset.
- Named after Dr. George Huntington.

disease#:~:text=Symptoms%20of%20Huntington's%20disease%20usually,head%2C%20face%20and%20upper%20body.

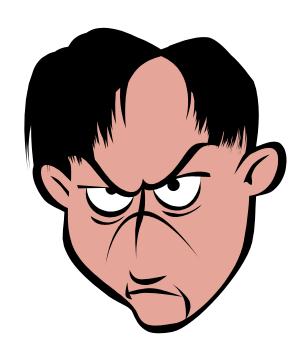
^{*}Source: https://www.alz.org/alzheimers-dementia/what-is-dementia/types-of-dementia/huntington-s-

Huntington's disease is an inherited disease that causes the progressive breakdown (degeneration) of nerve cells in the brain.

Each child of an HD parent has a 50-50 chance of inheriting the HD gene.

Early Signs and symptoms:

- □ The hallmark symptom of Huntington's disease is uncontrolled movement of the arms, legs, head, face and upper body
- Obsessive-compulsive behavior, leading a person to repeat the same question or activity over and over
- Mood swings
- Depression
- Irritability
- Inability to learn new things, remember a fact, or make a decision



Latter signs and symptoms:

- Concentration on intellectual tasks becomes increasingly difficult.
- Difficulty feeding himself/herself and swallowing.
- Many people with Huntington's disease develop involuntary jerking or twitching movements known as chorea.

Latter signs and symptoms:

Muscle rigidity

Slow, uncoordinated movements

Slow or abnormal eye movements Impaired gait, posture and balance

Difficulty swallowing

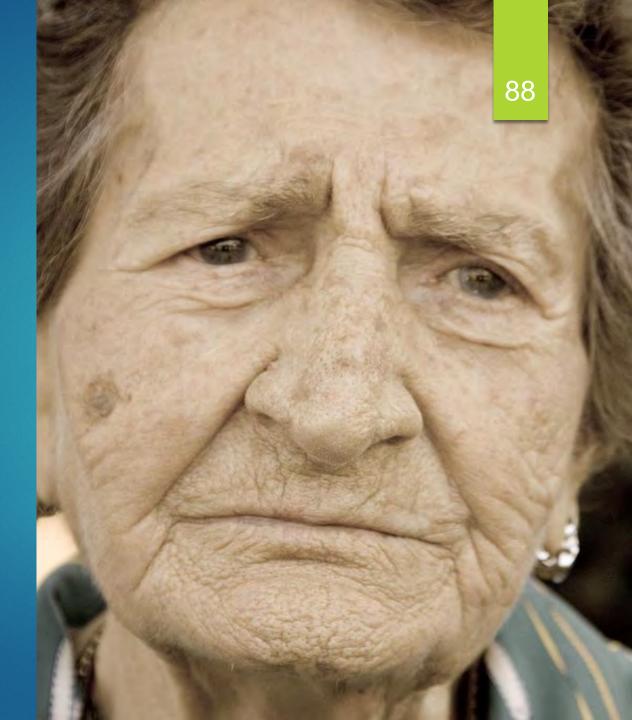
Depression - because of injury to the brain and subsequent changes in brain function

Cognitive impairment symptoms:

- Difficulty planning, organizing and prioritizing tasks
- Inability to start a task or conversation.
- Lack of flexibility, or the tendency to get stuck on a thought, behavior or action
- Lack of impulse control that can result in outbursts, acting without thinking and sexual promiscuity
- Problems with spatial perception that can result in falls, clumsiness or accidents
- Lack of awareness of one's own behaviors and abilities
- Difficulty focusing on a task for long periods
- Slowness in processing thoughts or "finding" words
- Difficulty in learning new information

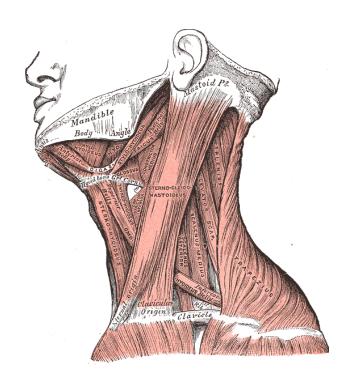
Care and Concerns:

- The clinical depression associated with Huntington's disease may increase the risk of suicide.
- Eventually, a person with Huntington's disease requires help with all activities of daily living and care.
- Late in the disease, he or she will likely be confined to a bed and unable to speak.



Care and Concerns:

- Huntington's disease can significantly impair control of muscles of the mouth and throat that are essential for speech, eating and swallowing.
- A speech therapist can help improve their ability to speak clearly and also address difficulties with muscles used in eating and swallowing.



Care and Concerns:

Difficulty with chewing, swallowing and fine motor skills can limit the amount of food the resident can eat and increase the risk of choking.

Never leave the resident unattended due to the choking hazards.

Select foods that are easier to eat and cut into smaller sizes.

Treatments and Medications:

For the jerking movements (chorea), the physician may prescribe *Tetrabenazine* (Xenazine).

Side effects: insomnia, drowsiness, nausea, restlessness.

A serious side effect is the risk of worsening or triggering depression or other psychiatric conditions.



Treatments and Medications:

Antipsychotic drugs, such as haloperidol (Haldol) and clozapine (Clozaril), have a side effect of suppressing movements so they may be beneficial in treating chorea.....but, they may worsen the involuntary contractions (dystonia) and muscle rigidity.

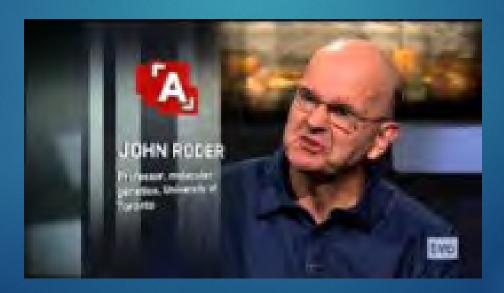
Treatments and Medications:

The physician may also prescribe an antidepressant, an antipsychotic, or an antianxiety drug such as diazepam (Valium).



Now we'll watch a 10 minute video clip titled "Living with Huntington's Disease."

This is an interview with a Physician who has the disease.



Parkinson's Disease





According to the Parkinson's Association*, nearly one million people in the U.S. are living with Parkinson's disease (PD). This number is expected to rise to 1.2 million by 2030.

Nearly 90,000 people in the U.S. are diagnosed with PD each year.

More than 10 million people worldwide are living with PD.

Michael J. Fox is one of them, along with Mohammed Ali (who passed away in 2016).

*Source: https://www.parkinson.org/understanding-parkinsons/statistics



Let's watch a video titled "Faces of Parkinson's" featuring Michael J. Fox. Click here to watch this 8 minute video:

https://www.youtube.com/watc h?v=CqEwPqUO1Bw

- Parkinson's involves the malfunction and death of neurons (nerve cells) in the brain, primarily affecting neurons in the area of the brain called the substantia nigra.
- Some of these dying neurons produce dopamine, a chemical that sends messages to the part of the brain that controls movement and coordination.
- As the disease progresses, the amount of dopamine produced in the brain decreases, leaving a person unable to control movement normally.

A study, titled "Incidence of Parkinson Disease in North America"* found that:

- PD incidence estimates increase with age in the 65+ range.
- The primary risk factor for PD is age.
- PD incidence estimates are higher in men compared to women at all ages.
- The increase in the incidence of PD aligns with the growth of an aging population.
- PD incidence rates are higher in certain geographic regions: the "Rust Belt" (parts of the northwestern and midwestern U.S. previously regulated by industrial manufacturing), Southern California, Southeastern Texas, Central Pennsylvania and Florida.

*Source: https://www.parkinson.org/understanding-parkinsons/statistics



The disease develops gradually, sometimes starting with a barely noticeable tremor in just one hand.

The tremor may be the most well-known sign of Parkinson's disease, but PD can also cause stiffness or slowing of movement.

Scientists are also exploring the idea that loss of cells in other areas of the brain and body contribute to Parkinson's.

Researchers have discovered that the hallmark sign of Parkinson's disease — clumps of a protein *alpha-synuclein*, which are also called Lewy Bodies — are found not only in the mid-brain but also in the brain stem and the olfactory bulb (which control sense of smell and sleep regulation).



Causes and Cure:

There is no known cause of PD and no cure to date. Many experts think that the disease is caused by a combination of genetic and environmental factors, which may vary from person to person.

Medications and treatments will be discussed later in this course.

PD is a progressive disease.

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Some people with PD only have symptoms on one side of the body for many years, but eventually the symptoms begin on the other side.

Symptoms on the other side of the body often do not become as severe as symptoms on the initial side.