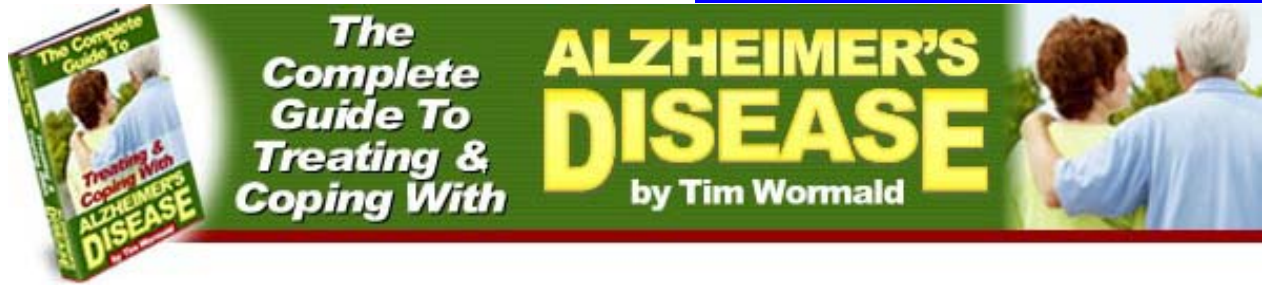


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The Complete Guide to Treating and Coping With Alzheimer's Disease

By Tim Wormald

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Part-I: Introduction

1. Alzheimer's Disease - An Overview

Alzheimer's disease is a common disease and a major cause of death among the elderly today.

German physician, *Alois Alzheimer*, was the first to identify Alzheimer's disease in 1907. So far, the cause of the disease and any cure for it are unknown.

Until recently, diagnosis of Alzheimer's disease was very difficult. The symptoms are similar to natural old age and were often lightly passed over as 'old age syndrome'.

Symptoms of Alzheimer's Disease

Although there is no permanent cure for Alzheimer's disease, the best way to prevent it is through early detection. Some common early symptoms of this disease are:

- Difficulty or being unsure while performing routine jobs
- Changes in behavioral patterns like becoming violent or abusive
- Family history of the disease
- Unable to use proper and simple language or common terms in daily conversation
- Unable to remember recent events but easily remember long ago events.
- Misplacing things and keeping them in the most unusual places
- Becoming lost in your own home or street and unable to locate your own home

A person with Alzheimer's disease can become disoriented as they lose their normal reasoning and power of judgment. They are unable to function independently. Managing daily activities

slowly becomes ever more difficult. Their ability to analyze events and communicate with those around them can deteriorate significantly, which causes marked changes in their personality.

How does Alzheimer's Affect Brain Functioning?

Often, brain autopsies of Alzheimer's patients reveal certain abnormalities. The brain shows growth and entanglement of abnormal fibers with brain tissue filaments. These could be the cause behind various senile patches of degenerated nerve endings. This damage interferes with the normal transmission of brain impulses through the different parts and cells of the brain.

The brain is damaged by Alzheimer's disease. It affects people of any age group, although it is more common among people in their sixties.

Alzheimer's disease is progressive, but the rate of progress differs between individuals. Some succumb to the disease within a few years of diagnosis while others live with it for up to two decades. Severe brain damage can cause death in an otherwise healthy person.

Treatment Options

Psychological tests concentrate on testing your memory, thinking ability and identifying objects. These tests determine the presence of Alzheimer's disease and may distinguish between it and other forms of dementia. Sometimes, patients can suffer from temporary dementia problems due to stress or even depression.

So, it is best to conduct tests to find out if it really is Alzheimer's disease.

Although there is no permanent cure, certain drugs may reduce the deterioration of neurotransmitters of the brain. Such drugs include **acetaminophen, ibuprofen** and **aspirin**, which are not steroids and act as anti-inflammatory drugs.

Anticholinesterase inhibition treatment has been used to reduce deposits in the brain, but recent findings nullify the effectiveness of such inhibition treatment for Alzheimer's disease.

These deposits targeted by this treatment. accelerate brain cell deterioration and the progress towards imminent death.

Food which is rich in Vitamin B and antioxidants can control degenerative effects of Alzheimer's disease.

Alzheimer's disease is fatal as brain cells slowly lose their capacity to perform and then other vital systems of your body suffer, eventually leading to total failure of body functions. The best option is early detection of the disease so that the best possible treatment options can be undertaken.

Part-II: Understanding Alzheimer's Disease

2. What is Alzheimer's Disease?

Alzheimer's disease is a silent killer.

It slowly and steadily causes the brain to deteriorate. Initially, a person with AD (Alzheimer's disease) could experience intermittent memory lapses with other symptoms like lack of proper judgment, an inability to express themselves properly, confusing views and, sometimes, changes in their personality.

Alzheimer's disease is very common in the twenty-first century, with more than eighteen million affected people all over the world. Alzheimer's disease destroys neurons and affects neurotransmitters of your nervous system. This harms normal functioning of the brain. Still, the exact cause for Alzheimer's disease is unknown and there is no cure for it at this writing.

It sounds depressing, and it is, but remember that the progress of this disease differs from person to person.

Common Symptoms of Alzheimer's Disease

These are high blood pressure, high homocysteine levels, family history of the disease, nervous disorders, difficulty in doing normal routine work, repetitive attitudes and losing interest in activities which were previously enjoyed.

Females get it more than men do.

They can take certain medications and supplements like Vitamin E capsules to slow down the progress of the disease.

So far, not one single item can be taken or used which has shown a huge effect on AD (Alzheimer's Disease.) However, there have been many tests that show a variety of things you can do to help offset the disease in different degrees.

Some changes in lifestyle and behavior patterns like:

- keeping a relaxed attitude
- listening to soothing music
- regular massage sessions
- spending time with pets like cats and dogs
- going for walks with friends or care-givers
- family counseling, and even
- bright light therapy.

Getting the disease diagnosed early can improve the treatment options.

3. What Causes Alzheimer's Disease?

The brain begins to deteriorate long before they experience any single symptom of Alzheimer's disease.

There are a number of theories for the cause of Alzheimer's disease. But, it is most likely the cumulative effect of various factors. Different patients of Alzheimer's disease exhibit different symptoms of the disease; clinical, pathological, psychological, and effects on their nervous systems.

Factors thought to be responsible for the occurrence of Alzheimer's disease include:

- **Genes:** If you have a family history of Alzheimer's disease, there is a high chance of you acquiring it at some time. Your chances increase with the number of affected members in your family. Even if only one of your parents has Alzheimer's disease, your chances may be doubled or tripled for getting it over people who do not have it in their family history.
- **Down's syndrome:** If you have Down's syndrome or Trisomy 21, your chances for the occurrence of Alzheimer's disease increase. You might develop certain pathological symptoms, but may not show any clinical symptoms of Alzheimer's disease.
- **Mutation chromosomes:** The chromosomes 1, 10, 12, 14, 21 could cause Alzheimer's disease. Sometimes, late onset of the disease could be due to APOE gene variants on Chromosome 19.
- **Age:** Old age is synonymous with memory loss and other marked changes in behavioral and functional patterns. So, it is difficult to identify Alzheimer's disease symptoms in old age. But, general failing health in old age is believed to contribute to the onset of Alzheimer's disease.
- **Stress:** Stress puts pressure on your nervous system, leading to development of free radicals. Such stress, specifically in old age, is a major cause for Alzheimer's disease.

- **Injuries:** Severe head injuries and trauma damage can disrupt normal blood flow to brain. There, sensitive brain nerves are at immense risk because of the depleted blood flow and the result may be various fibrous tangles. Deposits of beta amyloid protein occur during head injuries, which do not allow easy blood flow. There are established links of such deposits with dementia symptoms. Hence, this could be an important cause for Alzheimer's disease. Other diseases like **high blood pressure** and **blood sugar levels, stroke, atherosclerotic disease and diabetes** also dislocate the blood supply to the brain, and can cause late onset of Alzheimer's disease.
- **Female gender:** As mentioned before, the incidence of Alzheimer's is higher in females. One possible reason for this could be the loss of Estrogen hormones after menopause. Hormonal imbalances are common during menopause and contribute towards the occurrence of Alzheimer's disease in females.
- **Education:** low levels of brain activity such as with people that become “couch potatoes” in front of their TV etc, may reduce their chances of avoiding mental deterioration and, possibly, Alzheimer's disease.
- **Poverty:** Poverty is another important cause of Alzheimer's disease, as you are unable to understand, diagnose, or take preventive steps to protect yourself against disease because of the lack of money, regular medical consultations and not even being aware of the risk of the disease and any protective measures that you might take. Vitamins are expensive and people on low incomes often do not get enough proper foods to maintain their health into old age.

Higher education may improve the thinking power of the brain and increase the functioning of your brain. Keeping your brain active may reduce the effects or delay the onset of Alzheimer's disease.

An active brain also prevents the onset of dementia. Another effect of higher education may be to increase your standard of living and make you more aware of various diseases, their symptoms

and causes, as a well-educated person is more likely to read news and health journals and be exposed to what can happen to them in old age.

There are conflicting reports about two other possible causes of Alzheimer's disease. One is the **presence of high aluminum levels in the environment** and the other is **smoking**.

Some research findings were said to indicate that nicotine in the brain, due to smoking, might protect you against Alzheimer's disease but **this has been proven false**. **Cigarettes are not good for you.**

Earlier studies on animals and humans were reported to indicate that nicotine exposure inhibits the formation of amyloid plaque, a key feature of Alzheimer's disease.

However, a new study shows that chronic nicotine use may worsen the effects of a brain protein called tau, which is responsible for the fibrous tangles that are a hallmark of the disease.

So, any good effect in smoking would be more than canceled out, according to the latest research.

4. Are You at Risk of Getting Alzheimer's Disease?

There are certain risk factors which are possibly related to the occurrence of Alzheimer's disease, although there is no certainty that they cause it. You need to be aware of them and take early measures to reduce the possibility of them helping to encourage the onset of Alzheimer's disease. Just remember that **the apparent absence of any such risk factor does not protect you from Alzheimer's disease.**

Alzheimer's Risk Factors:

Age: Alzheimer's disease is common among the elderly, mostly in the 65-85 year range. Most Alzheimer's disease patients belong to this age group.

Because natural deterioration, due to old age, and Alzheimer's share many of the same symptoms, it can be difficult to detect Alzheimer's disease in elderly people, many of whom tend to forget, lose, or misplace things. Alzheimer's disease is possible but extremely rare in other age groups.

Genes: As with any other disease, hereditary factors pose a major risk for Alzheimer's disease. If Alzheimer's disease is common among your family members, you stand a high chance of contracting it at some time. There are different specific genes in your body. One group is believed to help to prevent the occurrence of Alzheimer's disease while another seems to accelerate its occurrence.

Mutations in genes, which could lead to dementia or other associated symptoms of Alzheimer's disease, occur in specific age groups.

Environment: High concentrations of zinc, aluminum and other metals may harm brain tissue. Such deposits in the brain can affect easy blood flow and damage nerves, leading to Alzheimer's disease. Adequate proof of the risk element of such metals is available through brain autopsies of patients with Alzheimer's disease.

Viruses: Scientists are also trying to establish links between certain viruses and Alzheimer's disease.

Dietary restrictions: You could reduce the risk of contracting Alzheimer's disease by restricting your diet and excluding foods containing high levels of fats and sugar. It is best to consume simple, balanced and low-fat foods to keep your blood sugar levels normal. There are conflicting reports about the occurrence of Alzheimer's disease due to the intake of certain vitamins and fatty acids.

Cardiovascular risks: If you have cardiovascular problems like heart disease, high blood pressure, hypertension, diabetes, or you have had heart strokes, you stand a higher risk of developing Alzheimer's disease at some stage in your life. However, one ray of hope is that you can try to prevent its occurrence by changing your diet to include lots of fruits and vegetables, and lower your cholesterol levels.

And, don't forget that exercise also helps prevent vascular problems.

Alcohol: High and regular intakes of alcohol could damage your brain significantly and cause dementia, leading to Alzheimer's disease. Restricted alcohol intake is more beneficial to your health.

Exercise: Regular exercise keeps all body parts and systems healthy and active, which can prevent or reduce the occurrence of Alzheimer's disease.

Stress: High stress levels react negatively on your health and cause various problems. Specifically, increased stress pushes hot blood to the brain and other parts of the nervous system, which often cause strokes and possibly Alzheimer's disease.

Hormones: Women have increased chances of acquiring Alzheimer's disease as their estrogen levels drop during menopause causing hormonal imbalances.

Poverty and Education: Poverty is often the cause for lack of sufficient awareness about different diseases including Alzheimer's disease. People who keep their minds active with continual learning, increase their brain activity. This can help prevent the onset of Alzheimer's disease.

Medications: Studies indicate a possible connection between certain medicines and Alzheimer's disease, although there is no conclusive proof. It could be due to the highly sedative effects of certain strong medications, which might later lead to Alzheimer's disease.

5. Signs and Symptoms of Alzheimer's Disease

Alzheimer's disease is a progressive disease and is difficult to detect in the early stages.

Alzheimer's sets in slowly, with minor signs and signals at first. It gradually displays more serious symptoms until all aspects of the disease are manifest. The appearance of Alzheimer's symptoms or signs do not necessarily indicate a particular stage of the disease. You should have a thorough medical examination of any changes in you that might provide clues of the onset of Alzheimer's disease.

The early signs of Alzheimer's disease are only able to be recognized by doctors who are knowledgeable about the disease.

You will only realize that you have it after clear symptoms begin to show.

POSSIBLE Indicators of Alzheimer's Disease

Early Symptoms

- Absentmindedness
- Forgetting familiar names
- Unable to concentrate on anything
- Unable to recall events of a few hours ago

Developing Symptoms

- Puzzled feelings
- Loss of memory
- Forgetful of daily tasks like brushing teeth, washing hands or combing hair

- Unable to read or speak clearly and stammering
- Need to focus immensely to think about anything
- Unable to express yourself in ordinary conversation
- Difficulty in doing routine tasks involving muscular movements
- Confusion about normal routines leading to misplacing simple things
- Irritability
- Difficulty in proper vision or similar functions involving nerves of your body
- Unable to dress properly
- Cannot recollect date, day or time
- Disinterested in any previously enjoyed activities or interactions
- Difficulty in simple calculations like bill payments or groceries
- Unable to understand or grasp whatever is being read

Serious Symptoms

- Regular bouts of depression with indifference to everyone and everything
- Anxious feelings leading to uncertainty
- Aggressiveness leading to violence and physical abuse
- Bored and uninterested in doing anything

- Straying from familiar physical surroundings, and unable to remember your house, location, or where any of your family members live.
- Arguing unnecessarily
- Marked changes in your personality
- Suspicious of everything and everybody
- Incontinence and unable to control body functions like bowel and bladder movements
- Unable to swallow edibles easily
- Total lack of any reasoning power
- Fully dependent on others for daily routine
- Some Alzheimer’s patients become bedridden, from being weak and vulnerable to associated diseases.
- Extremely uncooperative

These symptoms develop as damage to the brain disrupts its normal working and it becomes less able to control vital body functions. The disease progresses gradually.

It is best to look into treatment options in early stages. This will help you control advancement of Alzheimer’s disease while you are in a position to understand the implications of lack of treatment.

Otherwise, deterioration becomes faster. You cannot do much at later stages. It is very painful to watch as your loved one’s condition continues to get worse.

Although the average time span of Alzheimer’s disease ranges between six to eight years, it can, in reality, be anywhere from two to twenty years. The end is always in death, which could be also

be primarily due to other illnesses like heart diseases, pneumonia, or other old age problems. Some patients die from such associated diseases before they reach the final stages of Alzheimer’s disease.

6. Ten Warning Signs of Alzheimer's Disease

The Alzheimer's Association puts forward ten main warning signs as a checklist to educate all family members. This helps you to understand if anyone in the family may be suffering from Alzheimer's disease.

You can then get further investigation by qualified medical people and more help if you or your loved one is showing the signs on this list:

Loss of Memory: It is natural for the elderly to forget some names or things. Sometimes, Alzheimer's patients are unable to recollect recent events. One of the most common signs is when people do not remember any part at all of a memorable personal event.

Language and Communication Skills: Alzheimer's disease patients lose their mastery over language and cannot communicate well. They use vague words which can be incomprehensible to others. They also forget simple words used in daily conversations. They cannot express themselves properly and clearly. Normally, old people fumble for words only occasionally. If you see your loved one stumbling more and more often, one possibility is that they might have A.D.

Regular and Routine Jobs: Alzheimer's disease makes people incapable of planning or thinking about their daily routine. They cannot complete regular and normal tasks like making telephone calls, cooking a meal, etc. They turn 'blank' at times and cannot remember why or what they were doing or thinking of doing.

Impaired Judgment Capacity: Sometimes, old people make vague decisions. If you have Alzheimer's disease, you are prone to making irrational decisions regularly - like giving away huge sums of money without reason or wearing improper clothing which is unsuitable for the weather conditions.

Personality Changes: A person's personality does change with age. As a person ages, they are much more sure of who they are and can become more dignified and command greater respect with age. However, people with Alzheimer's disease undergo drastic personality changes like

becoming confused and dependent on family members, or suspicious of everything and everybody, or scared of everything.

Familiarity with Surroundings: Alzheimer’s disease patients forget their own neighborhood, lose their way and may wander anywhere. They may not be able to find their way back home or remember how they got somewhere. If you have a loved one with this disease, get them a bracelet with their address and phone number.

Reluctance to Do Anything: Alzheimer’s disease patients are disinterested in anything around them and they may sit in front of TV for hours at a stretch, but not even follow the program which they are watching.

Misplacement: Although it is common for you to misplace things at times, people with Alzheimer’s disease put things in the most unusual places like keys in refrigerator or a coin purse in a sugar bowl, or even in the garbage.

Abrupt Changes in Mood: Although you feel moody at times, patients with Alzheimer’s disease develop sharp changes in their moods.

Thinking Abilities: People with Alzheimer’s disease find it difficult to do mental calculations. Most older people can keep their mental faculties sharp.

7. The Stages of Alzheimer's Disease

The recorded progress of Alzheimer's disease through different functional stages can act as a guide for caregivers to look after patients that have Alzheimer's disease. **Dr. Reisberg** developed the **Functional Assessment Staging (FAST) scale under seven major heads** covering the progressive loss of functional abilities.

The 7 Different Stages are -

1. At this stage, you are a normal adult and have a perfect memory and functional ability – no apparent symptoms or signs.
2. At the next stage, they show certain disabilities in their normal functioning, like being unable to recollect known names of family members or places. This is often attributed to be a normal characteristic of old age.
3. The third stage gives a clear indication of A.D. setting in. They are unable to locate their house or other familiar surroundings, get lost easily, cannot concentrate on anything, can't remember recent events or names, have a sudden drop in performance levels at workplace and misplace things or even lose them without realizing it.
4. They progress to a more serious stage of the disease and cannot function alone. They need help with even simple financial transactions, cannot travel alone or even concentrate on anything. They develop marked changes in their behavior and mood patterns, and shy away from any sort of difficult situation.
5. Further inabilities develop during this stage of Alzheimer's disease. They need help even for deciding what to wear. Although they may remember their family members and other associated information, they do not remember any recent events, names or other such information.

6. This is a severe stage of Alzheimer’s disease. They need help in everything, even for bathing and toileting - with normal bowel and urinary functions. They undergo severe personality changes with aggressive and anxious behavior, which could also become violent at times.

7. This stage shows the most severe characteristics of Alzheimer’s disease. They are unable to speak properly and it is difficult to understand what they do say. Simple functions like walking, standing, sitting or sleeping are beyond their control. Their brain cannot monitor any of their physical actions.

Although Alzheimer’s disease immobilizes them, caregivers should try to identify what an Alzheimer’s patient can do successfully and encourage those activities to lift their patients’ spirits.

8. What to Expect When Someone has Alzheimer's Disease?

Alzheimer's disease progresses slowly but steadily. Although certain characteristics point to different stages of Alzheimer's disease, no single symptom can pinpoint any particular stage. The appearance of the disease normally begins with the loss of memory and simple personality changes, which separates the patient from their usual social circles. They shy away from people and prefer solitude.

In later stages, Alzheimer's disease manifests itself more noticeably. They develop problems in their thinking and other activities involving their brain. They cannot calculate as easily as before, and need help in understanding what others talk about or tell them.

A.D. victims also need help to manage their daily activities and routine. As they become less able to look after their needs, they become irritable and agitated.

They pick quarrels and arguments at the slightest hint. Their moods vary widely and they lack attentiveness to anything. They become very uncooperative. Slowly, they start to lose their capacity to look after their bowel or toilet habits and are then fully dependent on others to take care of them and their personal hygiene.

Alzheimer's disease now shows as a serious ailment. They could develop associated illnesses like pneumonia or heart disease, due to overall weakness and disability. Although Alzheimer's is fatal, the primary cause of most patients' deaths are other illnesses and infections which are due to their vulnerable and sensitive body functions.

Alzheimer's disease could develop fully within six to eight years. But, sometimes, some symptoms might be present for up to twenty years. Usually, late onset of Alzheimer's disease results in death due to other associated illnesses and the patient dies before symptoms of the late stages of Alzheimer's start to show.

Despite all their disabilities, Alzheimer’s patients exhibit certain positive characteristics. They can sing well although they cannot talk comprehensibly. They can probably play decent tennis while they cannot play a game of chess. They cannot understand calculations or listen attentively but can read books and understand well. Caregivers need to focus on these positive features while looking after any patient with Alzheimer’s disease.

9. Genetics of Alzheimer's Disease

Genes play a prominent role in Alzheimer's disease, although the actual extent of their effect is still debated. It is evident that genes control and determine the color of eyes, hair and other traits in all living beings. However, genes do not function by themselves; they receive active help from other environmental characteristics. Genes depend on various physical and chemical features of their surroundings to give final shape to those traits.

Genes are present within the nucleus of every cell and build up a new protein with other molecules. The new protein should contain specific and appropriate DNA (deoxyribonucleic acid). Mutations in DNA could result in defective proteins, which might disable your body and cell functions. This may later lead to various irregularities and cause diseases, leading to death.

So, you might attribute Alzheimer's disease to gene mutations. Most other gene disorders and diseases are due to irregularities in a single gene but Alzheimer's disease may occur due to multiple gene disorders, not the work of any single gene. Multiple gene mutations, multiple chromosomes and defective genes of both parents could be part of the cause of Alzheimer's disease.

Genes Affecting Alzheimer's Disease

Sporadic and Familial are two basic types of genes that are believed to cause Alzheimer's disease.

Familial Alzheimer's disease (FAD) refers to family inheritance of a gene causing this disease. One parent with such a defective gene could pass it to their offspring. All children have a fifty percent chance of acquiring Alzheimer's disease in later years. This inheritance is called 'autosomal dominant'. In such cases, mutations occur on chromosomes 1, 14, and 21. Familial Alzheimer's disease affects people below sixty years of age.

Sporadic Alzheimer's Disease occurs more commonly than Familial Alzheimer's disease (FAD). It affects persons above sixty years old. The Sporadic form is due to presence of the ApoE gene on chromosome 19. ApoE is present in many different forms; genes of apoE2, apoE3, or apoE4 occur frequently. You may inherit any one of them from each of your parents. Some people could even receive two of them. There is no conclusive proof to show which of these carry the higher risk of Alzheimer's disease. Most affected patients carry two apoE4. Nevertheless, some people that are carrying two apoE4 do not contract Alzheimer's disease at all.

How to Detect ApoE

Blood tests can help in determining the presence of **apolipoprotein (apoE)** in your genes. However, they cannot indicate whether you have Alzheimer's or if you may or may not acquire Alzheimer's disease later in life.

Currently, there is no accurate test to indicate whether apoE could cause the disease. ApoE testing may expose confidential information about different patients. Therefore, such testing is normally reserved for genuine Alzheimer's disease patients only. You may take this test if you have many other positive indicators for Alzheimer's disease.

Genetic counseling, before and after apoE testing, is helpful to patients and their family members. It helps them to deal with this crisis in their lives while they suffer severe distress and depression with extensive emotional strain due to Alzheimer's disease. However, apoE testing alone cannot confirm the risk of Alzheimer's disease. A combination of many different factors like neurological, family history, and other irregularities in behavioral and functional abilities are needed for best diagnosis and plan for treatment and support. Only after that, can doctors discuss the existence of Alzheimer's disease in any particular individual.

10. Estrogen and Alzheimer's Disease

Alzheimer's disease is a progressive disease affecting your brain, resulting in personality changes, loss of memory and a decline in all functional and mental abilities. It takes quite a long time for the disease to set in and cause irreparable damage. It is always fatal.

Of late, however, there have been active debates about the possible correlation between the female hormone, estrogen, and its positive effect on Alzheimer's disease. Such debates are becoming more common as women taking estrogen after menopause develop Alzheimer's disease very late in life and the associated risks seem to be low.

Research indicates that healthy women taking estrogen showed better mental abilities than their counterparts who do not take any estrogen supplements.

Estrogen or Hormone Replacement Therapy

Most women need replacement hormones after menopause. Doctors normally recommend hormone replacement therapy (HRT) or estrogen replacement therapy (ERT). Hormone replacement therapy offers estrogen and progestin, which is an artificial form of the progesterone hormone. Doctors advise the use of estrogen replacement therapy only for women who have had their uterus removed.

Some research is underway to study the effect of estrogen on women over fifty years old. It also will indicate whether hormone replacement therapy can help in curing other diseases like uterine cancer, osteoporosis, heart disease, memory loss, etc. Further, scientists are trying to make estrogen safe for men, so that they do not develop any side effects like feminine features and an increased incidence of cancer.

Soybeans contain plant estrogens, which are phytoestrogens. Intake of soybeans and soybean products reduces various menopausal symptoms like hot flushes. Although such claims do not have an active scientific backing, women whose diets are rich in soybeans report a lower

incidence of Alzheimer’s disease. This may be because of the presence of plant estrogens in their food.

Extent of the Effect of Estrogen on Alzheimer’s Disease

Nevertheless, there is no conclusive proof or specific medical trials which indicate the extent of the effect of estrogen on Alzheimer’s disease. Further scientific work regarding estrogen and its effect or impact on Alzheimer’s disease is required to determine suggested dosages, the best period of estrogen treatments and safety measures.

Although current literature is confusing about the best way to adopt this therapy for better health and lower incidence of Alzheimer’s disease, women would do well to educate themselves about different treatments and their benefits.

They also need to pay attention to their families’ histories of various medical ailments, strokes, cancers and osteoporosis.

Another matter of great concern is that each of these treatments works differently for different women. Women need to heed their doctor’s advice about the best treatment for them which depends on their overall health pattern. Your doctor can provide valuable guidance about the best way to safeguard yourself against Alzheimer’s disease with help from their knowledge of your particular condition.

Part-II: Diagnosis and Treatment of Alzheimer's Disease

11. Importance of Early Diagnosis for Alzheimer's Disease

Loss of memory is common among most elderly people in varying degrees. However, if such memory loss does not allow you to maintain your regular routine and causes further problems about simple calculations or use of normal daily language, you may be at risk of Alzheimer's disease.

Alzheimer's and dementia have common symptoms in their initial stages. Dementia could be due to vascular or vitamin deficiencies, which have alternative medicinal remedies.

Alzheimer's has different sources of medication and it is necessary to diagnose its presence in the initial stages to make important decisions regarding treatment options and effects on your life and associated issues.

Importance of Proper Diagnosis

It is a difficult task to diagnose Alzheimer's disease in its initial stages, as there is no single absolute test.

Doctors conduct various medical, pathological, psychological examinations and tests to ascertain the presence of Alzheimer's disease. Important tests include thorough physical and mental examination with due regard to the importance of personal and family medical history and your present mental state. Although these tests provide valuable clues, doctors may also conduct brain scans to be doubly sure. Just one thing, such as the loss of memory, cannot conclusively diagnose your ailment as Alzheimer's disease.

Necessity for Early Diagnosis of Alzheimer’s Disease

Once doctors diagnose someone with Alzheimer’s disease, it is impossible to reverse the situation. You can, however, take various treatments or drugs to reduce its impact and help to deal with associated problems like depression, infections, hearing or vision problems, anxiety, etc. These drugs or treatments are more effective in the early stages of Alzheimer’s disease.

Early diagnosis can help in the following ways:

- It gives sufficient time for you and your family members to come to terms with various realities about Alzheimer’s disease. You and your family can learn more about its symptoms and effects on your behavior and personality. Accordingly, they can be prepared to deal with difficult situations as and when they arise.
- You can make suitable arrangements for your financial, legal, and other requirements in advance. Additionally, you can draft your deed and make it public, if you become incapable of instructing others at later stages. You can also hand over a power of attorney to a trustworthy aide of your choice.
- You can look for different in-house health caregivers, support groups, care centers and adult activity centers, etc. in your neighborhood.
- You can talk with your insurance adviser, so that you are aware of all available plans.

Be open to all possibilities and discuss them fully with your family members. It pays to be honest in such matters as it will lower everyone’s stress levels. You feel reassured and happy, as you are fully aware of what your expectations really are. Accordingly, you can make plans with specific preferences for different treatment options. You can also spell out your last wishes.

You can ask for an easier and more flexible schedule at your workplace.

Do away with anything that puts excessive stress on your memory. Always keep your medicines, keys and wallet in the same place for easy location.

Try to make simple changes at your house to enable easy movement at later stages of Alzheimer's. You could buy appliances to make meal preparations easy and less cumbersome. Keep all emergency information and important phone numbers clearly displayed in your house so that it is easy for you and others to bring in medical aid quickly if the need arises.

Make suitable changes to your current lifestyle, hobbies, or other forms of recreation. Keep yourself engaged as much as possible so your brain remains active and you are free from boredom.

Get to know others that have Alzheimer's disease, and share your experiences with them. This helps you to understand that you are not alone in coping or fighting this disease. You can share information, solve mutual problems and discuss new ways to combat Alzheimer's disease.

Your family members could also gather information from caregivers and support groups about what to expect and how to deal with any eventuality.

12. Diagnosing Alzheimer's Disease

In its early stages, Alzheimer's disease is very similar to dementia. It becomes difficult for patients to understand whether their memory and other problems are due to dementia or Alzheimer's disease. Besides, many shy from acknowledging the presence of Alzheimer's disease because of its severity and inevitable fatal conclusion. You and your family may tend to suppress facts, but that can actually work against you.

It works a lot better if the Alzheimer's disease is diagnosed in early stages for effective treatment and adjustment to the conditions which develop in later stages.

Doctors often divulge the total details of a patient's condition to close relatives, as many patients normally refuse to accept that they are having problems which could be due to Alzheimer's disease.

Alzheimer's disease works negatively on two counts –

1. Our ability to perform simple, routine, and normal tasks and
2. Our ability to perform complex functions.

Alzheimer's disease patients have difficulty with complex tasks initially and later have difficulty with even simple tasks. Alzheimer's disease passes through three stages:

1. Cognitive decline
2. Functional decline, and the last stage
3. Behavioral decline.

The last stage may be for the last three years of their life. Most patients realize their condition only in the second stage.

Factors Affecting the Diagnosis of Alzheimer's Disease

Physical examination: A thorough physical examination with detailed blood tests is necessary for proper diagnosis. Such blood tests include tests of blood chemistry, blood count, folate and vitamin B12 levels, thyroid functions, urinalysis, syphilis tests, etc. Doctors decide on specific X-rays, CT-scans, electrocardiograms and brain MRIs, etc. to detect any possible brain strokes, tumors or the presence of excess fluids in the brain.

Another important blood test is necessary to detect **apolipoprotein E4**; its presence could indicate a higher risk of Alzheimer's. Nevertheless, absence of this protein does not rule out Alzheimer's disease and so doctors have differing opinions about the utility of this specific test.

Patient History: Although you can expand on your behavioral changes, caregivers or other family members will provide more vivid descriptions of your memory patterns, thinking abilities and capacity for good judgment. Confusion may occur between dementia and Alzheimer's disease in their initial stages as loss of memory is the most common and initial symptom of both ailments.

Your doctor could talk to your family members about specific changes in your behavior or memory patterns. Sometimes, you might drift away, fumble for simple words, be incapable of carrying out your normal routine, misplace things like car keys or wallet and forget the names of family members or close friends.

Although normal people also forget or misplace things sometimes, they soon locate them and do not insist on having lost them. This is a common trait among Alzheimer's disease patients. Your family can provide details about your present and past behavioral characteristics. These changes are important indicators.

Doctors need to know complete details regarding the progress of symptoms:

- ? whether they appeared suddenly or over time,
- ? do symptoms change on a daily basis,

? are they worsening, or

? are there any positive developments.

Biomarkers: Recent scientific research is devising accurate diagnostic methods for detecting Alzheimer’s disease. There are various kits for locating **tau proteins** and **beta-amyloid** in brain fluids. Also, there are experimental tests to locate **free radical damage** in urine. These experiments are providing some accurate results for Alzheimer’s disease.

Cognitive assessment tests: Cognitive tests determine your mental abilities. There are many different tests like **Blessed Dementia Scale**, **Mini Mental Status Exam**, **Mattis Dementia Rating** and the **Scale and Short Portable Mental Status Questionnaire**.

In these tests, you perform various mathematical calculations, draw different figures on paper, are asked simple questions like what is the date or your present location, or are made to follow certain commands and read, or follow, directions. Every exercise is scored and a score below 23 on 30 may hint at the possibility of the presence of dementia or possibly AD.

These **neuropsychological tests** examine the ability of every brain part which handles language skills, drawing capacities, solving abilities, and short term and long-term memory centers. Such neuropsychological tests ratings are between people of the same age groups and similar educational levels.

This helps maintain equality in tests. Once doctors become aware of your capabilities and incapacity, if any, they can judge the extent of your independent functioning. These indicate the stage of your Alzheimer’s disease and provide a clearer picture of whether you are capable of living alone or need the constant help of others.

Brain Imaging: Modern scientific technology produces images of the brain through functional magnetic resonance imaging (FMRI). This produces an accurate image of brain parts and indicates major dysfunctional regions like memory center and hippocampus (A section believed important for learning and memory).

This helps doctors to analyze the overall damage to your brain or specific brain shrinkage. The combination of all the different images helps scientists pinpoint particular tangles or spots responsible for Alzheimer's disease in patients.

Drug reactions: Sensitivity to drugs or counter-reactions could also cause dementia. Doctors delve deep into different drugs which have been recently used and try to locate any possible relationships between your memory loss and drugs. If there are no such drugs, then it may strengthen the possibility of Alzheimer's disease.

Alzheimer's disease symptoms are similar to many other diseases like thyroid, stroke, brain tumor and hemorrhages. Hence, diagnosis results need thorough checking to avoid any possible confusion with other diseases.

Early diagnosis is helpful as you can start drug therapy to delay the occurrence of further stages of Alzheimer's disease and try to keep the progress of Alzheimer's disease under control.

13. Diagnostic Tests for Alzheimer's Disease

A few current diagnostic tests to detect Alzheimer's disease are -

Simple medical tests of urine and blood: These simple tests diagnose your blood and urine samples to eliminate the possibility of other diseases. Sometimes spinal fluid tests also help in determining Alzheimer's disease. Recent scientific researches are trying to develop extreme accuracy with such tests to make Alzheimer's disease diagnosis simpler.

Neuropsychological tests: These tests include different cognitive and memory tests. They test your memory power, attentiveness, ability to count and do simple mathematical calculations, language efficiency with proper usage of words, whether you speak in comprehensible language, etc. Fumbling and sudden stammering or talking in an unintelligible language indicates lack of proper brain command over different functional abilities.

Brain Scans: Brain scans refer to various pictures of your brain parts to check whether they function normally. Brain scans are of three different types: Brain CT scan, Brain MRI scan, and Brain PET scan. A Brain CT scan is a computerized scan of your brain, the Brain MRI scan is through a magnetic resonance machine, and the Brain PET scan is a posterior emission scan of the brain.

Doctors use these scans as a means of studying the working of various parts, to check whether they are working normally. Brain symptoms of Alzheimer's disease may occur in various other diseases like brain tumors, depression, drug reactions, and some affecting the thyroid.

Brain scans reveal a lot about brain functions. Often, doctors are able to understand different brain irregularities through autopsies, which are the study of brains after patients die. Examining brain tissue under a microscope cannot expose all the different tangles and irregularities. Besides, it is a risky and painful option. Hence, they couple such brain scans and tests with various other **behavioral and personality analyses.**

Doctors inquire about your entire medical history and delve into specific changes in your behavior like irritability, laziness, anxiety, or other extreme mood changes. They also ask about the familial history of ailments and diseases. Such overall analysis for diagnosis of Alzheimer's disease reveal results with an accuracy of more than ninety percent.

14. Clinical Features of Alzheimer's Disease

Alzheimer's disease is a progressive disease, which takes its final shape over a long period. It affects people over sixty years of age and its symptoms are similar to other old age diseases like dementia, hypertension, and heart ailments.

There is no specific clinical test to determine whether you have Alzheimer's disease. Doctors often follow a process of elimination by curing other ailments and erasing their possible occurrence. Alzheimer's manifests while the process of elimination take place. Therefore, it often reaches serious stages before doctors can confirm you have Alzheimer's disease.

Clinical features of Alzheimer's Disease

Clinical features of Alzheimer's disease hint at various abnormal structural and biological changes in brain tissue leading to chemical deterioration of such tissues. Alzheimer's affects the nervous tissues of the brain and causes odd changes in brain tissue like low neurotransmitter functions and continued degeneration of nerve cells within the brain.

Such changes are -

Plaques: Brains of Alzheimer's disease patients show continuous deterioration of nerve cells and tissues. This is due to various chemical deposits with specific protein-beta amyloid. **Amyloid Precursor Protein (APP)** is necessary for proper brain functioning. Sometimes some enzymes cut off this protein at any specific place in the brain. The leftover tissues of beta-amyloid come together and form plaques in the brain. This is responsible for causing senility.

Tangles: Different nerves and tissues of the brain form tangles- neurofibrillary tangles. This causes disruption in the normal functioning of nerve cells, which affects various mental and body functions like thinking, remembering and recollection. However, the exact cause of the formation of such tangles is unknown.

One major feature of such malformations in the brain is that doctors are able to provide information through autopsy of brain tissue of people suspected to be suffering from Alzheimer's disease. As these revelations are only after death of the patient, it becomes imperative to conduct a thorough examination of the brain to understand or notice any irregularities.

Brain scans: Brain scans prove very useful in diagnosing changes in brain tissue. Scans include Brain CAT scan, Brain MRI scan and Brain PET scan.

Brain CAT scan is the first step in diagnosing irregularities of brain functioning. Although it cannot detect the initial stages of Alzheimer's disease, such a scan in the late stages reveals important facts about disease. The main features of Alzheimer's disease seen through a Brain CAT scan are a withered brain with large hole like features. Most cerebral ventricles enlarge and retain brain fluid within them. This causes malfunctioning of these brain parts.

Brain MRI Scan examines brain tissues through magnetic resonance. This shows magnetic interaction of atoms present in brain tissues with that of an external field. Hence, it can easily differentiate moving and static blood tissue within the brain.

Brain PET scan with SPECT scan gives a detailed picture of normal and regular movements of brain tissue within brain cells. Such X-rays reveal metabolic activity, blood flow, working of different receptors, and interconnection between blood and brain functions. Any irregularities immediately pinpoint and indicate Alzheimer's disease.

Diagnosis of Alzheimer's disease is difficult until the very late stages. Scientists are trying to develop clinical tests to detect serious differences in Alzheimer's patients in the early stages. This can reduce mortality and prove helpful in noticing such changes in initial stages before they become very serious and incurable.

Such markers are useful for scientists to help develop a specific cure for Alzheimer's disease. Meanwhile the collected information from all the other patients can help your doctor, family and other care-givers make sure that you can receive proper care, cure, and relief from Alzheimer's disease.

15. Patho-physiology of Alzheimer's Disease

Alzheimer's disease is result of various clinical and patho-physiological changes in your brain tissue. These changes could be cellular, molecular or anatomical. Alzheimer's does not seem to be due to any single cause but the disease is not necessarily due to interaction of all these factors.

Different Alzheimer's patients display differences in their history of the development of the disease. One cause may be the main reason for brain irregularities and Alzheimer's in you, but the same cause may be absent in another Alzheimer's patient.

Pathophysiology

Alzheimer's disease shows two main changes in brain tissue

1. **Plaques** between neurons and
2. **Neurofibrillary tangles** within neurons

Plaques form due to uncharacteristic deposits of **beta-amyloid proteins**. These destroy neighboring proteins and cause inflammation of surrounding brain tissue. Such deposits could be due to genetic irregularities in combination with environmental causes. Genetic disorders like high blood pressure, hypertension, or high cholesterol levels increase the risk of Alzheimer's disease.

Neurofibrillary tangles occur due to a **protein-tau**, which helps in the formation of filaments. There is no known scientific reason for the formation of such tangles. These dense tangles are believed to be causes of senility and memory loss in Alzheimer's patients. The tangles reduce activity of **cholinergic neurons** in brain functions. This lowers the efficiency of synapses (the gaps between neurons, or a neuron and a cell in the brain over which messages about important brain functions travel) leads to slow degeneration and loss of neurons. There is no concrete evidence to prove any connection between tangles and plaques.

Effects of Pathophysiological Changes

Various pathophysiological changes with plaques and tangles affect normal functioning of important brain regions like hippocampus, nuclei basalis, the cortex and the amygdala.

These cause resultant malfunctioning of the cortex with frontal, temporal, and parietal brain regions. These regions are responsible for brain synapses like learning, memory, recollection and retention. Plaque deposits with neurofibrillary tangles disrupt the neuro-transmitting abilities of brain. These form the basis for different behavioral changes in Alzheimer’s patients like anxiety, irritability, depression, anger, and sharp mood changes.

Various clinical researches in pathophysiological fields are ushering new treatment options, offering a ray of hope for Alzheimer’s patients and their families.

16. Is Alzheimer's Disease Curable?

Presently, there is no specific cure for Alzheimer's disease. Clinical research and important discoveries are helping to identify better methods of taking care of Alzheimer's patients.

Although doctors are able to identify possible causes, they are unable to suggest any cure for Alzheimer's disease or to rectify damage to nerve cells. It is still a trial and error method or a thorough process of elimination of other diseases.

Available Treatments

Most treatments for Alzheimer's disease aim at improving daily functioning of the patients and providing relief to their family members or caregivers.

Drugs: Pharmacological drugs can, to a certain extent, control changes in memory, perception, or thinking abilities. Although these drugs cannot stop the progress of Alzheimer's disease, they can slow down its development.

Behavioral therapies: These therapies do not involve any drugs or medicines. These only aim to correct behavioral changes through specific communicational techniques, small changes in home décor to help Alzheimer's patients, etc.

Family members and caregivers need to help implement these changes in Alzheimer's patients over time. Although these therapies demand extreme patience, you can use certain simple drugs prescribed by doctors to assist in the adoption of these therapies and control extreme and erratic behavior like anxiety, depression, sleeplessness, aggression, etc.

Doctors aim at employing such behavioral therapies to control Alzheimer's patients before using any drugs. This procedure proves to have a longer and better effect on such patients.

Education of family members and caregivers: Family members and caregivers of Alzheimer's patients also need specific training to take care of such patients. Specific methods and systems

help them communicate with patients. Awareness of the disease, with its implications, simplifies managing Alzheimer’s patients. Such methods aim at improving behavioral and functional patterns, maintain overall health through proper diet, exercise, and body care.

Family members and caregivers of Alzheimer’s patients undergo severe stress and combat huge emotional, physical and financial challenges. Support and educational programs provide necessary skills and adequate support to them. It then becomes simpler to take proper care of Alzheimer’s patients and reduce their suffering.

Alzheimer’s disease is a slow and gradual disease with no cure. You cannot reverse its symptoms. The best treatment for Alzheimer’s disease is to delay its progress, lower the impact of symptoms and thereby reduce suffering and stress levels of Alzheimer’s patients, families, caregivers, and support groups.

Although hospitalization is necessary in the last stages of Alzheimer’s disease, you can manage such patients in the earlier stages efficiently in their home environment.

You could opt for small structural changes in your home to help safe, in-house movement of Alzheimer’s patients. Family education about different medical management techniques and support services can be very helpful. Such support programs and education improves the lives of Alzheimer’s patients, along with those of their family members and caregivers.

17. Treating an Alzheimer's Patient

Alzheimer's disease does not affect just the patient, it also causes enormous stress on family members or caregivers. While looking into available treatment options for Alzheimer's disease, the care factor needs equal attention.

Treatment Options

The most important factor in the treatment of an Alzheimer's patient is to detect its symptoms as being different from those of the normal aging process.

Depression: Although dementia patients are prone to depression, it is higher in Alzheimer's patients. Depression impairs other mental functions, aggravates memory disorders and increases disability levels. However, it is possible to cure depression among Alzheimer's patients. Despite the progressive symptoms of Alzheimer's disease, your depression levels fall considerably through proper clinical remedies. This boosts your ability to cope with associated symptoms of Alzheimer's like functional disability and mental inability. Antidepressant treatments garner help from the **Dementia Mood Assessment Scale**, which keeps track of your mood fluctuations during treatment.

Stress: Stress in Alzheimer's patients demands special treatment. Stress can be due to medical, physical, familial, environmental or mental factors. Each stress factor needs correct identification and evaluation for proper and effective treatment. Family tensions and responsibilities can cause excessive stress. This lowers your positive response to different treatments for Alzheimer's disease. You can make certain structural changes in your house and undertake additional safety measures to prevent any accidents of Alzheimer's disease patients within your house. Keep visible reminders to indicate the location of different things within the home. This lowers frustration and disorganization levels, reducing mental stress and memory loss problems of Alzheimer's patients.

Family: Family members are immediate caregivers in most cases. In others, the caregivers are different individuals. In either case, stress takes a toll on them, too. With the regular progress of Alzheimer's disease, the health of such caregivers suffers as they view a constant decline in health of patient and are unable to restrict it beyond certain limit. Such anxiety levels tend to lower immunity levels.

Family members and caregivers may easily contract different infectious diseases or heart ailments due to constant suppression of emotion. Of course, there are many treatment options for such stress. Emotional support between family members and professional advice helps in giving vent to depression, anger, or a feeling of helplessness. This helps you cope better with Alzheimer's patients and understand your limits for offering support and care to them.

There is no specific component of treating an Alzheimer's patient; it depends on individual suffering and endurance limits. You can gather authentic information through different support groups, professional agencies, community programs, medical centers and Alzheimer's Association groups.

Such clinical and emotional treatments help patients and caregivers to cope and face Alzheimer's disease with greater resolve.

18. Pharmacologic Treatment of Alzheimer's Disease

The main attributes for development and progress of Alzheimer's disease are the **formation of plaques and different neurofibrillary tangles between neurons of the brain.**

Plaques contain protein deposits of beta-amyloid. Neurofibrillary tangles are due to similar protein deposits. These form filaments and disrupt normal functioning of the brain resulting in memory loss, dementia, depression, etc. Various other clinical, genetic, and environmental factors accelerate Alzheimer's disease.

There is no conclusive scientific evidence of interrelation between these factors or their role in causing Alzheimer's disease, but they hamper working of neurons and relative synapses. During progress of the disease, **acetylcholine** levels drop leading to further drop in **acetylcholinesterase** levels. This finally destroys important neurons.

Effective Pharmacologic Treatments

Acetylcholinesterase: Pharmacologic treatments aim at restricting any fall in **acetylcholine** and **acetylcholinesterase** levels. **Cholinesterase** or **Acetylcholinesterase** inhibitors are approved pharmacologic drugs for the treatment of Alzheimer's disease. However, **acetylcholinesterase** inhibitors are more in vogue as **cholinesterase** inhibitors often cause severe liver problems, requiring regular clinical care and hospitalization.

Common **acetylcholinesterase inhibitors** are **galantamine (Reminyl)**, **donepezil (Aricept)**, **rivastigmine (Exelon)**, etc. These drugs also cause side effects like vomiting, nausea, diarrhea and anorexia, etc., but do not cause any serious disorders. You develop immunity to such side effects over time. However, if you discontinue the medication for a long period, you need to start with the smallest dosage to re-develop your body's resistance to the side-effects.

Acetylcholinesterase drugs offer some improvement in functional and mental abilities of Alzheimer's patients. It does not act similarly with all patients. If you suffer from various other

associated illnesses, you experience more side effects and show lower improvements levels. On the positive side, such inhibitors offer some enhancement of different abilities.

Selegiline: This drug shows restricted improvement levels. It shows minor improvement in the cognitive and behavioral abilities but does not show any encouraging levels in overall functional abilities. Side effects are severe with high degrees of anxiety and aggression. Hence, **Selegiline** therapy is not very popular with Alzheimer’s disease patients.

NSAID: Regular users of **Non Steroidal Anti Inflammatory Drugs (NSAID)** report less occurrences of Alzheimer’s disease.

Vitamin E supplements: Although Vitamin E safeguards neurons from the negative effects of **beta-amyloid** deposits, it does not offer any protection against other nervous diseases. It offers temporary relief but does not improve any cognitive functions. Besides, vitamin E has hardly any effect on comparatively elderly patients with severe dementia, so it is not a very popular pharmacologic treatment for Alzheimer’s disease.

Estrogen: Reports show Alzheimer’s disease is less in women taking estrogen after menopause. Estrogen protects neurons but does not improve cognitive abilities. Rather, estrogen and progestin, together, accelerate dementia and stroke rates.

Ginkgo Biloba: **Ginkgo Biloba** offers moderate therapeutic benefits for Alzheimer’s patients. But, it can cause serious side effects like bleeding, seizures and coma.

Different pharmacologic treatments work differently on different patients. Treatment duration and dosages depend on individual condition. Besides, associated illnesses also decide suitable drug or treatment so that you suffer least possible side effects and benefit to the highest level possible from improved cognitive functions. You can change and try different pharmacologic treatments after noticing treatment effects for sufficient time.

Regular assessment of your functional and mental abilities helps you monitor and plan further treatment courses and options. High treatment costs often dissuade continuance of such therapy in serious patients.

19. Does Gingko Biloba Treat Alzheimer's Disease?

Gingko Biloba is an herbal extract of leaves of the gingko biloba tree. This is a common herbal medicine in China and many Asian and European countries. It is useful in treating inflammation, giddiness and memory problems and helps increase blood flow to the brain.

Antioxidant properties of gingko biloba negate damage through harmful free radicals.

Memory problems are of varying degrees and due to numerous medical conditions like thyroid, vitamin deficiencies, depression, insufficient nutrition, dehydration, high fever, head injuries and reactions to certain drugs, etc. Hence, proper medical advice and consultation are necessary for the proper use of all drugs or remedies.

Different **gingko biloba** extracts are available as over-the-counter drugs. There are no specific guidelines regarding dosage or duration for use of gingko biloba extracts. There are also reports of side effects like blood clotting and irregularities in blood circulation with users of gingko biloba extracts. Gingko biloba seems to react with and resists the action of other drugs.

Acceptance of gingko biloba as a treatment for Alzheimer’s disease is still under study and consideration.

Scientific support for curative effects of gingko biloba in Alzheimer’s disease is not encouraging. Experiments show little improvement in behavioral, cognitive, and functional abilities of Alzheimer’s patients. There is no conclusive proof that gingko biloba can stop or delay the onset of Alzheimer’s disease. Extensive researches and experiments are necessary to determine effectiveness of gingko biloba treatment for Alzheimer’s disease.

20. A New Ray of Hope for Alzheimer's Treatment

Alzheimer's disease patients are in need of constant and extensive care as they slowly lose control over different functional and mental abilities. They are incapable of taking care of themselves.

Loss of such abilities affects patients and family members or other caregivers. Although one main cause for Alzheimer's disease is deposits of amyloid protein, such deposits alone are not responsible for all the severe symptoms of Alzheimer's disease.

But, treating the causes of amyloid deposits could lower the incidence of Alzheimer's disease.

New Treatment Options

Amyloid Precursor Proteins and other associated substances are responsible for major dysfunction in the abilities of the brain. Therefore, new treatments hint at two major options for Alzheimer's disease.

The first option is to create amyloid antigen by injecting beta amyloid protein to create antibodies. These beta amyloid antibodies could delay the onset of Alzheimer's disease.

The second option is to develop immunity therapy through amyloid beta antibodies and not through protein antibodies. Although high dosages of such antibodies were necessary for effective treatment in the tests, side effects were inflammation and hemorrhage.

Since the second option was fatal, scientists are trying to modify the first option. Injection of amyloid protein antibodies causes meningoencephalitis due to autoimmune activation of T-cells. One viable solution could be to develop vaccines to lessen T-cell activation to a minimum and at same time produce amyloid beta (A β) antibodies.

Experiments on mice indicate positive results. Besides, reduction of side effects is possible by injecting antibodies directly into the brain instead of into the body. Such injection into the brain necessitates smaller dosages of antibodies and produce a sharp fall in side effects.

All scientific experiments have been on mice and scientists are trying to learn the effectiveness of such treatments on humans with Alzheimer's disease. This does offer a new ray of hope for all Alzheimer's patients and their family members, although research and scientific conclusions are still in a very fluid stage.

There are also plans to develop extremely sensitive and refined research tools to aid in more complicated and extensive experiments.

There have been extensive studies and, though scientists do not know all the causes of A.D., their have been several things learned which they try and believe do help:

Sunlight: Getting enough sunlight and keeping on a regular sleeping pattern, where they sleep at night and are awake in the daytime. (All people need sunlight!)

Vitamin B Therapy: In 1994, McCaddon noted that AD patients lack folic acid. Later, another scientist (Snowden in 2000) discovered that AD patients were low in B-12. (Low B-12 is common in older people as it is not absorbed well.)

Other possibilities are getting antioxidants to help fight free radicals, and keeping the blood circulating well. You must discuss these things with the doctor of the AD patient, and it is not a good idea to start doing everything all at once for these reasons:

- If one thing does work, then you'd be spending money on other therapies that are not needed.
- It is best to not over tax a patient's system with additives.
- Some therapies cause the blood to thin, and you need to be especially careful of bleeding.

Make sure your loved one gets care and attention, proper vitamins and nutrition.

21. What Type of Care is the Best for an Alzheimer's Patient?

Alzheimer's patients need round-the-clock care and help, which is a huge challenge to family members.

There is no specific care-type which is the best for Alzheimer's patients. Deciding on particular care-type depends on various factors like individual preferences, extent of disability, budgetary constraints, etc.

Various types of care for Alzheimer's patients are -

Adult Day Care: These day care centers offer homely comforts and prove to be a second home to Alzheimer's patients. Centers provide meals and social or recreational activities at modest charges. These centers are helpful for working family members to take care of Alzheimer's patients while they are at work.

Home: Most families prefer to take care of their Alzheimer's disease patients at home. You could hire a part-time helper, nurse, or companion. Home offers familiar surroundings for the patient with minor changes in routines or house patterns. This does not create any confusion or adjustment problems to Alzheimer's patients as their memory power and other functional abilities are on a constant decline.

Assisted Living: These centers provide individuality with trained medical help for needy patients. You can live on your own with other patients nearby and receive help in case you develop serious symptoms.

Retirement Housing: Although such houses provide all individual facilities, it is not suitable for Alzheimer's disease patients in the advanced stages. Those in the early stages can stay, as they do not need trained help.

Continuing Care Retirement Communities (CCRC): These centers offer different types and categories of living centers, depending on your budget and the extent of necessary help. However, Alzheimer’s disease patients should start living at these centers during the initial stages so that centers can plan your necessities and payment options accordingly.

Nursing Homes: Nursing homes are suitable for Alzheimer’s patients if you are unable to manage them at home, with skilled nurses twenty-four hours of the day. You can try to find such nursing homes near your home and within your budget limits.

Hospice Care: This is the best option for Alzheimer’s disease patients in the last stages. They can develop complications at any time and hospice care centers can provide immediate medical aid. Besides, such care centers also provide extensive comfort and dignity to patients, making them feel at home.

22. Ten Easy Ways to Delay the Onset of Alzheimer's Disease

Alzheimer's disease ranks as one of the leading causes of death in people over sixty-five.

Alzheimer's disease affects brain cells, resulting in slow but sure death with deteriorating mental and physical functional abilities. However, you can delay the onset of Alzheimer's disease through these simple techniques:

Vascular check: Although blood sugar, blood pressure, and cholesterol levels cause various heart ailments, they are also responsible for Alzheimer's disease. Maintain your vascular health to delay Alzheimer's disease.

Fatty acids: Foods rich in **n-3 fatty acids**, like fish and nuts, lower your risk of Alzheimer's disease.

Shed Obesity: Healthy body weights may delay the onset or progress of Alzheimer's disease. Obesity increases your body mass index (BMI) and propels towards dementia and associated Alzheimer's disease.

Be active: As you age, you tend to forego simple physical activities like walking, jogging, etc. Forego passive and sedentary activities like playing video games, watching television, etc. Instead, take part in a game of tennis or badminton to keep your physical and mental abilities in tip-top shape.

Mental exercises: It is not sufficient to do physical exercises alone; you need to keep your brain active and healthy. Small exercises like solving jigsaw puzzles, crosswords, brainteasers or other logic problems exercise your brain and help maintain your cognitive abilities in good shape.

Quit Smoking and NSAID: These cause Alzheimer's disease according to some scientific reports. Quit them to maintain good health and delay Alzheimer's disease.

Soya bean: Soya bean and soy products like cheese, milk, etc. prevent brain degeneration.

Vitamins: Vitamin E, B, B12 and folic acid help to maintain your cognitive health. Include liberal amounts of yeast, low-fat dairy products, whole grains, leafy greens and lentils, etc. in your daily diets, as they are rich in such vitamins. These foods repair damages to neurons and aid the memory and learning centers of the brain.

Regular Exercises: Maintaining a regular exercise regimen throughout the year helps to reduce the chances of Alzheimer’s disease, strokes and heart diseases, etc.

10. **Music:** Playing any musical instrument or listening to soothing music relaxes the brain and delays Alzheimer’s disease.

23. Five Steps to Preventing Alzheimer's Disease

Your brain is a minor part of your total body weight but controls all your activities. Without proper functioning of the brain, you are equivalent to a vegetable.

Maintain excellent brain health to prevent Alzheimer's disease.

Exercise: The hippocampus part of brain is your memory center, which maintains total awareness. Regular physical exercises like walking, swimming and jogging increase the supply of blood and oxygen to the brain to keep it healthy.

Food: Foods rich in calcium, antioxidants, proteins, and B vitamins are dairy products, soybean, egg yolk, fish, berries, liver, etc. Include these in your daily diet to maintain brain health.

Mental Exercises: Reading books, solving crosswords, puzzles or brainteasers keeps your brain active and healthy.

Love: Love is an excellent brain booster. Shower love on all and receive love in equal measure. Such actions make you forget your worries and tensions, thereby relaxing your brain.

Get out of Routine: Following predictable routines are unhealthy and boring for your brain. Try new things or ways of doing regular jobs to make it more interesting and enjoyable.

Such regular exercises activate brain cells and your brain continues to develop newer neurons, which aids effective communication. Hence, it reduces the chances of Alzheimer's disease.

24. Communication, Challenges and Gifts for an Alzheimer's Patient

Communication establishes a connection between individuals and transforms them from strangers into friends. You talk and converse with your friends and relatives on all possible topics and enjoy such discussions. However, all these take a back seat when a family member or friend contracts Alzheimer's disease and begins experiencing its symptoms.

Initial Stages

Early stages of Alzheimer's do not cause extensive or drastic changes. Alzheimer's patients recognize their inability to express themselves properly. They search for from lack of proper words. At this stage, an Alzheimer's patient is well aware of this incapacity and tries to hide it, actually disguising and concealing speaking or memory disabilities.

Sometimes, Alzheimer's patients detach themselves from their peer group to hide their incapacities. They dispel their disabilities as temporary and unimportant incidents although, inwardly, they are fully aware of the symptoms assuming greater effect on a regular basis.

Communication Techniques

Caregivers can offer extensive support and love to Alzheimer's patients by following a few communicational techniques.

Abstain from displaying your frustrations, irritation and anger, etc. Alzheimer's patients are extremely sensitive to such emotions and go 'into their shell' immediately.

Be calm and friendly. Talk in simple and straight sentences. Use uncomplicated language, avoiding any ambiguity. Talk distinctly and specifically.

Proceed in simple terms and do not jump between topics. Sometimes it is best to address them in direct statements rather than offering various options to Alzheimer’s patients. Many options confuse them and they feel their disability more disturbing.

Never show any disrespect to Alzheimer’s patients. Try to keep all discussions and talks for the start of the day, as they are fresher at that time. By evening, they become tired and may not be able to understand or reply properly.

Do not put any pressure on the memory of Alzheimer’s patients. Instead, approach them about how you enjoyed spending time together in the past or specific anecdotes of your times together.

Patience is a prerequisite for caregivers of Alzheimer’s patients. Never rush or hurry them while talking, do not try to finish their sentences or go off to another topic while they are trying to locate an appropriate word.

Later Stages Of Alzheimer’s Disease

Communication levels take a backseat in later stages of Alzheimer’s disease. Now, they are unable to express anything and feel helpless, dejected, depressed and lost. Although they realize that something is wrong with their minds, they are unable to decipher any actual reason.

Alzheimer’s patients now become angry quickly and often accuse you of not listening properly. They become more forgetful and are unable to retain anything told to them.

This is a very tender stage and need expert handling. A loving and endearing smile accompanied by gentle touches of your hands are the best communicational techniques.

You need to talk to them in reassuring tones, even if they are unable to reply you. Do not enter into any arguments. Keep your frustration levels in control. You cannot vent out your anger or irritation, as they are unable to understand your helplessness. Alzheimer’s disease completely disrupts the functioning of their brain and other cognitive abilities.

Advanced or Last Stages

In this stage, Alzheimer’s disease destroys brain functions. Patients can, at best, sometimes repeat something told to them, but keep on repeating the same things unrelentingly at other times.

As a caregiver, try your best to communicate that you love and care for them. You can relive memories of earlier days and various other happier events. Best gifts could be family photo albums, films and discussions about such mementos.

Try to keep everything on a humorous level, without going into finer details. Do not keep them away from discussions on other topics. It is better to talk to them on their terms rather than trying to bring, or force, Alzheimer’s patients to your level of understanding. This improves communication levels and ensures peace and safety of Alzheimer’s patients as long as they are alive.

25. Ten Practical Tips for Alzheimer Caregivers

Alzheimer's disease patients need constant care and attention in the developing stages of the disease. In its initial stages, they may cope with their inabilities. After that, it is not safe to leave them alone as they could injure or harm themselves. Caregivers have to offer extensive support and help in managing their Alzheimer's patients.

Here are a few practical tips to ease the work of Caregivers -

Behave normally: Alzheimer's disease develops gradually and patients undergo changes over time. Be your normal self with them and do not reduce or cut off contact with them. Make them feel everything is as normal as it has always been.

Educate yourself: Caregivers need to be aware of all consequences and developments of Alzheimer's disease. Gather authentic medical information from all possible sources to be knowledgeable about Alzheimer's disease, its effects, and consequences.

Open discussion: Do not try to hide any facts about Alzheimer's disease. If your patient wants to know any information about the disease, listen patiently and answer honestly. Express your support and love, and assure the AD patient that it is okay to discuss their feelings, doubts, confusions, etc. Do not suppress any thoughts and allow free expression.

Patience: Be patient with Alzheimer's patients and do not rush into anything. Allow unlimited time to talk, express, or to do any work. Ask them questions to encourage them talk in full sentences. Avoid monosyllable answers. Alzheimer's patients tend to be repetitive. Answer them once and, if they keep repeating same question, try to change topic or distract them into doing something else.

Maintain your Cool: Alzheimer's patients can do frustrating and irritating things. They may appear terribly confused and irresponsible. As a caregiver, you need to be cool to keep situation

in control. Fraying tempers can only make matters worse for you, as your outburst could destabilize them totally.

Be ready to adopt changes: You cannot follow same pattern for taking care of Alzheimer’s patient always. Their condition is constantly changing and you need to change your caring patterns accordingly. There is no set pattern or rulebook for looking after Alzheimer’s patients. You need to understand and decipher their needs.

Individuality: Do not restrict Alzheimer’s patients. Just because they are unwell, does not mean that you must control their life by taking away all their responsibilities. Allow them to take decisions and make choices, and respect their views. Do not snigger or make fun of their inabilities. Give them small jobs like peeling vegetables or folding clothes. Do not force them if they feel bored or uninterested in doing these jobs.

Personal Touch: It is very important to maintain a personal touch with Alzheimer’s patients. They are at no-fault for their improper actions; it is due to the progressive nature of Alzheimer’s disease. Therefore, your treatment options should be the same as you would like others to take care or treat you if you were in their situation.

Caregivers need care too: Although it is a taxing and time-consuming job to look after an Alzheimer’s patient, you cannot ignore your personal needs. Unless you are well and healthy, you cannot support or help your loved one. Get the help of any local support groups and organizations to help you take time off for refreshing work and recreation.

Develop and Maintain your sense of Humor: Alzheimer’s disease patients often do funny things. You should not make fun of them, but try to look at the bright side and transform it into a joke. Share and laugh with the patient. It helps to keep both of you in good humor and spirits. It is difficult to care for an Alzheimer’s patient if you are sad or feeling helpless and low.

These practical tips make it simpler and easier to look after an Alzheimer’s patient. Of course, you can make additional and safer structural changes to their living surroundings, like rearranging all unsafe or hazardous furniture and equipment, installing locks on medicine and

alcohol cabinets, using high slide-bolts on doors leading to staircases or outside to avoid patients wandering away, removing plug-in electrical appliances, keeping fire extinguishers and first aid kits ready, etc.

26. How to Communicate Effectively with an Alzheimer's Patient

Alzheimer's disease destroys communication abilities. It is both difficult and frustrating to understand them. Alzheimer's disease patients are unable to decipher, describe or spell out their feelings and opinions. They may trail off while talking, suddenly turn blank or forget what they were saying.

You can follow these simple principles to ease communication:

Simplify communication: Alzheimer's disease prevents proper communication and patients fumble for words or use some wrong ones. Ease their difficulty by sitting close to them and talking slowly, without any distracting and disturbing sounds or noises in the background. Use simple sentences and words to avoid any confusion.

Use recognition cues: Take active help of different cues to aid an Alzheimer's patients understand about what you are trying to tell them. You can show them the toilet to indicate whether they are in need of visiting it.

Patience: You need immense patience to listen and decipher the talk of Alzheimer's patients. Try to talk in relaxed and calm tones, do not hurry them, and avoid criticizing, interrupting or arguing about their actions and talk.

Attention: Pay undivided attention to an Alzheimer's patient while he or she is trying to tell or make you understand something. Maintain proper eye contact and express interest in their talk. Alzheimer's patients are not doing anything intentionally, it is only that their brain does not function normally and it is their actions which are abnormal, not them.

27. How to Drive Safely with Alzheimer’s Disease

Driving is a need which re-enforces your feelings of self-worth and confidence in your capability and freedom. Normally, with age, your driving patterns change, you show less interest in driving long distances and your confidence levels drop. Additionally, Alzheimer’s disease cripples the required functional and mental abilities gradually.

There is no particular stage of Alzheimer’s disease which would endanger someone’s ability to drive. But, a person who cannot remember where they are or where they are going or how to get back, should not be driving a car. Alzheimer’s affects different people in different ways.

They may exhibit altogether different symptoms at various stages of the disease, which are in no way similar to that of other Alzheimer’s disease patients. Normally, driving ends in advanced stages of Alzheimer’s. Of course, it is difficult persuading Alzheimer’s disease patients to stop driving. Most Alzheimer’s patients continue with their driving in the initial stages.

If they are going to drive

Some tips for safe driving with Alzheimer’s disease are -

- Drive along known routes for short distances and always use the same vehicle.
- Avoid driving on busy roads or in peak traffic hours.
- Stop driving if your doctor advises against it
- Avoid driving in inclement weather or at night
- Stop driving if you are forgetful and unable to recognize usual routes
- Stop driving if you had any accident in the recent past
- Stop driving if you are unable to follow traffic rules

These small and simple precautions can safeguard the lives of patients, their families and other road users, and lessen anxiety of their family and carers.

28. How to Manage Agitation Behavior in an Alzheimer's Patient

Agitation behavior is a defined characteristic of Alzheimer's patients in middle stages. Agitation, in simple terms, is improper functional or verbal action. It could be in any form; depression, aggressiveness, psychosis, violence, etc. Whatever the form, agitation needs to be dealt with properly. Although your intuition might suggest to curb agitation through medicines, it is best to keep them as a last resort.

Instead, adopt different changes in the prevailing atmosphere and environment to give sufficient relief to Alzheimer's disease patients.

Common Agitation Characteristics

Verbal Behavior: Repetitive questions, unintelligible talking, shouting and yelling, as well as using foul language are common among Alzheimer's patients in the middle stages of their disease.

Physical Behavior: Wandering off, or pacing within the house, indicates extreme restlessness in Alzheimer's patients. Uncertainty, fear and nervous feelings provoke extreme physical behavior like hitting, kicking or scratching. This could prove dangerous to caregivers.

Caregivers need a high degree of patience and tact when dealing with Alzheimer's patients. Always act cautiously to maintain the equilibrium in patients. The level of aggressiveness in previously calm and quiet-natured persons is often higher. Alzheimer's disease causes opposite to their usual behavioral tendencies. Of course, body pain or discomfort act as boosters for agitation. The common tendency of caregivers is to ignore such behavioral tendencies, but this evokes a negative reaction.

Techniques for Managing Agitation in Alzheimer's Patients

Agitation in Alzheimer's disease patients expresses their inability in dealing with their incapacities. Stress - due to disease, pain, discomfort or inability - is the valid reason behind the

unexplainable behavior of such patients. Caregivers need to realize this factor and adopt suitable steps to maintain a calm and peaceful atmosphere.

Maintain Routine: Caregivers should maintain regularity in routine with very few and subtle changes, so these do not cause any extra stress on the Alzheimer’s patient.

Tiredness: Exhaustion increases agitation. Allow sufficient rest during daytime and mingle activity periods with quietness, rest and solitude. Rest periods could be two to three times a day, depending on the physical condition of each individual patient.

Increase Support Levels: Alzheimer’s disease lowers mental capabilities gradually. It is futile to put excessive pressure on Alzheimer’s patients by questioning or quizzing them. These only trigger stress levels and they slip into deeper realms of depression and incapacity.

Caregivers should encourage, understand and offer extensive support to patients. You should help them complete their tasks, without ever highlighting any of their shortcomings.

Depression: Alzheimer’s patients often experience depression, as they are unable to do simple jobs like cooking or driving. Although they might not remember recent events, earlier memories of managing things efficiently remain fresh. Keep them busy with small harmless jobs to keep depression at bay.

Disturbing Noises or Images: High volume noise, crowds and other disturbances cause stress and confusion in Alzheimer’s patients. Keep them away from noisy and crowded places. Change their environments by removing mirrors, shadowy lights and other things which can cause them stress.

Maintain a calm and quiet environment to reduce agitation. Restrict big parties at home. However, do not isolate them. Allow them to take part in small social gatherings with their old friends. Nevertheless, keep a constant eye on their movements and feelings and try to shift them to calmer surroundings as soon as you notice even slight changes in their behavior.

Illness: Simple infections, drug reactions, pain or other feelings of discomfort aggravate agitation in Alzheimer’s patients. Maintain general health through a nutritious and balanced diet with sufficient intake of water and exercises.

Drugs: In severe cases of agitation, specific drugs in small dosages help calm Alzheimer’s patient. Additionally, it relieves you of excessive stress and mental tension. Such drugs need not be a regular affair, but could offer relief in emergencies and help you manage difficult situations.

Music: Playing soothing music during bathing, meals or other opportune times lowers agitation. Music calms the nerves of Alzheimer’s patients and you find it easier to deal with them.

Caregivers need to be on the constant lookout for maintaining equilibrium and a steady life for Alzheimer’s patients. Try to avoid activities or events which could trigger extreme or far-reaching effects on their behavioral patterns.

29. Marriage, Intimacy and Alzheimer's

Alzheimer's disease brings marked changes in behavior patterns leading to radical changes in sexual behavior and intimacy levels. Most often, caregivers of Alzheimer's disease are their spouses and it develops, over time, a strain in their relationships as intimacy levels fall due to stress. Intimacy is important to develop and maintain closeness, which culminates in different physical gestures, words, and movements of expressing such intimacy leading to sexual relationships. Healthy sexual relationships maintain physical and mental health of normal people, reducing all kinds of stress.

Effect of Alzheimer's Disease on Intimacy-Related Issues

Alzheimer's disease does not rob the patient of his or her sexuality but it diminishes the physical behavior, consciousness, and memory power.

Your spouse is unable to express their feelings of love or affection in physical terms or language. Sometimes drugs for other ailments, or for controlling the agitation behavior of Alzheimer's patients, could result in impotence. At times, Alzheimer's patients become sensitive to sexual feelings and cannot control their actions in public.

Such actions could embarrass their spouses. As a caregiver, spouses need to understand their incapability and not react negatively to such actions. Instead, assess the situation and analyze their behavior pattern.

Marriage and Alzheimer's Disease

Spouses experience frustration due to unsatisfying sexual relationships with their mates. You could experience feelings of guilt or resentment at such dissatisfaction and an inability to continue with the relationship. Marriage binds you into continuing with a relationship as you experience guilt over ending it.

You can garner support from people in similar situations, although you may find it difficult to share your views and feelings. Listen and talk about what is bothering you. It's a road to healing.

It is necessary to care for your spouse in their time of need, but that does not mean you should lose your balance and succumb to extreme stress. Your Alzheimer-affected spouse may not be able to understand your thoughts, misgivings or other emotions, but a single touch of your hand evokes and spreads tons of warmth.

Use the power of touch. It passes your love, care, and not necessarily any sexual inclinations. A reassuring arm around a shoulder gives a comfortable feeling while forearm strokes and gentle patting boosts confidence levels. Touching or gently massaging calms nerves and increases blood circulation. It is also responsible for lowering heart rates and muscular contractions.

Effective Solutions

Try to address the problem healthily and settle issues amicably. You can concentrate on the positive aspects of your relationship like:

- Going for long walks, rides, or drives
- Listening to music and singing together
- Dancing and exercising together
- Going down memory lane through photo albums
- Doing interesting chores together like painting, sketching, or gardening
- Looking after pets
- Helping each other in personal care and hygiene
- Engaging in religious thoughts, discussions, and spiritual matters also produce positive reverberations in Alzheimer's patients.

30. Incontinence and Alzheimer's Disease

Alzheimer's disease in later stages cripples mental abilities and Alzheimer's patients develop severe incontinence problems. This disease is a slow killer and erases all involuntary functions gradually. Incontinence in the last stages is similar to that of a newborn, as both have almost equal lack of control.

Early stages of Alzheimer's disease only make them fumble with their undergarments, as they are unable to coordinate mental functions with physical abilities.

Then it leads to forgetting their way to the bathroom or recognizing the utility of a bathroom. This leads to total devastation, as they cannot control their urinary or bowel movements after that. Cue cards on the bathroom door provide little help at this stage.

Bodily functions are a part of being alive and caregivers need to provide proper care for incontinence problems. It is just not toilet facilities alone; Alzheimer's patients need help in dressing, undressing, bathing, sitting, standing, bending and moving from bed to wheelchair. In severe cases, it is best to use incontinence pads, as it is not always possible to realize when the patient needs to visit the toilet. Bedridden patients could develop bedsores if they are not always dry. Serious bedsores cause infections and require hospitalization.

Dealing with Incontinence in Alzheimer's

Looking after incontinence of Alzheimer's patients is a challenge to caregiver and patient alike. Caregivers also have initial inhibitions about the proper technique of dealing with it.

Certain guidelines could make your job easier –

Using incontinence pads is entirely the caregiver's decision and you need not consult or ask the Alzheimer's patient anything. If the last stages of disease bar them from doing it independently, you need to plan it according to a routine. Never discuss the use of such pads with your patients. Just address them on general terms of being freshened or showered.

Most often, Alzheimer’s patients refuse toilet help if you venture to ask them about it. It is best to be near them while they visit the toilet or have their bath. Try not to discuss any details of what you are doing.

Set water temperature for their bath. Keep all clothes ready and help them to dress in an almost ritual-like manner. This sets the order and method of wearing garments.

Remove all mirrors from the bathroom as Alzheimer’s patients face extreme confusion from reflections. Besides, it also lays bare their privacy, which disturbs their mental balance. Change tap knobs into handles to prevent accidental leaking of taps left open. Remove all bottles, make-up accessories and pictures from the bathroom walls. Keep them plain and clean.

Try to work with the patients from behind. This way, although you are helping them, they seem unaware of it and feel fewer inhibitions.

Organize your tasks beforehand and attend to all the needs of your Alzheimer’s patients before venturing into any cleaning or other pending work.

31. Alzheimer's Care Giving While Maintaining Your Own Health

Alzheimer's disease spreads through the brain slowly until it engulfs the functioning of the entire brain. This cripples an individual and reduces him or her to an almost vegetative state. Outwardly, you cannot view any physical marks to denote the presence of Alzheimer's but, inwardly, the individual loses their total cognitive and physical abilities.

As a caregiver, you need to take care of them in all aspects just as you would take care of a newborn. This is a huge task and often you can become the victim of caregiver burnout.

What is Caregiver Burnout?

Caregiver burnout is a related happening. As you keep on caring for your Alzheimer's-affected spouse or family member, you forget to look after your personal needs, diet and health. Common symptoms of this burnout are nervous problems, with increased tension, and difficulty in concentrating. You find fault with other people and feel you are not receiving sufficient help to take care of your Alzheimer's-affected relative.

Follow these steps to avoid such caregiver burnout -

Reach out for help: Caring for an Alzheimer's patient is a mammoth task. Get help from relatives and friends. Do not do this alone. There are also support organizations for Alzheimer's caregivers.

Realize your limitations: Caregivers are also human and have their own limitations, needs and weaknesses. Recognizing yours and asking for help for dealing with them is just being sensible. Do not push yourself to the brink, which would endanger the well-being of both you and your patient.

Acknowledge your abilities and successes: Do not compare your care-giving ability with the progress of Alzheimer's disease. This disease is a slow killer and care-giving can only reduce the

discomfort and unstable levels to some extent. Beyond that, no one can do anything to stop the health deterioration of an Alzheimer's patient. Congratulate yourself on your ability to take care and deal with situations. This boosts your own energy levels.

Accept Realistic Changes: Understand the seriousness of Alzheimer's disease and realize that it is not possible for you to take care of an Alzheimer's affected individual all through the disease. After a certain point, it becomes inevitable to look for medical help and hospital care.

Forego Illusions: Some caregivers take care of their Alzheimer's family member until the last. Such caregivers and situations are rare and it is more sensible for you to look for relevant help when necessary.

Increase your awareness of Alzheimer's disease: Educate yourself thoroughly about the different aspects of Alzheimer's disease, behavior patterns and developing problems. Allow the affected individual to take care of himself as long as he can and start with your care only when the situation becomes serious.

Maintain your social life: Caring for an Alzheimer's family member does not mean cutting yourself from your social life. Such interactions and discussions help unburden your thoughts, doubts and feelings. You feel light and such breaks help in taking good care of your health and maintaining a vital, stable mental balance.

32. Caring for a Person in the Final Stage of Alzheimer's Disease

Alzheimer's disease is different from person to person and the end could be due to Alzheimer's disease or other associated illnesses. Treatment options can prolong life to a certain extent but the end is inevitable.

Some tips about caring for Alzheimer's patients in the last stages -

Support Groups: Take any help of support groups, counselors, hotline staff, or Alzheimer's associations for current guidance and help in taking care of your patient. Such help acts positively for your health and then you can take better care of your patient.

Gather full information about Alzheimer's disease: Learn everything about Alzheimer's disease, which will provide some emotional strength to accept the death of your Alzheimer's affected spouse or family member. You can pour out your grief or sorrow to your friend or relative; it makes you feel lighter and more able to cope with the eventuality.

Life-Support: The last stages of Alzheimer's disease robs patient of all decision-making abilities and, therefore, you need to decide whether to put the patient on life support or not. Life support only delays death and you feel you are able to keep your loved one with you for some more time. Some patients analyze all eventualities in the earlier stages of disease itself and so you can abide by their wishes. In other cases, it is best to discuss such matters with medical authorities, Alzheimer's associations and other family members and then accept their decision.

Observe Symptoms in Alzheimer's patients: The last stages of this disease are painful and trying periods for both the patient and caregiver. You can feel helpless and unable to offer any relief to your suffering relative. Patients cannot communicate anything either. Medical researches indicate possible symptoms of pain, constipation, disinterest in eating or drinking anything, nausea, increasing levels of agitation and confusion.

You can witness deteriorating behavioral symptoms. Consult with doctors and medical practitioners to provide the most appropriate levels of relief to patients.

Pain Relievers: Doctors suggest mild painkillers as strong painkillers cause serious side-effects. Congestion and breathing difficulties arise in the last stages. It is best to avoid forcible artificial feeding as it hampers breathing.

Spiritual Guidance: When your loved one is dying by the day, you seem to analyze facts like life-and-death. Spiritual discussions help you find answers to such questions and ways of remembering them after death.

Hydration: Dry mouth occurs due to insufficient drinking of fluids. Swab insides of mouth with soaked cotton or glycerin, and put small pieces of ice into the sides of their mouth to treat dry mouth.

Bedsore: Turn patient in bed every two hours, move their arms and legs often to prevent formation of bedsores, as these cause infections and blood clots.

Respect the feelings of Alzheimer’s patients: In the early stages of Alzheimer’s disease, some of them accept the realities of situation. They may tell about their willingness to die, which shows their acceptance of disease. Do not curb or restrict their feelings and listen to them patiently. However, prevent any suicidal attempts or other ways of harming themselves to have a faster death. Patients in later stages, though bedridden, display their willingness to die although they cannot communicate other things intelligibly. This acts positively for Alzheimer’s patients as they can drift off to death.

Human Touch: Remain close to your dying relative as, although they cannot communicate, they can hear you well. Talk quietly and normally, helping them pass away easily.

Music is important. It can soothe them to hear quiet music.

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