

ALZHEIMERS DISEASE AND ESSENTIAL OILS

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"To reach the individual we need an individual remedy. Each of us is a unique message. It is only the unique remedy that will suffice. We must, therefore, seek odiferous substances which present affinities with the human being we intend to treat, those which will compensate for his deficiencies and those which will make his faculties blossom."

*Marguerite Maury
The Secret of Life and Youth*

Can you imagine a future without history? Can you imagine having all your memories erased one at a time? This is what it must be like for over 5.1 million Americans who have been diagnosed with Alzheimer's disease. How would it feel to be rudely awakened by an awful noise, but you just can't figure out what it is. You slowly begin to remember that noise is your alarm clock set to wake you up. You had something important to do today, but what can it be? It is believed that every 72 seconds in America someone develops Alzheimer's disease. Included in the 5.1 million Americans who have been diagnosed with the disease are 4.9 million people 65 and older and as many as 500,000 younger than 65 diagnosed with early onset Alzheimer's disease or other types of dementia. (1)

It was in 1901 that Dr. Alois Alzheimer, a German physician, first observed a female patient in her 50's for the signs of short term memory loss. The patient's husband would complain to Dr. Alzheimer about his wife's strange behavior and short-term memory. The woman then became Dr. Alzheimer's obsession. He found that the patient would recognize and describe common items but when she would try to remember their names they would elude her. His patient would describe a cup as a milk jug. After several minutes, his patient would have no memory of ever having seen the cup at all. When his patient died in 1906 Dr. Alzheimer had all of her records and her brain sent to Munich for an autopsy, this is where he discovered amyloid plaques and neurofibrillary tangles. A speech given in November 1906 was the first time the pathology and clinical symptoms of pre-senile dementia were presented together. (2)

The healthy human brain consists of 100 billion nerve cells and neurons connecting with 100 trillion points. Information flows between the nerve cells in chemical pulses and are released by the neurons and taken to the receiving cell. These signals are constantly moving through the brain creating our ability to walk, talk, think, and remember. With Alzheimer's disease and other forms of dementia these nerve cells deteriorate and die. Dementia comes in many forms and has been written about since ancient times. In 500

BC, the Greeks protected the rights of the mentally impaired stating that wills not be made by anyone under the influence of "old age, physical pain or the persuasion of a woman." Nearly 100 years later Plato wrote that crimes of the mind including madness or extreme old age would be excused. Shakespeare also wrote of King Lear suffering some sort of dementing illness. Writings like these found in our history indicate that dementia and memory loss are an expected part of aging and have been a part of our history for generations.

Dementia is the general term for brain disorders that have an irreversible cognitive effect. There are four classifications of dementia and the criteria requires significant enough of a decline in two areas to interfere with day to day life. These functions include: (1)

- ✚ Memory
- ✚ Ability to generate coherent speech or understand spoken or written language
- ✚ Capacity to plan, make sound judgments and carry out complex tasks
- ✚ Ability to process and interpret visual information

Currently there are nine different documented forms of dementia in which a patient may be classified according to the patterns of behavior the patient is experiencing. The classifications are as follow: (1)

1. Alzheimer's disease: The most common form of dementia accounting for 50-70% of dementia cases.
2. Vascular dementia: The second most common form of dementia. It is caused by a reduced blood flow to the brain often caused by series of mini strokes.
3. Mixed dementia: Characterized by Alzheimer's disease and vascular dementia.
4. Parkinson's disease: In latter stages a significant percentage of patients develop dementia.
5. Lewy body's dementia: This is a deposit of protein called alpha-. Patients usually experience visual hallucinations, muscle rigidity and tremors, alertness and severity can fluctuate from day to day.
6. Frontotemporal dementia: Cellular damage tends to be on the front and side region of the brain.
7. Curtzfeld-Jakob disease: A rapid and fatal disorder that impairs memory, coordination and causes behavior changes. This was recently identified as a human disorder caused by consumption of products from cattle affected by mad

cow disease.

8. Normal pressure hydrocephalus: Caused by a fluid on the brain that can sometimes be corrected by shunts to drain the fluid.
9. Mild cognitive impairment: A condition which causes a problem with memory, language or other essential cognitive functions serious enough to be noticeable to others but not severe enough to interfere with day to day life. (1)

Alzheimer's disease is a progressive brain disorder that eventually takes away one's history, erasing memories of the past and present one at a time leaving the patient dependant on a caregiver as bodily functions along with attention, language and reasonable thinking deteriorate. A positive diagnosis of Alzheimer's disease is only possible through autopsy upon the death of the patient, however researchers are looking for a biological marker that would allow for the development of a simple lab test to diagnose the disease in early stages. Until then it is up to a highly trained doctor to perform a thorough medical exam. This exam will include a complete medical history and tests to assess overall memory and functions. There is a 90% accuracy rate of a positive diagnosis. (1)

As symptoms of dementia begin to appear the nerve cells that process and retrieve stored information have already begun to deteriorate and die. The two "hallmarks" of Alzheimer's disease are Amyloid plaques and Neurofibrillary tangles as mentioned earlier. (2) Amyloid plaques are described as deposits or clumps of protein fragments that accumulate between the brain's nerve cells. Neurofibrillary tangles are twisted strands of another type of protein that form inside the brain cells. Scientists are still trying to determine the role of plaques and tangles in the cause of Alzheimer's disease.

It is difficult to determine when a patient actually develops Alzheimer's disease due to the slow progression over a course of several years, because the disease progresses so slowly, the symptoms are hardly noticeable for years after onset creating the challenge of an early diagnosis. Alzheimer's disease is thought to evolve over a series of stages that take course over 30 or more years. The symptoms of the disease don't always affect every patient and could occur at different stages for different patients. After a patient has a clinical diagnosis the average life expectancy is anywhere from 3-20 years. As the patient's mental and physical abilities deteriorate there is a series of 7 stages they may pass through. These stages fall into more general categories of early, mid, and late-stage, rather than definitive stages of 1-7. (2)

The first stage may last 10-50 years with no signs of short term memory loss. The second stage can last 2-4 years with some signs of memory loss as the patient may forget names of friends and family members. During this stage the patient is fully aware

that his mental functions are declining, the patient may experience mood related symptoms of anger, apathy, fear, anxiety, and social withdrawal. The third stage will present mild dementia where symptoms are more noticeable; the patient will be more anxious and will be lost in unfamiliar places. They may also go into denial about their illness and the ability to remember new information deteriorates significantly. Stage four will last 2-6 years and a moderate decline in the patient's ability to concentrate as well as memory will deteriorate further. The patient may now have a difficult time with their own personal history. In this stage there will be a reduced ability to perform complex tasks by themselves and mood swings are quite common.

In stage five there is a moderate to severe decline in cognitive function and patient will require help to determine proper clothing for the season or occasion. At this point part of the patient's life is now completely missing; however the patient may retain basic information about themselves and family members. This stage will last 2-4 years. In the sixth stage of Alzheimer's disease the patient has severe cognitive decline and forgetfulness accelerates. The patient will occasionally forget names of their primary caregiver but is usually able to differentiate familiar from unfamiliar. Large amounts of personal history are now missing and help is necessary with the handling of day to day details of personal hygiene. Personalities will take on a complete change with the possibility of the patient becoming violent or showing signs of suspiciousness or delusions.

In the seventh and final stage of Alzheimer's disease there is a severe cognitive decline and the patient will lose the ability to respond to their environment. Speech is limited and will often be unrecognizable; however, words or phrases may be uttered. The patient may lose the ability to walk, sit up or even hold their head without assistance. In the final stage of this disease the brain no longer has control of the body, reflexes become abnormal and muscles will grow rigid. (4)

The causes of disease are many and most often not limited to just one single incident, but a lifetime of accumulations. A person must go through many stages of emotional and physical unrest for the body's cells to stop regenerating and reproducing. It is believed that Alzheimer's disease starts tangling the brain as many as thirty years before the first symptoms appear. So, does this mean while still in your thirties who you are could prevent who you will become? It is not fully understood what causes Alzheimer's disease. There are many factors; age being the most prevalent, with genetics a possibility. It is known that when genetics are a factor it is most likely that the patient will have an early onset of the disease, possibly as early as their thirties. A look into environmental factors such as infections, metals, and other toxins is important. Researchers are currently working on a number of possibilities.

Over 100 years after the first case of Alzheimer's disease was recognized there is still no

cure and experts are challenged to find an early diagnosis which may help to slow the process of brain deterioration caused by this disease. As we know there are few pre-determining factors when it comes to who may actually develop Alzheimer's disease. When you discover that a family member has been diagnosed with this disease it becomes apparent how much work there is to be done in the field of research for causes of this disease, and how important it is to find an early diagnosis. I sit here and watch my own father-in-law give up the man he once was as this disease progresses and wonder what he could have done differently in his life to have had a different diagnosis. I don't have the answers to these questions nor are they my questions to answer. I do know however that my intention is to do whatever I can to assist in a better quality of life for him as well as those involved with his care.

Medicare, which is the most common form of insurance supplement for people over the age of 65 reports that Alzheimer's patients and others suffering from dementia use significantly more services with higher costs than beneficiaries without forms of dementia. Medicare reported that in 2005, \$91 billion was spent on benefits for persons with Alzheimer's disease, with an expected cost of \$189 billion by the year 2015. These are only costs covered by Medicare, and do not include out of pocket expenses for the patient or their families.

"According to an AARP analysis, Medicare beneficiaries age 65 and older spent an average of \$3,455 (22 percent) of their income on health care in 2003. About 45 percent of those expenses were for Medicare Part B premiums, private Medicare plans and private supplemental insurance. Medicare beneficiaries age 65+ paid 37 percent of the cost of nursing home care out of pocket in 2002, the most recent year of which expenditure figures are available by type of medical services." (1)

Most of you will agree that in America our current state of medical care along with medical benefits and out of pocket expenses are in crisis, as the drug and insurance industries control the amount of care as well as the cost of care to the patients. With the cost of treating and caring for an Alzheimer's patient out of control, care rests upon the willing and able friends and family members. It is believed that there are nearly 10 million Americans caring for their loved ones with Alzheimer's disease and other dementia providing an average 12 hour work day 7 days per week. (5)

What exactly does the family caregiver go through on an average day? Other than caring for the Alzheimer's patient's needs of feeding and bathing, help is also given to the patient for personal needs of toileting, and tending to the loss of bladder or bowel control as well as the emotional confusion and disoriented state of the patient. The caregiver will also deal with their own emotional issues of physical exhaustion, loss of income due to extended care of their loved one, lack of exercise or ability to care for their own personal needs leading to increased anxiety and chronic stress. The list goes

on as the disease progresses. Is it possible that we could be looking at another exacerbation of disease brought on by the stress placed on the caregiver? As a developing Aromatherapist, I see the benefits of essential oils for both the Alzheimer's patient as well as for the family and friends who are caregivers.

It is common for Alzheimer's patients to lose their sense of smell; therefore taking a look at the chemical compositions of essential oils is important. Each individual essential oil has as many as 100 chemical components, depending on the chemical component that is the most predominant will cause the action of the oil. As Kurt Schnaubelt writes in his book Medical Aromatherapy,

"In a study that has already triggered follow-up work; sesquiterpenes were shown to increase the number of certain receptors in the brain and are now considered prospects for the treatment of Alzheimer's disease, Parkinson's disease, and schizophrenia."

Myrrh (*Commiphora myrrhaneae*) was one particular essential oil mentioned in this study. (6) In another clinical trial performed at the University of Newcastle by Clive Ballard and Clive Holmes, the essential oils of Melissa (*Melissa officinalis*) and Lavender (*Lavandula angustifolia*) are said to have very positive results with Alzheimer's patients. Melissa (*Melissa officinalis*) is rich in aldehydes with only traces of sesquiterpenes and Lavender (*Lavandula angustifolia*) is rich in esters particularly linalyl acetate, and alcohols particularly linalool. (7) This same study indicates that Melissa (*Melissa officinalis*) may help prevent the loss of the key brain chemical acetylcholine which is associated with changes due to Alzheimer's disease, stating that Melissa (*Melissa officinalis*) may work in the same way as first generation Alzheimer's drugs of Aricept and Exelon.

Many long-term Alzheimer's facilities decline the use of Aromatherapy due to the common misconception that aromatherapy is a form of perfume, relating it to fragrance, and most facilities are "fragrance free". The facilities that do allow aromatherapy usually have a designated room used only for aromatherapy treatments. However, as the field of aromatherapy grows and more is understood, these facilities are learning to take a look at the benefits essential oils provide their patients.

In a monitored and documented study with data compiled by Pat Bishop, R.N, special blends of oils were used in an Alzheimer's unit for a one year experiment with the essential oil blends developed by Jackie Farnell of Scents-ible Solutions. Bishop states that one patient stopped chasing nurses with his wheelchair and others stopped moving aimlessly around the room. She continues by stating that patients will sit quietly, doing activities assigned to them for longer periods of time. Bishop also says that in late afternoon, when most patients become restless and unhappy, you would not know that

this is an Alzheimer's unit because patients are calmer and more relaxed. At the beginning of the experiment, patients were averaging a weight loss of three or more pounds per month. Within the first month, forty percent of the patients showed decreased weight loss, and by the seventh month sixty percent began gaining weight. The "Appetite Stimulant" blend consists of the essential oils of Grapefruit (*Citrus x paradisi*), and Clove (*Eugenia caryophyllata*). A blend called "Restore Peace" was designed to quiet a noisy room. It also increased the effectiveness of the medications taken by the patients, thereby having dosages reduced by their physicians. This blend was made with the essential oils of Grapefruit (*Citrus x paradisi*) and Frankincense (*Boswellia carteri*).

A third blend called "Helps Relieve Insomnia & Pain" was a blend of Lavender (*Lavandula angustifolia*) and Bergamot (*Citrus bergamia*). A dramatic reduction in falls caused by lack of sleep linked to night time wandering was noted. Patients also started asking for essential oils for pain in place of medications. The fourth blend called "Promote Alertness" is a blend of Rosemary (*Rosmarinus officinalis*) and Orange (*Citrus sinensis*). The fifth and final blend created for caregivers and named appropriately, "Care Giver Relief", to encourage creativeness, clarity and alertness by the caregiver includes Orange (*Citrus sinensis*), Cinnamon (*Cinnamomum selenium*), Lemon (*Citrus limon*), and Ylang Ylang (*Cananga odorata*). Caregivers are attending work more regularly, patients are using fewer psychotropic medications and everyone is more comfortable.

With the antibacterial and antimicrobial effects of essential oils there are fewer communicable diseases and family members are visiting more regularly due to the pleasant odors in the facility. The patients are more comforted and caregivers are given relief from the common agitations of their patients. (8)

I have taken the opportunity to share my knowledge of Aromatherapy and created some essential oil blends for my father-in-law as well as family members. I am very excited to explore the continuing results as time goes by. I realize that at this point I will not be able to reverse the damage caused to his brain by Alzheimer's disease; at the very least I can offer assistance in a better prognosis.

In a blend I call "Dad's Alzheimer's Blend" my intention was to address current issues of memory loss, and the severe anxieties and agitations he shows if he has to venture beyond his own comfort zone of home. I used the essential oils of Rosemary (*Rosmarinus officinalis*), Beragmot (*Citrus bergamia*), Melissa (*Melissa officinalis*), and Lavender (*Lavandula angustifolia*). Research shows that patients with Alzheimer's disease respond very well to touch, therefore I felt it was important to address this need, I made a hand lotion in which a few drops of this blend could be placed for a quiet, centering hand massage to reduce anxieties and calm the spirit. I also feel this

blend should be regularly diffused for the memory benefits of Rosemary (*Rosmarinus officinalis*) as well as the benefits of Melissa (*Melissa officinalis*) which may help prevent the loss of a key brain chemical. In another blend I call "Memories of Deer Camp" my intention was to create a blend for memory recall and use of the olfactory system.

Throughout his life my father-in-law has been an avid outdoorsman spending many hours wandering through the forest. This blend contains Juniper (*Juniperus communis*), Rosemary (*Rosmarinus officinalis*), Laurel (*Laurus nobilis*), Black spruce (*Picea mariana*), and Vetiver (*Vetivera zizanioides*). I created this blend for his enjoyment as it brings forth memories of the places he is no longer willing or able to venture. Along with the memory recall aspects of this blend there are many therapeutic benefits, he continues to be a heavy smoker which makes it difficult for the non-smoker to spend any length of time in his home comfortably. This blend is great for clearing the air and breathing space qualities which will clear the air of the cigarette odor allowing family to spend longer periods of time in his home. With these added benefits of clearing the air as well as releasing self doubt and memory enhancing qualities this blend is fast to become one of his favorites. I made a spray for this blend in which it can be spritzed into the air when it needs to be cleared or at a time when looking to recall memories of yesteryear.

After talking with family members about what emotions they experience when going to visit or spend a day in the caretaker role there were several key words mentioned, for this I developed what I call "Family Blend". My family expressed many feelings including anxiety, apprehension, fear of the future, and vulnerability, with a strong feeling of love. For this blend I chose the essential oils of Geranium (*Pelargonium graveolens*), Melissa (*Melissa officinalis*), Cedarwood (*Cedrus atlantica*), Cypress (*Cupressus sempervirens*) and Juniper (*Juniperus communis*). My intention was to address the emotions of my family members to make their visits more enjoyable.

I used Cypress (*Cupressus sempervirens*) for its strong transitional qualities; I believe we can all say our family is in a strong transitional period. I also chose the essential oils of Melissa (*Melissa officinalis*), and Cedarwood (*Cedrus atlantica*) for their qualities in reducing anxieties. I think it is important for my family members to use this blend anytime they are feeling the presenting emotions they should defiantly diffuse in their car on their way to visit to help alleviate these emotions before they arrive. Of course, it can also be applied neat or placed on a cotton ball and inhaled at anytime during a visit.

I am challenged to see how these blends are working first hand due to the fact that my father-in-law and family live in another state, however, I am very fortunate to have wonderful family members who embrace aromatherapy and are very willing to follow instructions and document progress for me along the way! There have been some very remarkable statements made by family members as to how they see the oils working on each other as well as with my father-in-law. At a recent family gathering at the home of

my sister-in-law (a familiar surrounding but not his own) noted behavior of my father-in-law was nervousness, anxiousness, heavy smoking and walking about in search of something unknown. When the "Family Blend" was introduced a quick response was evident as he quietly sat down near the place of the oils being diffused, he became more relaxed and smoked fewer cigarettes. Family members also noted they found themselves not "worrying" about him as much and their own anxiousness was alleviated.

Another incident in which the oils were noted to bring forth favorable results was during a conversation with a main caregiver whom has had a few incidents regarding inappropriate comments by my father-in-law. This being an uncomfortable topic to address a family member recalled what I had said about "Memories of Deer Camp" as being clearing, cleansing and opening to the space, she sprayed the blend into the air, and stated that the beginning of the conversation was tense and the caregiver was having difficulty in opening up about what she needed to discuss.

After the oils were sprayed into the air she noted that the space "opened up", and they were all able to discuss the topic at hand openly and freely, clearing the air about what was on their minds in a relaxed state. As far as the memory recall aspect of this blend it was noted that my father-in-law said it reminded him of a Christmas tree and he always loves Christmas with his family, he also said it reminded him of "camp".

I found it ironic that my sister-in-law thought to use "Memories of Deer Camp" in a way that I had not even considered as I was preparing the blend. I was thinking body and mind; she incorporated spirit, by remembering the keywords of opening and clearing. This was another AH-HA moment that took me right back to my first weak in the knees moment when I first discovered aromatherapy and had that overwhelming desire to share with everybody I knew. The levels of aromatherapy are so in-depth and reach far beyond body, mind and spirit. I look forward to see where these blends take my father-in-law and family in the next months and years. I hope to see aromatherapy untangle the unknown aspects of Alzheimer's disease as it works on the body, mind and spirit.

RESOURCES

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