

Complementary Health for Women



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Complementary Health for Women

A Comprehensive Treatment
Guide for Major Disease and
Common Conditions With

- Evidenced based therapies
- Methods of use
- Dosage and treatment effects
- Cautions
- Handy tips

From Alzheimer's to Stroke

**Carolyn Chambers Clark,
EdD, ARNP, FAAN, AHN-BC**

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This book is dedicated to all the women—past, present, and future—who use safe and effective complementary procedures.

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Preface

Protocol

Each condition is examined using the following protocol: The alphabetical listing of conditions includes environment, exercise/movement, herbs/essential oils, mindset, nutrition (what to eat, drink, and avoid), stress management, supplements, and touch. If current research-based evidence was not available from a search of www.pubmed.com or a Google search, that element was omitted (e.g., herbs/essential oils or stress management may not appear for certain conditions, even if practitioners do use them). For most conditions, you will find:

- a. Actions/expected responses
- b. Routes/dosages/frequencies
- c. Cautions
- d. Assessments
- e. Tips on use
- f. Other considerations
- g. References/other sources

Additional information (standardized assessments, how to apply specific procedures, finding foods containing needed nutrients, etc.) appear as Web addresses within each protocol, which are current as of the date of copyediting the manuscript. If you find a link that is no longer current, please contact me at carolyn@carolynchambersclark.com and I will correct it in the next edition. In the meantime, you can also do a Google search on your computer for whatever the content is and find up-to-date links to guide you.

Research-based references, upon which protocols are based, appear at the end of each condition as References/Other Resources. References provide state-of-the science evidence to support each protocol's information only. For additional research, a Google or www.pubmed.com search is recommended.

A Resource List of Certification and CEU-offering complementary health procedure programs is available in the Appendix (p. 367).

How to Use This Book

This book is meant to be a handy reference that you can carry with you for treatment, self-care, or prevention.

Whenever suggesting any procedures to others (such as meditation, cognitive behavioral approaches, yoga, etc.) that you're not familiar with, it is wise to try them yourself first. This will help you anticipate the questions you might be asked and the reactions others may have to a procedure. Even if you don't wish to try the herbs or supplements, be sure to counsel others to follow the directions on the bottle.

Always encourage others to follow these steps and follow them yourself:

- (a) start small and build to the suggested upper limit for supplements or practice,
- (b) stop if any negative reaction is observed,
- (c) always inform the prescribing health care practitioner(s) about the practices used to make sure no negative interactions occur with prescribed or over-the-counter medications.

All best wishes with this information and do contact me with your reactions and suggestions at carolyn@carolynchambersclark.com. For updated research studies and information as it appears, e-mail me to receive my monthly wellness e-newsletter and/or check updated research on my blog at www.carolynchambersclark.com/id33.html.

In wellness,

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Acknowledgments

I wish to thank the many women who have asked the important questions about how to use complementary procedures to enhance their health and wellness.

I also wish to thank all the people at Springer Publishing Company involved in the effort to produce this book, especially Allan Graubard who had the vision to realize the importance of my manuscript.

—C. C. C.

Alzheimer's/ Memory

1

To date, no effective medication has been shown to treat Alzheimer's disease. Recent research has provided evidence of numerous complementary procedures that may either prevent and/or reduce symptoms of the condition.

Environment

1. Aluminum products
 - a. *Actions/expected responses:* The combination of fluoride and aluminum has been shown to cause the same pathological changes in the brain tissue that are found in those diagnosed with Alzheimer's.
 - b. *Routes/dosages/frequencies:* Avoid antacids, buffered aspirin, aluminum cookware, and underarm antiperspirants.
 - c. *Cautions:* Read product labels; some products may contain aluminum salts.
 - d. *Assessments:* Take a baseline measure for memory loss and depression and then take a measure after no longer using aluminum-containing products. To assess memory loss, go to: <http://www.patient.co.uk/showdoc/40024813>

1

To assess depression, go to: <http://www.psychpage.com/learning/library/assess/depression.htm>

- e. *Tips on use:* Use deodorants instead of antiperspirants; perspiration is the body's natural way of cooling off and ridding the body of toxins and it should not be blocked.
 - f. *Other considerations:* Eliminate aluminum products from the home and work station.
 - g. *References/other sources:*
Shcherbatykh, I., & Carpenter, D. O. (2007). The role of metals in the etiology of Alzheimer's disease. *Journal of Alzheimer's Disease, 11*(2), 191–205.
2. Brain toxins from prescribed and over-the-counter medications
- a. *Actions/expected responses:* Brain toxins can interfere with clear thinking and memory. For a list of prescribed and over-the-counter medications found to be related to memory loss go to: http://www.worstpills.org/results.cfm?drug_id=0&drugfamily_id=0&disease_id=0&druginduced_id=97&keyword_id=0
 - b. *Routes/dosages/frequencies:* Avoid prescribed and over-the-counter drugs associated with memory loss.
 - c. *Cautions:* More than twice as many prescriptions are filled for those 65 and older (23.5 prescriptions per year) than for those younger than 65.
 - d. *Assessments:* Take a baseline measure for memory loss (see 1d) and then take a measure after medications that lead to memory loss are no longer being used.
 - e. *Tips on use:* Explore other treatments that are not linked with memory loss with prescribing health care practitioner.
 - f. *Other considerations:* A medication/memory loss diary can identify which drugs most affect memory.
 - g. *References/other sources:*
Fogari, R., & Zoppi, A. (2004). Effect of antihypertensive agents on quality of life in the elderly. *Drugs and Aging, 21*(6), 377–393.
Hale, A. S. (1995). Critical flicker fusion threshold and anticholinergic effects of chronic antidepressant treatment in remitted depressives. *British Journal of Clinical Pharmacology, 42*, 239–241.
Kerr, J. S., Powell, J., & Hindmarch, L. (1996). The effects of reboxetine and amitriptyline, with and without alcohol on cognitive function and psychomotor performance. *Journal of Psychopharmacology, 9*(3), 258–266.
Knegtering, H., Eijck, M., & Huijsman, A. (1994). Effects of antidepressants on cognitive functioning of elderly patients: A review. *Drugs and Aging, 5*(3), 192–199.
Moncrieff, J., & Cohen, D. (2005). Rethinking models of psychotropic drug action. *Psychotherapy and Psychosomatics, 74*, 145–153.
Moncrieff, J., & Cohen, D. (2006). Do antidepressants cure or create abnormal brain states? *PloS Med 3*(7). Retrieved July 27, 2008, from <http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0030240>
<http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0030240&ct=1>
Puustinen, J., Nurminen, J., Kukola, M., Vahlberg, T., Laine, K., & Kivela, S. L. (2007). Associations between use of benzodiazepines or related drugs and health, physical abilities and cognitive function. *Drugs and Aging, 24*(12), 1045–1059.

Van Putten, T., & Marder, S. R. (1987). Behavioral toxicity of antipsychotic drugs. *Journal of Clinical Psychiatry, 48*, 13–19.

3. Fish aquariums

- a. *Actions/expected responses*: Exposing women diagnosed with Alzheimer's to fish aquariums can result in increased nutritional intake and weight, decreased physical aggression, and decreased need for nutritional supplementation, resulting in health care cost savings.
- b. *Routes/dosages/frequencies*: Place an aquarium in the dining area.
- c. *Cautions*: For severe dementia, a specially designed aquarium may be needed to ensure safety.
- d. *Assessments*: Take baseline nutritional data (nutritional intake, weight, need for nutritional supplementation) prior to introducing the aquarium and repeat assessment every 2 weeks for 6 weeks or longer.
- e. *Tips on use*: Encourage women to look at the fish and speak about what they see.
- f. *Other considerations*: Family or caregivers can use aquariums as therapeutic tools to enhance eating behaviors, encourage weight gain, and reduce aggressive behavior.
- g. *References/other sources*:
Edwards, N. E., & Beck, A. M. (2002). Animal-assisted therapy and nutrition in Alzheimer's disease. *Western Journal of Nursing Research, 24*(6), 697–712.

4. Fluoridated water

- a. *Actions/expected responses*: The combination of fluoride and aluminum has been shown to cause the same pathological changes in the brain tissue that are found in people diagnosed with Alzheimer's.
- b. *Routes/dosages/frequencies*: Drink 8–10 glasses of distilled water daily.
- c. *Cautions*: None.
- d. *Assessments*: Take a baseline measure for memory loss and depression (see 1d) and then take a measure after drinking only distilled water for a week.
- e. *Tips on use*: Distilled water is available at most supermarkets.
- f. *Other considerations*: None.
- g. *References/other sources*:
Horvath, W., & Isaacson, R. L. (1998). Chronic administration of aluminum-fluoride or sodium-fluoride to rats in drinking water: Alterations in neuronal and cerebrovascular integrity. *Brain Research, 784*(1–2), 284–298.
Rondeau, V., Commenges, D., Jacqmin-Gadda, H., & Dartigues, J. F. (2000). Relation between aluminum concentrations in drinking water and Alzheimer's disease: An 8-year follow-up study. *American Journal of Epidemiology, 152*(1), 59–66.
Van der Voet, G. B., Schijns, O., & de Wolff, F. A. (1999). Fluoride enhances the effect of aluminum chloride on interconnections between aggregates of hippocampal neurons. *Archives of Physiological Biochemistry, 107* (1), 15–21.

5. Hydration

- a. *Actions/expected responses*: Low hydration status is related to cognitive functioning, including slowed psychomotor processing speed and poor attention/memory performance in older adults.
- b. *Routes/dosages/frequencies*: Drink 8–10 glasses of water a day.
- c. *Cautions*: Some drinking water may contain toxic substances.

- d. *Assessments*: Assess cognitive functioning prior to and after drinking 8–10 glasses of water a day.
 - e. *Tips on use*: Recommend distilled water.
 - f. *Other considerations*: As an alternative, women can purchase a reverse osmosis water filter to remove potential toxic substances.
 - g. *References/other sources*:
Sedman, R. M., Beaumont, J., McDonald, T. A., Reynolds, S., Krowech, G., & Howd, R. (2006). Review of the evidence regarding the carcinogenicity of hexavalent chromium in drinking water. *Journal of Environmental Science and Health Part C*, 24, (1), 155–182.
Suhr, J. A., Hall, J., Patterson, S. M., & Niinisto, R. T. (2004). The relation of hydration to cognitive performance in healthy older adults. *International Journal of Psychophysiology* 53(2), 121–125.
6. Mirror use
- a. *Actions/expected responses*: Using a mirror has been shown to raise awareness to needed self-care and can increase communication with caregivers.
 - b. *Routes/dosages/frequencies*: As tolerated.
 - c. *Cautions*: At first, feelings of anger or despair may be aroused, but this is quickly followed by relief and calmness.
 - d. *Assessments*: Take a baseline measure for self-care, anger, and despair prior to using a mirror, and then take a measure after mirror use.
 - e. *Tips on use*: Gradually expose women to mirror use, encouraging them to look and, if they like, to speak about what they see.
 - f. *Other considerations*: Family or caregivers can use mirrors as a therapeutic tool to enhance self-care and communication with others.
 - g. *References/other sources*:
Tabak, N., Bergman, R., & Alpert, R. (1996). The mirror as a therapeutic tool for patients with dementia. *International Journal of Nursing Practice*, 2(3), 155–159.
7. Music
- a. *Actions/expected responses*: Aids memory, movement, balance; calms agitation, anxiety, depression; reduces fear-panic; increases appetite.
 - b. *Routes/dosages/frequencies*: 20-minute sessions.
 - c. *Cautions*: Stop or change to more soothing music if agitation increases.
 - d. *Assessments*: Chart changes in memory, thinking, and social function.
 - e. *Tips on use*: Although not all sources agree, classical music, ballroom dance music, and familiar songs from pleasant situations may be best. According to Campbell (1997), residents from the rural South diagnosed with Alzheimer's could recall the words to songs dramatically better than spoken words or information, when they heard "What a Friend We Have In Jesus," "Amazing Grace," "Psalm 23," "Happy Birthday," and "It's a Small World." Other women may respond well to songs such as "You Made Me Love You" or "Sweet Georgia Brown."
 - f. *Other considerations*: Memory retention can increase to 75% when asked to sing, hum, or keep time to the beat. Those diagnosed with Alzheimer's who do not talk or interact may sing or dance when music is played.
 - g. *References/other sources*:
Brotons, M., & Koger, S. (2000). The impact of music therapy on language functioning in dementia. *Journal of Music Therapy*, 37(3), 183–195.

- Campbell, D. (1997). *The Mozart effect: Tapping the power of music to heal the body, strengthen the mind and unlock the creative spirit*. New York: Avon.
- Clair, A. (2002). The effects of music therapy on engagement in family caregiver and care receiver couples with dementia. *American Journal of Alzheimer's Disease and Other Dementias*, 17(5), 286–290.
- Prickett, C. A., & Moore, R. S. (1991). The use of music to aid memory of Alzheimer's patients. *Journal of Music Therapy* 28, 101–110.
- Ragneskog, H., Brane, G., Kihlgren, M., Karlsson, I., & Norberg, A. (1996). Dinner music for demented patients: Analysis of video-recorded observations. *Clinical Nursing Research*, 5(3), 262–277.
8. Noise and lighting
 - a. *Actions/expected responses*: Noise and lighting conditions can affect food intake at mealtimes.
 - b. *Routes/dosages/frequencies*: Reduce noise and increase lighting to enhance food intake.
 - c. *Cautions*: None.
 - d. *Assessments*: Monitor for noise and lighting and its effect on food intake prior to and after reducing noise and increasing lighting.
 - e. *Tips on use*: To start, monitor five days a week at breakfast.
 - f. *Other considerations*: None.
 - g. *References/other sources*:

McDaniel, J. H., Hunt, A., Hackes, B., & Pope, J. F. (2001). Impact of dining room environment on nutritional intake of Alzheimer's residents: A case study. *American Journal of Alzheimer's Disease and Other Dementias*, 16(5), 297–302.
 9. Power-frequency fields and wireless communications
 - a. *Actions/expected responses*: Neurological effects and neurodegenerative diseases, such as Alzheimer's, are associated with modified brain activity due to electromagnetic fields (EMFs).
 - b. *Routes/dosages/frequencies*: Current levels of long-term exposure to some kinds of electromagnetic fields are not protective of public health.
 - c. *Cautions*: Scientific evidence raises concerns about the health impacts of mobile or cell phone radiation, power lines, interior wiring and grounding of buildings and appliances such as microwaves, wireless technologies, and electric blankets.
 - d. *Assessments*: Assess exposure to EMFs listed in item c.
 - e. *Tips on use*: Until new public safety limits and limits on further deployment of risky technologies are warranted, avoid exposure to EMFs.
 - f. *Other considerations*: An international working group of renowned scientists, researchers, and public health policy professionals (The Bioinitiative Working Group) has released its report on electromagnetic fields and health. It raises serious concerns about the safety of existing public limits that regulate how much EMF is allowable from power lines, cell phones, and many other EMF sources of exposure in daily life.
 - g. *References/other sources*:

Hardell, L., & Sage, C. (2008). Biological effects from electromagnetic field exposure and public exposure standards. *Biomedical Pharmacotherapy*, 62(2), 104–109.
 10. Red dishes
 - a. *Actions/expected responses*: People with severe Alzheimer's in long-term care can have deficient contrast sensitivity and poor food and liquid

intake. Using high-contrast red or high-contrast blue tableware (as opposed to white tableware) can increase food intake by as much as 35% and liquid intake by as much as 84%.

- b. *Routes/dosages/frequencies*: Use red tableware for each meal.
- c. *Cautions*: None.
- d. *Assessments*: Take a baseline measure for food and liquid intake and then take a measure after change to high-contrast red or blue tableware.
- e. *Tips on use*: Try different colored high-contrast tableware to see which works best.
- f. *Other considerations*: None.
- g. *References/other sources*:
Dunne, T. E., Nearing, S. A., Cipolloni, P. B., & Cronin-Golumb, A. (2004). Visual contrast enhances food and liquid intake in advanced Alzheimer's disease. *Clinical Nutrition, 23*(4), 533–538.

11. Snoezelen: A multisensory intervention

- a. *Actions/expected responses*: Provides statistically significant calming and relaxing of agitation; provides a feeling of dignity, initiative, and freedom of choice. The multisensory environment includes music, light from fiber optic strands, calming image projections, vibrations of bubble tubes, and soothing smells.
- b. *Routes/dosages/frequencies*: 30 to 40 minutes.
- c. *Cautions*: None reported. Is a pleasant alternative to seclusion or restraints.
- d. *Assessments*: Take a baseline measure of agitation prior to and after participating in snoezelen.
- e. *Tips on use*: None.
- f. *Other considerations*: Snoezelen, a multisensory environmental intervention, has been used successfully in Great Britain and is just beginning to appear in the United States.
- g. *References/other sources*:
Chistsey, A. M., Haight, B. K., & Jones, M. M. (2002). Snoezelen: A multisensory environmental intervention. *Journal of Gerontological Nursing, 28*(3), 41–49.
Teitelbaum, A., Volpo, S., Paran, R., Zislin, J., Drumer, D., Raskin, S., et al. (2007). Multisensory environmental intervention (snoezelen) as a preventive alternative to seclusion and restraint in closed psychiatric wards. *Harefuah, 146*(1), 79–80.

Exercise/Movement

- 1. Rocking in a rocking chair
 - a. *Actions/expected responses*: Decreases agitation, anxiety, tension, depression, and hyper-responsiveness stress, and indirectly decreases detrimental cortisol levels. Can decrease vocalization/moaning, pacing, and walking. May release pain-relieving brain endorphins, thus increasing quality of life. Can decrease requests for pain medication from one to three fewer requests per week. Balance can also improve.
 - b. *Routes/dosages/frequencies*: As tolerated from one-half hour to two and a half hours a day. In one study, those who rocked the most improved the most.

- c. *Cautions:* Use only a platform-style rocking chair with a super-stable, immobile base that moves back and forth easily.
 - d. *Assessments:* Take a baseline measure for crying, pain medication requests, balance agitation, anxiety, depression, and pacing; then take a measure after treatment.
 - e. *Tips on use:* Family members or friends can rock together.
 - f. *Other considerations:* Research has shown that rocking can help with agitation, anxiety, depression, falls, and other negative behaviors and that it can increase positive feelings.
 - g. *References/other sources:*

Watson, N., Hauptmann, M., Brink, C., Powers, B., Taillie, E. R., Lash, M., et al. (1998). *As elders rock, emotional burden of dementia eases*. Paper presented to the Eastern Nursing Research Society, April 23–25, Rochester, NY.
2. Walking or other strenuous activity
 - a. *Actions/expected responses:* Walking lowers the odds of cognitive decline by 13% and may prevent brain shrinkage in early Alzheimer's.
 - b. *Routes/dosages/frequencies:* For every 10 blocks walked by women 65 years or older, there is a drop in risk of cognitive decline.
 - c. *Cautions:* If exercise is a new activity, encourage women and their caregivers to start with one block or less and walk at a rate at which easy conversation can be held.
 - d. *Assessments:* Take pulse prior to walking and every few minutes when adding this activity. Aerobic activity is not necessary, only walking together at a comfortable, talking-while-walking pace.
 - e. *Tips for use:* Suggest caregivers walk with the women if possible, pointing out the sights and observing safety rules.
 - f. *Other considerations:* Keep track of number of blocks walked each day and track it versus ability to think clearly and remember. Participating in walking, hiking, bicycling, swimming, weight training, or other strenuous activities for at least 15 minutes three times per week can improve cerebral blood flow and cut dementia risk by one-third.
 - g. *References/other sources:*

American Academy of Neurology. (2008, July 15). Exercise may prevent brain shrinkage in early Alzheimer's disease. *ScienceDaily*. Retrieved July 26, 2008, from <http://www.sciencedaily.com/releases/2008/07/080714162632.htm>

Larsson, E. G., Wang, L., Bowen, J. D., McCormick, W. C., Teri, L., Crane, P., et al. (2006). Exercise is associated with reduced risk for incident dementia among persons 65 years of age and older. *Annals of Internal Medicine*, 144, 73–81.

Yaffe, E., Barnes, D., & Nevitt, M. (2001). A prospective study of physical activity and cognitive decline in elderly women: Women who walk. *Archives of Internal Medicine*, 161, 1703–1708.

Herbs/Essential Oils

1. Ginkgo biloba
 - a. *Actions/expected responses:* Speeds up working memory and information processing, improves social functioning, improves blood flow to the brain.

Is equally effective as cholinesterase inhibitors in the treatment of mild to moderate Alzheimer's dementia.

- b. *Routes/dosages/frequencies*: 24% standardized extract/capsules of 60–80 mg and take one to three times a day, following dosage on bottle.
 - c. *Cautions*: Ginkgo must be carefully coordinated with medications because it can interact with aspirin and antiplatelet drugs, increasing clotting time. Avoid using concurrently with anticonvulsants, buspirone, trazadone, St. John's wort, MAOIs or fluoxetine, and never exceed suggested dosage. Not to be used during pregnancy, given to children, or used by those with coagulation or platelet disorders, hemophilia, seizures, or hypersensitivity to this herb. Adverse reactions could include transient headache, anxiety, restlessness, vomiting, lack of appetite, diarrhea, flatulence, or rash, but a meta-analysis of unconfounded, randomized, double-blind controlled studies found no significant differences between ginkgo and placebo in the proportion of participants experiencing adverse events.
 - d. *Assessments*: Chart changes in memory, thinking, and social function prior to and after taking ginkgo.
 - e. *Tips on use*: Follow bottle directions.
 - f. *Other considerations*: Discuss use with a certified or expert herbalist for best results. Ginkgo may take from 1–6 months to achieve full effectiveness.
 - g. *References/other sources*:
 - Birks, J., Grimley, E. V., & Van Dongen, M. (2002). Ginkgo biloba for cognitive impairment and dementia. *Cochrane Database System Review* 4, CD0031230.
 - Itil, T., & Martorano, D., (1995). Natural substances in psychiatry (ginkgo biloba) in dementia. *Psychopharmacology Bulletin*, 31(1), 147–158.
 - LeBars, P. L., Katz, M., & Berman, N. (1997). A placebo-controlled, double-blind randomized trial of an extract of ginkgo biloba for dementia. *Journal of the American Medical Association*, 278, 1327–1332.
 - Skidmore-Roth, L. (2006). *Mosby's handbook of herbs and natural supplements* (3rd ed.). St. Louis, MO: Elsevier/Mosby.
 - Stough, C., Clarke, J., Lloyd, J., & Nathan, P. J. (2001). Neuropsychological changes after 30-day ginkgo biloba administration in healthy participants. *International Journal of Neuropsychopharmacology*, 4(2), 131–134.
 - Weitstein, A. (2000). Cholinesterase inhibitors and ginkgo extracts—Are they comparable in the treatment of dementia? Comparison of published placebo-controlled efficacy studies of at least six months' duration. *Phytomedicine*, 6(6), 393–401.
2. Lemon balm
- a. *Actions/expected responses*: It is memory-enhancing, calming, and can improve cognitive performance.
 - b. *Routes/dosages/frequencies*: Drink as a tea, starting with one cup a day and work up to no more than three cups a day. To keep the tea for up to one year, it should be stored in a sealed container away from heat and moisture. Lemon balm can also be taken as a standardized extract 60 drops per day.
 - c. *Cautions*: The herb is not to be used during pregnancy or lactation or given to children, nor should it be used by persons diagnosed with hypothyroidism or by those hypersensitive to it. Adverse reactions may include nausea, anorexia, and hypersensitivity reactions. Lemon balm may potentiate the

sedative effects of barbiturates and central nervous system depressants, and it may decrease the absorption of iron salts, so separate intake of the herb from any medications or drugs by two hours.

- d. *Assessments*: Assess for hypersensitivity reactions, use of barbiturates, other central nervous system depressants or iron salts. Take a baseline for memory and calmness and then chart changes in memory and increased calmness with use of the herb.
- e. *Tips on use*: Pour boiling water over tea leaves or bags and allow it to set for 10 minutes; strain if necessary. For standardized extract, follow directions on the bottle.
- f. *Other considerations*: Discuss use with a certified or expert herbalist for best results. Lemon balm may take from 1–6 months to achieve effectiveness.
- g. *References/other sources*:
Blumenthal, M. (1998). *The complete German Commission E monographs and therapeutic guide to herbal medicines*. Austin, TX: American Botanical Council.
Kennedy, D. O., Wake, G., Savelev, S., Tildesley, N. T., Perry, E. K., Wesnes, K. A., et al. (2003). Modulation of mood and cognitive performance following acute administration of single doses of *Melissa officinalis* (lemon balm) with human CNS nicotinic and muscarine receptor-binding properties. *Neuropsychopharmacology*, 28(10), 1871–1881.

Mindset

1. Bingo versus daily physical activity
 - a. *Actions/expected responses*: Bingo-enhanced performance on the Boston Naming Test and a Word List Recognition Task while engaging in physical activity did not reach statistical significance.
 - b. *Routes/dosages/frequencies*: As tolerated.
 - c. *Cautions*: None.
 - d. *Assessments*: Take a baseline measure for short-term memory, concentration, word retrieval, and word recognition, and then take a measure after increasing bingo play.
 - e. *Tips on use*: Playing bingo every day if possible is recommended.
 - f. *Other considerations*: Past research has shown that pharmacological measures can enhance functional capacities for those with Alzheimer's but may result in unacceptable side effects.
 - g. *References/other sources*:
Sobel, B. P. (2001). Bingo vs. physical intervention in stimulating short-term cognition in Alzheimer's disease patients. *American Journal of Alzheimer's Disease and Other Dementias*, 16(2), 115–120.
2. Reading, solving crossword puzzles, playing musical instruments, playing board games, visiting museums, and dancing
 - a. *Actions/expected responses*: Reduced risk of Alzheimer's and memory impairment.
 - b. *Routes/dosages/frequencies*: Frequent participation in cognitively stimulating activities is associated with reduced risk of Alzheimer's.
 - c. *Cautions*: None.

- d. *Assessments*: Take a baseline measure of participation in activities. Chart changes in memory, thinking, and social function as activities increase.
 - e. *Tips on use*: Encourage family participation.
 - f. *Other considerations*: See "Routes/Dosages/Frequencies."
 - g. *References/other sources*:
 - Vergheze, J., Lipton, R. B., Katz, M. J., Hall, C. B., Derby, C. A., Kuslansky, G., et al. (2003). Leisure activities and the risk of dementia in the elderly. *New England Journal of Medicine*, 348(25), 2508–2516.
 - Wilson, R. S., de Leon, M., Barnes, L. L., Schneider, J. A., Bienias, J. L., et al. (2002). Participation in cognitively stimulating activities and risk of incident Alzheimer disease. *Journal of American Medical Association*, 287(6), 742–748.
3. Talking
- a. *Actions/expected responses*: Spending 10 minutes talking to another person can improve memory and performance. Talking about a social issue can be as effective as engaging in intellectual activities such as doing crossword puzzles.
 - b. *Routes/dosages/frequencies*: Daily.
 - c. *Cautions*: None.
 - d. *Assessments*: Take a baseline measure of memory and performance using a Mini Mental Examination (see <http://www.bami.us/MiniMental.htm>).
 - e. *Tips on use*: Take a baseline on how often the person engages in social talk and then chart changes in improved cognition as activities increase. If possible, family members should participate in talking to the woman daily for at least 10 minutes.
 - f. *Other considerations*: Instruct women/caregivers that visiting with a friend or neighbor is also useful and can decrease social isolation.
 - g. *References/other sources*:
 - University of Michigan. (2007, November 1). Ten minutes of talking improves memory and test performance. *ScienceDaily*. Retrieved November 12, 2007, from <http://www.sciencedaily.com/releases/2007/10/071029172856.htm>

Nutrition

1. Apples/apple juice
 - a. *Actions/expected responses*: Apples improve memory and learning and may protect against Alzheimer's by increasing the production in the brain of the essential neurotransmitter acetylcholine, which can slow mental decline in women already diagnosed with the condition.
 - b. *Routes/dosages*: Two 8-ounce glasses of apple juice or two to three apples a day (preferred).
 - c. *Cautions*: None unless allergic to apples.
 - d. *Assessments*: Monitor for which form is most easily used and which produces the best effects.
 - e. *Tips on use*: Choose juice that contains no added sugar and that includes apple skins; choose organic apples when possible to eliminate toxic effects of spraying.

- f. *Other considerations:* For food-mind information go to <http://www.mind.org.uk/Information/Booklets/Mind+guide+to/Mindguidetofoodandmood.htm>
 - g. *References/other sources:*
 - Chan, A., Groves, V., & Shea, T. B. (2006). Apple juice concentrate maintains acetylcholine levels following dietary compromises. *International Journal of Alzheimer's Disease*, 9(3), 287–291.
 - Tchantchoa, F., Graves, M., Ortiz, D., Rogers, E., & Shea, T. B. (2004). Dietary supplementation with apple juice concentrate alleviates the compensatory increase in glutathione synthase transcription and activity that accompanies dietary and genetically induced oxidative stress. *Journal of Nutrition Health and Aging*, 8, 92–97.
2. Blueberries
- a. *Actions/expected responses:* Blueberries protect against age-related oxidative stress; they improve learning, balance, memory, and coordination.
 - b. *Routes/dosages/frequencies:* 1 cup of fresh or frozen berries daily.
 - c. *Cautions:* None unless allergic to the berries.
 - d. *Assessments:* Monitor for allergies; keep track of learning, balance, memory, and coordination after starting daily blueberries.
 - e. *Tips on use:* Keep frozen berries in freezer and take out 15–30 minutes prior to eating.
 - f. *Other considerations:* None.
 - g. *References/other sources:*
 - Goyarzu, P., Lau, F. C., Kaufmann, J., Jennings, R., Tagliatela, G., Joseph, J., et al. (2003). *Age-related increase in brain NF-B is attenuated by blueberry-enriched antioxidant diet*. Program No. 98.3. Abstract. Washington DC: Society for Neuroscience.
 - Joseph, J. A., Shukitt-Hale, B., Denisova, N. A., Bielinski, D., Martin, A., McEwen, J. J., et al. (1999). Reversals of age-related declines in neuronal signal transduction, cognitive, and motor behavioral deficits with blueberry, spinach, or strawberry dietary supplementation. *Journal of Neuroscience*, 19(18), 8114–8121.
 - Spangler, E. L., Duffy, K., Devan, B., Guo, Z., Bowker, J., Shukitt-Hale, B., et al. (2003). *Rats fed a blueberry-enriched diet exhibit greater protection against a kainate-induced learning impairment*. Program No. 735.10. Abstract. Washington DC: Society for Neuroscience.
3. Curry
- a. *Actions/expected responses:* Older women (ages 60–93) who consumed curry occasionally often or very often had significantly better scores on the Mini-Mental State Examination (MMSE) than those who never or rarely consumed curry.
 - b. *Routes/dosages/frequencies:* Curcumin, from the curry spice turmeric, possesses potent antioxidant and anti-inflammatory properties and can reduce B-amyloid and plaque burden in the brain.
 - c. *Cautions:* The herb is safe in food doses and up to 12 grams a day. In larger quantities it can have strong activity in the common bile duct that might aggravate the passage of gallstones in women currently suffering from the condition.
 - d. *Assessments:* Take a baseline measure using the MMSE prior to and after curry consumption.

- e. *Tips on use:* Counsel caregivers to serve curry or food seasoned with curcumin at least once a week; doing so more often may produce better results.
 - f. *Other considerations:* None.
 - g. *References/other sources:*
 - Anand, P., Kunnumakkara, A. B., Newman, R. A., & Aggarwal, B. B. (2007). Bioavailability of curcumin: Problems and promises. *Molecular Pharmacology*, 4(6), 807–818.
 - Ng, T-P., Chiam, P-C., Lee, T., Chua, H-C., Lim, L., & Kua, E-H. (2006). Curry consumption and cognitive function in the elderly. *American Journal of Epidemiology*, 164(9), 898–906.
4. Fish oil
- a. *Actions/expected responses:* Deficiencies in essential, mainly omega-3 and omega-6 long chain polyunsaturated fatty acids (LC-PUFA) results in visual and cognitive impairment and disturbances in mental functions in animals and could be the main reason for the increasing incidence of mental disorders in humans. DNA microassays found that fish oil diets altered the expression of several genes involved in modulating protein aggregation.
 - b. *Routes/dosages/frequencies:* Serve fish 3–4 times/week or provide fish oil caplets (available at health food stores) and follow the direction on bottle.
 - c. *Cautions:* None unless there are allergies to fish.
 - d. *Assessments:* Take a baseline measure for clear thinking and memory, and then take a measure after fish meals or fish oil supplements have been implemented.
 - e. *Tips on use:* Keep oil caplets in the refrigerator so they don't become rancid.
 - f. *Other considerations:* None.
 - g. *References/other sources:*
 - American Academy of Neurology. (2007, November 13). Eating fish, omega-3 oils, fruits and veggies lowers risk of memory problems. *ScienceDaily*. Retrieved November 15, 2007, from <http://www.sciencedaily.com/releases/2007/11/071112163630.htm>
 - Puskas, L. G., & Kitajka, K. (2006). Nutrigenomic approaches to study the effects of n-3 PUFA diet in the central nervous system. *Nutrition and Health*, 18(3), 227–232.
5. Flavonoids in fruits and vegetables
- a. *Actions/expected responses:* The intake of antioxidant flavonoids in tea, fruits, and vegetables is inversely related to the risk of dementia. Apples, bananas, and oranges protect against neurodegenerative diseases including Alzheimer's.
 - b. *Routes/dosages/frequencies:* 5–10 servings (1/2 cup) daily.
 - c. *Cautions:* None unless there are allergies to specific fruits or vegetables.
 - d. *Assessments:* Take a baseline measure for fruits, vegetables, and tea daily, and then take a measure after these foods are increased in the diet.
 - e. *Tips on use:* Fresh or frozen fruits and vegetables contain the most nutrients and the least salt and sugar.
 - f. *Other considerations:* None.

- g. *References/other sources:*
Engelhart, M. J., Geerlings, M. I., Ruitenberg, A., van Swieten, J. C., Hofman, A., Witteman, J. C., et al. (2002). Dietary intake of antioxidants and risk of Alzheimer's disease. *Journal of American Medical Association*, 287(24), 3223–3229.
Heo, H. J., Choi, S. J., Choi, S-G., Shin, D.-H., Lee, J. M., & Lee, C. Y. (2008). Effects of banana, orange, and apple on oxidative stress-induced neurotoxicity in PC12 cells. *Journal of Food Science*, 73(2), H28–H32.
6. Garlic
- a. *Actions/expected responses:* Oxidative damage is a major factor in dementia. Aged garlic extract (AGE) has been shown to prevent Alzheimer's progression by scavenging oxidants, increasing superoxide dismutase, catalase glutathione peroxidase, and glutathione levels, and inhibits lipid peroxidation and inflammatory prostaglandins.
- b. *Routes/dosages/frequencies:* Two capsules with meals twice a day.
- c. *Cautions:* AGE may interact with antiplatelet or anticoagulant drugs, but it appears safe for warfarin therapy.
- d. *Assessments:* Assess women for use of antiplatelet or anticoagulant drugs. Assess memory prior to and after taking garlic.
- e. *Tips on use:* Keep bottle in a cool, dry place.
- f. *Other considerations:* The methyl allyl trisulfide in garlic dilates blood vessel walls and may be responsible for better circulation to the brain.
- g. *References/other sources:*
Borek, C. (2006). Garlic reduces dementia and heart-disease risk. *Journal of Nutrition*, 136(3 Suppl.), 810S–812S.
Chauhan, N. B., & Sandoval, J. (2007). Amelioration of early cognitive deficits by aged garlic extract in Alzheimer's transgenic mice. *Phytotherapy Research*, 21(7), 629–640.
Macan, H., Uykimpang, R., Alconcel, M., Takasu, J., Razon, R., Amagase, H., et al. (2006). Aged garlic extract may be safe for patients on warfarin therapy. *Journal of Nutrition* 136(3 Suppl.), 793S–795S.
7. Green and black tea
- a. *Actions/expected responses:* Tea protects against the build-up of plaque from amyloid deposits associated with an increase in brain cell damage and death from oxidative stress. Green tea polyphenols might explain the observed association with improved cognitive function. Women who drank more than two cups of green tea a day had a 50% lower chance of having cognitive impairment, compared to those who drank less than three cups a week. Black tea can also protect against the build up of amyloid proteins.
- b. *Routes/dosages/frequencies:* Two to three cups of green or black tea a day.
- c. *Cautions:* Caffeine may increase restlessness and talkativeness; decaffeinated green or black tea is preferable.
- d. *Assessments:* Assess for allergies or sensitivity to the tea. Assess cognitive impairment prior to and after drinking green or black tea.
- e. *Tips for use:* Steep teabags in boiling water for 10 minutes; let cool and drink.
- f. *Other considerations:* None.
- g. *References/other sources:*
Bastinnetto, S., Brouillette, J., & Quirion, R. (2007). Neuroprotective effects of natural products: Interaction with intracellular, amyloid peptides

and a possible role for transthyretin. *Neurochemical Research*, 32(10), 1720–1725.

Rezai-Zadeh, K., Shytle, D., Sun, N., Takashi, M., Hou, H., Jeanniton, D., et al. (2005). Green tea epigallocatechin-e-gallate (EGCG) modulates amyloid precursors protein cleavage and reduces cerebral amyloidosis in Alzheimer transgenic mice. *Journal of Neuroscience*, 25(38), 8807–8814.

8. High-fat diet (avoid)

- a. *Actions/expected responses*: A high-fat diet may increase risk of Alzheimer's, especially in those with the APOE e4 allele marker. In one study, women who consumed the highest-fat diets had a sevenfold higher risk of developing Alzheimer's than those who ate lower-fat diets. Participants age 20–39 who carried the genetic marker and ate a diet in which more than 40% of calories were from fat had an almost 23-fold higher risk of Alzheimer's than those who didn't carry the marker and followed high-fat diets. These control subjects also ate more dietary antioxidants (fruits and vegetables).
- b. *Routes/dosages/frequencies*: Lower fat intake, especially saturated animal fats (meats, dairy products) and eat increased amounts of fruits and vegetables.
- c. *Cautions*: High-fat consumption at a relatively early age can portend development of Alzheimer's.
- d. *Assessments*: Assess women for high-fat consumption.
- e. *Tips for use*: Increase vegetable and fruit intake and reduce intake of meat and dairy products.
- f. *Other considerations*: None.
- g. *References/other sources*:
Petot, G. (2000). *Alzheimer's disease risk increases with high-fat diet*. Presented at World Alzheimer's Conference, July 9–18, Washington, DC.

9. Onion

- a. *Actions/expected responses*: Antioxidant effect of onions leads to enhanced memory.
- b. *Routes/dosages/frequencies*: Encourage caregivers to serve onions as often as possible.
- c. *Cautions*: None unless allergic or sensitive to onions.
- d. *Assessments*: Assess for allergies or sensitivity. Assess for memory prior to and after eating onions for several weeks.
- e. *Tips for use*: If onion breath is a problem for women, cook the onions rather than eating them raw in salads or sandwiches.
- f. *Other considerations*: None.
- g. *References/other sources*:
Nishimura, H., Higuchi, O., Tateshita, K., Tomobe, K., Okuma, Y., & Nomura, Y. (2006). Antioxidative activity and ameliorative effects of memory impairment of sulfur-containing compounds in allium species. *Biofactors*, 26(2), 135–146.

10. Sugary sodas (avoid)

- a. *Actions/expected responses*: Excess drinking of sugary beverages like soda may increase the risk of Alzheimer's.
- b. *Routes/dosages/frequencies*: Five (and possibly fewer cans of soda) a day.

- c. *Cautions*: Sugar is associated with an increase in Alzheimer's progression.
 - d. *Assessments*: Assess daily intake of soda.
 - e. *Tips on use*: Suggest women wean themselves off soda and replace it with green tea, filtered water with lemon or frozen berries, or diluted (unsweetened) apple juice.
 - f. *Other considerations*: High sugar intake is also associated with higher cholesterol levels, insulin resistance, learning deficits, and memory loss. Mice fed on a sugar diet had twice as many amyloid plaque deposits, an anatomical hallmark of Alzheimer's.
 - g. *References/other sources*:
American Society for Biochemistry and Molecular Biology. (2007). Sugary beverages may increase Alzheimer's risk. *ScienceDaily*. Retrieved December 16, 2007, from <http://www.sciencedaily.com/releases/2007/12/0712814299.htm>
11. Thiamine (vitamin B1)
- a. *Actions/expected responses*: A significant proportion of women diagnosed with Alzheimer's may have a thiamine deficiency, which may have an impact on cognitive function.
 - b. *Routes/dosages/frequencies*: Eating thiamine-rich foods may help improve cognitive function.
 - c. *Cautions*: None.
 - d. *Assessments*: Assess cognitive function before and after eating thiamine-rich foods.
 - e. *Tips on use*: For thiamine-rich foods, direct women and caregivers to <http://www.feinberg.northwestern.edu/nutrition/factsheets/thiamin.pdf>
 - f. *Other considerations*: Counsel caregivers to choose the healthier thiamine-rich foods, such as sunflower seeds, wheat germ, soy milk, and baked or black beans.
 - g. *References/other sources*:
Gold, M., Chen, M. F., & Johnson, K. (1995). Plasma and red blood cell thiamine deficiency with dementia of the Alzheimer's type. *Archives of Neurology*, 51(11), 1081–1086.
12. Vitamin B3
- a. *Actions/expected responses*: Vitamin B3 (niacin) restores memory loss associated with Alzheimer's.
 - b. *Routes/dosages/frequencies*: Foods containing niacin should be eaten daily.
 - c. *Cautions*: Avoid meat sources.
 - d. *Assessments*: Assess for memory loss before and after eating additional niacin-containing foods.
 - e. *Tips on use*: Counsel caregivers to offer women foods high in niacin as listed at www.feinberg.northwestern.edu/nutrition/factsheets/vitamin-b3.html
 - f. *Other considerations*: Suggest caregivers provide the healthiest sources of niacin—for example, chunk tuna from U.S. waters, organic peanut butter, and wild (not farmed) salmon.
 - g. *References/other sources*:
Morris, M. C., Evans, D. A., Bienias, J. L., Scherr, P. A., Tangney, C. C., Hebert, L. E., et al. (2004). Dietary niacin and the risk of incident Alzheimer's disease and of cognitive decline. *Journal of Neurology Neurosurgery and Psychiatry*, 75, 1093–1099.

13. Vitamin B12 and folate

- a. *Actions/expected responses:* Vitamin B12 is involved in synthesizing carbohydrates, fats, and protein; a deficiency can manifest as pernicious anemia, as degeneration of the axon and nerves in the head, as depression, or as dementia. Women with low levels of B12 or folate may have twice the risk of developing Alzheimer's as do those with higher levels of these two nutrients. Taking folic acid and vitamin B12 can reduce homocysteine blood levels; homocysteine compromises brain function by damaging the lining of blood vessels in the brain. Drinking five or more cups of coffee a day raises homocysteine significantly and should be avoided.
- b. *Routes/dosages/frequencies:* Vegetarians and vegans (who avoid fish, dairy products, and eggs) are especially at risk for folate deficiency. Folic acid (the synthetic form of folate) is metabolized in the liver, while folate is metabolized in the gut, an easily saturated system. Fortification can lead to significant unmetabolized folic acid entering the blood stream, with the potential to cause a number of health problems. Undigested folic acid accelerates cognitive decline in older adults with low vitamin B12 status. For sources of folate go to <http://ohioline.osu.edu/hyg-fact/5000/5553.html>
- c. *Cautions:* Avoid foods fortified with folic acid and eat foods high in folate instead.
- d. *Assessments:* Take a baseline measure for dementia and depression and then take a measure after increasing vitamin B12 and folate.
- e. *Tips on use:* Calcium supplementation can improve B12 absorption. Teach caregivers good sources of vitamin B12 and folate, how to include them in daily menus, and how to reduce coffee intake below five cups a day by serving half caffeinated coffee with one-half decaffeinated coffee/cup or serving tea half the time.
- f. *Other considerations:* The following medications can lead to B12 deficiencies and a need for more foods high in folate: H2 blockers (such as ranitidine), proton pump inhibitors (e.g., omeprazole), colchicines, zicovudine, nitrous oxide anesthesia, metformin, phenformin, and potassium supplements.
- g. *References/other sources:*

Herrmann, W. (2006). Significance of hyperhomocysteinemia. *Clinical Laboratory*, 52(7-8), 367-374.

Kruman, I. I., Kumaravel, T. S., Lohani, A., Pedersen, W. A., Cutler R. G., Kruman, Y., et al. (2002). Folic acid deficiency and homocysteine impair DNA repair in hippocampal neurons and sensitize them to amyloid toxicity in experimental models of Alzheimer's disease. *Journal of Neuroscience*, 22(5), 1752-1762.

Luchsinger, A., Tang, M-X., Miller, J., Green, R., & Mayeux, R., (2007). Relation of higher folate intake to lower risk of Alzheimer disease in the elderly. *Archives of Neurology*, 64, 12-14.

Pettit, J. L. (2002). Vitamin B12. *Clinicians Review*, 12(7), 64, 66.

Seshadri, S., Beiser, A., Selhub, J., Jacques, P. F., Rosenberg, I. H., D'Agostino, R. B., et al. (2002). Plasma homocysteine as a risk factor for dementia and Alzheimer's disease. *New England Journal of Medicine*, 346, 476-483.

Wright, J., Dainty, J., & Fingles, P. (2007). Folic acid metabolism in human subjects: Potential implications for proposed mandatory folic acid fortification in the UK. *British Journal of Nutrition*, 98, 667-675.

14. Weight loss (avoid)
 - a. *Actions/expected responses*: Weight loss is a common problem, is a predictive factor of mortality and decreases quality of life for both women and caregivers. A nutrition education program can prevent weight loss and have a significant effect on cognitive function.
 - b. *Routes/dosages/frequencies*: One approach that has proved successful is the Mediterranean diet, which includes a high intake of vegetables, legumes, fruits, whole grain cereals, fish, and unsaturated fatty acids such as olive oil; low intake of saturated fatty acids, dairy products, meat, and poultry; and low to moderate intake of alcohol. For more information, go to <http://www.mayoclinic.com/health/mediterraneanandiet/CL00011>
 - c. *Cautions*: Drink no more than one 5-ounce glass of red wine a day; drinking more has been linked with health problems including cancers.
 - d. *Assessments*: Evaluate weight, nutritional state, cognitive function, mood, and behavior disorders prior to and after switching to a Mediterranean food plan.
 - e. *Tips on use*: Hispanic women may be more likely to adhere to the Mediterranean food plan than are African Americans and may show a 20%–40% reduction in risk of Alzheimer's after being on the food plan.
 - f. *Other considerations*: None.
 - g. *References/other sources*:

Riviere, S., Gillette-Guyonnet, S., Voisin, T., Reynish, E., Andrieu, S., Lauque, S., et al. (2001). A nutritional education program could prevent weight loss and slow cognitive decline in Alzheimer's disease. *Journal of Nutritional Health and Aging*, 5(4), 295–299.

Scarmeas, N., Stern, Y., Mayeux, R., & Luchsinger, J. A. (2006). Mediterranean diet, Alzheimer's disease and vascular mediation. *Archives of Neurology*, 63, 1709–1717.
15. Western diet: Sugar, refined carbohydrates, and animal products (avoid)
 - a. *Actions/expected responses*: Excessive dietary intake of sugar, refined carbohydrates, and animal products (meat and dairy products with high content of saturated fat), also known as a traditional Western diet, is linked with Alzheimer's.
 - b. *Routes/dosages/frequencies*: Avoiding meat, dairy products, sugar and refined carbohydrates (cakes, pies, candy, etc.) and increasing fish and/or fish oils, vegetables, whole grain cereals, legumes, and soy products can reduce Alzheimer's symptoms.
 - c. *Cautions*: Evaluate allergies to specific fruits or vegetables.
 - d. *Assessments*: Take a baseline measure for Alzheimer's symptoms with the Western diet and then take a measure after instituting nutritional substances that can reduce symptoms of dementia.
 - e. *Tips on use*: Encourage caregivers to move away from a Western diet when planning menus.
 - f. *Other considerations*: For menus to share with caregivers, go to: <http://www.prevention.com/cda/categorypage.do?channel=nutrition.recipes&category=recipes>
 - g. *References/other sources*:

Berrino, F. (2002). Western diet and Alzheimer's disease. *Epidemiology and Prevention*, 26(3), 107–115.

Whitmer, R., Gunderson, E. P., Barrett-Connor, E., Quesenberry, P., Jr., & Yaffe, K. (2005). Obesity in middle age and future risk of dementia: A 27 year longitudinal population based study. *British Medical Journal*, *330*, 1360–1364.

Stress Management

1. Imagery
 - a. *Actions/expected responses*: Repeatedly picturing oneself completing a cognitive task is as effective at managing stress as practicing the task.
 - b. *Routes/dosages/frequencies*: Coach women to use imagery up to 45 minutes a day. Ask them to make a vivid image of what they want to remember.
 - c. *Cautions*: None.
 - d. *Assessments*: Take a baseline measure for memory prior to women using imagery and then take a measure after treatment.
 - e. *Tips on use*: Teach caregivers and clients how to use imagery and that daily practice improves results.
 - f. *Other considerations*: For more information on using imagery to improve memory go to: http://www.helpguide.org/life/improving_memory.htm,
 - g. *References/other sources*:
Wright, C. J., & Smith, D. K. (2007). The effect of a short-term PETTLEP imagery intervention on a cognitive task. *Journal of Imagery Research in Sport and Physical Activity*, *2*(1). Retrieved August 30, 2008 from <http://www.bepress.com/jirspa/vol2/iss1/sty1>
2. Meditation
 - a. *Actions/expected responses*: Meditation decreases the chronic stress that can lead to Alzheimer's and especially memory loss. Women with memory loss reported their thinking was clearer and their memory better after meditating. All wanted to continue the practice.
 - b. *Routes/dosages/frequencies*: Practice meditation 12 minutes a day.
 - c. *Cautions*: Not all women will be able to focus on traditional meditation approaches.
 - d. *Assessments*: Take a baseline measure for memory prior to meditation and then take a measure after treatment.
 - e. *Tips on use*: Use simple meditation approaches like focusing on breathing in and out or counting while walking. For more ideas, go to <http://www.imcleveland.org/meditation/>
 - f. *Other considerations*: Teach caretakers how to do meditation if possible.
 - g. *References/other sources*:
Khalsa, D. S. (2007). *Stress reduction and Alzheimer's prevention: Two studies using SPECT*. Presentation at 6th World Congress on Stress, October 11–13, Vienna, Austria.
Peavy, G. M., Lange, K. L., Salmon, D. P., Patterson, T. L., Goldman, S., Gamst, A. C., et al. (2007). The effects of prolonged stress and APOE genotype on memory and cortisol in older adults. *Biological Psychiatry*, *62*(5), 472–478.

Supplements

1. Lecithin

- a. *Actions/expected responses*: Lecithin increases acetylcholine at receptor sites in the nervous system, improving memory. One of the chemical components of lecithin is phosphatidylcholine, a precursor to acetylcholine. Memory may increase significantly after taking lecithin for 4–6 weeks.
- b. *Routes/dosages/frequencies*: Use lecithin capsules at 20–45 grams a day, starting at the lower dosage and increasing gradually as needed.
- c. *Cautions*: Lecithin is not to be taken by pregnant or lactating women or by children.
- d. *Assessments*: Monitor for allergies; keep track of memory changes.
- e. *Tips on use*: Keep bottle in cool dry place.
- f. *Other considerations*: Lecithin is also found in peanuts, beef liver, and egg yolks; the lecithin in the yolk protects against the cholesterol in eggs.
- g. *References/other sources*:
Higgins, J. P., & Flicker, L. (2003). Lecithin for dementia and cognitive impairment. *Cochrane Database System Reviews*, 3, CD001015.
Kansas State University. (2001). Eggs have a lipid that lowers cholesterol absorption. ScienceDaily. Retrieved July 27, 2008, from <http://www.sciencedaily.com/releases/2001/10/011029073601.htm>

2. Pycnogenol

- a. *Actions/expected responses*: Pycnogenol protects against senile plaques characteristic of Alzheimer's.
- b. *Routes/dosages/frequencies*: By mouth, 100–150 mg daily.
- c. *Cautions*: Not to be used by pregnant or lactating women or by children.
- d. *Assessments*: Monitor for allergies; keep track of learning, balance, memory, and coordination after starting daily pycnogenol.
- e. *Tips on use*: Start at lowest dose and gradually increase if necessary.
- f. *Other considerations*: Be sure to remind women/caregivers to consult with prescribing health care practitioner.
- g. *References/other sources*:
Liu, F., Lau, B. H., Peng, Q., & Shah, V. (2000). Pycnogenol protects vascular endothelial cells from beta-amyloid-induced injury. *Biological Pharmaceutical Bulletin*, 23(6), 735–737.
Skidmore-Roth, L. (2006). Pycnogenol. In *Handbook of herbs and natural supplements* (pp. 868–869). St. Louis, MO: Elsevier/Mosby.

3. Selenium

- a. *Actions/expected responses*: Increasing evidence suggests a role for oxidative stress in several neurodegenerative diseases, including Alzheimer's, and that selenium compounds may function as protective antioxidants.
- b. *Routes/dosages/frequencies*: By mouth, no more than 400 mcg per day.
- c. *Cautions/adverse reactions*: Rare, but do not exceed suggested dosage. For more information on how to find selenium in foods, go to <http://ods.od.nih.gov/factsheets/selenium.asp>
- d. *Assessments*: Evaluate symptoms prior to and after increasing dietary selenium.

- e. *Tips on use:* If a selenium supplement is taken, factor in the intake of these foods to keep the dosage of selenium under 400 mcg. The highest level of selenium is found in Brazil nuts (275 mcg/3–4 nuts), fish (20–68 mcg/3 ounces), and whole wheat spaghetti (36 mcg/cup).
 - f. *Other considerations:* None.
 - g. *References/other sources:*
 - Schrauzer, G. N. (2001). Nutritional selenium supplements: Product types, quality and safety. *Journal of American College of Nutrition*, 20(1), 1–4.
 - Xiong, S., Markesbery, W. R., Shao, C., & Lovell, M. A. (2007). Seleno-L-methionine protects against beta-amyloid and iron/hydrogen peroxide-mediated neuron death. *Antioxidants and Redox Signaling*, 9(4), 457–467.
4. Vitamins and trace elements
- a. *Actions/expected responses:* Cognitive functions improve after supplementation with modest amounts of vitamins and trace elements.
 - b. *Routes/dosages/frequencies:* A daily multivitamin pill taken with a meal.
 - c. *Cautions:* None.
 - d. *Assessments:* Take a baseline measure for immediate and long-term memory, abstract thinking, problem-solving ability, and attention.
 - e. *Tips on use:* Examine multivitamin information on the bottle to make sure there are no fillers, dyes, starches, or other unnecessary substances contained in the tablets or capsules.
 - f. *Other considerations:* Older women should take these vitamins as a way to significantly improve cognition and thus quality of life and the ability to perform activities of daily living. Such a nutritional approach may delay the onset of Alzheimer's.
 - g. *References/other sources:*
 - Chandra, R. K. (2001). Effect of vitamin and trace-element supplementation on cognitive function in elderly subjects. *Nutrition*, 17(9), 709–712.
5. Vitamins C and E
- a. *Actions/expected responses:* Evidence shows that vitamin C, which is water soluble, might serve to recharge the antioxidant capacity of vitamin E. Taken together, these two vitamins can slow the progression of Alzheimer's. When compared to a cholinesterase inhibitor, women who took vitamin E alone were 26 percent less likely to die than women who didn't take vitamin E.
 - b. *Routes/dosages/frequencies:* 2,000 IU vitamin E and 2,000 mg vitamin C daily.
 - c. *Cautions:* None noted in the study, however vitamin E is a blood thinner and vitamin C should be taken with a full glass of water. Use ester C form if ascorbic acid form is irritating to gastrointestinal tract.
 - d. *Assessments:* Take a baseline measure for Alzheimer's symptoms and then take a measure after taking vitamins E and C.
 - e. *Tips on use:* For vitamin E, start at 400 IU and gradually build up to 2,000 IU while monitoring blood pressure.
 - f. *Other considerations:* Discuss the use of vitamins E and C with prescribing health care practitioner.
 - g. *References/other sources:*
 - American Academy of Neurology (2008, April 17). Vitamin E may help Alzheimer's patients live longer, study suggests. *ScienceDaily*. Retrieved

May 14, 2008, from <http://www.sciencedaily.com/releases/2008/04/080415194438.htm>

Engelhart, M. J., Geerlings, M. I. K., Ruitenberg, A., van Swieten, J. C., Hofman, A., Wittteman, J. C., et al. (2002). Dietary intake of antioxidants and risk of Alzheimer's disease. *Journal of American Medical Association*, 287(24), 3223–3229.

Exposito, E., Rotilio, D., DiMatteo, V., DiGiulio, C., Cacchio, M., & Algeri, S. (2002). A review of specific dietary antioxidants and the effects on biochemical mechanisms related to neurodegenerative processes. *Neurobiology and Aging*, 23(5), 719–735.

Zandi, P. P. (2004). Using vitamin E and C supplements together may reduce risk of Alzheimer's disease. *Archives of Neurology*, 61, 82–88.

Touch

1. Foot acupressure and massage
 - a. *Actions/expected responses*: Decreases agitation and a hyper-responsiveness to stress, and indirectly decreases detrimental cortisol levels. Can decrease yelling, pacing, and walking, and can help with quiet time, pulse, and respiration, sleep quality.
 - b. *Routes/dosages/frequencies*: Massage the feet for 10–15 minutes daily.
 - c. *Cautions*: Contraindications may include venous stasis, phlebitis, and traumatic and deep tissue injuries.
 - d. *Assessments*: Take a baseline measure for vocalizations, pacing, and/or walking prior to administering foot acupressure and massage and then take a measure after treatment.
 - e. *Tips on use*: Specific acupressure points to use include the (a) the middle of the bottom of the feet, about 2 inches down from the toes, (b) around the ankles, and (c) the front webbing about 1 inch down between the first and second toes. For more on foot massage, go to <http://www.eclecticenergies.com>.
 - f. *Other considerations*: Teach caregivers how to do foot massage whenever possible.
 - g. *References/other sources*:

Sutherland, J., Peakes, J., & Bridges, C. (1999). Foot acupressure and massage for patients with Alzheimer's disease and related dementias. *Image, Journal of Nursing Scholarship*, 31(4), 347–348.

Yang, M. H., Wu, S. C., Lin, J. G., & Lin, L. C. (2007). The efficacy of acupressure for decreasing agitated behaviour in dementia: A pilot study. *Journal of Clinical Nursing*, 16(2), 308–315.
2. Hand aromatherapy and massage
 - a. *Actions/expected responses*: Decreases negative emotion and agitation significantly.
 - b. *Routes/dosages/frequencies*: Lavender aromatherapy hand massage daily for 2 weeks.
 - c. *Cautions*: None.
 - d. *Assessments*: Take a baseline measure for agitation and negative emotion and then take a measure of both after treatment.

- e. *Tips on use:* Place a few drops of lavender oil in an ounce or two of olive or castor oil and then mix. (Practice this sequence on yourself first.) Place a few drops of mixed oil in the palm of the woman's left hand and hold that hand in yours. Massage the woman's palm with your thumb, working out in circles. Work down each finger and use the thumbnail to stimulate the ends of the women's fingers. Work up and down the thumb (correlates to the head of the woman) with the pad of your thumb, using a very firm stroke. Stroke down the hand and up the forearm using thumb and fingers. Compare the two hands for tone, color, and temperature. Repeat with other hand.
 - f. *Other considerations:* For more massage specifics go to <http://www.coolnurse.com/massage.htm>
 - g. *References/other sources:*
Lee, S. Y. (2005). The effect of lavender aromatherapy on cognitive function, emotion and aggressive behavior of elderly with dementia. *Taehan Kanho Hakhoe Chi*, 35(2), 303–312.
3. Therapeutic touch (TT)
- a. *Actions/expected responses:* Decreases agitation and a hyper-responsiveness to stress, and indirectly decreases detrimental cortisol levels. Can decrease vocalization and pacing and walking.
 - b. *Routes/dosages/frequencies:* Apply therapeutic touch for 5–7 minutes, two times a day.
 - c. *Cautions:* The aged, extremely ill, or dying should be given a gentle treatment by an experienced practitioner.
 - d. *Assessments:* Take a baseline measure for vocalizations, pacing, and/or walking prior to administering therapeutic touch and then take a measure after treatment.
 - e. *Tips on use:* Center and calm yourself by closing your eyes and focusing on breathing in your abdomen. When relaxed, rub your hands together and feel the tingling sensation as you slowly pull your hands apart. When able to feel the energies balancing between the hands, hold the intent to balance the other person's energy. Start above the head and keep an inch or so away from the body, bring your hands slowly down, sweeping down the body slowly, ending a few inches past the feet. For more information, go to http://www.healgrief.com/Site/Heal_Grief_in_Your_Body.html (retrieved July 27, 2008).
 - f. *Other considerations:* Regular TT treatments may enhance the effect achieved.
 - g. *References/other sources:*
Woods, D. L., & Dimond, M. (2002). The effect of therapeutic touch on agitated behavior and cortisol in persons with Alzheimer's disease. *Biological Research in Nursing*, 4(2), 104–114.