

Effect of Health Education on
the Immune System in
Older Adults

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF HEALTH SCIENCES

BY

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AUGUST, 1994

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DEDICATION

This dissertation is dedicated to:

My husband, James Aneff; for his abiding belief in me and his unfaltering support,

To my children, Benjamin Aneff, Allison and Kirk Schell, and Chris and Sandra Sullivan; for the joy and delight they have given me, and

To my parents, Pat and Earl Rembert and my sister, Sally Bartz; for their inspiration.

ACKNOWLEDGEMENTS

I would like to express my gratitude and appreciation to the following individuals for their help and support with this study:

To Dr. Susan Ward, my advisor and my friend; for her positive attitude, her honesty, her friendship, and her great assistance;

To my committee members, Dr. William Cissell; who was willing to work with a student who wanted a 'clinical focus' that was not available within the department;

To Dr. Roger Shipley; who initially demonstrated the mind/body relationship, and;

To Dr. Barbara Lease; for making statistics an approachable subject, if not a favorite one;

To Walter Graham, Beverly Vaughn, and Jeanette Karrenbrock with the City of Abilene, TX.; for their enthusiasm and willingness to 'host' this study in the Rose Park Senior Citizens' Program;

To Katherine Stewart, David Young, and other employees of Pathology Consultants; for their professionalism and expertise in

obtaining the blood samples and performing the immune system measurements, and to Hendrick Medical Center and Michael C. Waters, President: for interest in this study and partial funding of the project.

ABSTRACT

COMPLETED RESEARCH IN HEALTH SCIENCES
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Aneff, P.R. Effect of Health Education on the Immune System of Older Adults. Ph.D. in Higher Education, 1992, 159 pp. (S. Ward).

An experimental study was conducted to determine the effect, if any, health education had on the severity of depression, the health locus of control and immune system measurements. The study population consisted of adults between the ages of 65 and 95, who volunteered for the study, met the study criteria, and attended the Rose Park Senior Citizens' Program in Abilene, Texas. The experimental group consisted of 16 adults and the control group consisted of 15 persons. Participants were assigned to either of the two groups by random assignment. Prior to beginning the study, all participants were given the Beck Depression Inventory and the Multidimensional Health Locus of Control instrument. Additionally, blood samples were obtained from each participant and tested for

IgG, IgA, IgM, total white count, absolute white count, lymphocyte percentage, helper/inducer ration, and CD4 lymphocytes. The experimental group participated in classes on a health or safety topic, once a week for eight weeks. The control group participated in regular programing on site. On completion of the eight classes, all instruments were once again administered and blood samples again tested for the immune components. The experimental group demonstrated a significant increase in the mean of the total white count, the mean of the absolute lymphocytes, and the mean of the CD4 lymphocytes leaned in that same direction. The control group demonstrated an increase in the mean of the total white count, an increase in the mean of absolute lymphocytes, and an increase in the mean of CD4 lymphocytes. The experimental group demonstrated the most positive clinical improvement. Upon completion of the study it was determined that the experimental group had shared the information obtained in the classes with those in the control group.

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CHAPTER I INTRODUCTION

Proverbs 17:22 states that "A joyful heart is good medicine, but a broken spirit dries up the bones". The effect of the mind on physical functioning has been recognized for centuries. It was referred to by both King Solomon (Ryrie, 1978) and Aristotle. Hippocrates believed that having health required one to be in a 'balanced state of mind and body' and later the well-known Galen supported this belief in his teachings (R. Tandy, personal communication, 1992). Since that time we have witnessed incredible advances in medicine and technology and have seen the causes of disease states traced to external agents. Although these advances have enabled us to successfully treat many diseases they have also propagated the view of humankind as a mind-body dualism, rather than as a holistic being.

Within the past decade one began to see a serious exploration of the mind and the effect it has on the body, aided in part by our

technological advances. One saw a resurgence of interest in the link between mind and body with the work of Hans Selye when he demonstrated a biochemical as well as a psychosocial reaction to stress (Houldin, Lev, Prystowsky, Redei, & Lowery, 1991). Selye's research indicated that a person's general state of health was effected by emotion, or, what goes on in the head impacts what happens in the body. What is emerging is a more holistic model that explores the psychosocial and biological interactions of mankind as well as a new field of study-that of psychoneuroimmunology. The relationships between education, perceptions, emotions, and immune system functioning, only within the past decade coming under investigation, have not been adequately examined.

Statement of the Problem

This study determined the effects of health education on the health of adults ages 65-95 in Abilene, Texas and the effect of health education on the health locus of control of these same individuals. The effects were evidenced by changes in the

measurements of immune system competency (specifically CD4 and Immunoglobulins), a change in mood as measured by the Beck Depression Inventory (BDI), and a change in the health locus of control as measured by the Multidimensional Health Locus of Control.

Purpose of the Study

The purpose of this experimental study was to profile a sample of older adults in Abilene, TX, and determine the effectiveness of health education in increasing their immune system competency, decreasing depression, and altering their health locus of control.

Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

1. The T-cell count of the experimental group will not differ significantly from that of the control group following completion of 8 health education classes.
2. The immunoglobulin measurements of the experimental

group will not differ significantly from that of the control group following completion of 8 health education classes.

3. The experimental group will not exhibit significantly different Beck Depression Inventory scores than those of the control group following the completion of 8 health education classes.

4. The experimental group will not exhibit significantly different Multidimensional Health Locus of Control scores from those of the control group following completion of 8 health education classes.

Definition of Terms

The following terms were defined for the purpose of this study:

1. Immune System Competency. The efficacy of the immune system as measured by T-cell (CD4) counts in the following ranges (Henry,1991):

- a. WC: 3800-10100
- b. Lymphocyte percentage: 18-47%

- c. Lymphocyte absolute: 960-432
- d. Helper-Inducer T-cells: 32-62
- e. CD4 lymphocytes: 400-1770

The efficacy of the immune system as measured by immunoglobulins within the following ranges:

- a. IgA: 1.1-5.6
- b. IgG: 8.1-18.0
- c. IgM: 0.5-2.2

2. Depression. A score in the range of 17-40+ on the Beck Depression Inventory (Beckham & Leber, 1985).

3. Health Education Class. A 50 minute class on a health or safety issue affecting older Americans.

4. Health Locus of Control. The perception of control over one's health as measured by the Multidimensional Health Locus of Control (Wallston, Wallston, & DeVellis, 1978).

Limitations

This study was subject to the following limitations:

1. Generalization of the study results is limited to populations similar to that attending the Rose Park Senior Citizens Program in Abilene, Texas.
2. Additionally, study results were limited by the accuracy of CD4 and immunoglobulin measurements which include those cells not in transit between or sequestered in organs of the immune system and,
3. The levels of validity, reliability, and objectivity of the Beck Depression Inventory and the Multidimensional Health Locus of Control.

Delimitations of the Study

This study was subject to the following delimitations:

1. Regular attendees of Rose Park Senior Citizen's Program (a minimum of twice a week with no more than one absence per month) for the past three months,
2. Adults between the ages of 65 and 95,
3. Participants with a life expectancy of 6 months or more,

4. Participants who volunteered to participate in the study,
5. Participants who were not receiving the following:
predisone, thorazine, elspar, tegretol, or chemotherapy, and
6. Participants who were not diagnosed with an immune deficiency illness or an addictive disorder.

Justification

Although emotions have been linked to physical states since biblical time, interest in the relationship of psychosocial factors on physical health has waxed and waned. Interest in the relationship between psychosocial factors and immune system functioning was prevalent during the 1980's (Bower, 1991) and has been the focus of many research projects. At the same time the stress syndrome phenomenology came into view (Chrousos, & Gold, 1992) and physical as well as behavioral adaptations to stress were the object of study. Wiedenfeld and associates (1990) examined the impact of self-doubt in coping efficacy and found that it produced a substantial increase in subjective stress. Coe and Levin (1991)

demonstrated that lack of control over stressors impairs various components of the immune system and increases depression. The literature cites depression as more common in the elderly than in any other age group (Hawranik, 1991) and demands further investigation concerning the relationship of depression to immune system competency. At the same time, Jones and associates (1991) found that a decrease in health locus of control in the elderly was related to depression which in turn was related to a negative change in the measurements of immune system competency. Hawranik (1991, p.24) feels that "Health education is very important to prevent depression" and that primary and secondary prevention can be successful for a number of health problems.

America is undergoing a historic transformation that has been referred to as "The greying of America" (Melville, 1988 p. 39). By the end of this century, there will be approximately 31 million people over the age of 65 in America. Although elderly persons comprising 12% of the population consume approximately 30% of all health care expenditures (Melville, 1988) the long held belief that

aging is automatically accompanied by disease and disability is being refuted and health education is one of the vehicles by which this is being accomplished. There is a need for research into psychoimmunology that may aid in increasing the 'host resistance' of the elderly, resulting in an increase in quality of life and a decrease in health care expenditure. As Norman Cousins said, "Belief creates biology" (Chopra, 1993, p. 56).

CHAPTER II

REVIEW OF THE LITERATURE

Emotions have been linked to physical states for hundreds of years. Aristotle formulated the idea of a mind-body relationship (Hall, 1989) and Hippocrates believed that health required one to be in a 'balanced state of mind and body. Sir William Osler, the father of modern medicine, stated (about the treatment of T.B.) that it was just as important to know what was going on in a man's head as it was to know what was going on in his chest (R. Tandy, personal communication, 1992). Although the mind-body relationship was recognized from the earliest of times, and Selye gave credibility to the stress-concept (Selye, 1973) it was not until the discovery of neurotransmitters, in the 1970's, that the scientific community lent its support to studies involving the mind-body, or the mind/health, relationship. Scientists were speculating and asking questions about neuroimmunoregulation until Candace Pert's pivotal research

defined the bi-directional interaction among the CNS, the endocrine system, and the immune system (Pert, 1986).

Borysenko and Borysenko (1984) proposed a three-pronged model of disease susceptibility that is useful in conceptualizing the role of psychological factors in disease. The Borysenkos' model consists of two biological components; genetic predisposition and environment, and one psychological or behavioral component. According to this model the psychological/behavioral component can be the primary determinant of disease or it can interact with either or both of the biological components. The psychological variables that can make us susceptible to disease are still under scrutiny, with new ones constantly being examined. Of these, stress, both short-term and long-term and depression are most commonly associated with disease (Vollhardt, 1991).

Excellent examples of studies involving psychological variables and disease are Robert Keith Wallace's studies on aging. His research was based on the assumption that people age as whole human beings, not piece by piece, which contains a large element of

choice. His research suggests that aging is controlled by consciousness and that the disease aspects of aging are modifiable (Chopra, 1989). This review of literature published between 1964 and 1993 will describe the immune system and discuss studies involving psychological variables that impact the immune system in humans.

The Immune System

Basically, the immune system is the natural defense or surveillance system of the body. It protects the body from disease-causing organisms as it rejects foreign substances, or nonself particles (antigens) such as bacteria, viruses, parasites, and fungi. Components of the immune system are also capable of identifying and destroying mutated cells associated with malignancy while other components attack nonself particles such as donated organs (Jemmott & Locke, 1984). The immune system is composed of specialized cells that originate in the bone marrow and are

are sequestered in immune organs until a need for their specialized service arises. At this point they are released by the immune organs into the blood stream, and may return to these organs.

There are two arms comprising the immune system: humoral and cell-mediated. B-lymphocytes are associated with the humoral arm and T-lymphocytes are associated with the cell-mediated arm. The humoral response usually occurs rapidly and is best known for its role in antibody (IgM, IgG, IgA) mediated immunity. There is no antibody production in cell-mediated (T-cell) responses and this response is usually characteristic of delayed hypersensitive reactions, transplant rejection, defense against mutated cells, and defense against pathogens (Norstog & Meyerriecks, 1985).

Immunological studies have revealed that the inability to feel in control (stress) is even more damaging to the immune system than a stressful event - in other words, what the mind sees, the body believes (Borysenko, 1987). Bohus and Koolhaas (1991) also reported the absence of control over stressors is related to the

development of what are known as psychosomatic disorders and may be a critical aspect in the impairment of the immune system.

Stress

The discovery of neurotransmitters and neuropeptides along with the invention of new diagnostic tools such as PET (positive-emission tomography) allowed scientists to track this chemical communication system (Chopra, 1989) among consciousness, the central nervous system, the endocrine systems, and the immune system. Marc Barasch (1993, p. 60) states that these "so-called messenger molecules are suddenly turning up everywhere-in the brain (particularly in the centers governing emotion, throughout the immune system, and in organs "from gut to gland").

According to Pert (1988) the emotion-affecting neuropeptides (hormone-like chemicals released by nerve cells) control the migration of monocytes in healing and disease. The structures of the limbic system, known as the emotional center of

the brain, have 40 times more neuropeptide receptors than other parts of the brain. The presence of neuropeptide receptors on immune cells, as well as the ability of these cells to learn, recall, and produce neuropeptides led Pert to believe there is an interactive network of information flow between the brain and the immune system. This suggests that the brain can communicate through the limbic system to the immune system and that the immune system can communicate to the brain through the limbic system. Knapp and his colleagues (1992) examined short-term immunological effects of induced emotion and found that over a 40-minute period negative emotions lead to a brief decline in mitogenic responsivity, which returns promptly to pre-stimulus levels following cessation of the negativity, pointing to transient impairment of the immune system.

O'Leary (1990) tells the reader that psychological stress can alter immune function and Nguyen (1991) agrees that emotional factors are related to physical diseases, stress is immunosuppressive, and social support is conducive to health. Margaret Birney (1991) supports Nguyen's hypothesis that stress is implicated in the etiology of disease and goes on to implicate

several other recurrent relationships, namely depression, severe acute or chronic stress, powerlessness, loneliness, and lack of support. According to Birney, perceived ability to control stress is important in predicting T-lymphocyte response. The team of Kiecolt-Glaser, Garmer, Speicher, Penn, & Glasser (1984) have reported the effects of various types of stress on immunity, some of which are lower natural killer cell activity, higher antibody titers, lower percentages of NK and helper T cells and higher percentages of suppressor T cells. In her study of the effects of stress on spouse caregivers' psychological health and cellular immunity, McCann (1991) found that caregivers experience suppression of cellular immune function which appears to be related to their status as caregivers. She also found the caregivers to be more stressed, more depressed, and to feel less supported than noncaregivers. Pelletier defines stress not as what happens but how a person reacts to what happens. In his 1992 article "Mind-Body Health: Research, Clinical, and Policy Applications" Pelletier references studies that demonstrate 'helplessness' as immunosuppressing in animals and

'control' as immunoenhancing, suggesting that an individual's perception of an event may trigger a stress response.

Perceived self-efficacy (the belief in one's abilities, domain specific) to cope with stressors has been explored as a mediating agent in the physiological stress response by Lazarus & Folkman (1984). They found the rate of growth of self-efficacy to be positively related to the degree of immune enhancement. Bandura and his associates were even more definitive when they reported that "self-doubts in coping efficacy produce substantial increases in subjective stress and physiological activation" (1990, p.1082). O'Leary (1992) cites several studies that explore the effects of perceived self-efficacy on the stress response in which an increase in self-efficacy was accompanied by a decrease in sympathetic response. O'Leary goes on to say that "those who believe themselves to possess adequate capabilities for managing or controlling a stressor in a manner that prevents damage will be less anxious and should display reduced physiological response to the stressor" (O'Leary, 1992, P. 238). Weinberger (1991) suggests that

the elderly experience many of the major life events that are known to precipitate stress with resulting adverse health changes. She recommends teaching stress management techniques to the elderly.

Depression

Depression has been a problem in the elderly population for many years. However, only in the past two decades has it been viewed as pathological and an abnormal/unnecessary part of aging. This idea is supported by Hughs (1991) who states that although dementia in the elderly is of great concern to health care providers, in reality depression is the more common disorder. Garratt (1992) states depression is a common and serious problem in elderly patients and, although understandable, warrants clinical attention. In addition to declaring depression as common in the elderly, the literature has linked it to alterations in immune functioning. In 1987 Stone and his colleagues found "depression related to a decrease in helper t-lymphocytes, decreased lymphocyte response to T- and B- cell mitogens, and a decrease in the number of circulating

immunocompetence cells" (p. 988). In her examination of "stress, emotion, and human immune function", O'Leary (1990) cites a study by Schleifer, Keller, Meyerson, Raskin, Davis, and Stein in which patients hospitalized with major depressive symptoms demonstrated impaired lymphocytic response to mitogens and lower absolute numbers of B and T- cells and higher plasma cortisol levels. This same group went on to compare an outpatient group of depressed patients with an outpatient group of schizophrenics and found that although mitogen response between the two groups did not differ, the number of T- cells was decreased in the depressed group but not in the schizophrenic group. Kiecolt-Glaser and her colleagues (1987) demonstrated impairment of the ability of lymphocytes to repair irradiation damage in depressed psychiatric inpatients, which may have implications for the development of cancer (Kiecolt-Glaser, Glaser, Shuttleworth, & Dyer, 1987). Hillhouse and Adler reviewed the literature on stress, health, and immunity (1991) and noted that most of the researchers they reviewed did appear to find an inverse relationship between depression and immune function. In his article "Questions of

Mind Over Immunity" Bruce Bower suggests that "depression and immunity dance a complex waltz, not a straightforward two-step" (Bower, 1991, p.216) and Hindle (1988) reports finding a relationship between loss of control, depression, transient confusion, and immunity in institutionalized elderly.

Health Locus of Control

Locus of control refers to "the degree to which individuals perceive events in their lives as being a consequence of their own actions, and thereby controllable (internal control), or as being unrelated to their own behavior, and therefore beyond personal control (external control)" (Lefcourt, 1976 pp. 26). Locus of control theory suggests that behavior is a result of the expectancy that a certain behavior will produce a certain goal. This concept was first applied to the area of health by Seeman and Evans's (1962) study among hospitalized tuberculosis patients. Wiedenfeld et al. (1990) reported that exposure to stressors with a concomitant perceived ability to control them had no adverse physiological effects, but that exposure to the same stressors without the perceived ability to

control them resulted in impairment of the immune system. In a 1986 study on stress, locus of control, and immunity, Kubitz, Peavey and Moore found higher levels of stress in individuals with high internal locus of control scores and corresponding depressed immune responses when they were not provided with education prior to upcoming surgery. Locus of control is conceptually related to self-efficacy in that "perceived self-efficacy refers to people's beliefs regarding their own abilities" (O'Leary, 1992, p. 229). Waller and Bates supported this concept in their 1992 study in which they found that individuals with an internal health locus of control also exhibited high self-efficacy. Self-doubts in coping efficacy produce physiological stress as does perceived self-inefficacy in exercising control over stressors (Wiedenfeld, et al., 1990). In examining the relationship of health locus of control and the elderly the literature indicated that elderly individuals with a strong powerful others health locus of control did not take responsibility for their health behaviors (Tuohig-Gm, 1991).

Summary

The compromising effect of depression and stress (including a lack of self-efficacy perceived as stress) on immune system functioning in the elderly is well documented in the literature. Chopra, in his book entitled Ageless Body, Timeless Mind, states that "the biochemistry of the body is a product of awareness andbeliefs, thoughts, and emotions create the chemical reactions that uphold life in every cell" (pg. 6).

CHAPTER III METHODOLOGY

The methodology of this experimental study is discussed in relation to its population, procedures used to sample the population, instruments used to measure the variables, procedures used to collect the data, and statistical techniques that were used to treat the data.

Population and Sample

The population consisted of those persons between the ages of 65 and 95, with no known immune disorder, not receiving chemotherapy, and attending the Rose Park Senior Citizens' Program in Abilene, Texas. The investigator advertised the study with flyers placed on the walls and elevator in the Senior Citizen Building (Appendix A). She then met with all the participants of the Rose Park Senior Citizens' Program and explained the purpose and procedures involved in the study. A sample consisting of 60 participants volunteered for the study. Subjects were eligible for

participation in the study if they were:

1. regular attendees of Rose Park Senior Citizens' Program (attending a minimum of twice a week with no more than one absence per month, for the past three months),
2. adults between the ages of 65 and 95,
3. had a life expectancy of 6 months or more,
4. volunteered to participate in the study (including attendance at 75% of the classes presented by the investigator),
5. not receiving the following medications: prednisone, thorazine, elspar, tegretol, or chemotherapy, and
6. not diagnosed with an immune deficiency illness or an addictive disorder.

Of the 60 persons voluntarily agreeing to participate in this study a final sample size of 31 individuals (15 control, 16 experimental) completed the study. Attrition of the remaining 30 persons was due to:

1. death ($n=1$, unexpected),
2. suspected immune system abnormalities detected on initial immune measurements ($n=8$),

3. failure to comply with testing of all dependent variables ($n=15$), and
4. failure to attend a minimum of 75% of the health education classes ($n=5$).

GROUP ASSIGNMENT

The names of those persons who volunteered to participate in the study and who met study criteria were recorded in the order in which they volunteered. Each name was assigned a sequential number, beginning with 01 which served as a code number for that person throughout the study. The volunteer participants were randomly assigned to either the control group or the experimental group utilizing their code number and a table of random numbers (Porter & Hamm, 1986, p. 389). Human rights of the subjects were protected by a thorough review and approval of the study by the Human Subjects Review Committee of Texas Woman's University, Denton, TX. (Appendix B). The administrative office of the Rose Park Senior Citizen's Program maintained the list of the subject's names and their code number assignment.

Procedures

The subjects signed an informed consent form (Appendix C) and then were administered the Beck Depression Inventory (Beckman & Leber (Eds.), 1985) and the Multidimensional Health Locus of Control (Wallston, Wallston, & DeVellis, 1978). The instruments were administered by the investigator on three different days, with the subjects choosing the day that for them was the most convenient (January 26, 27, or 28). Subjects' code numbers rather than their names were recorded on each of the instruments. Blood Samples for CD4 and Immunoglobulin counts were obtained by phlebotomists from Pathology Consultants, a part of Hendrick Medical Center, Abilene, Texas. The phlebotomists followed the procedures established by Pathology Consultants (Appendix D) and obtained the blood samples on site at the Rose Park Senior Citizen's Program. Blood samples were obtained on three separate days (February 7th, 8th, or 9th) between 1:30 p.m. and 3:30 p.m. Subjects were assigned a specific 'lab' day, based on subject convenience, by the investigator to avoid overloading the phlebotomist on any one day.

The investigator was present each day. The subjects' code numbers were placed on the samples of blood to be tested and test results were recorded by code number, rather than by name.

The investigator met with the experimental group once a week and provided a one hour class on a health or safety topic for a total of eight weeks. The topics covered were selected for inclusion because of literature references to their being problematic to the aged population (Hawranik, 1991; Palmierei, 1991; Texas Department of Health, 1991; & Weinberger, 1991). The classes were held each Tuesday from 10:30-11:30 a.m. at the Rose Park Senior Citizen's Program. They began on Tuesday, February 15, 1994 and ended on Tuesday, April 5, 1994. The experimental group consisted of 16 subjects and each subject attended 75% or more of the classes. The control group consisted of 15 subjects who attended a variety of other classes offered at the Rose Park Senior Citizen's Program. The classes attended by the control group were held on the same days and at the same time as the experimental group's classes were held. These were classes offered routinely at Rose Park.

A lesson plan was constructed for each class by the investigator and consisted of both didactic and experiential material. Each class was led by the investigator and three classes had guests presenters. One of these classes was the class on "The Wise Use of Medication" in which the pharmacist, Laura Lowe, from HEB Food Stores participated. Another was the class on "Men, Women and Self-Care" in which Dorothy Thompson, Director of the Breast Cancer Awareness Project participated and the third class with a guest was "Safety After 60" in which the participant was Dr. Rosemary Wallace, gerontologist from Woods Psychiatric Institute.

"Nutrition: Eating for Health" was the title of the first class. Content of this class centered around the food pyramid and choices of foods in each of the divisions, with particular reference to low fat and low sodium diets. The experiential portion of the class consisted of each participant selecting foods from those provided by the investigator according to their location in the food pyramid. These were eaten as refreshments following class. The Healthy People 2000, Summary Report states that "there is growing evidence that nutrition counseling and food programs can reduce the risk of

disease among older adults" (U.S. Department of Health and Human Services, Public Health Service, 1992, p. 21). The lesson plan for this class is located in Appendix E.

"Exercising Fatigue Away", the second class, was selected for inclusion in that it effects osteoporosis, safety, and depression, and falls. All four of these topics were cited as "common health problems of the elderly" by Pamela Hawranik (1991, p. 20). The didactic portion of this class consisted of a discussion, accompanied by handouts and demonstrations, on types of exercise and their benefits. Also included was a discussion on safety issues affecting exercise and suggestions for exercise. The experiential portion of the class consisted of each participant practicing strength training from a seated position utilizing a latex 'band' given to them by the investigator. The 'band' was made from a piece of surgical tubing, 3mm thick and 69 inches long. The ends were knotted together to facilitate strength training. The lesson plan for this class may be found in Appendix F.

"Stress-Management for Today's World", the third class, consisted of a discussion on stress and the effects of stress on the

body. Included in the discussion were methods of stress reduction. The experiential portion of this class consisted of practicing two methods of stress reduction. The first method was diaphragmatic breathing and the second method was a countdown to relaxation. A stress monitoring card (donated) was given to each participant and was utilized during the practice segment of the class. A list of available resources was also discussed and given to the participants. This topic was included because the Healthy People 2000, Summary Report gives two health status objectives for the year 2000, as "reducing to less than 40% of the population of people aged 18 and older who experienced adverse health effects from stress within the past year" (6.5a, p. 99) and "increase to at least 30% the proportion of people aged 18 and over who seek help in coping with personal and emotional problems" (6.8a, p.100). The lesson plan for "Stress Management for Today's World is located in Appendix G.

The fourth class provided for the experimental group was entitled "Let's Dump Depression". The didactic portion of this class included a discussion on types of depression, symptoms of

depression, and suggestions for decreasing depression. A discussion of alcohol as a depressant was included. The didactic portion also included a discussion of resources available for those who are depressed. The experiential portion included an exercise in ABC thinking, in which thoughts can lead to depressed mood states.

Depression is frequently referenced in the literature as a common health problem of the elderly. Two of these references are Pamela Hawranik's 1991 article entitled "A Clinical Possibility: Preventing Health Problems After the Age of 65" (p. 20), and Healthy Texans: 2000 Partnership (p. 25). This lesson plan is located in Appendix H.

"The Wise Use of Medication", the fifth class, included a discussion and demonstration on reading the labels of over-the-counter drugs, drug interactions (including alcohol), and age related effects of medications. This class also included common side-effects of medication mis-management and ways to avoid it. The experiential portion included reading medication labels and establishing a mechanism for listing and maintaining a record of current medications and dosages. Palmieri (1991, p. 34) states at

least "25%-50%" of the elderly make medication errors. For the lesson plan on "The Wise Use of Medication", see Appendix I.

The sixth class in this series of classes was "Men and Women and Self-Care". The content of this class included a discussion of breast cancer, testicular & prostate cancer, and sexually transmitted diseases. The experiential portion included breast examinations on models provided by the American Cancer Society. Shower cards were made available to the participants as well as the procedure for obtaining subsidized or free mammograms. A list of available resources was also made available to the participants. The lesson plan for this class is located in Appendix J.

"Safety after 60" was the title of the seventh class. Content of this class included a discussion on falls, accidents common to older Americans, and crime. The experiential portion consisted of participants demonstrating how to help themselves after a fall. A lesson plan for this class is located in Appendix K. This topic was included because The Healthy People 2000: Summary Report cited "unintentional injuries as the fourth leading cause of death in the United States....and a major cause of disability" (1992, p. 64).

The last class, held on April 5, 1994, was entitled "Wellness: Skills for Lifestyle Change". The content of this class was planning for good health, including the need for immunizations. The experiential portion of this class consisted of sharing of actions to improve and/or maintain the health status of class members. A lesson plan for the class on "Wellness: Skills for Lifestyle Change" is located in Appendix L. Hurley and Schlaadt's book entitled Wellness: The Wellness Life-Style states that "life-style affects not only risk of disease and accidents, but the overall length of life" (1992, p. 26).

A two-week lag time was allowed between the last class and repeat administration of the Beck Depression Inventory and the Multidimensional Health Locus of Control. This was to discourage any artifacts resulting from completion of the classes. The instruments were administered for the final time on April 21 and April 22, 1994. Blood Samples for CD4 and Immunoglobulin counts were once again obtained by phlebotomists from Pathology Consultants, a part of Hendrick Medical Center, Abilene, Texas. The phlebotomists followed the procedures established by Pathology

Consultants (Appendix G) and obtained the blood samples on site at the Rose Park Senior Citizen's Program. Blood samples were obtained on three separate days (April 25th, April 26th, and April 27th) between the hours of 1:30 p.m. and 3:30 p.m. As in the initial blood draws, subjects were assigned a specific 'lab' day by the investigator to avoid overloading the phlebotomist on any one day. Assignment was based on subject convenience and the investigator was present each day. The subjects' code numbers were placed on the samples of blood to be tested and test results were recorded by code number, rather than by the subjects' names.

Instrumentation

The Beck Depression Inventory (BDI) was selected as the instrument to measure depression in both the control and the experimental groups (Appendix M). The BDI is a commonly used self-reporting method of assessing depression. "The scale isclinically derived and designed to measure both attitudes and symptoms which appear to be specific for depression....while not intending to reflect any theory regarding the etiology of depression" (Beckham & Leber,

1985, p. 384). The BDI is composed of 21 self-administered items, with each item consisting of four self-evaluative statements ie., I do not feel sad, I feel sad, I am sad all the time and I can't snap out of it, and I am so sad or unhappy that I can't stand it. Each item is scored 0 to 3. Responses are added for a total score. The greater the score, the greater the severity of depression the score reflects. The BDI is easy to take as well as easy to score. Additionally, it has demonstrated cross-cultural applicability (Beckham & Leber (Eds.), (1985).

Split-half reliability coefficients on the BDI have been reported in the range of .58 to .93 and test-retest reliability ranged from .69 to .90. In looking at test-retest reliability it is important to remember that this will be affected by symptoms of depression and the course of the illness, or severity of the mood. In terms of concurrent validity the BDI has been reported with coefficients in the range of .62 to .77. The Beck Depression Inventory was authored by Aaron T. Beck (Beckham & Leber [Eds.], 1985).

Kenneth A. Wallston, Barbara Studler Wallston, and Robert De Vellis are the authors of the Multidimensional Health Locus of

Control Scales (MHLC). The authors report the purpose of this instrument to be "to measure locus of control of health-related behavior" (Corcoran & Fischer, 1987, p. 239). This instrument was selected for use because of the purpose of the instrument and the ease of use. It is an 18 item instrument which measures three dimensions of locus of control of reinforcement as it relates to health (Appendix N). This scale assesses people's belief that their health is or is not determined by their own behavior. It examines internality of health locus of control, powerful other locus of control, and chance locus of control. Each of these subscales contains six items and the MHLC itself has parallel forms (A and B) designed for use as repeated measures. The two forms may be combined, as they were in this study, to create longer and more reliable subscales. The internal consistency reliability using Cronbach's alpha ranges from .67 to .77 for all six scales, the three dimensions, and the two parallel forms. When the parallel forms are combined the alphas range from .83 to .86. The MHLC scales "have fairly good criterion validity, correlating with subjects' state of health", (CARL, p. 239) and other measures of locus of control.

The MHLC was normed on chronic patients, college students, healthy adults, and persons involved in preventive health behaviors (Corcoran & Fischer, 1987).

Treatment of the Data

The subjects were randomly assigned to one of two groups. Group 1 was the control group and Group 2 was the experimental group. The dependent variables (immune system measurements, level of depression, and perceived health locus of control) were pretested. A Chronbach's alpha was performed on the MHLOC (forms A & B) to test internal consistency of the instrument in the sample. Following the pretests the treatment (a series of eight classes on a health or safety topic) was administered to the experimental group. The posttest were then administered to both the control and the experimental groups. Three ANCOVA's (one for each dependent variable) were performed. Descriptive statistics (percentages, means, and ranges, when appropriate) were used to describe the sample and a power analysis was performed due to sample size.

CHAPTER IV FINDINGS

Description of the Subjects

Of the 16 subjects in the experimental group, 2 were male, 15 between the ages of 65 and 80 and 1 between the ages of 81 and 95. Eight were married, 7 were widowed, and 1 was divorced. Twelve had someone close to them die within the past year. All of the subjects were Caucasian, which was representative of the population attending Rose Park Senior Citizens' Program.

Of the 15 subjects in the control group, 5 were male, 12 between the ages of 65 and 80, and 3 between the ages of 81 and 95. Nine were married, 5 were widowed, and 1 was single. Twelve had someone close to them die within the past year. All of the subjects of the control group were also Caucasian. See Table I.

Table 2 reflects the pre and post test means for both groups of the (physical) variables under study.

Data Analyses

The software package SPSS Statistical Algorithms,

Table 1

Demographic Profile

Gender	Group	
	Control	Experimental
Male	5	2
Female	10	14
Age Group		
65-80	12	15
81-95	3	1
Marital Status		
Single	1	
Divorced		1
Married	9	8
Widowed	5	7
Loss of significant other		
within the past year	12	12

Table 2

Means For White Cell Variables

	Group	
	Control n=15	Experimental n=16
Total White Cells		
Pre	6753.33	7437.50
Post	6080.00	5856.25
Lymphocyte, Percentage		
Pre	29.93	30.19
Post	29.93	29.94
Lymphocyte, Absolute Count		
Pre	1993.47	2235.81
Post	1815.40	1894.06
Helper/Inducer		
Pre	44.93	38.31
Post	44.93	40.63
CD4		
Pre	918.73	904.25
Post	824.40	800.56

(SPSS, Inc., 1985) was utilized in the data analyses of this study. The null hypotheses were tested with the F test, and significance was determined using a 95% confidence interval.

The first null hypothesis stated: The T-cell count of the experimental group will not differ significantly from that of the control group following completion of 8 health education classes. Analysis of covariance was used to determine the difference in T-cell count means between the experimental group and the control group for the following immune system measurements: total white cell count, $F(1,28) = .499$, $p = .486$; lymphocyte percentage, $F(1,28) = .033$, $p = .857$; lymphocyte, absolute count, $F(1,28) = 1.016$, $p = .322$; helper/inducer T-cells, $F(1,28) = 1.559$, $p = .222$; CD4 lymphocytes, $F(1,28) = .038$, $p = .847$.

The second null hypothesis stated: The immunoglobulin measurements of the experimental group will not differ significantly from that of the control group following completion of 8 health education classes. Analysis of covariance was used to determine the difference in immunoglobulin means between the experimental group and the control group, using immunoglobulin G,

$F(1,28)=.055$, $p=.817$; immunoglobulin A, $F(1,28)=1.084$, $p=.307$; and immunoglobulin M, $F(1,28)=1.050$, $p=.314$.

The third null hypothesis stated: The experimental group will not exhibit significantly different Beck Depression Inventory scores than those of the control group following the completion of 8 health education classes. Reliability on the pre test of both groups combined ($n=31$), $\alpha = 0.7071$ and on the post test ($n=31$), $\alpha = 0.8737$. Analysis of covariance was used to determine the difference in the Beck Depression Inventory score means between the experimental group and the control group, $F(1,28)=.961$, $p=.335$.

The fourth null hypothesis stated: The experimental group will not exhibit significantly different Multidimensional Health Locus of Control scores from those of the control group following completion of 8 health education classes. Reliability of both groups combined ($n=31$) on the pre test, $\alpha = 0.7484$ and on the post test, $\alpha = 0.7557$. Analysis of covariance was used to determine the difference in the Multidimensional Health Locus of Control means between the experimental group and the control group, $F(1,2)=4.002$, $p=.055$. See Table 3 for variation in the Multidimensional Health

Locus of Control and in the Beck Depression Inventory.

Table 3

Source of Variation

Locus of Control	Covariate	Main Effect	Residual
Locus of Control, Pre by Group with Post	.000	.055	167.038
Beck Depression Score			
Beck Score, Pre by Group with Post	.000	.355	11.364

CHAPTER V

Summary

This experimental study was designed to profile a sample of older adults in Abilene, TX, and determine the effectiveness of health education in increasing their immune system competency, decreasing depression, and altering their health locus of control. The literature was reviewed for information on mind-body relationships, specifically relationships between depression, health locus of control, immune system functioning, and health education in an elderly population. Additionally, the literature was reviewed for information on health and safety topics most affecting the older population.

Sample Profile

A total of 31 Rose Park Senior Citizens' Program participants completed the study. There were 29 participants excluded from the study because they did not meet study criteria. The participants were randomly assigned to either the control group or the

experimental group. The experimental group consisted of 16 individuals, 15 of whom were ages 65-80 and 1 who was between the ages of 81-95. Seven were widowed, 1 divorced, and 8 were married. Of the 16 persons in the experimental group, 12 had someone significant in their life die within the past year. These demographics are contrasted with the 15 individuals in the control group. Twelve were ages 65-80 and 3 were ages 81-95. Five were widowed, 1 single, and 9 were married. Of the 15 persons in the control group, 12 had someone significant in their life die within the past year.

Conclusions

Hypothesis 1. The T-cell count of the experimental group will not differ significantly from that of the control group following completion of 8 health education classes. Accepted.

Hypothesis 2. The immunoglobulin measurements of the experimental group will not differ significantly from that of the control group following completion of 8 health education classes. Accepted.

Hypothesis 3. The experimental group will not exhibit significantly different Multidimensional Health Locus of Control scores from those of the control group following completion of 8 health education classes. Rejected.

Hypothesis 4. The experimental group will not exhibit significantly different Beck Depression Inventory scores from those of the control group following completion of 8 health education classes. Accepted.

Discussion

Analysis of covariance revealed no relationship between the measures of humoral immunity (IgG, IgA, and IgM) and the Multidimensional Health Locus of Control, depression as measured by the Beck Depression Inventory, or with self-efficacy. This is in contrast with McClelland and his colleagues who found a relationship between stress (lack of self-efficacy) and humoral immunity. However, the majority of the work done by McClelland and associates (McClelland, D., Floor, E., Davidson, R., & Sharon, C., 1980) has been with male subjects and this study was primarily with

female subjects. Birney (1991) and Wiedenfield, Bandura, Levine, O'Leary, Brown, & Raska, (1990) found that a lack of self-efficacy impacts negatively on the immune system. Birney surveyed studies on stress and illness and found a decline in T helper and suppressor ratio with acute uncontrollable stress (lack of self efficacy) but the stress under investigation was a 'fixed' stressor (college exams). In the present study self-efficacy (through the classes on health and safety issues) was a changing rather than a 'fixed' state of the subjects. Kubitz, Peavey, & Moore (1986) found an inverse correlation between internal locus of control and IgA. However, in the Kubitz, Peavey, & Moore study the measurements were of salivary IgA and this investigation used serum measurements of IgA. IgA protein concentrations in saliva decrease with decreased flow (occurring during autonomic arousal), a variable not involved in the current study, and could have influenced the results of the study. A number of studies since the 1970s have examined the depression-immune function relationship. The literature also states that both the level of depression and health locus of control impact immune system functioning (Hillhouse & Adler, 1991; Kubitz, Peavey, &

Moore; O'Leary, 1990; Pelletier, 1992). Schleifer and associates (1983) initially reported that patients suffering from a major depression had depressed lymphocyte counts and depressed lymphocyte proliferation. These results were not replicated in a later study nor were they replicated in this study. However, the subjects in this study self-reported depression rather than having a DSM diagnoses of Major depression

The experimental group had significant t-tests before and after the treatment. The total white cell counts were significant at .039, the absolute lymphocyte count was significant at .003, and the CD4 lymphocytes leaned in this same direction with a probability of .060. The surprising findings were the results of the t-tests of the control group means on the before and after testing. The total white cell counts were significant at the .010 level, the absolute lymphocyte count was significant at the .032 level, and the CD4 lymphocytes were significant at .044. See table 4. It is difficult to determine why both the experimental and control groups showed improvement in immune function following the treatment of the experimental group. Serum samples were drawn by the same person,

Table 4

Comparison of Group t-tests

Total White Cells

	df		Mean		Probability	
Pre	†14	*15	† 6753.3	*7437.5	† .010	*.039
Post			† 6080.0	*5856.3		

Absolute Lymphocyte Count

Pre	†14	*15	†1993.47	*2235.81	†.032	*.003
Post			†651.13	*1894.06		

CD4 Lymphocyte Count

Pre	†14	*15	†918.73	*904.25	†.044	*.060
Post			†824.40	*800.56		

† = Control Group

* = Experimental Group

on the same days and even at the same time. There was a seasonal difference between the first measurements (February) and the last measurements (May). None of these factors seemed to offer an adequate explanation for the findings however. During the initial discussions with the subjects on the procedures involved in this study, the investigator was careful to tell all subjects that the classes would be repeated for those in the control group if they were interested in attending a second group of classes. At the completion of the study when the investigator looked into beginning a second set of classes for those persons in the control group she found it was not necessary. The subjects in the experimental group had carefully passed on all information to their friends in the control group, even to the point of duplicating some of the handouts. Perhaps, this explains why both the control and experimental groups demonstrated an increase in immune system function. Although both groups did demonstrate an increase in immune system counts, and all counts remained within the normal range, the most clinically significant increase was in the experimental group. The differences in the pre and post treatment counts indicate less

marginalization of white cells (which increases under stress) in the experimental group in both the total white cell count and the absolute lymphocyte count. The total white count reflects both leukocytes and lymphocytes, while the absolute lymphocytes reflect the combate system against diseases such as cancer, T.B., and AIDS. While the control group obtained a statistically significant score ($p=.044$) on the CD4 count, neither the counts on the control or experimental group are clinically significant.

Recommendations for Further Research

The participants in this study were members of the Rose Park Senior Citizens' Program and as such had already made a decision (consciously or unconsciously) to exert some control over their lives. They were active, busy elders who may or may not represent the norm of this population. Research on an elderly population that is not proactive-perhaps a population in a retirement center or a nursing home could prove to be worthwhile. Additionally, research of this type utilizing a larger sample would be valuable. I would recommend examining only the physical variables (immune system

measurements) as 25% of the attrition of this study was due to subjects not completing either the MHLC or the BDI as well as lengthening the educational classes to a minimum of 16. I would also recommend that future research be conducted utilizing closely matched groups who are not friends and do not know each other well.

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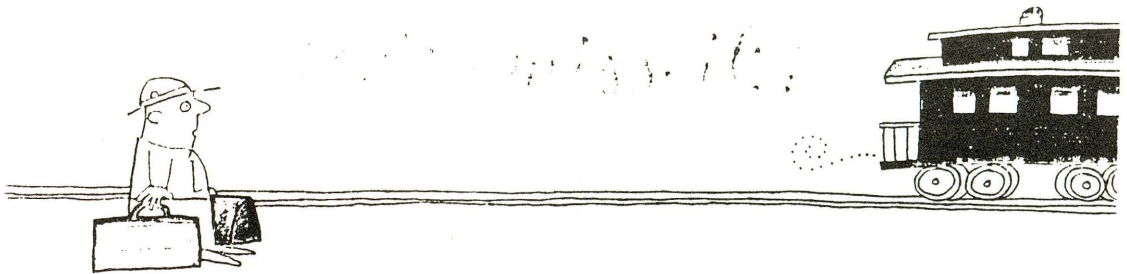
APPENDICES

APPENDIX A
Agency Flyers

NEWS BULLETIN

**DO YOU KNOW
WHAT IS SPECIAL
ABOUT THE WEEK OF

JANUARY 10, 1994 ????**



HEAR YE ! HEAR YE !

IT'S COMING ! IT'S COMING !

**A CHANCE TO PARTICIPATE IN A
REASEARCH STUDY THAT MAY DETERMINE
WHY SOME OLDER PEOPLE GET SICK AND
OTHER OLDER PERSONS DO NOT GET SICK.**

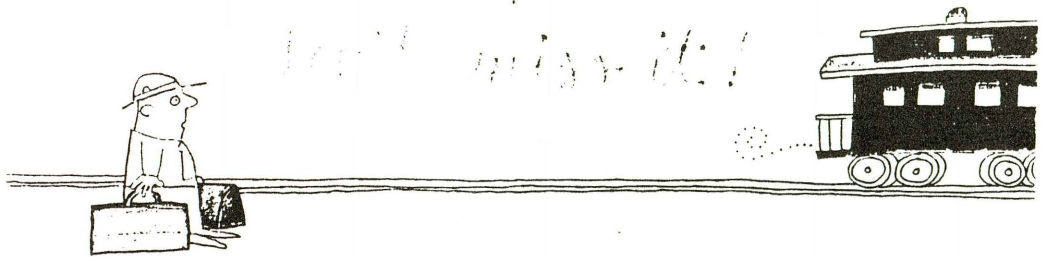
INTERESTED ????? CONTACT BEVERLY !

NEWS BULLETIN

**DOES YOUR NEW YEAR'S RESOLUTION
INCLUDE LEARNING HOW TO STAY HEALTHY**

??

**FIND OUT HOW YOU CAN BE ONE
OF THE LUCKY ONES !!!
CONTACT BEVERLY TODAY !!!**



HURRY, HURRY, HURRY

STEP RIGHT UP !

GET YOUR NAME IN NOW !!!

**ONLY ONE WEEK LEFT FOR
A CHANCE TO BE INCLUDED
IN OUR RESEARCH PROJECT !**

CONTACT BEVERLY NOW !

APPENDIX B
Approval Letter from the
Human Subjects Review Committee

TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON
OFFICE OF RESEARCH AND GRANTS ADMINISTRATION
P.O. Box 22039 Denton, Texas 76204-9039 817-398-3373



HUMAN SUBJECTS REVIEW COMMITTEE

December 1, 1993

Patricia Aneff
3210 Curry Lane
Abilene, Tx 79605

Dear Patricia Aneff:

Your study entitled "The Effect of Health Education on the Immune System in Older Adults" has been reviewed by a committee of the Human Subjects Review Committee and appears to meet our requirements in regard to protection of individuals' rights.

Be reminded that both the University and the Department of Health and Human Services (HHS) regulations typically require that agency approval letters and signatures indicating informed consent be obtained from all human subjects in your study. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to HHS regulations, another review by the Committee is required if your project changes.

Special provisions pertaining to your study are noted below:

- ☐ The filing of signatures of subjects with the Human Subjects Review Committee is not required.
- ☐ Other:
- ☒ No special provisions apply.

Sincerely,

A handwritten signature in cursive script, appearing to read "Patricia Aneff".

Chairman
Human Subjects Review Committee

cc: Graduate School
Dr. Susan Ward, Health Studies
Dr. William Cissell, Health Studies

APPENDIX C
Informed Consent

TEXAS WOMAN'S UNIVERSITY
SUBJECT CONSENT TO PARTICIPATE IN RESEARCH

TITLE OF STUDY: Effect of Health Education on the Immune System
of Older Adults

INVESTIGATORS:

OFFICE PHONE NUMBER

1. Patricia Aneff, RN., M.S., FNP

915-673-2037

1. The study in which you have been asked to participate is a research study examining the relationship of health education classes to the immune system of older Americans. The study will last 10 weeks. During the first week of the study the participants will be asked to complete two questionnaires. One of these, The Beck Depression Inventory, will measure the amount of depression felt by the participant. The second questionnaire, The Multidimensional Health Locus of Control, measures the degree to which a person believes their health is or is not controlled by their behavior. During this first week blood will also be drawn from the participants and measurements of the immune system will be obtained. The participants will be divided into two groups. One of these groups will be asked to attend a fifty (50) minute class on a health or safety issue once a week for eight (8) weeks. These classes will be held at the Rose Park Senior Citizens Center. The second group will not be asked to participate in the classes. Upon completion of the eight (8) week classes both groups will be given the same questionnaires again and have their blood examined for measurements of the immune system. The scores of the groups will be examined to see if the scores of those persons receiving the classes changed following the classes and to determine if the scores of those persons not attending the classes also changed. Blood will be drawn at Rose Park Senior Citizen's Program by trained personnel employed by Hendrick Medical Center. No procedures in this study are experimental procedures.

Participants in this study may experience mild discomfort when their blood is drawn and may have a bruise on their arm where the blood was drawn. Risks will be minimized by utilization of the protocol approved by Hendrick Medical Center and by The Joint Commission on Accreditation for Hospital Organizations.

2.

Participants in this study are expected to gain information that will enable them to take better care of themselves, to prevent further physical disability and possibly to improve the functioning of their immune system and the immune system of other older adults.

The investigator is not aware of appropriate alternative procedures that might be advantageous to the participants.

Confidentiality will be maintained by the investigator. No individual name will be released without written consent of that individual or his or her guardian.

In signing this informed consent you are indicating that you understand that no medical service or compensation will be provided to you by Texas Woman's University, Hendrick Medical Center, The City of Abilene, or by the investigator.

For answers to questions you may have concerning the research, rights of the participant's, or any research-related injuries please contact the investigator listed at the top of this consent form.

In signing this informed consent you are indicating that you understand that participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which you are entitled, and you may discontinue participation at any time without penalty or loss of benefits to which you are entitled. You are also indicating that: an offer to answer all of your questions regarding the study has been made and you have been given a copy of this signed and dated consent form. A description of the possible attendant discomfort and risks reasonable to expect have been discussed with you. You understand that you may terminate your participation at any time.

If you have a legally appointed guardian he or she must sign this consent form.

If you have any concerns about the way this research has been conducted, contact the Texas Woman's University Office of Research at 817-898-3375.

Printed Name: _____ Signature: _____

Witness: _____ Date: _____

APPENDIX D
Pathology Consultants'
Procedure Manual

PHLEBOTOMY
PROCEDURE MANUAL

PATHOLOGY CONSULTANTS, INC.

PROCEDURE FOR PHLEBOTOMY

March 8, 1988

1. Call patient (verify patients name). Check date, test and special instructions.
2. Secure patient in chair properly
3. Put on gloves.
4. Wrap tourniquet around upper arm with moderate pressure.
5. Palpitate vein.
6. Rub veinpuncture site with alcohol to cleanse.
7. Proceed to draw blood.
8. Remove touniquet and gently romove needle.
9. Have patient to apply pressure to the site.
10. Place blood in proper tubes, make slides. Place patients name and the test on *Rad. Sec 3/15/88*
11. DO NOT REPLACE NEEDLE CAPS. Place all dirty needles in ~~yellow~~ box *3/15/88*
Beside the chair.
12. Check site, placē new cotton ball on site and tape.
13. Remove gloves.
14. Wash hands.
15. Call next patient.

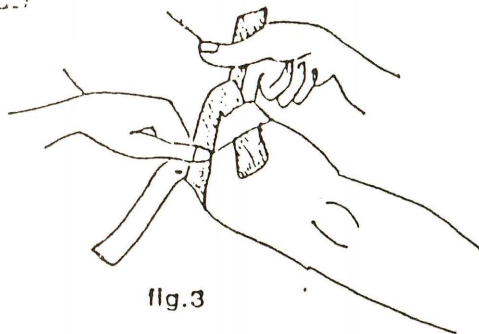


fig.3

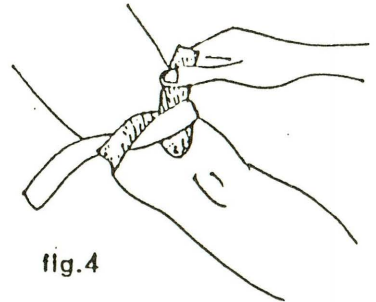


fig.4

Preparation of Equipment

Venipuncture equipment (syringes, needle, vacutainer, tubes, etc.) may be prepared for use before or after vein selection and/or cleansing of the puncture site. If the veins are examined before the equipment is prepared, the tourniquet must be released and reapplied just prior to phlebotomy.

Most syringes used for venipuncture are of the sterile, plastic, disposable variety. Remove the syringe from its protective wrapping. Some syringes come with the needle already attached. In this case, loosen the needle cover for easy removal, but leave it in place. The needle may be adjusted so that the bevel and the volume graduations on the syringe are on the same side, if desired. Pull on the plunger of the syringe and push it back to facilitate easy movement. Plungers sometimes stick at first, and this could be a problem during the venipuncture. If the syringe is packaged without a needle, choose a desirable gauge and length, unwrap it and place it on the end of the syringe, loosening the needle cover, but leaving it in place. If you are using vacuumized tube equipment rather than a syringe, follow these steps:

1. Unwrap the double-pointed needle and thread the needle into the holder with the short point in the barrel of the holder.
2. Loosen the needle guard to facilitate removal, but leave it on the needle.
3. Place a vacuum tube in the holder and push the tube forward until the top of the stopper is even with the guide marking on the holder. Let go of the tube.
4. The tube may move backward slightly when you remove the pressure. Leave the tube in that position. The needle tip is embedded in the stopper, preventing blood leakage when the vein is entered.

Selecting the Vein

After applying the tourniquet, palpate the area to feel for the veins. If the patient opens and closes his hand a few times and then clenches his fist, the veins will become larger and easier to find. Palpating for the veins consists of pushing down on the inner elbow area with the index and/or middle fingers to locate and trace the path of the veins. Veins adequate for venipuncture feel like elastic tubes under the skin which indent when pressed with the finger. Arteries pulsate with the heartbeat. Since arterial blood is not desired, make sure that the structure intended for use in the phlebotomy is not pulsating!

Veins which have been used often for venipuncture or for intravenous injections may become scarred (sclerosed) and feel hard to the touch. It is better not to use such veins unless no other site is available.

If no likely vein is located, always examine the other arm. If still no adequate vein is found, briskly but gently slap the area several times. This may cause smaller veins to enlarge. If this does not help, application of a warm towel to the area for 3-5 minutes usually increases blood flow and vein size. Small, superficial veins are not adequate for venipuncture. If still no vein is found, other sites, such as the wrist or hand veins may be used, usually with smaller bore needles. For sites other than the arm, such as the wrist, hand, leg, ankle, or foot, the phlebotomist should always check the policy of the doctor and/or the hospital or clinic before proceeding. Complications arising from venipuncture are more common with the use of veins in the lower extremities. Sometimes calling in another phlebotomist is helpful in difficult cases. NEVER ENTER A VEIN WHICH YOU CAN'T SEE OR FEEL ON BLIND CHANCE!!

Be sure not to leave the tourniquet on for too long in one place. This causes discomfort to the patient and may cause chemical changes in the blood resulting in erroneous test results. A tourniquet should not be left on for more than 2-3 minutes.

Cleansing of the Puncture Site

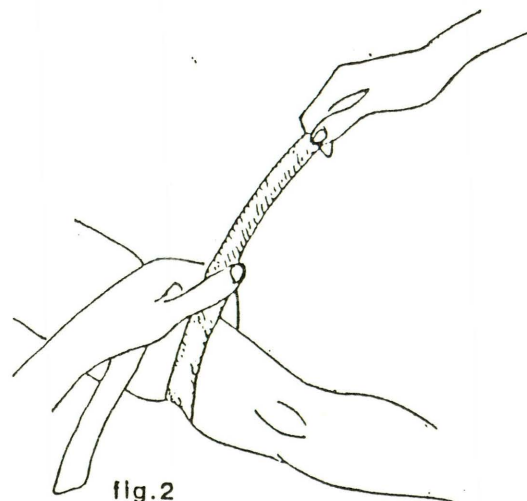
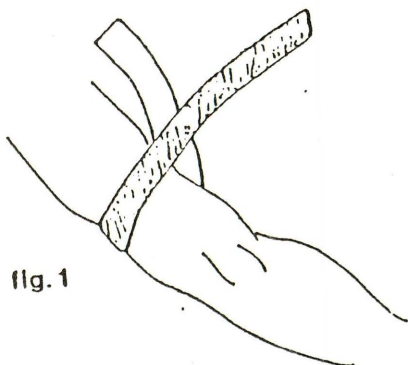
Cleanse the venipuncture area with a gauze pad or cotton ball wetted with disinfectant. Of the many types of disinfectant available, a commercially available pad soaked in 70% alcohol is one of the most popular. Allow the disinfectant to dry or wipe dry with sterile gauze. If the vein is palpated again, the site must be cleaned again and re-dried.

Applying the Tourniquet

The tourniquet should be placed above the vein to be drawn in order to slow blood flow and enlarge the vein. When using a vein in the antecubital fossa, the tourniquet is placed around the patient's arm midway between elbow and shoulder. If rubber tubing is being used as a tourniquet:

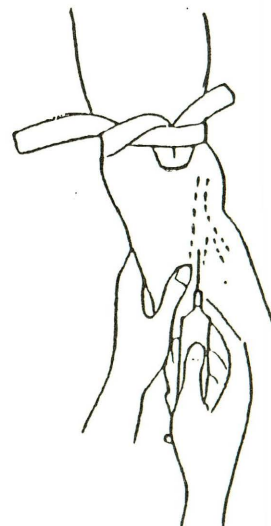
1. *Place the tubing around the arm with ends up, left hand crossed over the right. (Fig. 1)
2. *Holding both ends at the crossed point with the left hand, stretch the tourniquet by pulling the tubing which is now in the front, upward with the right hand. (Fig. 2)
3. *Maintain the tension and tuck a loop of tubing held in the right hand under the tubing which encircles the arm. (Fig. 3)
4. Gently check the tension on the tourniquet; if it appears too tight (painful to the patient) or too loose (slips on the arm), remove the tourniquet and repeat steps 1 to 4. The tourniquet should be just tight enough to cause the veins to enlarge, but not to occlude arteries.
5. The tourniquet is released by pulling the short end which is looped under. (Fig. 4)

*Reverse these instructions for left-handed phlebotomists.

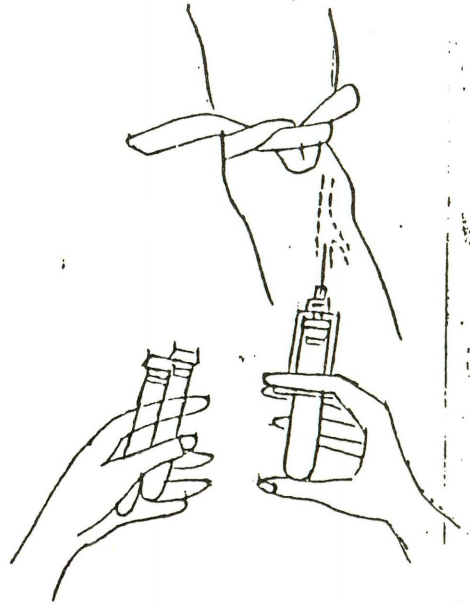


Performing the Venipuncture (Directions for right-handed person)

1. Re-cleanse the puncture site, if necessary.
2. After removing the needle cover, inspect the needle tip - a blunt or bent tip may hurt the patient and damage the vein.
3. Hold the syringe or vacutainer in the right hand, thumb on top, fingers underneath. The needle should be pointing in a direction parallel to the vein.
4. The vein should be anchored during the puncture. This is done by placing the left thumb about one inch below the puncture site and pressing down while stretching the skin of the arm toward the hand. Some phlebotomists also stretch the skin above the puncture site upward with the index finger of the left hand.
5. The needle may be introduced under the skin either bevel up or bevel down. The needle with the bevel up seems to penetrate the skin and vein more easily. With the bevel down, the opening of the needle does not come in contact with the upper vein wall which may prevent blood from entering the needle.
6. The backs of the fingers of the right hand rest on the patient's arm while the needle enters the vein at about a 15 degree angle to the arm. A prominent vein may be entered with a single direct puncture of the skin and vein. With a more difficult vein, a two-step procedure may be more successful: first the skin over the vein is punctured, and then the vein itself. It is sometimes helpful to puncture the skin slightly below the area where you envision the needle entering the vein. The needle should be threaded for a centimeter or so into the vein, if possible, to help anchor the needle.



7. When using a syringe, pull back gently on the plunger without altering the position of the needle in the vein. When using a vacutainer, upon entrance into the vein, push the vacutainer tube as far as it will go into the holder. This is done by placing the first and second fingers against the top of the base of the holder and the thumb against the bottom of the tube. Do not push the holder, as it could force the needle through the vein. When the needle is properly positioned in the vein, blood will flow into the vacuum tube. As blood appears in the syringe or the tube, the tourniquet may be loosened or left in place, as desired.
8. When the desired amount of blood has been obtained, release the tourniquet (if you have not already done so), cover the puncture site with a dry cotton or gauze (do not press), and quickly withdraw the needle from the vein. Immediately apply pressure to the puncture site.
9. Instruct the patient to apply pressure to the area, preferably with his arm held above his head, for 2-3 minutes. If the patient is unable to hold the gauze in place, it must be held for him for 2-3 minutes. Inspect the wound; if all or most of the bleeding has stopped, a bandage may be applied. Occasionally, a patient may not stop bleeding readily, due to a disease or medication. In such a case, continue pressure for at least 5 minutes. If bleeding still continues, report the situation to the nurse, and do not leave the patient until the situation has been resolved.



Mix tubes containing an anticoagulant as soon as they fill with blood, while the next one is being filled in the holder. Avoid having to draw the patient again because of a clotted specimen!

Special Situations

Intravenous Solutions

If the patient is receiving an intravenous solution, do not use the same arm for venipuncture. If no vein can be found in the other arm, report the problem to your supervisor and/or enlist help in locating a suitable vein.

If blood is drawn from a vein above the point at which the IV needle is located, IV fluid will be mixed with the blood. Analyzing this blood in the laboratory will result in erroneous test results.

A notation should always be made on the laboratory slip when a blood sample is drawn from a patient receiving IV's, saying that an IV is running and what is contained in the IV solution.

Hematoma

A hematoma is a collection of blood under the skin which usually results in a blue/green to purple bruised-looking discoloration. A hematoma may form from blood escaping from the vein during venipuncture. This may occur when the bevel of the needle is partly out of the vein, when the needle goes completely through the vein, or when pressure is not applied to the wound for a sufficient amount of time following the venipuncture.

If, while performing a venipuncture, a swelling begins to form around the needle, blood is probably escaping from the vein into the surrounding area. The patient should be told that he may have a black and blue mark for a few days. Application of ice to the area sometimes reduces swelling. If you think that this is needed, the nurse should be consulted.

Sometimes it is necessary to perform a venipuncture on a patient with multiple hematomas. This could happen in patients with bleeding disorders or with those receiving anticoagulant therapy. In this case, try to perform the venipuncture in an area other than one which is black and blue to avoid causing the patient any greater discomfort.

Fainting Patient

It is not uncommon for a patient to faint during a venipuncture.

This does not happen as often with hospitalized patients who are used to the sight of needles, as it does with out-patients. Should the patient faint during the venipuncture, discontinue the venipuncture immediately. Make sure the patient cannot fall and injure himself before you go for help. Once the patient is secure, if he has not revived, request assistance from the nursing staff on the floor or the physicians at the clinic.

In summary, the following are the most important DO's and DON'Ts in venipuncture:

DO:

- Identify the patient correctly
- Explain why you're there
- Position the patient in a comfortable, sitting or lying down position
- Prepare your equipment
- Palpate for a suitable vein
- Insert the needle at approximately a 15 degree angle
- Release the tourniquet before removing the needle
- Hold gauze or cotton on the venipuncture site for 2-3 minutes or until bleeding has stopped
- Transfer blood to correct tubes, if using a syringe
- Mix tubes containing blood and anticoagulant
- Label specimen tubes correctly
- Dispose of used equipment properly
- Re-cleanse arm if vein is palpated following cleansing

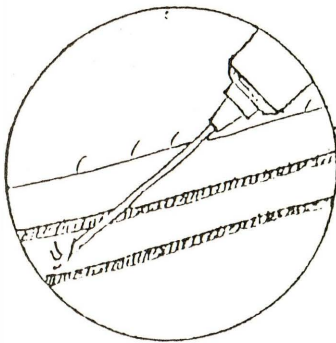
DON'T:

- Use the name card on the wall or bed for patient information
- Tell the patient the phlebotomy "won't hurt"
- Draw a patient while he is standing up
- Leave the tourniquet on in one place for more than 2-3 minutes
- Enter the arm on blind chance without seeing or feeling a vein
- Re-use a needle or syringe
- Attempt to draw blood from the same patient more than twice
- Pre-label blood tubes
- Dispose of used needles or syringes in ordinary waste baskets
- Draw blood from the same arm in which there is a hematoma or an IV hanging
- Attempt venipuncture on a structure which is pulsating (could be an artery)

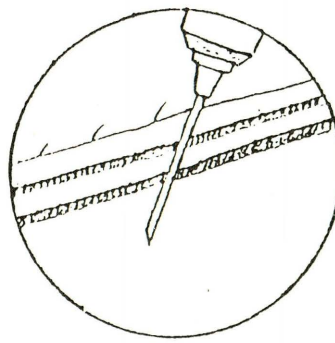
Failure to Obtain Blood

If blood does not flow into the syringe or vacutainer tube, follow this procedure:

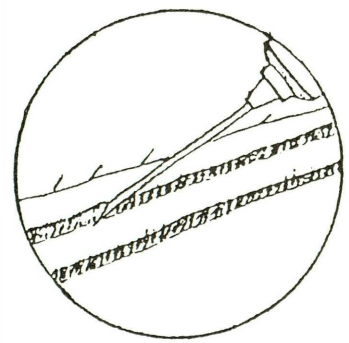
1. Feel the point of the needle under the skin with the index finger of your free hand. Determine the position of the needle point in relation to the vein.
2. If the needle is above the vein or not all the way into the vein, slowly move the needle deeper and withdraw the needed blood.
3. If the needle has gone to the side of the vein; draw the needle back slightly, without pulling it out of the skin, and redirect the needle into the vein.
4. If the needle appears to have gone through the vein, slowly withdraw the needle until it is within the lumen of the vein; pull back on the plunger at the same time if you are using a syringe. If a vacutainer is being used, blood should flow into the tube when the needle reaches the vein lumen.



Correct needle position in vein



Needle through vein



Needle in vein wall

5. If you are unable to obtain blood, discontinue the venipuncture as on the previous page. Inform the patient that you were unable to obtain the blood sample, and would like to try again. If the patient agrees, check the other arm and repeat the venipuncture, using a new needle.
6. If blood is not obtained during the second attempt, do not try again; call for assistance. Someone else will probably have better luck at this point, and the patient will appreciate a fresh start with someone new.
7. Never make excuses for not completing the venipuncture successfully. Don't tell the patient that his veins collapsed or rolled or that your equipment was at fault. Simply say something like, "I'm sorry I didn't get your blood sample - if it's alright with you, I'd like to have someone else try."

Transfer of Blood

If a syringe is being used, blood must be transferred to the proper tubes. This should be done by the following methods:

1. For most procedures, remove the needle from the syringe, the cork from the vacuum tube and allow the blood to run gently down the side of the tube.
2. You may be trained to force the needle through the stopper of the vacuum tube thus allowing the vacuum to draw the blood into the tube by running down the tube wall. This can probably be done safely, without hemolysis, if the needle is 21 gauge or larger.
3. For smaller bore needles (22 or 23 gauge), the needle should always be removed from the syringe, the stopper removed from the tube, and the blood run slowly down the side of the tube to avoid destruction of red cells. With the vacuumized tube system, of course, blood is initially drawn into the proper tubes.
4. Tubes containing anticoagulant should be inverted gently back and forth at least 10 times to insure adequate mixing of blood with the substance in the tube. Do not shake the tube, as this could cause red cell destruction, or hemolysis, which could interfere with test results.

Identification of Test Results

The blood tube(s) should be labeled after collection with the following information:

1. Patient's first and last names (printed).
2. Patient's ID number and/or room number (when applicable).
3. Name or initials of person drawing blood.

Some institutions also require:

4. Date and time of blood collection.
5. Doctor's name.

It never hurts to include as much information as possible. DO NOT PRE-LABEL TUBES!! They could be mistakenly used for the wrong patient.

Disposal of Used Equipment

1. Paper or plastic wrappers from needles, syringes and alcohol sponges may be discarded in the waste basket in the patient's room.
2. Anything which has touched blood should be treated as contaminated. Place needle covers back on used or unsterile needles and take these needles and syringes back to the laboratory for proper disposal. Special disposal containers for used needles and syringes insure that contaminated equipment will not be put into a waste basket where accidental injury or spreading of disease could result.

3. With patients in isolation, a special disposal container is usually available for that purpose. This procedure will be discussed in LAP #3.
4. Wash your hands before going to the next patient!

Collection of Multiple Samples

Multiple samples are easy to collect with the vacuumized tube system. A special needle in which the shorter end is covered by a rubber sleeve is used to keep blood from escaping while tubes are being changed in the holder.

1. When one tube is full of blood, grasp the holder tightly and remove the tube. Do this by pulling the tube slowly and steadily, being careful not to move the needle in the patient's vein.
2. Insert a new tube all the way into the holder; past the guideline. Blood should flow into the new tube as soon as the stopper is penetrated.
3. If no blood appears, this may mean that the needle has slipped out of the vein. Correct the problem by moving the needle back or forward very slightly.
4. If still no blood appears, the new tube may not have vacuum. Remove the tube and replace it with a new one. Be sure to remove the stopper from the previous tube, so that no one else uses it.
5. Repeat Steps 1 and 2 for each subsequent tube that you wish to fill. After filling the last tube, release the tourniquet and remove the needle in the manner previously described.

When collecting several tubes of blood, always collect the one containing an anticoagulant last. If more than one tube contains an anticoagulant, the tubes should be collected in the following order:

- | | |
|---------------------|--------------------------------------------------------------------------------------------------------------------|
| 1 - Red Top: | No anticoagulant |
| 2 - Green Top: | Heparin mixes readily with blood |
| 3 - Gray Top: | Sodium Fluoride - Mixing not crucial; sample can still be used even if blood clots |
| 4 - Black/Blue Top: | Sodium Oxalate/Sodium Citrate - blood mixes fairly well itself when entering tube; large quantity of anticoagulant |
| 5 - Lavender Top: | Powdered or small amount of liquid EDTA - must be mixed well by hand |

APPENDIX E
Lesson Plan and Handouts for
"Nutrition: Eating for Health"

Title of Class: Nutrition: Eating for Health

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participants will be able to:</p> <ol style="list-style-type: none"> 1. Name the 6 divisions of the food pyramid. 2. Name a minimum of 3 foods in each division of the food pyramid. 3. Select one food from each division of the food pyramid as a refreshment for this class. 	<p>The contents of this class are the divisions of the new food pyramid and the foods in each of these divisions.</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion with illustrations and handouts. 2. Demonstration of how to build a food pyramid. 3. Participants will perform a return demonstration by selection of actual foods for class refreshments utilizing the food pyramid. 4. List of resources.

THE NEW NUTRITION

How To Make Healthy Food Choices

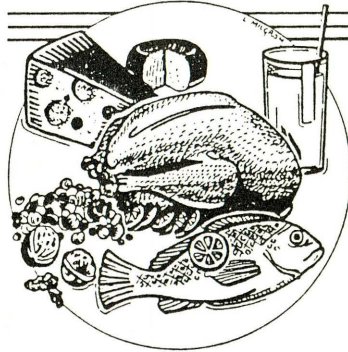
Remember the nutrition posters of your youth? "PROTEIN" announced the first food group, with a picture of a steak and fried chicken. "VEGETABLES AND FRUIT" said the second, with an illustration of a potato smothered with butter and a fruit cocktail. "DAIRY" said the third, as two fried eggs looked up at a bottle of whole milk. "BREADS AND CEREALS" then appeared with a slice of white bread and a bowl of indistinguishable breakfast cereal. That was then.

Food Composition

Today, the emphasis of nutrition education is shifting from the four basic food groups to food composition and how food influences health. Research shows that diets rich in complex carbohydrates and low in cholesterol and saturated fats may reduce our risk of heart disease and many types of cancer. We still need to eat a variety of foods from the four basic food groups, but the preferred choices within those food groups are changing.

Protein

Protein is found in meat, poultry, fish, and dried peas and beans (legumes). Protein is also present in dairy products. To get the protein your body needs (44-56 grams per day for adults), without taking in unnecessary fat and cholesterol, select lean cuts of meat, poultry without skin, fish, legumes, and low- or non-fat dairy products.



Protein sources



Complex carbohydrates sources



Fat sources

Complex Carbohydrates

Complex carbohydrates are abundant in fresh fruits and vegetables and in whole grain breads and cereals. Unlike processed fruits and vegetables and refined (white) flours, these foods are also high in dietary fiber. Adequate dietary fiber has been linked with a reduced risk of some cancers, and may also be beneficial for people who are trying to control weight.

Fats

Fats are essential to sound nutrition, but total fat intake should be limited to no more than 30% of your daily caloric intake. Animal fats (found in "marbled" meat, butter, lard, and whole milk products) and other saturated fats (like coconut and palm oil) should be limited. Saturated fats increase cholesterol in the blood—a major risk factor for coronary artery disease—and may also contribute to some cancers. Better choices are vegetable oils (safflower, sunflower, canola, corn, etc.), margarine, and low- or non-fat dairy products.

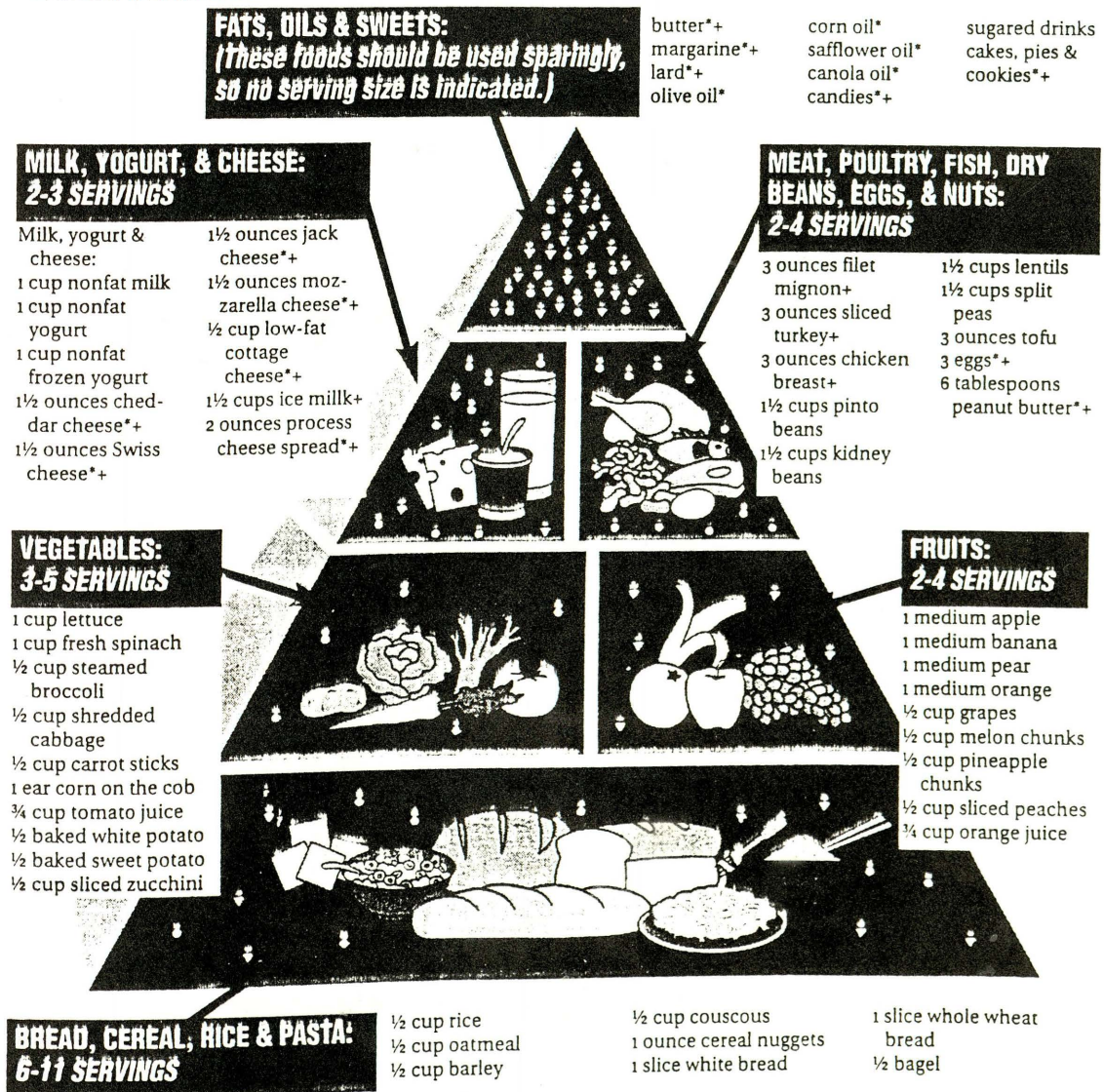
Nutrition News

The good news is that by taking charge of your own nutrition, you can improve your health while reducing your risk of "lifestyle" diseases like cancer and heart disease. The new nutrition isn't saying goodbye to the four basic food groups, it's helping us understand how to make better nutritional choices from the foods we eat. ■

The Food Guide Pyramid

The Pyramid is a general guide that lets you choose a healthful diet that's right for you. The Pyramid calls for eating a variety of foods to get the nutrients you need and at the same time the right amount of calories to maintain a healthy weight. The Pyramid also focuses on fat, because most people eat too much fat, especially saturated fat.

Following the guidelines of the U.S. Department of Agriculture, we've compiled a list of examples for each of the food groups. Each item on the list counts as one serving. But some foods are so high in fat that eating an amount equivalent to one serving may add too much fat to your diet. These foods are marked with a *. Foods that contain saturated fat or cholesterol are marked with a +.



* Foods that are high in fat.

+ Foods that contain saturated fat or cholesterol



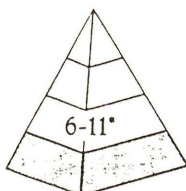
Build Your Own Pyramid

This handout is provided as a service to our customers. It may be copied, but may not be sold.

*Daily Servings

Eat a mixture of all food groups everyday.

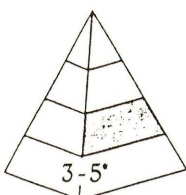
Check one ☒ for each serving you eat daily.



Cereal Pasta Bread Rice

serving size	kind of food
1 slice	whole grain bread
1	muffin, biscuit, tortilla
1/2	bagel, hamburger bun, English muffin
1/2 cup	pasta, rice, cooked cereal
3-4	crackers
1/4 cup	dry cereal

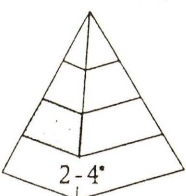
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Vegetables

serving size	kind of food
1 cup raw	celery, tomato, cauliflower, corn, lettuce,
or 1/4 cup	carrots, broccoli, peas, zucchini,
cooked	yellow squash, potato, cabbage,
	spinach, yams, greens: mustard,
	collard, beet, kale

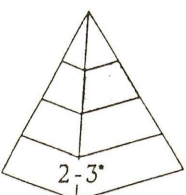
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Fruit

serving size	kind of food
1	orange, tangerine, mango, pear
1	papaya, apple, banana, peach
2	apricots, nectarines, plums
1 cup	grapes
1/2 cup	raisins
1/2 cup	strawberries, cantaloupe, grapefruit
1/2 cup	pineapple, cherries

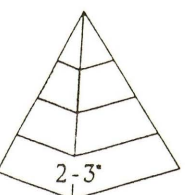
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Meat Poultry Fish Dry Beans Eggs Nuts

serving size	kind of food
2 oz	beef, veal, organ meats, lamb, chicken
2 oz	turkey, pork, fish, shellfish
1 cup	tofu, beans: kidney, lima, soy, lentil
1 cup	navy, mung, black, peas
1/4 cup	peanut butter
1/2 cup	nuts, seeds
2	medium eggs

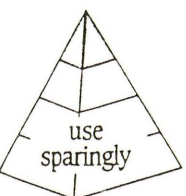
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Milk Yogurt Cheese

serving size	kind of food
1 cup	lowfat, nonfat, or soy milk
1 cup	lowfat yogurt, pudding, custard
1 1/2-2 oz	lowfat cheese
1 1/2 cups	cottage cheese, ice cream

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Fats Oils Sweets

Foods with high fat or oil content:
cream, half & half, sour cream,
cream cheese, salad dressing,
margarine, butter, fries, cooking
oils, mayonnaise, bacon, sausage,
potato chips, hot dogs

Foods with high sugar content:
honey, molasses, candy, cake,
cupcake, pastry, cookie, brownie,
doughnut, pie, jam, jelly, pickles,
maple flavored syrup, corn
syrup, white or brown sugar

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*If you are pregnant or breastfeeding,
try to eat the higher number of daily servings.

FOOD CHOICES FOR REFRESHMENTS

BREADS, CEREALS, RICE, & PASTA

whole wheat crackers, rice cakes,
bagel slices

VEGETABLES

carrot sticks, celery sticks, squash spears
fresh broccoli, fresh cauliflower

FRUITS

apple slices, bananas, strawberries,
grapes, cantaloupe (diced)

MILK, YOGURT, & CHEESE

low-fat Swiss cheese, yogurt dip
for fruit and vegetables, string cheese

MEAT, POULTRY, FISH, LEGUMES, EGGS, NUTS

peanut butter, bean dip, chicken salad

FATS, OILS & SWEETS

zucchini bread, date bars

APPENDIX F
Lesson Plan and Handouts for
"Exercising Fatigue Away"

Title of Class: Exercising Fatigue Away

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participant will be able to:</p> <ol style="list-style-type: none"> 1. List 4 benefits of exercise. 2. Discuss a minimum of four safety issues related to exercise. 4. Discuss 2 methods of exercise easily available to most people. 5. Demonstrate 3 strength training exercises utilizing the latex tubing provided. 	<p>The content of this class is the benefit of exercise, types of exercise, safety issues related to exercise, and suggestions for methods of exercise.</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion with illustrations and handouts. 2. Demonstration. 3. Return demonstration utilizing the latex tubing provided.

WALKING

(Walking. (1990), Beaverton, OR: Great Performance, Inc.)

BENEFITS

Walking may be the perfect exercise. It's safe, sociable, and the danger of injury is small. It requires no radical clothing change and can be done when you want and where you want. You can walk outdoors or join a 'mall-walkers' group. Walking:

- *Reduces body fat
- *Lowers resting pulse rate
- *Reduces blood cholesterol
- *Reduces blood pressure
- *Increases metabolism
- *Maintains bone density
- *Tones muscles
- *Improves cardiovascular effectiveness
- *Reduces stress
- *Lifts your spirits
- *Increases flexibility
- *Improves self-esteem

STRENGTH TRAINING

Strength training is for everyone. Research shows that people lose 48% of their muscle mass by the time they are 75 unless they do some type of strength training. If you have never done strength training you can regain your muscle strength by beginning to strength train now. We have all seen people who have difficulty getting up from a chair that doesn't have arms, or who cannot easily carry a box of 12 cokes into the house from their car....but that doesn't have to happen. You can do strength training at home with these latex bands. Let's practice the exercises on the next page. Remember, go slowly at first.

Joy of Walking

How often? 4-5 times per week

How hard? Walk fast enough so that you're breathing harder, but still be able to carry on a conversation comfortably. (If you have high blood pressure or if your family has a history of heart problems, see a doctor before you walk.)

How long? About 30 minutes



How Do You Do It?

1. Warm up

March in place for 5-7 minutes.

2. Stretch



- *Stand on tiptoes, stretch hands up (3 times)
- *Drop heels over a step (2 times)
- *Put both hands on a wall, step back with left foot, bend right knee forward and press forward (10-15 seconds), repeat with legs switched.

3. Go For It!! (Do it with a friend)

Stride. Natural, Even.

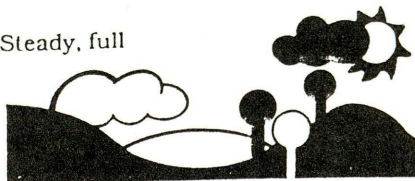
Posture. Back is straight, shoulders over hips
Eyes ahead (not on ground)
Tuck bottom under
Pull stomach in tight
Relax shoulders
Swing arms



Foot. Heel strikes first, then arch, ball and toes.

Breathing. Steady, full

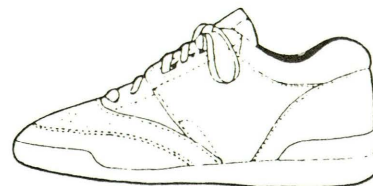
Location.



Dirt or grass surfaces best.
Include hills (bend both knees, tuck pelvis, keep head steady)

Clothes. Loose, comfortable
Comfortable, supportive walking shoes

Drink! Drink water before, during and after your walk.



4. Cool Down Repeat earlier stretches.

Goal. I will walk _____ minutes _____ times this week.

- *Warm-up with stretches before walking and cool-down with stretches after walking.
- *Walk facing traffic on well-lighted streets.
- *Carry identification and change for a phone call.
- *If you walk with a headset, keep the volume low enough to hear traffic.
- *Do not walk in isolated areas.
- *Drink plenty of water before and after exercise.
- *In hot weather, wear a hat or visor and sunglasses. In cold weather, wear warm clothing.
- *Wear loose-fitting, light-weight clothing that is highly visible.
- *Wear comfortable, sturdy shoes.
- *If possible, walk with a friend.
- *Begin walking at a relatively slow pace for a short distance. Increase your pace and distance as you become more accustomed to walking.
- *Look where you are walking - watch for rocks, cracks, or other obstacles where you are walking.
- *Make walking a habit!

APPENDIX G
Lesson Plan and Handouts for
"Stress Management for Today's World"

Title of Class: Stress Management for Today's World

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participant will be able to:</p> <ol style="list-style-type: none"> 1. List 4 symptoms of stress. 2. List 3 benefits of stress reduction. 3. List 3 methods of stress reduction. 4. Demonstrate 3 methods of stress reduction. 5. List 3 resources for assistance in dealing with stress. 	<p>The contents of this class include common symptoms of stress, benefits of stress reduction, various methods of stress reduction, and practical application of these methods.</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion with illustrations and handouts. 2. Discussion of coping mechanisms. 3. Discussion & demonstration of autogenic training, imagery, breathing, & cognitive restructuring. 4. Return demonstration utilizing 'stress meter'. 5. Resource handout.



WHAT YOU CAN DO

1. Watch for and try to match the signs of stress with the event or events which may be causing the stress. (For example, what took place just before you became aware of the stress?)
2. Become aware of how you react to stressful events. (For example, do you always get a headache when paying bills?)
3. Think about and ask others about ways you can deal with or avoid stressful events in your life.
4. Build up extra energy to help you cope with stress:
 - a. Take time to relax each day. Try deep breathing exercises or quiet thinking. These help slow your heart rate and relax your muscles.
 - b. Get regular exercise. This will help you release tension, tone your muscles and strengthen your heart and lungs.
 - c. Eat a balanced diet of fruits, vegetables, grains, meat and milk to raise your energy level.
5. Talk with family and friends about your day's events in which you felt glad, sad, mad or scared.
6. It may be difficult for parents with young children to relax. Try these suggestions:
 - a. Take turns with your spouse watching the children so each of you has time alone.
 - b. Offer to baby-sit neighbors' or friends' children in exchange for the same service.

If these tips don't help, or you feel your stress is getting worse, seek help. Many programs exist to help you learn to deal with stress. Ask your health care provider about programs in your area.



DO IT TODAY

- Talk to a trusted friend, family member or your clergy.
- Do something you enjoy to take your mind off your worries.
- Visit with people who make you feel good.



SYMPTOMS OF STRESS

Symptoms of stress vary with the individual. The following list includes some of the symptoms people under stress commonly experience. You may experience some of these, all of these, or even other symptoms when you are under stress.

1. Upset stomach
2. Fatigue
3. Tight neck or shoulder muscles
4. Tight jaw muscles
5. Irritability
6. A change in sleep patterns
7. A change in eating and/or drinking patterns
8. Frequent headaches

COPING SKILLS FOR STRESS MANAGEMENT

1. **Exercise; walking is an excellent way to reduce stress and at the same time improve your health.**
2. **Build a support system; we all need other people in our lives, particularly people we trust and will talk to.**
3. **Develop your sense of humor and the ability to laugh at yourself and stressful situations.**
4. **Focus on the positive side of situations; ask yourself questions, such as, 'What good can come from this situation?' and " What can I learn from this situation?"**
5. **Balance your life; all work and no play is not healthy, nor is all play and no work.**
6. **Get a good night's sleep.**
7. **Eat well-balanced meals.**
8. **Practice methods of relaxation.**
9. **Ask for help when you need it. The one you ask may consider it a compliment.**

Deep Breathing

1. Assume a comfortable position.
2. Scan your body for tension.
3. Place one hand on your abdomen and one hand on your chest.
4. Inhale slowly and deeply through your nose into your abdomen to push your hand up as much as feels comfortable.
5. When you feel at ease with step 4, smile slightly, inhale through your nose and exhale through your mouth, making a quiet, relaxing, whooshing sound like the wind as you blow gently out. Your mouth, tongue and jaw will be relaxed. Take long, slow, deep breaths which raise and lower your abdomen. Focus on the sound and feeling of breathing as you become more and more relaxed.
6. Continue deep breathing for about 5-10 minutes at a time.
7. At the end of each deep breathing session, take a little time to once more scan your body for tension. Compare the tension you feel at the conclusion of the exercise with that which you experienced when you began.
8. When you become at ease with breathing into your abdomen, practice it whenever you feel like it during the day, when you are sitting or standing. Concentrate on your abdomen moving up and down, the air moving in and out of your lungs, and the feeling of relaxation that deep breathing gives you.

RELAXATION TRAINING

"Autogenic" is a word that means self-generating or self-moving. It refers to the process where people can relax by giving themselves verbal cues for relaxation.

We're going to use an autogenic exercise for practice-one of heaviness. It consists of simply saying (silently) a series of phrases to oneself. For example, "My right arm is heavy". The important thing to remember is that it does not matter whether you really feel heavy or not, but you're trying to develop passive concentration.

The term 'heavy' was chosen because it has been found that heaviness is often associated with relaxation. It seemed to facilitate relaxation when people used it, even though a variety of other sensations often occurred at the same time. Most important is to not expect anything, but allow your body to relax.

It is important to include a 'termination' process at the end of each heaviness exercise. This process consists of flexing your arms, taking a deep breath, and opening your eyes. This is done to allow your body to gradually adjust to a higher state of arousal.

Generally, the heaviness exercise takes only about two minutes to complete. However, most people like to spend 15 or 20 minutes and do several exercises. It is an exercise that can be extremely helpful for people who have difficulties falling asleep because it allows the body and mind to become completely relaxed.

This exercise can be done sitting in a chair or lying down. The more it is practiced, the easier it will be to quickly reach a state of relaxation.

Repeat each phrase slowly three times.

My right arm is heavy.
My left arm is heavy.
Both my arms are heavy.

My right leg is heavy.
My left leg is heavy.
Both my legs are heavy.
My neck and shoulders are heavy.

Repeat, using the word warm.
As you terminate, say "I am" as you inhale and "relaxed"
as you exhale.

Visualization or imagery is another technique often used for relaxation. It is a sort of day-dreaming for relaxation purposes: a specific scene is imagined, like lying on the grass in the warm sun, and then it is developed. That is, you continue to picture yourself in that scene, noticing how it feels, what smells are present. You do this until you feel very relaxed.

Sample Visualizations:

1. It is very early in the morning as you wake up. You feel nice and warm under the covers. It is very quiet in the house-so quiet, you know that no one else is up yet. You are the only one awake. You can almost "hear" the quiet. It is so peaceful, and you feel very cozy in bed, just listening to the quiet. (variation) You wake up to hear it raining softly on the roof. It is cold and wet outside. Inside you are nice and dry and warm under the covers....etc.
2. You're lying on the beach, warm under the sun. The sand feels nice and soft underneath you. You're very calm and relaxed, almost falling asleep. You can hear the waves rolling in, gently. You feel so comfortable...you smell the ocean breeze, and hear the distant cry of the seagulls....

Which of these exercises were the most effective for you?

Are there any combinations of the exercises that might work for you?

Many of us think that other people and the events in our lives cause us to feel the way we do. We often blame external things for feelings of stress and emotional upset. In doing this, however, we neglect an important factor not only in the cause of stress, but in the management of stress, negative self-talk. That factor is the way we think, or 'talk to ourselves',...what we have labeled "self-talk". It is what we do with the actions of others and with events in our lives. **Cognitive restructuring** is the process of changing negative self-talk statements.

Many people think that thoughts, feelings and behavior are separate and distinct categories. We hear people say things, such as: "I have a gut-level feeling about this", or "I can't help the way I feel-it just happens". This assumes that thoughts and feelings occur independently and are not directly related. But rarely does a feeling "just happen", and you do have the capability to change the way you feel.

One model for examining the relationship between thoughts, feelings and behaviors was developed by Dr. Albert Ellis: the A-B-C model.

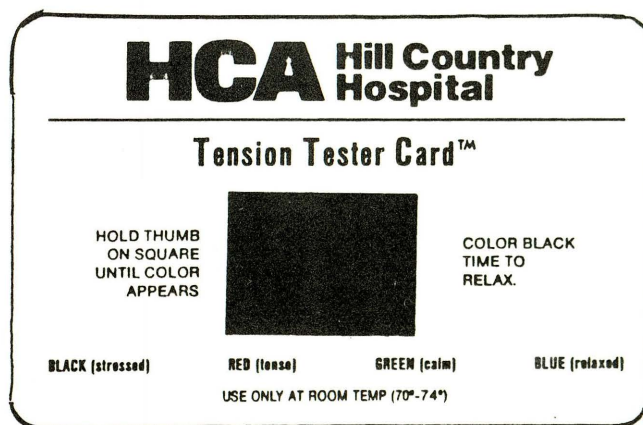
Point A, in the ABC framework, refers to the activation event. Point C represents your feelings and behavior about the event. Many people mistakenly believe that Point A - the event - leads directly to Point C -feelings and behavior.

Something very important occurs between A and C that really produces C. That something is Point B, self-talk which influences our feelings and behavior.

- A Activating Event
 (example: reprimand)
- B Your Thinking
 (I'm terrible)
- C Feelings and Behaviors
 (upset, nervous, defensive)

These self-statements can become habitual responses to stress, like smoking, and need to be changed, just like any other undesirable habits.

STRESS METER



USING YOUR CARD TO CONTROL TENSION

Here's how to use your Tension Tester Card™ to relieve harmful stress CARD BLACK OR RED (tense). Sit down take a deep breath. Now concentrate on the muscles in your eyes and face. Tense them tightly for 5 seconds and release. Repeat for shoulders, hands, legs and feet. Take a deep breath as you tense, exhale as you relax. CARD GREEN (calm). Close your eyes, breathe deeply, and visualize yourself lying in a warm, fragrant, restful meadow in spring. Enjoy the deep sensation of quiet and peace until your body feels refreshed and comfortable. CARD BLUE (relaxed). Continue to reinforce your body's relaxed state by breathing deeply at intervals throughout the day.

(512) 659-9000

HCA Hill Country Hospital

8205 Palisades Drive San Antonio, Texas 78233

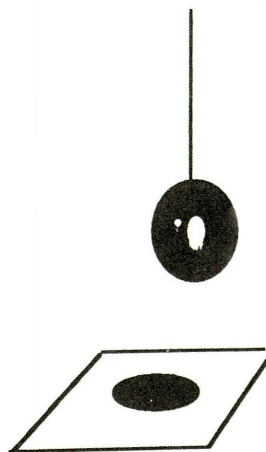
APPENDIX H
Lesson Plan and Handouts for
"Let's Dump Depression"

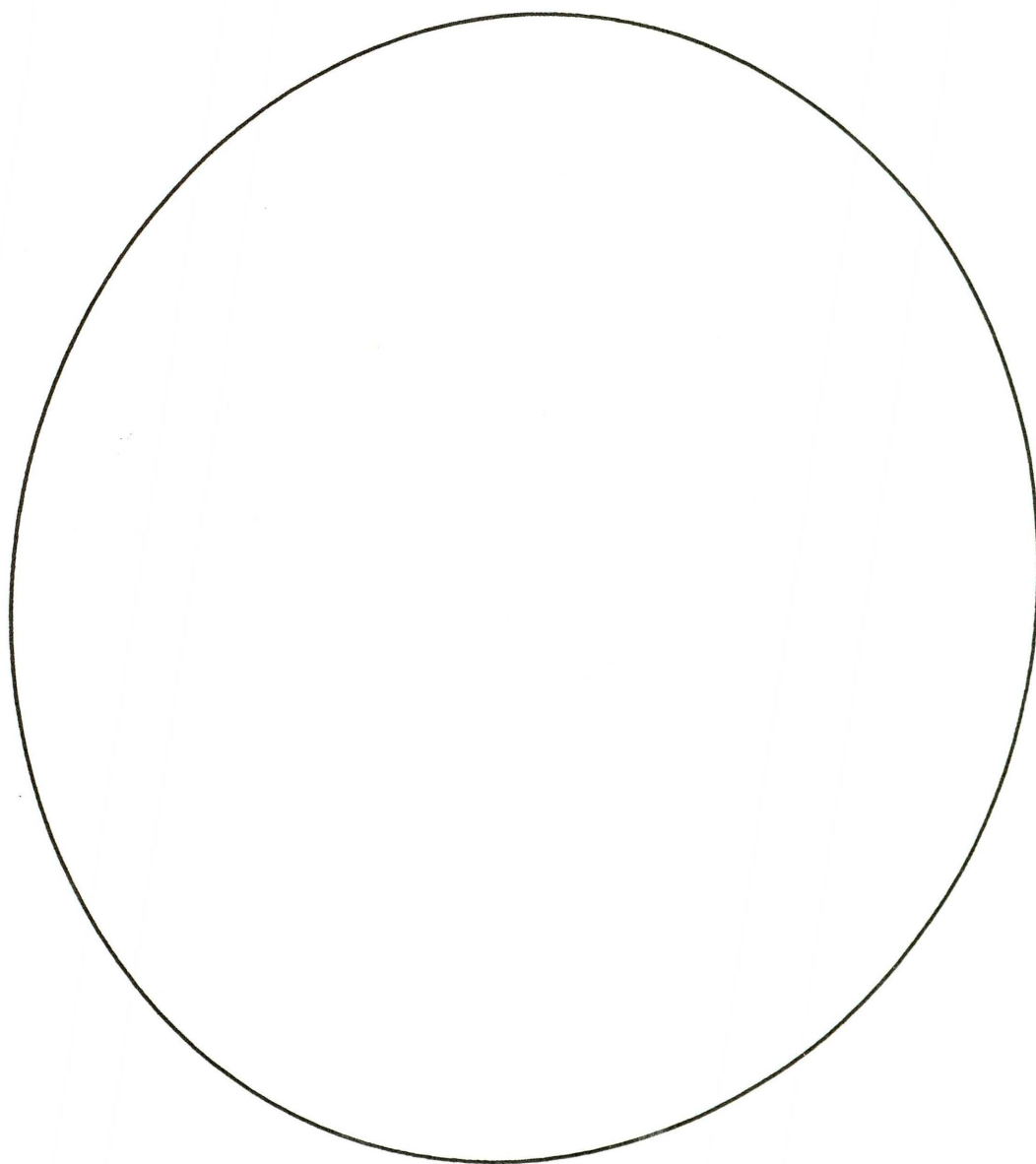
Title of Class: Let's Dump Depression

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participant will be able to:</p> <ol style="list-style-type: none"> 1. Discuss 3 types of depression. 2. Discuss 5 symptoms of depression. 3. Discuss 5 activities that help to decrease depression. 4. Discuss 3 local resources that are available to help deal with depression. 5. Discuss the effect of alcohol on mood. 6. Demonstrate ABC thinking. 	<p>The content of this class is the subject of depression, including types of depression, signs/symptoms of depression, the effect of mind over matter, methods of decreasing depression, the effect of alcohol on mood, and resources available to depressed persons.</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion with illustrations and handouts. 2. Demonstration of mind over matter utilizing handouts, washers, & string. 3. Demonstration of ABC thinking. 4. Return demonstration of ABC thinking. 5. List of resources.

**DIRECTIONS TO ACCOMPANY
WASHER AND CIRCLE**

Hold the end of the string attached to the washer, positioning the washer 6-8 inches above the center of the circle. Do not rest your elbows on your chair or your body. Listen to the instructions and follow the directions given. You will be asked to let the washer follow the outline of the circle, only by thinking of the direction in which you want the washer to go and not by moving your arm or hand.





DEPRESSION

OUR THOUGHTS, NOT EXTERNAL EVENTS CREATE OUR MOODS.

**DISTORTED THOUGHTS AND SELF-DEFEATING BELIEFS LEAD
TO
DEPRESSION AND ANGER.**

**BY CHANGING NEGATIVE THOUGHTS, WE CAN CHANGE HOW WE
FEEL.**

**"I SHOULD" LEADS TO DEPRESSION WHILE "SHE OR HE SHOULD"
LEADS TO ANGER.**

National Institute on Aging

Age Page

Depression: A Serious but Treatable Illness

Everyone gets the blues now and then. It's part of life. But when there is little joy or pleasure after visiting with friends or after seeing a good movie, there may be a more serious problem. A depressed mood that stays around for a while, without let-up, can change the way a person thinks or feels. Doctors call this "clinical depression."

Being "down in the dumps" over a period of time like this is not a normal part of growing old, but it is a common problem. An older person who feels this way needs medical help. For most people, depression can be treated successfully. "Talk" therapies, drugs, or other methods of treatment can ease the pain of depression. There is no reason to suffer.

There are many reasons why depression in older people is often missed or untreated. As a person ages, the signs of the disease are much more likely to be dismissed as crankiness or moods of "old age." Depression can also be tricky to recognize. Confusion or attention problems caused by depression can sometimes mimic the symptoms of Alzheimer's disease or other disorders of the brain. Mood changes and common symptoms of depression are sometimes the result of side effects of drugs commonly taken by older patients for high blood pressure and heart disease. Depression in late life also frequently occurs with other chronic diseases, making diagnosis difficult and

treatment challenging. Depression in older people may not be easy to diagnose, but it should not be ignored because it typically responds to appropriate treatment.

What To Look For

How do you know when help is needed? After all, older people experience more events and problems that might cause anyone to become "depressed" – deaths of loved ones and friends, being unsure of what to do in retirement, or coping with chronic illness. Usually, though, after a normal period of time grieving or feeling troubled, people resume their daily lives. When a person is clinically depressed, his or her ability to function both mentally and physically is affected, and the trouble may last for weeks, months, or even years.

Here is a list of the most common signs of depression. If several of these symptoms last for more than 2 weeks, see a doctor.

- An "empty" feeling, ongoing sadness and anxiety.
- Tiredness, lack of energy.
- Loss of interest or pleasure in ordinary activities, including sex.
- Sleep problems, including very early morning waking.
- Problems with eating and weight (gain or loss).

- A lot of crying.
- Aches and pains that just won't go away.
- Difficulty concentrating, remembering, or making decisions.
- Feelings that the future looks grim; feeling guilty, helpless, or worthless.
- Irritability.
- Thoughts of death or suicide; a suicide attempt.

Families, friends, and health professionals should look carefully for signs of depression in older people. Symptoms vary widely among people and, sometimes, depression can hide behind a smiling face. For depressed people who live alone, for instance, feelings of despair or loneliness can change briefly when someone stops by to say hello or during a visit to the doctor. The person may get such a boost from the contact with another individual that, for the moment, the depressive symptoms subside.

Don't ignore the warning signs. At its worst, serious depression can lead to suicide. Statistics show that the rate of completed suicides, about 25 percent of those attempted, is higher for older people than that of the general population. Listen carefully when an older friend or relative complains about being depressed or of people not caring. The person may be telling you that he or she needs help.

What Causes Depression?

There is no single cause of depression. For some people, just one event can bring on the illness. Others seem to become depressed for no clear reason. One way that scientists classify depression is to divide it into two forms: primary and secondary. Primary depression occurs in people who have generally been well but who may show symptoms of depression in response to events beyond their control. A death in the family or sudden illness, for example, might bring

on depressed feelings. Also, differences in brain chemistry that affect mood can be a cause of primary depression.

Secondary depression is linked to drugs or certain illnesses. Some medications used to treat arthritis, heart problems, high blood pressure, and cancer can produce depression. The effects of these drugs may not always be clear right away. Scientists also think some illnesses themselves can bring about depression. These include Parkinson's disease, stroke, and hormonal disorders.

Genetics, too, can play a role. Studies show that some forms of depression run in families. Children of depressed parents may be at a higher risk of getting the disease themselves.

Treating Depression

Depression is the most treatable of all mental illnesses. About 60 to 80 percent of depressed people can be treated successfully outside a hospital with psychotherapy alone or with special drugs. Medical research has made great progress in recognizing the problem of depression among older people and devising treatments. In fact, this has led to the development of a new medical specialty – geriatric psychiatry – with doctors trained in the diagnosis and relief of depression in late life.

Depending on the case, various kinds of therapies seem to work. Treatments such as psychotherapy and support groups help people deal with major changes in life, such as retirement, moving, or health problems that require new coping skills and social support. Several short-term (12-20 weeks) "talk" therapies have proven useful. One method helps patients recognize and change negative thinking patterns that have led to the depression. Another approach

focuses on improving a patient's relationships with people as a way to reduce depression and feelings of despair. A doctor might also suggest that an older patient use community-based programs such as senior centers, volunteer services, or nutrition programs.

Antidepressant drugs can also help. These medications can improve mood, sleep, appetite, and concentration. There are several types of these drugs available, with doctors favoring medications that may have fewer side effects harmful to older people. Drug therapies often take at least 6 to 12 weeks before there are real signs of progress and may need to be continued for 6 months or longer after symptoms disappear.

Despite their benefits, antidepressant drugs need to be used with great care. Many older people take a number of drugs for other problems. A doctor must know about all prescribed and over-the-counter medications being taken and should be aware of all physical problems. This can help avoid unwanted side effects. Also, remember to take the medication in the proper dose and on the right schedule; if not, the drugs may not work.

"Shock" therapy, or electroconvulsive (ECT) therapy, can also help. While its long-term benefits need more study, ECT can work well as a short-term treatment. New techniques assure that ECT is safe and effective when properly used, not like the scary movie version of years ago.

Prevention

In some cases, major depressive illness can be avoided. This is especially true when depression is linked to life events, such as widowhood and retirement, that occur more often with age. For instance, fostering

and maintaining relationships with people over the years can help lessen the effects of losing a spouse. Developing interests or hobbies, staying involved in activities that keep the mind and body active, and keeping in touch with family and friends are all ways to keep major depression at bay.

Overall, physical fitness and a balanced diet are important ways to help avoid illnesses that can bring on disability and depression. Also, following the doctor's prescription on the proper use of medicines will reduce the risk of depression as a drug side effect.

Getting Help

The first step to getting help is to overcome negative attitudes that stand in the way. The subject of mental illness still makes many, especially older people, uncomfortable. Some feel that getting help is a sign of weakness. Many older people, their relatives, or friends mistakenly believe that a depressed person can quickly "snap out of it" or that some people are too old to be helped.

Once the decision is made to get medical advice, start with the family doctor. The doctor, whether in private practice, a clinic, or a health maintenance organization, should decide if there are medical or drug-related reasons for the symptoms of depression. After a complete exam, the physician may refer the older patient to a mental health specialist for further study and possible treatment. Be aware that a few doctors may share some of the negative attitudes about aging and depression and may not be interested in the complaints. Insist that your concerns be taken seriously or find a doctor who is willing to help.

If a depressed older person refuses to go along with evaluation and treatment, rela-

tives or friends can be reassuring. Explain how treatment will reduce symptoms and make the person feel better. In some cases, when an older person can't or won't go to the doctor's office, the doctor or mental health specialist can call and arrange a visit to the patient's home. The telephone is not a substitute for the personal contact needed for a complete medical checkup, but it can break the ice.

Don't avoid seeking help because you are afraid of how much treatment might cost. Often, the problem can be solved with weeks – not months or years – of therapy or medications. Also, community mental health centers offer treatment based on a patient's ability to pay.

For More Information

You can find out more about depression and its treatments by contacting the following organizations:

The National Institute of Mental Health's special DEPRESSION Awareness, Recognition, and Treatment (D/ART) Program offers several publications on depression, including, "If You're Over 65 and Feeling Depressed . . . Treatment Brings New Hope." Contact D/ART Public Inquiries, National Institute of Mental Health, 5600 Fishers Lane, Room 15C-05, Rockville, MD 20857.

The National Depressive and Manic-Depressive Association has over 200 chap-

ters in the United States and Canada which offer support to people with depression and their families. They sponsor education and research programs and distribute brochures, videotapes, and audio programs. Write to the Association at P.O. Box 1939, Chicago IL 60690; (800) 826-3632.

The National Alliance for the Mentally Ill has a Medical Information Series that provides patients and families with information on several mental illnesses and their treatments, including a publication "Mood Disorders; Depression and Manic Depression." NAMI groups in all states provide emotional support and can help people find appropriate local services. Write or call NAMI at 2101 Wilson Boulevard, Suite 302, Arlington, VA 22201; (800) 950 NAMI (6264).

The National Mental Health Association also publishes information on a variety of mental health issues. It has special information on depression and its treatment, and provides referrals and support. Write or call NMHA, Information Center, 1021 Prince Street, Alexandria, VA 22314-2971; (800) 969-6642.

The National Institute on Aging offers information on a range of health issues that concern older people. Write to the NIA Information Center, P.O. Box 8057, Gaithersburg, MD 20898-8057.

1992



National Institutes on Aging

Symptoms of Depression

- 1. Moodiness**
- 2. Change in sleep pattern**
- 3. Change in appetite**
- 4. Loss of interest in things**
- 5. Fatigue**
- 6. Unusual sadness**
- 7. Unusual crying**
- 8. Irritability**

ABC THINKING

A. ACTIVATING EVENT

B. YOUR THINKING

C. FEELINGS AND BEHAVIOR

Cost-Benefit Analysis

Sometimes people have difficulty giving up negative emotions, without realizing that it is hurting them.

ex. I have the right to be angry.

I deserve to feel guilty because I'm a rotten person.

Ask yourself "How will it help me and how will it hurt me to feel this way? What are the benefits and what are the costs of this feeling?"

How will your anger help you? Will it help the other person?

How will your anger hurt you? Will it hurt the other person?

Cost-Benefit Exercise

- * You forget to take your medicine just when you swore you would remember it.
- * You lost your glasses three times today.
- * Your friend was late to pick you up for a meeting and now the two of you will be late for the meeting.
- * Your family takes everything you do for granted.
- * You have moved and had to give up your home, close friends, and familiar places.

Appendix I
Lesson Plan and Handouts for
"The Wise Use of Medication"

Title of Class: The Wise Use of Medication

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participant will be able to:</p> <ol style="list-style-type: none"> 1. Discuss the 5 safety precautions of taking medication. 2. Discuss 4 recommendations for storage of medications. 3. List the 3 most common side effects of each of his/her medications. 4. Discuss 5 questions everyone should ask concerning medication new to them. 5. Discuss steps to take for accidental mis-medicating oneself. 	<p>The content of this class is the wise use of medication, to include a discussion of information needed about medication, storage guidelines, side effects of individuals' medication, and steps to take in the case of mismedication</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion with illustrations; emphasis on the different effects medications may have on the elderly. 2. Handouts. 3. Discussion of side effects of participants' medication. 4. Discussion of safe storage of medication. 5. Preparation of 'med card' to carry in billfold.

National Institute on Aging

Age Page

Safe Use of Medicines by Older People

Drugs can be wonderful tools for the care of patients of all ages. In fact, the growth of our population over the age of 65 can be attributed at least in part to the availability of effective medicines and vaccines. But in older adults drug use may have greater risks, especially when several drugs are taken at one time.

People over 65 make up 13 percent of the American population, yet they take 30 percent of all prescription drugs sold in this country. As a group, older people tend to have more long-term illnesses—such as arthritis, diabetes, high blood pressure, and heart disease—than younger people. And because they often have a number of diseases or disabilities at the same time, it is very common for them to be taking many different drugs.

In general, drugs taken by older people act differently from the way they do in young or middle-aged people. This is probably the result of the normal changes in body makeup that occur with age. For example, as the body grows older, the percent of water and lean tissue (mainly muscle) decreases, while the percent of fat tissue increases. These changes can affect the time a drug stays in the body and the amount absorbed by body tissues.

The kidneys and the liver are two important organs responsible for breaking down and removing most drugs from the body. With age, these organs begin to function

less efficiently, and thus drugs leave the body more slowly. This may account for the fact that older people tend to have more undesirable reactions to drugs than do younger people.

It is important to remember that “drugs” include not only prescription medicines (those ordered by a doctor and dispensed by a pharmacist) but over-the-counter (OTC) medicines as well (those bought and used without a prescription). Drugs prescribed by a doctor are usually more powerful and have more side effects than OTC medicines. Yet many OTC drugs contain strong agents, and when large quantities are taken, they can equal a dose that would normally only be available by prescription.

Some substances, including vitamins, laxatives, cold remedies, antacids, and alcohol, can also lead to serious problems if used too often or in combination with certain other drugs.

There is much that you and your family can do to reduce the risks of drug use. By learning about the drugs you take and their possible side effects, you can help bring about safer and faster treatment results. Some basic rules for safe drug use are as follows:

- Take exactly the amount of drug prescribed by your doctor and follow the dosage schedule as closely as possible. If

you have trouble or questions, call your doctor or pharmacist.

- Medicines will not produce the same effects in all people. Never take drugs prescribed for a friend or relative, even though your symptoms may be the same.
- Always tell your doctor about past problems you have had with drugs (such as rashes, indigestion, dizziness, or lack of appetite). When your doctor prescribes a new drug, be sure to mention *all* other medicines you are currently taking—including those prescribed by another doctor and those you buy without a prescription.
- Keep a daily record of the drugs you are taking, especially if your treatment schedule is complicated or you are taking more than one drug at a time. The record should show the name of the drug, the doctor who prescribed it, the amount you take, and the times of day for taking it. Include a space to check off each dose as you take it. Keep a copy in your medicine cabinet and one in your wallet or pocket-book.
- If child-proof containers are hard for you to handle, ask your pharmacist for easy-to-open containers. Always be sure, however, that they are out of the reach of children.
- Make sure you understand the directions printed on the drug container and that the name of the medicine is clearly printed on the label. Ask your pharmacist to use large type on the label if you find the regular labels hard to read.
- Discard old medicines; many drugs lose their effectiveness over time.
- When you start taking a new drug, ask your doctor or pharmacist about side

effects that may occur, about special rules for storage, and about foods or beverages to avoid. Pharmacists are drug specialists and are able to answer most questions about drug use.

- Always call your doctor promptly if you notice unusual reactions.
- New information about drugs and how they affect the older user is coming to light daily. You should occasionally review with your doctor the need for each medicine.

Remember that a chemical agent strong enough to cure an ailment is also strong enough to cause harm if it's not used wisely. Although you should never stop taking medicines without medical advice, if you feel any drug is doing more harm than good, don't be afraid to discuss the matter with your doctor. He or she may be able to substitute another medicine that will be effective.

Other Resources

For more information on the safe use of medicines, contact the Elder Health Program, University of Maryland School of Pharmacy, 20 North Pine Street, Baltimore, MD 21201; and the Food and Drug Administration, Center for Drug Evaluation and Research, Consumer and Professional Affairs (HFD-365), 5600 Fishers Lane, Rockville, MD 20857.

To learn more about health and aging, write to the National Institute on Aging Information Center, P.O. Box 8057, Gaithersburg, MD 20898-8057. The NIA distributes free *Age Pages* on a number of topics.

1991



National Institute on Aging

National Institutes of Health

SAFETY PRECAUTIONS FOR MEDICATIONS

TAKING MEDICATION

- *Take the right medication.**
- *Take the right dose.**
- *Take it at the right time.**
- *Take it in the right way.**
- *Take it for the right problem.**
- *Do not drink alcoholic beverages when you are taking medication.**

STORAGE OF MEDICATION

- *Store medication in a dry place.**
- *Store medication properly - some needs to be refrigerated, some should be stored away from light.**
- *Throw away expired prescription or over the counter medications by flushing them down the toilet.**
- *Store medication out of the reach of children.**
- *Rinse out and discard old bottles - never use them to store other medication.**

ASK QUESTIONS

What is the name of the medication?

What is it for - what is its purpose?

How much should I take?

How often (times a day) and how long should I take it?

What should I avoid? Any particular foods, drinks, other medicines or activities?

What side effects should I watch out for? (Are there any special considerations, such as avoid sunlight?)

MIS-MEDICATION

If you think you have not taken your medication properly, call your pharmacist, POISON CONTROL at 670-2000, or call 911.

SHORT ON \$\$\$\$\$\$

If you feel you cannot afford to take your medication as often as your Dr. wants you to, or if you cannot afford to buy it at all, talk with your Dr. and your pharmacist. Many drug companies make samples available to patients.

Appendix J
Lesson Plan and Handouts for
"Men and Women and Self-Care"

Title of Class: Men and Women and Self-Care

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participant will be able to:</p> <ol style="list-style-type: none"> 1. Discuss lifestyle and disease prevention of heart disease, breast cancer, uterian & ovarian cancer, prostate & colon cancer, testicular cancer, skin cancer, and sexually transmitted diseases. 2. Demonstrate, on a model, breast self-examination and testicular self-exam. 3. Discuss resources for financial assistance for mammography. 	<p>The contents of this class are life-style risk factors of breast, colon, uterine, skin, ovarian, and testicular cancers, STDs, and detection and treatment resources.</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion with illustrations and handouts. 2. Demonstration of self-breast exam and testicular self-exam, utilizing an ACA model. 3. Return demonstrations.

National Institute on Aging

Age Page

Cancer Facts for People Over 50

Most people know something about cancer. But fear keeps many of them from finding out what they can do about it. Because many cancers occur more often in people 50 or older, it is this age group that has the most to gain from learning about symptoms of the disease.

When cancers are detected early, they are more likely to be treated successfully. The chances of surviving cancer today are better than ever before. You can help safeguard your health by learning the early warning signs of cancer and having regular checkups.

What Are Common Cancers and Symptoms in People Over 50?

Lung: Cough that won't go away; coughing up blood; shortness of breath.

Breast: Lump in the breast; change in breast shape; discharge from the nipple.

Colon and Rectum: Changes in bowel habits; bleeding from the rectum; blood in the stool which appears bright red or black.

Prostate (men): Difficulty or pain while urinating; the need to urinate often, especially at night.

Uterus, ovary, and cervix (women): Bleeding after menopause; unusual vaginal discharge; enlargement of the abdomen; pain during intercourse.

Skin: Sore that does not heal; change in shape, size, or color of a wart or mole; sudden appearance of a mole.

What If I Have One of the Symptoms?

If you have one of these symptoms, contact your doctor as soon as possible to find out if an office visit is necessary. Your symptom may indicate an illness other than cancer. Remember, pain usually is not an early warning sign of cancer.

Some people, as they age, attribute medical symptoms to "growing older." Because of this, many illnesses go untreated. Don't fail to mention symptoms to your doctor just because you think they are unimportant or normal for your age. Also, feel free to ask your doctor questions, and ask for further explanation if you don't understand. List your questions before an office visit and take time to record the doctor's answers.

Are There Regular Medical Tests I Should Have?

Even if you don't have symptoms, there are certain tests needed periodically after you reach 50. It is even recommended that some begin at an earlier age.

Your doctor can tell you how often you should have specific tests, based on your medical history and generally accepted guidelines for the frequency of these tests. Some may be required more often if you have had cancer before, have a family member with cancer, or have other medical conditions. If you are over 50, the following are some suggested tests that you should have as often as your doctor recommends.

(over, please)

Guaiac test: One or more small stool samples are examined for possible traces of blood. Blood in the stool can be a symptom of colon or rectal cancer. There are simple kits for collection of samples at home and mailing or delivering to the doctor.

Rectal exam: This test, an examination of the rectum with the doctor's gloved finger, can detect prostate tumors in men and rectal tumors in men or women.

Sigmoidoscopy or "procto": This is an examination of the rectum and part of the colon with a lighted instrument.

Pelvic examination and Pap test: The pelvic exam is a check of the female reproductive organs. The doctor, using a small instrument and gloved fingers, checks the vagina, uterus, and ovaries for any sign of a problem. A Pap test, also called a Pap smear, is usually done at the same time. It is a painless test which involves removing cells from the cervix and examining them through a microscope to see if they are abnormal. Your doctor may recommend stopping the tests after 60 if you've had two consecutive normal tests or if you've had a hysterectomy.

Breast examination and mammography: Women should have their breasts examined periodically to check for changes such as a lump or thickening. A mammogram (an X-ray of the breasts), which can detect tumors even before they can be felt, is recommended for all women over 50. Check that the equipment used for mammography exposes you to the lowest possible dose of radiation. Generally, the amount should be less than 1 rad (a measure of radiation dose) for each breast.

In addition to tests performed by a doctor, women should practice *breast self-examination* (BSE) monthly to detect lumps or other changes in their breasts. To learn how to do BSE, ask your doctor or nurse, or call the Cancer Information Service (see phone numbers listed below) for a free booklet.

A positive result on any of these medical tests does not necessarily mean you have cancer, but it may indicate a need for more testing. If a tumor is suspected, a test called a biopsy is done. A piece of the tumor is removed surgically and examined microscopically to determine whether it is cancerous (malignant) or noncancerous (benign).

What If I'm Told I Have Cancer?

If tests show you have cancer, you should begin treatment right away. Cancer is a disease in which cells grow abnormally. If left untreated, the cells continue to grow and eventually invade healthy tissue.

There are a number of treatments that may be used for cancer. To ensure that you will be comfortable with your decision to have a particular treatment, you may want to seek the opinion of more than one doctor. Ask your doctor if you should see an oncologist (a cancer specialist). It is important to ask questions about your diagnosis and what results are expected from the treatment.

How Can I Get More Information?

The Cancer Information Service (CIS), a program of the National Cancer Institute, is available to answer your cancer-related questions. Call, toll-free, 1-800-422-6237, to find the office serving your area.* It's easier to remember that number as 1-800-4-CANCER. CIS staff can confidentially answer your questions and mail you free booklets about your cancer concerns. Spanish-speaking CIS staff are available in the following areas (daytime hours only): California, Florida, Georgia, Illinois, northern New Jersey, New York, and Texas.

*There are two areas not served by this toll-free number. They are Alaska, 1-800-638-6070, and Hawaii, Oahu, 524-1234 (neighbor islands call collect).

Reprinted September 1987

SHOWER CARD

THE SUSAN G. KOMEN BREAST CANCER FOUNDATION

BREAST SELF-EXAM



Once each month at
same time, check for
lump, hard knot,
thickening or
discharge.
Once a year, see
your doctor about a
mammogram.
Report any changes to
a physician.

IN THE SHOWER

Raise arm as shown. Fingers flat, move over breast in pattern shown, including armpit area. Use left hand for right breast, right hand for left breast.

BEFORE A MIRROR

Look for any changes in shape or contour of breast. Note any swelling, dimpling of skin, or changes in the skin or nipple. First, inspect breasts with arms at your sides. Next, raise arms high overhead.

Then rest palms on hips and press down firmly to flex chest muscles. Left and right breast will not match exactly—few women's breasts do.

LYING DOWN

Put a pillow under right shoulder and arm behind head as shown. Fingers flat, use left hand to press gently in circular motion. Include armpit and chest area from collarbone to below breast. Repeat using firmer pressure. Gently squeeze nipple to check for discharge. Repeat for left breast.

1-800-I'M AWARE

(KOMEN HELPLINE 1-800-462-9273)



Do you have a minute?

It could save you a lot....
maybe even your life!

- ☐ One of every nine women
will experience breast
cancer during her
lifetime
- ☐ Women whose mothers or
sisters have had breast
cancer are at high risk
- ☐ Early detection is the best
protection

For help and information, call the

Breast Cancer Awareness Program

Abilene YWCA

677-5321

Financial assistance available

SCREENING TESTS FOR WOMEN

- **Pelvic Exam:** Checks for growths in a woman's cervix, uterus, ovaries and vagina.
- **Breast Exam:** Checks for breast lumps or changes should be done during regular exams by a doctor. Remember, breast self-exam should be done monthly.
- **Pap Smear:** Detects the presence of cancer cells in a woman's cervix, uterus and vagina.
- **Mammography:** X-rays which check for breast lumps too small to be felt by a breast exam.

SCREENING TESTS FOR WOMEN*	
Pelvic Exam	Every 3 years. Annually after age 40.
Breast Exam	Self-exam monthly. Starting at age 20, by physician every 3 years (if no symptoms) or at routine preventive health maintenance visits, until age 40. After age 40, annual exams by your doctor.
Pap smear	Annually. (After three normal results, the test may be performed less frequently.)
Mammogram	Baseline by age 40. Every 1-2 years to age 49. Annually over age 50.

* Your employer or health care provider may have schedules of their own or specific recommendations based on your health status or health risks.

TAKE RESPONSIBILITY FOR YOUR HEALTH AND YOUR HEALTH CARE

Like it or not, you or someone you care for will eventually be faced with difficult medical or surgical decisions. Since most health care is not an emergency, you usually have time to decide which procedure is right for you. Too often, decisions about a particular treatment are made without really knowing what will happen, or whether the treatment will solve the problem. To make the best decision, two things must happen:

1. You need to ask the right questions to get the right information.
2. You need to be able to choose the best option for yourself.

To help you organize your questions about a recommended procedure, here is a checklist based on the word PREPARED.

PREPARED™ FOR HEALTH CARE DECISIONS

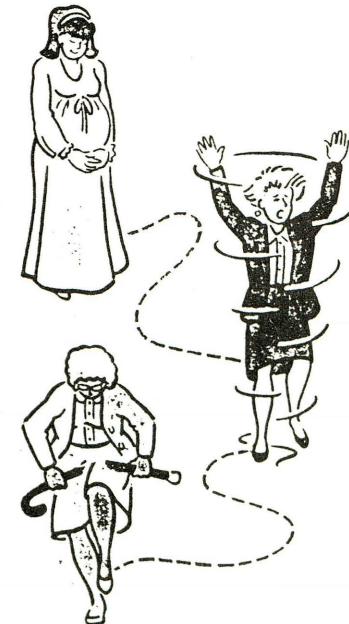
- P Procedure.** What procedure or course of action is the doctor suggesting?
- R Reason.** What is the reason for the procedure?
- E Expectation.** What benefit can you reasonably expect from this procedure?
- P Probability.** What are the odds that you will get the benefit you hope for?
- A Alternatives.** What other choices are available?
- R Risks.** What possible complications or side effects may happen?
- E Expense.** What about costs?
- D Decision.** How do you participate in making the decision?

PREPARED™ is a registered trademark of Health Care Works.

WOMEN & SELF-CARE



WELLNESS MAPS



WHY YOU SHOULD EXAMINE YOUR BREASTS MONTHLY

Most breast cancers are first discovered by women themselves. Since breast cancers found early and treated promptly have excellent chances for cure, learning how to examine your breast properly can help save your life.

Use the simple 3-step breast self-examination (BSE) procedure shown here.

STEP 1

Before a mirror:

Inspect your breasts with arms at your sides. Next, raise your arms high overhead. Look for any changes in shape or contour of each breast, a swelling, dimpling of skin or changes in the skin or nipple.

Then, rest palms on hips and press down firmly to flex your chest muscles. Left and



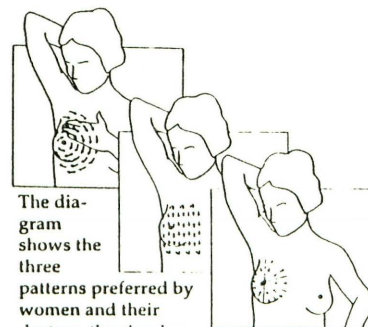
right breast will not exactly match – few women's breast do. Regular inspection shows what is normal for you and will give you confidence in your examination.



STEP 2

Lying down:

Lie down. Flatten your right breast by placing a pillow under your right shoulder. Fingers flat, use the sensitive pads of the middle three fingers on your left hand. Feel for lumps or changes using a rubbing motion. Press firmly enough to feel the different breast tissues. Completely feel all of the breast and chest area from your collarbone to the base of a properly fitted bra; and from your breast bone to the underarm. Allow enough time for a complete exam.



The diagram shows the three patterns preferred by women and their doctors; the circular, clock or oval pattern, the vertical strip, and the wedge. Choose the method easiest for you and use the same pattern to feel every part of the breast tissue.

After you have completely examined your right breast, then examine your left breast using the same method. Compare what you have felt in one breast with the other.

Finally, squeeze the nipple of each breast gently between the thumb and index finger. Any discharge, clear or bloody, should be reported to your doctor.

STEP 3

In the shower:

Examine your breasts during a bath or shower; hands glide easier over wet skin. Fingers flat, move gently over every part of each breast. Check for any lump, hard knot or thickening.



WHAT YOU SHOULD DO IF YOU FIND A CHANGE

If you find a lump or dimple or discharge during BSE, it is important to see your doctor as soon as possible. Don't be frightened. Most breast lumps or changes are not cancer, but only your doctor can make the diagnosis.

YOU AND YOUR DOCTOR

Taking responsibility for your health care doesn't mean doing it alone. It means developing a partnership with your health care providers.

To get the most out of your next visit to the doctor, use this checklist.

- Bring a list of questions you want to ask.
- Keep a written record of your symptoms. When did the problem begin? Be able to describe the symptoms clearly.
- Have all important medical records sent to your doctor before your visit.
- Bring along any medications you're taking, including vitamins and supplements.
- Write down unfamiliar terms and any recommended treatment or course of action.



TAKING RESPONSIBILITY FOR YOUR HEALTH CARE

Like it or not, you or someone you care for will eventually be faced with difficult medical or surgical decisions. Too often, decisions about a particular treatment are made without really knowing exactly what will happen, or whether the treatment will solve the problem. To make the best decision, two things have to happen:

1. You need to get the right information.
2. You need to be able to decide which option is best for you.

To help you organize your questions about a recommended procedure, here is a checklist based on the word **PREPARED**.

PREPARED™ FOR HEALTH CARE DECISIONS

- P Procedure.** What is the name of the procedure and what specifically will be done (in words I can understand)?
- R Reason.** What is the reason for the procedure?
- E Expectation.** What benefit can I reasonably expect if this procedure is done?
- P Probability.** What are the odds that I will get the benefit I hope for?
- A Alternatives.** What other choices are available?
- R Risks.** What possible complications or side effects may happen?
- E Expense.** How much will this cost?
- D Decision.** How can I participate in making the decision?

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MEN AND SELF-CARE



WELLNESS MAPS



RISK FACTORS FOR MEN

Men die earlier than women from nearly every cause of death. But early death from some diseases can be prevented. You can take responsibility for your own health by learning simple skills and making positive changes in three areas.

- Lifestyle and Disease Prevention
- Self-Examination
- Preventive Screening

Heart disease and cancer of the prostate and colon are major health risks for men. Self-exams and regular medical checkups are the best methods for early detection and treatment. Overall good health is your best prevention.

HEART DISEASE

Heart disease kills more men than any other disease. The major risk factors for heart disease are:

- Being male
- Cigarette smoking
- High cholesterol (higher than 200 mg/dl)
- Family history of heart disease
- High blood pressure
- Diabetes
- Lack of exercise

While some risk factors, like being male, are uncontrollable, cigarette smoking, high cholesterol, high blood pressure and not exercising are generally within your control. To help reduce your risks:

- If you smoke, STOP.
- If your cholesterol is 200 mg/dl or higher, reduce your dietary fat intake to no more than 30% of your total calories and exercise regularly.*
- Keep your blood pressure at approximately 120/80 or below. Maintain normal weight, exercise, drink in moderation, if at all, and reduce sodium intake.*
- Exercise at least 20-30 minutes, 3 to 4 times per week.

PROSTATE CANCER

The prostate is a walnut-sized gland that sits above the rectum and produces some of the fluid in semen. Often, cancer of the prostate causes no symptoms. When symptoms do occur, they are often confused with urinary problems. Cancer of the prostate is rare in younger men, but is the third most common cause of cancer death among men 55 years and older.

After age 20, a prostate exam and blood test should be done every three years and annually after 40. This can detect early growths, allowing for early "treatment."**

COLON CANCER

Cancer of the colon and rectum is the second leading type of cancer in men. Symptoms include blood in the stool or changes in bowel movement. Fortunately, it can often be successfully treated if detected early. Tests include a digital exam, a stool sample to detect occult (hidden) blood, and a sigmoidoscopy ("sig") which uses a lighted tube to view your rectum and lower colon for any abnormalities.**

Reduce your risk of colo-rectal cancer by:

- Eating a low-fat, high fiber diet including:
 - *Fiber*—whole grains, cereals and breads;
 - *Vegetables and fruits rich in vitamins A and C*—carrots, dark leafy greens and citrus fruits;
 - *Cruciferous vegetables*—broccoli, brussels sprouts, cabbage, cauliflower and kale.
- Eating less smoked and barbequed foods and nitrite-cured foods such as bacon, ham, sausage and bologna.
- Limiting alcohol to 2 ounces or less daily.
- Maintaining normal weight.

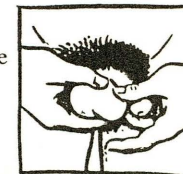
*If diet and exercise changes don't reduce your cholesterol or blood pressure you may need medication. Consult your primary care physician.

**Specific screening recommendations are dependent on your health risks.

TESTICULAR SELF-EXAM

Testicular cancer is one of the most common cancers in men ages 15 to 35. Every man, 15 or older, should practice a monthly testicular self-exam.

1. Support the testicles in one hand and feel each with the other hand.
2. Gently roll each testicle between the thumb and the fingers. Gently separate the tube-like structure from the testicle with your finger and examine the testicle.
3. Feel for any swelling or lumps.
4. If you detect swelling or lumps, see a doctor without delay.



SKIN SELF-EXAM

Many men, especially those who work outdoors, are at increased risk for skin cancer (melanoma). Most skin cancers, if detected and treated early, can be cured. A monthly skin self-exam can detect changes before they become health-threatening.

Examine your skin carefully. Look for the "A, B, C, D" warning signs of skin cancer or other skin changes:

- **Asymmetry.** Notice if moles are not uniform in shape.
- **Borders.** Irregular and notched edges of moles.
- **Color.** Look for areas that appear blue, black, brown, or white, often with a red line around the border.
- **Diameter.** If the mole or growth is larger than a pencil eraser, see a doctor.

Also, see a doctor for any skin spot that starts bleeding, itching, or rapidly increasing in size.

National Institute on Aging

Age Page

AIDS and Older Adults

Everyone is talking about AIDS (acquired immunodeficiency syndrome), but few mention how this disease affects older people. No wonder so many older adults believe they are not likely to become infected.

The fact is that as many as 10 percent of all AIDS cases reported have involved people aged 50 and over. And many more older people are believed to be infected, although not yet experiencing symptoms.

What Is AIDS?

The AIDS virus (also called the human immunodeficiency virus or HIV) travels in the blood stream and affects the immune system. It prevents the body from effectively fighting infectious diseases so that HIV-infected persons can easily become ill with serious infections or cancers. When death occurs, it usually results from one of these diseases.

People with AIDS often appear healthy for a long time after becoming infected. Nearly ten years is the average length of time after a person becomes infected before disease symptoms may begin to appear.

AIDS is spread from person-to-person through the exchange of body fluids, such as semen and blood. For the most part, the virus is spread by sexual contact or by sharing drug needles and syringes with an infected person.

Otherwise, AIDS is not easy to catch. Despite popular beliefs, AIDS is *not* spread by mosquito bites, using a public telephone or restroom, being coughed or sneezed on by an infected person, or touching someone with the disease.

Older People May Be Especially Vulnerable

With increased age there tends to be a decline in immune system functions, making older people more susceptible to a variety of illnesses such as infections and cancers. Because of these changes in immune function, AIDS may affect older people differently than it does the young. Data from the Centers for Disease Control suggest that most older persons infected with the AIDS virus have developed disease symptoms more quickly than younger patients.

The older population also receives the highest rate of blood transfusions during routine medical care. As a result, the second most common cause of AIDS in people over age 50 (after homosexual and bisexual activity) has been exposure to contaminated blood transfusions received before 1985 when the public blood supply was not being screened for the virus. Blood banks now offer the assurance of cleaner blood products; however, the number of older persons who received contaminated blood and who may now be unintentionally infecting spouses or other sexual partners remains unknown.

A further complication is that older AIDS patients who have early symptoms are likely to go undiagnosed. Because early symptoms of AIDS (such as fatigue, loss of appetite, and swollen glands) are similar to other more common illnesses, many people—including health professionals—may dismiss these as symptoms of a minor ailment.

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Prevention

Medical experts predict that a cure or vaccine to prevent AIDS is not likely to be found in the near future. This means that responsibility for preventing the spread of AIDS rests on each individual's behavior (for example, making the choice to use condoms when sexually involved with someone other than a mutually faithful, uninfected partner).

Prevention begins with learning the facts. Reliable information is available from many sources. For example, the Public Health Service sent the brochure *Understanding AIDS* to every home in the U.S. (call 1-800-342-AIDS for another copy), and hotlines have been set up to answer specific questions. Additional resources are listed at the end of this fact sheet.

Treatment

Researchers continue working to understand AIDS and how to treat people who are already infected. Treatment for AIDS usually involves some form of drug therapy, such as AZT (azidothymidine) which is currently being used in many patients to prolong life. Meanwhile, other promising drugs are also being tested.

People with AIDS should stay in touch with a doctor who is well-informed about the latest AIDS research. For help finding the name of an expert, call a local university medical school's department of infectious diseases or call the National AIDS Hotline (1-800-342-AIDS).

Resources

There are agencies or centers in most cities that offer testing, counseling, and other services for persons concerned about AIDS. In addition, the following local and national organizations offer information:

National AIDS Hotline

1-800-342-AIDS
(1-800-344-SIDA for Spanish
1-800-AIDS-889 for hearing impaired)

The hotline operates 24 hours a day, 7 days a week. It offers information on transmission, prevention, testing, and local referrals.

American Red Cross

AIDS Public Education Office
1730 E Street, NW
Washington, D.C. 20006

Local chapters of the American Red Cross offer a variety of written materials.

National AIDS Information Clearinghouse

P.O. Box 6003
Rockville, MD 20850
(301) 762-5111
1-800-458-5231

The clearinghouse offers free government publications and information about resources.

National Institute of Allergy and Infectious Diseases

Office of Communications
Building 31, Room 7A32
Bethesda, Maryland 20892

One of the National Institutes of Health, the NIAID will respond to written requests for information on AIDS research and clinical trials of promising therapies.

National Institute on Aging

Public Information Office
Federal Building, Room 6C12
Bethesda, Maryland 20892
(301) 496-1732

One of the National Institutes of Health, the NIA offers information on a range of health issues that concern older people.

July, 1989

Helpful Telephone Numbers
AIDS Related

Taylor County Health Department
2241 S.19th
Abilene, TX.

915-692-5600

AIDS/STD Clinic
317 Pecan
Abilene, Tx.

915-676-7825

Texas Dept. of Health
AIDS hotline

1-800-248-1091

National AIDS Hotline
Hearing Impaired

1-800-342-AIDS
1-800-AIDS-TTY

Call for Help
633 Walnut
Abilene, Tx

915-673-8211

AZT Drug Program
Contact Number

1-800-255-1090

Taylor County Welfare Office
300 Oak St.
Abilene, Tx. (AFDC)

915-674-1341

Social Security Administration
142 S. Pioneer
Abilene, Tx.

915-698-1360

Appendix K
Lesson Plan and Handouts for
"Safety After 60"

Title of Class: Safety After 60

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participant will be able to:</p> <ol style="list-style-type: none"> 1. Discuss 7 guidelines to help prevent falls and fractures. 2. Discuss safety issues following a fall. 3. Discuss the benefits of 'Friend Check'. 4. Discuss method of joining 'Friend Check' at Rose Park. 5. Discuss 3 types of crime citizens are most likely to encounter. 6. Discuss 4 methods to prevent crime. 	<p>The content of this class includes falls and fractures, and crime against the elderly.</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion with handouts. 2. Demonstration. 3. Return demonstrations. 4. Sign up sheet for 'Friend Check'.

National Institute on Aging

Age Page

Crime and the Elderly

One of the biggest worries shared by older people is that they might be victims of crime. Actually, the rates of the three most serious crimes—murder, rape, and assault—are very low among the elderly. But crimes that *do* affect the elderly include purse snatching, fraud, theft of checks from the mail, vandalism, and harassment (especially by teenagers).

The impact of crime is greatest on the old because they often have limited budgets, frequently live in inner-city neighborhoods where crimes are more common, and may be injured more easily in the course of a crime.

Physical handicaps, such as a vision or hearing loss, can make the old easy prey. With diminished strength, older people are less able to defend themselves or escape from threatening situations.

Sometimes the fear of crime can be as harmful as crime itself. Fear is useful if it encourages appropriate protection. But experiencing needless fear over a long period of time can be harmful to one's physical and mental health.

Crime Prevention

At home the best crime prevention measure is to lock doors and windows. Almost half of all home and apartment burglaries occur because someone did not "lock up." In addition, these tips may be useful:

- Use common sense. For example, when answering the door, look through the peephole or ask the visitor to identify himself or herself *before* you unlock it.

- Mark valuable property by engraving it with your driver's license or state identification number (available from your State Motor Vehicle Administration). Keep photographs of hard-to-engrave items. Make a list of the valuables in your home and keep it in a safe deposit box at the bank, if you have one.

- Install good security equipment so your locks, doors, and windows cannot be broken easily. Many police departments have staff they can send out to evaluate your present equipment and make recommendations.

On the street prevention means staying alert at all times, even in your own neighborhood. Walk with a friend when you go out, and be aware of places where crime can occur, such as dark parking lots or alleys. Here are suggestions for reducing your risks on the street:

- Avoid dressing in a showy manner. Leave good or flashy jewelry and furs in a safe place.

- Carry little cash and hand it over without question if you are attacked. If possible, do not carry a purse. Put your money and credit cards or wallet in an inside pocket.

- Have monthly pension or Social Security checks sent directly to your bank for deposit.

Con games are attempts to swindle someone out of money, property, or other valuables. The con artist may, for example, pose as a bank examiner and request that you withdraw, and temporarily turn over to him or her, money from your bank

(over please)

account. The swindler convinces you that this is all part of a "test" the bank is conducting to uncover a dishonest bank employee. Don't withdraw money from your bank at the suggestion of a stranger.

Consumer fraud is too often successful among the elderly, although people of all ages are victims. The following are common schemes you should watch for:

- *Health insurance policies that appear to pay gaps in Medicare coverage—but don't.* Check the policy with your state insurance commission, a lawyer, or the Better Business Bureau before spending any money.
- *Glasses or hearing aids sold at bargain rates by unlicensed salespersons.* Ask your doctor's advice if you need to purchase a low-cost appliance.
- *Products advertised as miracle cures.* This is known as "health quackery." Each year millions of dollars are spent on products and devices advertised as cures for arthritis, cancer, baldness, and insomnia. Don't buy any product advertised to treat a condition that medical science has not yet found a cure for.
- *Contributions to charity.* Make sure the money goes to a legitimate charity.
- *Investment opportunities that are "too good to be true."* If you are asked to withdraw a large sum from your bank account, first talk over your plans with a bank representative.
- *Home repair frauds.* Do not agree to let someone who is "just driving by" work on your home. Shop around before you spend money on home improvements.
- *Door-to-door salespersons who use various types of pressure to get you to buy.* If you have any doubt about whether or not you want the item, ask the person to come back another day. This will also give you time to call the Better Business Bureau to check out an unfamiliar company.

What You Can Do

Police estimate that more than half of all crimes go unreported. Victims should not be embarrassed or frightened about calling the police. Reporting crime can let police know where problems are in your neighborhood and will encourage better protection in the future.

Many states have programs designed to assist victims of crime. There are also private assistance agencies in many regions of the country. To learn more about such resources in your area, write to the National Organization for Victim Assistance, 1757 Park Rd., N.W., Washington, DC 20010.

The Food and Drug Administration can advise you on quack products and devices. Write to: FDA, Bureau of Medical Devices, Consumer and Regulatory Affairs Branch (HFK-131), 8757 Georgia Ave., Silver Spring, MD 20910.

The Crime Prevention Coalition (Box 6700, Rockville, MD 20850) can send you the free brochure *Senior Citizens Against Crime*, published by the U.S. Department of Justice. The Council of Better Business Bureaus has published a pamphlet entitled *Consumer Problems of the Elderly*. Single copies can be obtained by sending a self-addressed stamped envelope to the Council of Better Business Bureaus, 1515 Wilson Blvd., Arlington, VA 22209.

For more information about crime prevention for older people, contact the American Association of Retired Persons, Criminal Justice Services, 1909 K St., N.W., Washington, DC 20049. Also, your local police or sheriff's office may have a crime prevention unit to provide assistance in your area.

July 1982

U.S. Government Printing Office: 1982-461-268/20012

National Institute on Aging

Age Page

Preventing Falls and Fractures

An injury from falling can limit a person's ability to lead an active, independent life. This is especially true for older people. Each year thousands of older men and women are disabled, sometimes permanently, by falls that result in broken bones. Yet many of these injuries could be prevented by making simple changes in the home.

As people age, changes in their vision, hearing, muscle strength, coordination, and reflexes may make them more likely to fall. Older persons also are more likely to have treatable disorders that may affect their balance—such as diabetes or conditions of the heart, nervous system, and thyroid. In addition, compared with younger people, older persons often take more medications that may cause dizziness or lightheadedness.

Preventing falls is especially important for people who have osteoporosis, a condition in which bone mass decreases so that bones are more fragile and break easily. Osteoporosis is a major cause of bone fractures in women after menopause and older people in general. For people with severe osteoporosis, even a minor fall may cause one or more bones to break.

Steps to Take

Falls and accidents seldom "just happen," and many can be prevented. Each of us can take steps to make our homes safer and reduce the likelihood of falling. Here are some guidelines to help prevent falls and fractures.

- Have your vision and hearing tested regularly and properly corrected.
- Talk to your doctor or pharmacist about the side effects of the medicines you are taking and whether they affect your coordination or balance. Ask for suggestions to reduce the possibility of falling.
- Limit your intake of alcohol. Even a small amount of alcohol can disturb already impaired balance and reflexes.
- Use caution in getting up too quickly after eating, lying down, or resting. Low blood pressure may cause dizziness at these times.
- Make sure that the nighttime temperature in your home is at least 65°F. Prolonged exposure to cold temperatures may cause a drop in body temperature, which in turn may lead to dizziness and falling. Many older people cannot tolerate cold as well as younger people can.
- Use a cane, walking stick, or walker to help maintain balance on uneven or unfamiliar ground or if you sometimes feel dizzy. Use special caution in walking outdoors on wet and icy pavement.
- Wear supportive rubber-soled or low-heeled shoes. Avoid wearing smooth-soled slippers or only socks on stairs and waxed floors. They make it very easy to slip.
- Maintain a regular program of exercise to improve strength and muscle tone, and

keep your joints, tendons, and ligaments more flexible. Many older people enjoy walking and swimming. Mild weight-bearing activities, such as walking or climbing stairs, may even reduce the loss of bone due to osteoporosis. Check with your doctor or physical therapist to plan a suitable exercise program.

Make Your Home Safe

Many older people fall because of hazardous conditions at home. Use this checklist to help you safeguard against some likely hazards.

Stairways, hallways, and pathways should have:

- good lighting and be free of clutter.
- firmly attached carpet, rough texture, or abrasive strips to secure footing.
- tightly fastened handrails running the whole length and along both sides of all stairs, with light switches at the top and bottom.

Bathrooms should have:

- grab bars located in and out of tubs and showers and near toilets.
- nonskid mats, abrasive strips, or carpet on all surfaces that may get wet.
- nightlights.

Bedrooms should have:

- nightlights or light switches within reach of bed(s).
- telephones (easy to reach), near the bed(s).

Living areas should have:

- electrical cords and telephone wires placed away from walking paths.
- rugs well secured to the floor.
- furniture (especially low coffee tables) and other objects arranged so they are not in the way.
- couches and chairs at proper height to get into and out of easily.

For More Information

For more complete information on simple, relatively inexpensive repairs and safety recommendations for your home, write to the U.S. Consumer Product Safety Commission, Washington, DC 20207; or call (800) 638-2772. The Commission also can send you a free copy of the booklet *Home Safety Checklist for Older Consumers*.

The National Institute on Aging offers information on health and aging. For a complete list of publications, write to the NIA Information Center, P.O. Box 8057, Gaithersburg, MD 20898-8057.

1992

FRIEND CHECK

Please sign the list below if you would like to be called daily for 'Friend Check' and if you are willing to call someone else to check on them. Please be sure and give your phone number. Beverly will tell you the name of your 'Friend Check' partner in one week.

NAME _____

TELEPHONE[illegible]

Appendix L
Lesson Plan and Handouts for
"Wellness: Skills for Lifestyle Change"

Title of Class: Wellness: Skills for Lifestyle Change

Objectives	Content	Time Frame	Teaching Methods
<p>Upon completion of this class the participant will be able to:</p> <ol style="list-style-type: none"> 1. Discuss 6 aspects of a healthy lifestyle. 2. Discuss which change s/he has decided s/he needs to make the most. 3. Discuss methods of initiating change in lifestyle. 4. Complete a 'Smart Plan' on desired changes. 	<p>The content of this class includes wellness skills that lead to a healthy lifestyle, alcohol use, and immunizations.</p>	<p>One Hour</p>	<ol style="list-style-type: none"> 1. Discussion and handouts. 2. Demonstration. 3. Return demonstration.

ASPECTS OF A HEALTHY LIFESTYLE

(Wellness. (1988). Beaverton, Or: Great Performance Inc.)

There are many aspects to wellness besides physical health; remember that wellness has spiritual and emotional aspects as well as physical aspects.

ASPECTS OF A HEALTHY LIFESTYLE

Physical Fitness: Being 'fit' doesn't mean being a top athlete, it does mean being able to get through the day with energy to spare. If you begin a program of regular exercise you'll feel its benefits immediately.

Nutrition: Good nutrition contributes to wellness. Eating for high performance is really a matter of making wise choices 90% of the time. These choices can help prevent heart disease, obesity, diabetes, and some type of cancer.

Safety: There are many dimensions to safety, all of which are important to a wellness lifestyle.

Stress Management: Become stress resistant by the regular¹⁴⁷ practice of stress management techniques.

Healthy Relationships: People who have good friendships suffer less from physical and mental illness than people who are socially isolated; they even tend to live longer.

Daily Satisfaction: There are two important factors to consider in how you spend your time. These are; making certain you are doing something that meshes with your unique abilities and developing relationships with the people with whom you spend your time.

National Institute on Aging

Age Page

Aging and Alcohol Abuse

Alcohol abuse among older men and women is a more serious problem than people realize. Until recently, older problem drinkers tended to be ignored by both health professionals and the general public. The neglect occurred for several reasons: few of our older population were identified as alcoholics; chronic problem drinkers (those who abused alcohol off and on for most of their lives) often died before old age; and because they are often retired or have fewer social contacts, older people are often able to hide drinking problems.

More people are learning that alcohol problems can be successfully treated at any age, and more are willing to seek help to stop their drinking.

Physical Effects of Alcohol

Alcohol slows down brain activity. It impairs mental alertness, judgment, physical coordination, and reaction time—increasing the risk of falls and accidents.

Over time, heavy drinking can cause permanent damage to the brain and central nervous system, as well as to the liver, heart, kidneys, and stomach.

Alcohol can affect the body in unusual ways, making some medical problems difficult to diagnose. For example, the effect of alcohol on the cardiovascular system (the heart and blood vessels) includes masking pain that might otherwise serve as a warning sign of heart attack. Alcoholism can

also produce symptoms similar to those of dementia: forgetfulness, reduced attention, and confusion.

Mixing Drugs

Alcohol, itself a drug, is often harmful if mixed with other drugs, including those sold by prescription and those bought over-the-counter. People over 65 run the greatest risk of a bad drug interaction since they make up 12 percent of the population and take 25 percent of all medications. Also, older Americans are heavy users of over-the-counter drugs.

Mixing drugs—such as alcohol, tranquilizers, sleeping pills, pain killers, and antihistamines—can be very dangerous. For example, aspirin in some people causes bleeding in the stomach and intestines. Alcohol also irritates the stomach and, when combined with aspirin, may increase the risk of bleeding.

With advancing age, major changes occur in the body's ability to absorb and dispose of drugs and alcohol. Anyone who drinks—even moderately—should check with a doctor or pharmacist about possible drug interactions.

Who Becomes a Problem Drinker?

In old age, problem drinkers seem to be one of two types. The first are chronic abusers, those who have used alcohol heavily for many years. Although most chronic abusers die by middle age, some survive

into old age. Approximately two-thirds of older alcoholics are in this group.

The second type begins excessive drinking late in life, often in response to "situational" factors: retirement, lowered income, declining health, loneliness, or the deaths of friends and loved ones. In these cases, alcohol is first used for temporary relief but later becomes a problem.

Detecting Drinking Problems

Not everyone who drinks regularly or heavily is an alcohol abuser, but the following actions indicate a problem:

- Drinking to calm nerves, forget worries, or reduce depression
- Losing interest in food
- Gulping drinks and drinking too fast
- Lying about drinking habits
- Drinking alone with increased frequency
- Injuring oneself, or someone else, while intoxicated
- Getting drunk often (more than three or four times in the past year)
- Needing to drink increasing amounts of alcohol to get the desired effect
- Frequently acting irritable, resentful, or unreasonable during nondrinking periods
- Experiencing medical, social, or financial problems that are caused by drinking.

Getting Help

Older problem drinkers and alcoholics have an unusually good chance for recovery because they tend to stay with treatment programs.

Getting help can begin with a family doctor or member of the clergy, through a local health department or social services agency, or with one of the following organizations:

Alcoholics Anonymous is a voluntary fellowship of alcoholics whose purpose is to help themselves and each other get—and stay—sober. For information, call your local chapter or write to the national office at P.O. Box 459, Grand Central Station, New York, NY 10163. The AA can also send you their free pamphlet, *Time to Start Living*.

The National Clearinghouse for Alcohol and Drug Abuse Information is a Federal information service that answers public inquiries, distributes written materials, and conducts literature searches. Write to them at P.O. Box 2345, Rockville, MD 20852.

The National Council on Alcoholism and Drug Dependence, Inc., can refer you to treatment services in your area. Write to the national headquarters at 12 West 21st Street, New York, NY 10010; or call (800) NCA-CALL.

The National Institute on Aging offers a variety of resources on aging. Write to the NIA Information Center, P.O. Box 8057, Gaithersburg, MD 20898-8057.

1991

Age Page

“Shots” for Safety

Immunizations, or “shots,” are not just for infants and children. Adults also need to be immunized from time to time to be protected against serious infectious diseases. In fact, some immunizations are more important for adults than for children.

The U.S. Public Health Service strongly encourages older adults to be immunized against influenza, pneumococcal diseases (especially pneumonia), diphtheria, and tetanus.

Influenza

Usually referred to as the “flu,” influenza is a highly contagious disease that causes a variety of well-known symptoms, including fever, aches and pains, sore throat, runny nose, and chills. When older people get the flu, they are more likely to develop dangerous complications such as pneumonia, dehydration (loss of water), weight loss, or other possibly serious problems.

Because different strains of the influenza virus tend to spread each flu season, a new vaccine is prepared each year. For this reason, it is necessary to receive a yearly shot. In order to give your body time to build the proper immunity, it is important to get a flu shot in early November, before the flu season usually starts.

Although side effects from flu shots are slight for most people, there may be brief, low-grade fever and some minor

aches and pains. According to the Centers for Disease Control, recent flu vaccines have not caused the serious side effects that occurred in some people after the 1976 swine flu vaccine.

In addition to the flu shot, an antiviral drug—amantadine—can prevent infection by certain flu strains. This drug can be used by people who never had the flu vaccine or as extra protection by those who have been immunized. This drug can also be taken soon after the early signs of flu are felt. While it doesn't actually prevent infection, amantadine can reduce fever and other flu symptoms.

Pneumococcal Disease

Pneumococcal bacteria can cause a number of infections, including those affecting the lungs (pneumonia), the blood (bacteremia), or the covering of the brain (meningitis). Older people are 2 to 3 times more likely than younger people to suffer from pneumococcal disease, which can be much more severe in older adults.

At this time, medical experts agree that the pneumococcal vaccine is needed only *once*. This one-time immunization protects against 87 percent of the kinds of bacteria that cause pneumococcal disease. Some studies indicate that the younger the patient, the better the results, so it is best to be immunized as soon as possible. Side

effects (low fever and local soreness) are minor and go away quickly. In fact, the pneumococcal vaccine can be given at the same time as the flu shot without increasing the side effects.

Tetanus and Diphtheria

Most people have been immunized against tetanus (sometimes called lock-jaw) and diphtheria (a bacterial disease that affects the throat and windpipe). But a booster shot is needed every 10 years to keep you protected from these rare but dangerous illnesses. During everyday activities (such as gardening or outside recreation), the tetanus bacteria can enter a break in the skin and cause infection, so it is important to have a booster shot if you have a severe cut or puncture wound.

In most cases, the tetanus shot also includes the diphtheria vaccine. The immunity for diphtheria also lasts 10 years. The side effects of the shot are minor and usually involve only local soreness and a slight fever. The Centers for Disease Control suggests the use of "mid-decade" (e.g., 45, 55, etc.) birthdays as regular dates to review adult immunizations.

Other Immunizations

Because of particular exposures or risks, you may need other immunizations such as those for hepatitis B or rubella. If you have any questions about your need for a particular immunization, call your local public health department or ask your doctor.

If you are planning to travel abroad, check with your doctor or local health department about immunizations that may be required or highly recom-

mended. Since some immunizations involve a series of shots, it is best to arrange for them to be given at least 2 or 3 months before your trip.

Keeping a Shot Record

It is helpful to keep a personal immunization record with the types and dates of shots you have received, as well as any side effects or problems that you had. The medical records in your doctor's office also should be kept up to date.

Widespread use of vaccines can reduce the risk of developing a number of contagious diseases that can seriously affect older people. You can protect yourself against these illnesses by including appropriate immunizations as part of your regular health care.

Resources

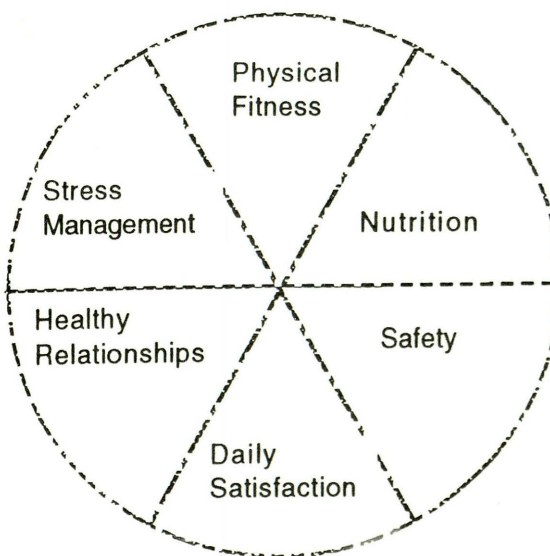
An informative booklet about this subject, entitled *Immunization of Adults: A Call to Action*, is available from the Centers for Disease Control. For a free copy, write to Technical Information Services, Centers for Disease Control, Center for Prevention Services, Division of Immunization, Atlanta, GA 30333, or call (404) 639-1819.

A free booklet called *Flu* is available from the National Institute of Allergy and Infectious Diseases, 9000 Rockville Pike, Bethesda, MD 20892, or call (301) 496-5717.

For more information about health and aging, contact the National Institute on Aging, Federal Building, Room 6C12, Bethesda, MD 20892, or call (301) 496-1752.

DECIDING WHERE TO START

- * What change do I need the most?
- * Which change will give me the best payoff?
- * Which change will bring me the fastest success?
- * If I need help and support to change, where will I get it?



WHERE I'M GOING TO BEGIN: _____

REASONS: _____

SMART PLAN CONTRACT

I, _____(your name), set the
following goal for myself: _____

_____.

The following people have agreed to help me:

Person

Method of helping

I will give myself rewards at these milestones:

I will keep track of my progress by:

_____.

Signed: _____

Date: _____

Appendix M
Beck Depression Inventory

CODE ____

DATE _____

BECK DEPRESSION INVENTORY

Choose one statement under each letter that best describes you for the last seven days. Circle the number to the left of the statement you have chosen.

- A. 0 I do not feel sad.
 1 I feel sad.
 2 I am sad all the time and I can't snap out of it.
 3 I am so sad or unhappy that I can't stand it.
- B. 0 I am not particularly discouraged about the future.
 1 I feel discouraged about the future.
 2 I feel I have nothing to look forward to.
 3 I feel that the future is hopeless and that things cannot improve.
- C. 0 I do not feel like a failure.
 1 I feel I have failed more than the average person.
 2 As I look back on my life, all I can see is a lot of failures.
 3 I feel I am a complete failure as a person.
- D. 0 I get as much satisfaction out of things as I used to.
 1 I don't enjoy things the way I used to.
 2 I don't get real satisfaction out of anything anymore.
 3 I am dissatisfied or bored with everything.

- E. 0 I don't feel particularly guilty.
 1 I feel guilty a good part of the time.
 2 I feel quite guilty most of the time.
 3 I feel guilty all of the time.
- F. 0 I don't feel I am being punished.
 1 I feel I may be punished.
 2 I expect to be punished.
 3 I feel I am being punished.
- G. 0 I don't feel disappointed in myself.
 1 I am disappointed in myself.
 2 I am disgusted with myself.
 3 I hate myself.
- H. 0 I don't feel I am any worse than anyone else
 1 I am critical of myself for my weaknesses
 or mistakes.
 2 I do blame myself all the time for my faults.
 3 I blame myself for everything bad that
 happens.
- I. 0 I don't have any thoughts of killing myself.
 1 I have thoughts of killing myself, but I would
 not carry them out.
 2 I would like to kill myself.
 3 I would kill myself if I had the chance.
- J. 0 I don't cry anymore than usual.
 1 I cry more now than I used to.
 2 I cry all the time now.
 3 I used to be able to cry, but now I can't cry
 even though I want to.

- K. 0 I am no more irritated now than I ever am.
 1 I get annoyed or irritated more easily than I
 used to.
 2 I feel irritated all the time now.
 3 I don't get irritated at all by the things that
 used to irritate me.
- L. 0 I have not lost interest in other people.
 1 I am less interested in other people that I
 used to be.
 2 I have lost most of my interest in other
 people.
 3 I have lost all of my interest in other people.
- M. 0 I make decisions about as well as I ever
 could.
 1 I put off making decisions more than I used
 to.
 2 I have greater difficulty in making decisions
 than before.
 3 I can't make decisions at all anymore.
- N. 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or
 unattractive.
 2 I feel that there are permanent changes in
 my appearance that make me look
 unattractive.
 3 I believe that I look ugly.

4.

- O. 0 I can work about as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.
- P. 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.
- Q. 0 I don't get more tired than usual.
 1 I get tired more easily than I used to.
 2 I get tired from doing almost anything.
 3 I am too tired to do anything.
- R. 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all anymore.
- S. 0 I haven't lost much weight, if any, lately.
 1 I have lost more than 5 pounds.
 2 I have lost more than 10 pounds.
 3 I have lost more than 15 pounds.
I am purposely trying to lose weight by eating less: Yes _____ No _____

- T. 0 I am no more worried about my health than usual.
- 1 I am worried about physical problems such as aches and pains; or upset stomach, or constipation.
- 2 I am worried about physical problems and it's hard to think of much else.
- 3 I am so worried about my physical problems, that I cannot think about anything else.
- U. 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I am much less interested in sex now.
- 3 I have lost interest in sex completely.

Appendix N
Multidimensional Health Locus of Control

CODE ____

DATE _____

MULTIDIMENSIONAL HEALTH LOCUS OF CONTROL

This is a questionnaire designed to determine the way in which different people view certain important health-related issues. Each item is a belief statement with which you may agree or disagree. Each statement can be rated on a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to record the number that represents the extent to which you disagree or agree with the statement. The more strongly you agree with a statement, then the higher will be the number you record. The more strongly you disagree with a statement, then the lower will be the number you record. Please make sure that you answer every item and that you record only one number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

- 1. = Strongly disagree
- 2. = Moderately disagree
- 3. = Slightly disagree

- 4. = Slightly agree
- 5. = Moderately agree
- 6. = Strongly agree

Form A

- ___ 1. If I get sick, it is my own behavior which determines how soon I get well again.
- ___ 2. No matter what I do, if I am going to get sick, I will get sick.
- ___ 3. Having regular contact with my physician is the best way for me to avoid illness.
- ___ 4. Most things that affect my health happen to me by accident.
- ___ 5. Whenever I don't feel well, I should consult a medically trained professional.
- ___ 6. I am in control of my health.
- ___ 7. My family has a lot to do with my becoming sick or staying healthy.
- ___ 8. When I get sick, I am to blame.
- ___ 9. Luck plays a big part in determining how soon I will recover from an illness.
- ___ 10. Health professionals control my health.
- ___ 11. My good health is largely a matter of good fortune.
- ___ 12. The main thing which affects my health is what I myself do.
- ___ 13. If I take care of myself, I can avoid illness.
- ___ 14. When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
- ___ 15. No matter what I do, I'm likely to get sick.
- ___ 16. If it's meant to be, I will stay healthy.
- ___ 17. If I take the right actions, I can stay healthy.
- ___ 18. Regarding my health, I can only do what my doctor tells me to do.

Form B

- ☐ 1. If I become sick, I have the power to make myself well again.
- ☐ 2. Often I feel that no matter what I do, if I am going to get sick, I will get sick.
- ☐ 3. If I see an excellent doctor regularly, I am less likely to have health problems.
- ☐ 4. It seems that my health is greatly influenced by accidental happenings.
- ☐ 5. I can only maintain my health by consulting health professionals.
- ☐ 6. I am directly responsible for my health.
- ☐ 7. Other people play a big part in whether I stay healthy or become sick.
- ☐ 8. Whatever goes wrong with my health is my own fault.
- ☐ 9. When I am sick, I just have to let nature run its course.
- ☐ 10. Health professionals keep me healthy.
- ☐ 11. When I stay healthy, I'm just plain lucky.
- ☐ 12. My physical well-being depends on how well I take care of myself.
- ☐ 13. When I feel ill, I know it is because I have not been taking care of myself properly.
- ☐ 14. The type of care I receive from other people is what is responsible for how well I recover from an illness.
- ☐ 15. Even when I take care of myself, it's easy to get sick.
- ☐ 16. When I become ill, it's a matter of fate.
- ☐ 17. I can pretty much stay healthy by taking good care of myself.
- ☐ 18. Following doctor's orders to the letter is the best way for me to stay healthy.