CHAPTER 10

PHYSICAL ACTIVITY AND SUCCESSFUL AGING

10.1. Introduction 10-3
10.2. General Overview of the LIFE Interventions 10-3
10.3. Theoretical Issues – Behavioral Strategies and Principles 10-4
10.4. Physical Activity Intervention 10-4
10.4.1 Stepped-care approach to physical activity promotion 10-7
10.4.2 Monitoring of participant information 10-7
10.4.3 Behavioral strategies for the physical activity group 10-7
10.4.4 Intentionally Blank 10-9
10.4.5 Draft Letter to PCP about LIFE Study 10-10
10.5. Aerobic Component of the Physical Activity Intervention 10-11
10.6. Strength Training Component of the Intervention 10-14
10.7. Balance Training Module 10-33
10.8. Upper Body Exercises 10-44
10.9. Protocol for Handling Illnesses/Injury and Other Health Problems 10-53
10.10. Behavioral Component of the Intervention 10-57
10.11. "Successful Aging" Health Education Group 10-87
10.11.1 Overview 10-87
10.11.2 "Successful Aging Workshops" Class Format & Protocol 10-88
10.11.2.1 Suggested Class Topics and Homework Activities 10-90
10.11.2.2 Sample Presentations 10-94
10.11.2.3 Sample Class Calendar & Attendance Sheet 10-98
10.11.2.4 Sample Homework Assignments 10-100
10.11.2.5 Protocol for Soliciting Guest Speakers 10-101
10.11.3 Upper Extremity Stretching Protocol 10-106
10.11.4 Newsletters 10-110
10.11.5 Behavioral Strategies for Successful Aging Arm 10-110
10.11.5.1 Incentives 10-113
10.11.6 Intentionally Blank 10-113

10.11.6.1 Binder/Folder Contents for Successful Aging.....10-113
10.11.6.2 Sample Welcome Letter for Study Binder.....10-115
10.11.6.3 Successful Aging Workshop Description and Expectations Contract 10-116
10.11.6.4 Draft Letter to PCP about LIFE Study.....10-117
10.11.7 First Individual Face-to-Face Contact 10-118
10.11.8 Telephone Contact.....10-121
10.11.9 Successful Aging Workshop Debriefing Protocol.....10-127
10.12. Intervention Safety.....10-128
10.13. Intervention Forms 10-131
10.13.1 Tracking System.....10-133
10.13.2 Health/Symptoms Letter 10-134
10.13.3 Physical Activity Training Procedures 10-136
Appendix A. LIFE Study SA Stretching Manual 10-141

Study Documents Referred to in this Chapter:

- Physical Activity Session – Center
- Physical Activity Session - Home
- Successful Aging Session
- Participant Extended Leave

CHAPTER 10

PHYSICAL ACTIVITY AND SUCCESSFUL AGING

10.1. Introduction

LIFE is a multi-center randomized comparison trial involving two treatment groups: a structured Physical Activity intervention and a "Successful Aging" health education intervention. At no time should interventionists discuss individual participants in LIFE with personnel who may be conducting formal follow-up assessments. As a general rule, study interventionists should remain masked to the results from formal assessments. This is particularly critical for follow-up testing that will be conducted in each clinic to assess the effects of the treatments on a variety of health outcomes. However, the interventionists for the physical activity group will need access to outcome data including (1) information from the medical records to assist in preparing individual prescriptions for physical activity, and (2) prescription medications being taken by participants assigned to the physical activity group. Because this is a multi-center trial, it is vital that interventionists follow the intervention protocol closely to reduce, as much as possible, treatment variability between centers. Quality control is critical to the success of the trial.

10.2. General overview of the LIFE intervention:

Participants will be randomized to the **physical activity** intervention or to the **successful aging** health education comparison group. The physical activity intervention is of moderate intensity and will consist of aerobic, strength, flexibility, and balance training, with a target duration of 150 minutes per week. Based on our experience, these interventions can be successfully delivered to older individuals, including frail persons, and can result in sustained participation rates and improved physical function. **Spanish speaking** staff will be available when needed. The Successful Aging group will consist of a series of classes, lectures, and field trips/outings aimed at increasing awareness of important health issues relevant to older adults so as to control for social contact, attention, and perceived benefit of this arm of the intervention.

To standardize subjects' initial levels of knowledge related to general aspects of physical activity, subjects in **both** study arms will initially receive the same **standard, up-to-date physical activity pamphlet information**, which reflects the current national guidelines concerning the general health benefits of physical activity. In addition, subjects randomized into the PA intervention will periodically receive basic printed materials from the SA group sessions. These materials will be distributed at the end of the adoption phase of PA (at 1 year) and also at the end of the study. At each time period, each participant in the PA group will receive 10 NIA Age Page brochures that broadly represent the content of the SA workshops. These materials will be chosen by the Successful Aging Chair and posted on the LIFE SA website. It will be the responsibility of the SA Interventionist to give the materials to the PA Interventionist for timely distribution.

10.3. Theoretical issues - behavioral strategies and principles

The intervention work of the collaborative group of scientists participating in the trial has been based upon a **social cognitive model of acquisition and maintenance of health behaviors**. The social cognitive approach views behavior (including health behavior) as being acquired and maintained through a complex set of behavioral, cognitive, and environmental conditions. Social cognitive intervention strategies have been found in a number of studies to be effective with older as well as younger adults, and with programs aimed at physical activity as well as with other forms of health behavior change. Social cognitive theory concepts are combined with strategies derived from recent applications of the Transtheoretical Model to the area of physical activity (e.g., consciousness raising and other cognitive approaches in the preparation and action phases early in the program; reinforcement management and related behavioral approaches in the later phase of the program). These are applied systematically in administering the intervention in this study.

Specific behavioral strategies for each intervention arm are detailed in Section 10.10, section I for the physical activity intervention and Section 10.11.1 for the Successful Aging health education group.

Practical Issues

Commensurate with current physical activity recommendations for health, subjects in BOTH study groups will initially receive the same American Heart Association pamphlet information, which reflects the current national guidelines concerning the general health benefits of physical activity. Presentation of this basic information across both intervention groups will standardize subjects' level of knowledge about general aspects of physical activity at the beginning of the study. In addition subjects randomized into the physical activity intervention will receive printed materials from the successful aging group sessions.

10.4. Physical Activity intervention

Components of training

The physical activity program will include aerobic, strength, flexibility, and balance training. We will focus on **walking** as the primary mode of physical activity for preventing/postponing the primary outcome of major mobility disability, given its widespread popularity and ease of administration across a broad segment of the older adult population. Other forms of endurance activity (e.g., stationary cycling) are utilized when regular walking is contraindicated medically or behaviorally. Each session is preceded by a brief warm-up and followed by a brief cool-down period. In light of current clinical guidelines, participants are instructed to complete **flexibility** exercises following each bout of walking. Moreover, three times per week, following a bout of walking, participants are instructed during the initial phase of the program to complete a 10-minute routine that focuses primarily on **lower extremity muscle strengthening.** Supplementary instructional materials (e.g., videotapes, printed materials) are

supplied to participants in this group, to reinforce the strength training occurring during setting-based instruction, so that it can be generalized to the home environment. **Balance training** is performed by all participants. In addition, the intervention will involve encouraging participants to increase all forms of physical activity throughout the day. This may include activities such as leisure sports, gardening, use of stairs as opposed to escalators, and leisurely walks with friends.

Intensity of training. The participants will be introduced to the intervention exercises in a structured way such that they begin with **lighter intensity and gradually increase intensity** over the first 2-3 weeks of the intervention. We will promote walking for physical activity at a **moderate intensity**. We will rely on **ratings of perceived exertion** and physical activity heart rate as a method to regulate physical activity intensity.[293;294] Using Borg's scale,[282] that ranges from 6 to 20, participants are asked to walk at an intensity of 13 (activity perception SOMEWHAT HARD). They are discouraged from exercising at levels that approach or exceed 15 (HARD) or drop to a rating of 11 (FAIRLY LIGHT) or below. Heart rate will be monitored weekly during the walking phase of the program to confirm the target training intensity. A set of lower extremity strengthening exercises are performed (2 sets of 10 repetitions) at an intensity of 15 to 16 using Borg's scale for the strength training component of the program.

Frequency and duration of training

The intervention will consist of a general weekly walking goal of 150 minutes. This is consistent with the public health message from the Physical Activity Guidelines for Americans report that moderate physical activity should be performed for 30 minutes on most if not all days of the week (150-210 total minutes). This goal is **approached in a progressive manner** across the first 3 months of the trial. There are multiple ways that the goal can be achieved, based on the physical abilities and constraints of each participant. In light of the **heterogeneity** of the target population (with respect to physical capabilities and health status), the study protocol allows us to more specifically define the variability in participants' ability to reach this weekly target, to estimate the dose-response relationship between incremental increases in weekly physical activity and changes in the primary and secondary outcomes, and to better specify the level of ongoing behavioral instruction needed to achieve such changes.

Table 10.4. Intervention staff contacts for physical activity group

Wk	Center-Based Physical Activity	Home-Based Physical Activity
Adoption: wks 1-52	2 times each wk	1 time/wk (wks 1-4) 2 times/wk (wks 4-8) Up to3-4 times/wk (wks 8-52)
Maintenance: wks 53 – end	2 times each wk	Up to 3-4 times/wk

Intervention phases
The physical activity intervention will comprise the following two phases:

Adoption phase (wks 1-52)
• As undertaken in other programs with older adults,[147, 371, 374] each participant randomized to the PA group will receive a 45-min individualized, face-to-face **introductory session**, during which time the program will be described, questions will be answered, and results from each individual's baseline assessment will be utilized to tailor the program with respect to exercise progression, so as to optimize safety and participation levels.
• Two **center-based** exercise instruction sessions per week will be conducted in a supervised setting. These sessions will be used to initiate the walking program and to introduce participants to the strength, stretching, and balance portions of the program in a safe and effective manner. The supervised setting will allow instructors to better tailor the program to individual needs and abilities early on, so as to prevent early dropout and to facilitate the building of self-efficacy and support, which have been found to be key to long-term physical activity maintenance.[375] These exercise sessions will involve 40-60 mins of exercise instruction. For those participants who miss 2 consecutive exercise class sessions, without informing the exercise staff of their absence, exercise staff will call the participant to problem-solve ways to get the participant back to class.

In addition, the center-based sessions will be supplemented, in a progressive fashion, by **home-based** exercises as a means of promoting physical activity in multiple settings to aid behavioral generalization and long-term adherence. This has been found to be a key feature of sustained physical activity participation among older as well as younger adults.[133] Appropriate community based exercise facilities (e.g., YMCAs; senior centers) will be identified for those persons preferring to undertake center-based activities on a more frequent basis throughout the week.

Maintenance phase (wk 53 through the end of the trial): The Maintenance phase will consist of:

- Continued twice-per-week **center-based** group exercise sessions offered to each participant.
- Progression of home-based physical activity to 3-4 times per wk.
- For those participants who miss 2 consecutive exercise class sessions without informing the staff, exercise staff will call the participant to problem-solve ways to get the participant back to class. For those participants for whom it is deemed necessary or appropriate to move to a primarily home-based exercise program at this juncture, we will, as we have done in previous exercise studies with older adults, have the exercise instructor and participant mutually agree on the most efficacious schedule of staff-initiated telephone contacts (typically occurring 1/mo for such individuals). As noted earlier, such regular telephone contacts have been used successfully to promote ongoing adherence to physical activity among diverse groups of adults,

including older adults and ethnic/racial minorities.[257, 371]

10.4.1 Stepped-care approach to physical activity promotion

Initial physical activity prescriptions are individualized, based on participants' baseline levels of endurance capacity, strength, balance, and behavioral readiness for the regimen. Once participants are randomized, the stepped-care model is implemented with the assistance of a computerized tracking system.

10.4.2. Monitoring of participant information and scheduled intervention sessions

When participants first enter the physical activity intervention, their **demographic and contact information** are entered into a structured data window that is part of the computerized tracking system. In addition, the computer will prompt interventionists to complete **session cards** for participants at each scheduled visit. These session cards include information on attendance and the amount of physical activity completed during the visit. In addition, on a weekly basis, interventionists will enter the total number of minutes of physical activity performed each week of the previous week (recorded in logs). In this manner, we can track and promote physical activity that is occurring both at the center and off site.

10.4.3 Behavioral strategies for the physical activity group

During the **adoption phase** (first 12 months) the primary behavioral techniques will include:

1) **Personalized feedback and setting of individualized goals**, based on functional testing that occurs during the initial center-based physical activity session, and based on determination of an individualized physical activity program that is tailored to physical performance test results.
2) **Specific structuring of expectations** concerning the effects of physical activity, to ensure that subjects (participants)expectations are reasonable and realistic.
3) **Consciousness raising** and similar experiential processes related to the problems of under-activity, and the benefits of adopting a more active, heart-healthy lifestyle (e.g., self-reevaluation processes).
4) The use of a staff-participant **contract** to clarify goals and increase initial participant commitment to the goals. This contract, read and signed by the participant and staff member following random assignment to the physical activity group, restates the responsibilities of both the participant and project staff with respect to the study, and is used to note the specifics of the first several weeks of the intervention (e.g., days, location).
5) Frequent **individual instruction** (through the scheduled center-based sessions), support, goal-setting, and feedback with a trained staff person throughout the intervention period, tailored to facilitate each individual's ongoing behavioral participation as well as performance level.

6) Provision of all center-based **physical activity equipment** as deemed appropriate.
7) Distribution of easy-to-read **written materials** to prompt regular and appropriate participation in the physical activity programs.
8) Instructions to maintain a simple daily **activity log or calendar**, which details duration, frequency of activities being undertaken, and strength training performed. Such logs have been used extensively in previous studies of older adults and have been found to be brief and easy to complete by older men and women across periods spanning 12 to 24 months. Participants will review these logs weekly with the field center staff during the adoption and maintenance phases of the study. This approach to encouraging home-based physical activity has proven to be successful in other physical activity studies that we have undertaken.
9) Instruction in the use of **visual prompts** to encourage and reinforce successful change.
10) Monitoring of **immediate disincentives** to adherence (e.g., discomfort, perceived inconvenience) on the activity logs/calendar, and active brainstorming with staff members to minimize them.
11) Introduction to **relapse prevention** strategies by identifying and planning for high-risk situations such as illness, in which early relapse from physical activity programs is likely. This also includes instruction in problem-solving methods and skills to help individuals develop and apply strategies, so that they may overcome barriers to attaining their physical activity goals.

During the **maintenance phase,** which runs from the 12-month visit until the end of the trial, the primary behavioral techniques will include:

1) **Regular updating of behavioral and performance-based goals,** to ensure that goals remain realistic yet challenging.
2) Continued **logging** of target behaviors.
3) Receipt of relevant individualized **feedback** from the physical activity classes through use of summary information on training goals provided by the computerized tracking system.
4) Further development of plans to keep the regimen **flexible**, with respect to location, scheduling, and other issues, to accommodate preferences as well as periodic fluctuations in motivation and schedules.
5) Increased instruction in and use of **self-rewards** and other self-comparison, reinforcement management strategies for behavioral maintenance.[287]
6) Increased practice in the application of subject-initiated **relapse prevention and problem-solving strategies**, with relevant feedback and support provided by the intervention staff through telephone and center-based contacts.
7) Continued use of **stimulus comparison** strategies (e.g., visual prompts) to promote maintenance.
8) Continued receipt of **social support** via regular contacts.

10.4.4 Intentionally Blank

10.4.5 Draft Letter to PCP about LIFE Study

An informational letter to each participant's primary care physician will be sent at the time of randomization to all LIFE study participants (see draft).

<Physician's name>
<Address>

<Date>

Dear Dr. <Name>:

Your patient, _____, has been enrolled in the Lifestyle Interventions and Independence for Elders (LIFE) study. This clinical research study is sponsored by the National Institute on Aging. A total of 1,600 sedentary persons aged 70-90 years who are at risk of disability will be followed for up to 3.7 years at 8 sites: the University of Pittsburgh in Pittsburgh, PA, Wake Forest University School of Medicine in Winston Salem, NC, Pennington Biomedical Research Center in Baton Rouge, LA, Tufts University in Boston, MA, Yale University in New Haven, CT, University of Florida in Gainesville, FL, Northwestern University in Chicago, IL, and Stanford University in Palo Alto, CA.

This research study will assess 2 different programs designed to enhance independence and to improve your patient's health. The 2 programs being evaluated are a Successful aging workshop program and a physical activity program. **Your patient has been randomized to the Physical Activity program.** The program, supervised by trained exercise physiologists, includes:

- Moderate intensity walking
- Strength training with ankle weights
- Balance and flexibility training

Your patient is expected to attend supervised sessions 2 times/week for the duration of the study and increase their home-based physical activity to 3-4 days per week in a progressive manner. The study will last up to 3.7 years.

The Principal Investigator of the (field center) is (field center PI). **The Coordinator of the Physical Activity Program is (**interventionist**)**. He/she can be reached at (phone number) if you have any questions or concerns.

Sincerely,

Field Center Principal Investigator/Project Director

10.5. Aerobic component of the physical activity intervention

1 Selecting type of physical activity and intensities

The primary physical activity is overground walking. Participants are taught to assess their Rating of Perceived Exertion Borg scale (RPE) using the Borg scale during the initial supervised physical activity sessions and periodically checked through out the study to assure continued understanding. We will promote a walking pace at a moderate intensity as defined as an RPE of 13. If the RPE drops to a rating below 11 or exceeds a rating of 15 the participant's walking pace is adjusted. To ensure the goal of "moderate" physical activity intensity, physical activity heart rate will be monitored at weekly intervals during the study. Exercise training sessions will be terminated if the exercising heart rate is observed to be greater than 90% of age-predicted maximal heart rate. The participant will subsequently be reevaluated for medical contraindications to exercise and re-assessment of their exercise intensity goals. In addition, blood pressure and heart rate are monitored before and after physical activity during all clinic-based training sessions. To enhance safety, blood pressure and heart rate should be monitored **during** the walking at **each** center based session in participants who had experienced any of the following at a previous physical activity session:

- Resting blood pressure systolic ≥ 200 mm Hg or diastolic ≥ 100 mm Hg
- Decrease in systolic blood pressure ≥20 mm Hg following the activity
- Increase in systolic blood pressure to ≥250 mm Hg or in diastolic blood pressure ≥115 mm Hg following the activity
- Resting heart rate ≥120 bts./min or ≤ 45 bts./min
- Increase in heart rate ≥90% of age predicted maximum
- Unusual or severe shortness of breath
- Chest pain or including chest discomfort or pressure, left arm pain, report of indigestion or stomach discomfort
- Palpitations
- Light headedness, dizziness or feeling about to faint
- A physical activity session had to be discontinued because of other symptoms excluding musculoskeletal symptoms (eg., knees, ankles, hips) reported by the participant.

*If participants exhibit hypertensive responses, exaggerated heart rate responses, or symptoms with exercise (See BP guidelines Ch. 10, section 10.12), they will be referred to their PCP for follow up and blood pressure and heart rate will be subsequently monitored during exercise at all onsite physical activity sessions.

The walking portion of the intervention should be performed in an area where the participant can be observed by the interventionist at all times, and there is access to a telephone and other emergency equipment.

2 Training Program

A. There are two phases to the aerobic intervention program: Adoption phase (weeks 1-52), and the Maintenance phase (weeks 52 to trial completion).

B. This design for the first 52 weeks after randomization, as stated above, is defined as the **Adoption phase**. The phase begins with a 45-minute face-to-face introductory session during which time the program is described, questions are answered and the results from each individual's baseline assessment are used to tailor the program with respect to physical activity progression. Although we want each participant to achieve the total number of minutes per week required by the physical activity intervention, we realize that it may not be possible for all participants to immediately be capable of exercising at longer durations. For this reason, the goal is 60 minutes of walking per week during the first three weeks. Further, during the first three weeks it is acceptable for individuals who are very de-conditioned to work at an RPE < 11. Physical activity will increase to 90 minutes per week and increasing intensity approaching an RPE of 13 for weeks 4-6 and finally 120 minutes per week starting at week 7. This gradual increase in total energy expenditure should make it easier for participants to reach their goal and may minimize fatigue, soreness, injuries, and dropouts. During the adoption phase, the participants come to the center 2 days per week and gradually increase the number of home-based physical activity sessions. The initial physical activity sessions will start as approximately 20 minutes each of walking and over the subsequent weeks gradually increase to 40 minutes. While these guidelines serve only as goals, the physical activity sessions will be tailored to each participant's own ability. For example, participants who are very de-conditioned at baseline may have to perform the walking program in a more "intermittent" fashion. **In addition, if the target RPE intensity of13 cannot be achieved then the interventionists will place more emphasis on the time spent walking to maximize the achievement of the walking duration goals proposed. It is acceptable and expected that some participants will need to perform their walking at varying timed intervals interspersed with rest periods (approximately 5 min.). These intervals should be tailored to the individual participant and continuous walking should be encouraged as the person becomes more comfortable with the exercise protocol.**

C. The second phase or **Maintenance phase** will cover weeks 53 to the end of the trial. Participants will report to the intervention site 2 times a

week for supervised physical activity sessions lasting 40-60 minutes. Participants are responsible for completing and documenting the remainder of their weekly-prescribed physical activity under unsupervised conditions (i.e. free living). Appropriate community based physical activity facilities are identified to help the participants make the transition from the research center based physical activity to community-based exercise.

D. During each visit to the study center participants are assessed briefly for cognitive function by a staff member. This assessment will determine if a participant is capable of safely participating in physical activity that day. If a participant is not cleared for participation, formal documentation is completed stating the relevant reasons, the appointment is rescheduled, and the appropriate referrals made.

E. A typical physical activity session will consist of a 5-min warm-up consisting of low intensity walking (RPE < 9) or, when walking cannot be performed at an RPE <9, stationary cycling. Participants then complete walking and strength training at the target RPE for each activity for the amount of time prescribed. As stated above the duration and intensity of each session generally will depend on the individual's capabilities and the phase of the study they are in. In general each session is that time required to obtain one-quarter or one-third of the total weekly prescribed. However, the duration can be modified as needed based on participant scheduling issues or problems that require adjustment. At intervals throughout the training session participants are asked to assess their RPE. At the end of each physical activity session there will be 3 minutes of cool down which will consist of gradually reducing the walking speed.

F. Unforeseen circumstances may prevent an individual from coming to the center, but still allow for them to continue exercising, e.g., a trip planned out of town for a few weeks. In these situations, participants are sent with a physical activity prescription. We will have the precise data from the participant's physical activity sessions in the laboratory, and can use this information to develop a specific and accurate physical activity prescription. They will also be asked to keep a diary of the frequency and duration of their physical activity sessions.

3 Recording of Training Data

A. At the end of each daily session, the average training RPE, session duration, and distance covered is calculated and recorded. Thus a consistency of training can be created and data can be observed for daily training sessions to adjust for weekly physical activity duration compliance.

B. These data are plotted for each subject and compared to previous data. When a discrepancy appears, the data are reviewed; subjects are questioned, etc. in an attempt to find the reason(s). Comments are to be made in each subject's file.

4 Recording Home Based Training sessions

A. Participants are instructed from the very first physical activity session on how to plan, implement, and document their intervention program. A training log is given to participants for documenting their physical activity while they are at home. Intervention staff will review the training logs weekly during the adoption and maintenance phases and discuss any discrepancies identified with the participant.

B. The training logs will show data participants must document to receive credit for completing. Specifically, date, duration of physical activity, and strength training weight (completed sets/reps.).

10.6 Strength training component of the physical activity intervention

1 Overview

The strength training protocol is performed by all subjects randomized into the physical activity intervention. Strength training will focus primarily on five lower extremity exercises. Variable weight ankle weights are provided to all subjects. The goal is that the strength training component is performed three times per week during all phases of the intervention.

Physical environment: The physical space to accommodate the strength training component of the intervention should be an open space of approximately 400 sq. ft. The space will need to accommodate chairs, participants and equipment. There should be enough space between chairs so that participants can hold their arms out to the sides without touching one another. A sturdy chair and a medium bath towel are needed for each participant. The ideal chair should have a firm seat with no arms and the chair should be high enough so that when participants sit all the way back, their feet barely touch the floor. The back of the chair should be high enough so that participants can hold onto it while standing behind it. The towel can be placed under the knees during the seated knee extension exercises to raise the participant’s feet off the floor.

2 Training Program

As with the aerobic training program there are two phases to the strength intervention program: Adoption phase (weeks 1-52) and the Maintenance phase (weeks 53 to trial completion). The components of the two phases of strength training are similar, i.e., the goal is to complete three sessions

of strength training per week at an intensity of 15 to 16 on the RPE scale. As each subject progresses through the phases of the study, they are responsible for logging their own training data and reporting the logs to the study interventionists.

A. The primary focus for the strength training intervention during the initial 1-2 months of the **Adoption phase** is: to orient the subjects to the concept of strength training, train the participants to perform and complete the exercises, and to instruct the subjects on training progression, and record keeping.

B. The second phase or **Maintenance phase** will cover weeks 53 to the end of the trial. Participants will report to the intervention site 2 times a week for supervised physical activity sessions lasting 40-60 minutes (including the walking and strength training). Participants are instructed on keeping their own training records and for completing and documenting the additional strength training session at home or other "off-site location".

C. Specific strength training exercises
Wide Leg Squat
Standing Leg Curl (with ankle weights)
Hip extension (with ankle weights)
Bent leg raise
Knee Extension (with ankle weights)
Knee extension with ankle circles (with ankle weights)
Side Hip Raise (with ankle weights)
Leg circle
Toe Stand
Toe out calf raise

Intensity and progression:
For each strength exercise the subjects are instructed to perform 10 repetitions (1 set), rest for 1 minute and then perform a second set. For the leg curl, knee extension, and side hip raise exercise, the participants are instructed to perform each set of ten and then alternate legs. This will minimize the total time to perform the strength training exercises without compromising the quality of the program. The intensity and progression of the strength training program are monitored using the rating of perceived exertion (RPE) scale. Subjects are educated in the use of the RPE scale and report their individual RPE at the end of each exercise. For the strength training exercises, the participants should be instructed to report a "localized" RPE for the muscle groups involved in the particular exercise.
Selection of appropriate weight and progression: For each strength exercise that uses the ankle weights (leg curl, hip extension, knee extension, knee extension with ankle circles, side hip raises), the appropriate starting weight is determined

by the study interventionist. At the start of a participant's physical activity program they will be given a pair of ankle weights to use for training. Initially the ankle weights will contain a small amount of weight (**3 lbs for men and 2 lbs for women**). During the introduction to the strength training portion of the physical activity intervention, the interventionist will orient the subject to strength training and begin with weight settings that are "light" (RPE 10 to 11) and easy for the subject to accomplish. In addition, participants are instructed NOT to use their ankle weights during walking or in the performance of regular household activities. They should only be worn for the strength training exercises. Participants should also be advised to wear comfortable clothing when performing their strength training exercises and that a comfortable pair of socks is advisable to prevent the development of skin irritation around the lower leg where the ankle weights are attached.

It is imperative for participants to complete the strength training at the proper intensity to maximize the training benefits. Intensity can be gauged using the RPE Scale (See forms). This scale ranges from 6 to 20 and is used to rate the difficulty of lifting a given weight. The participants should report a local RPE for the active muscle groups performing the exercise. The rating is determined for each exercise after completion of the second set of 10 repetitions. **The training goal for the LIFE study is an RPE of 15 to 16 ("HARD"). This intensity will be achieved in a progressive manner over a 4 week period depending on the progress of the subject and the discretion of the exercise interventionist. Some subjects may require a longer period of accommodation to the strength training exercises.**

During the first week, subjects should be encouraged to complete each strength exercise with weights that they can lift at least ten times with little difficulty ("LIGHT", RPE 10-11). If any of the exercises seems too difficult (e.g., if 10 repetitions cannot be completed), then the weight is too heavy and should be reduced.

During week 2, subjects will have the difficulty of each exercise reassessed using the current training weights. The RPE reported will be evaluated by the intervention staff together with the subject. For exercises in which the RPE has dropped below 10, a small increment in weight will be made to achieve an RPE of 12-13 ("SOMEWHAT HARD").

In week 3 the exercises will be reassessed and the weight increased to achieve an RPE of 13-14. Again, this increase in intensity may be prolonged at the discretion of the exercise interventionist depending on the adaptation of each participant to the strength exercises.

Finally, in week 4 the exercises will be reassessed and the weight increased to achieve an RPE of 15-16. Again, this increase in intensity may be prolonged at the discretion of the exercise interventionist depending on the adaptation of each participant to the strength exercises.

Proper breathing techniques are essential for the safe and appropriate performance of the strength training exercises. Subjects should be instructed to avoid holding their breath and/or performing the "Valsalva maneuver" during training. Subjects

are instructed to breathe through their mouths continuously and regularly throughout the exercises. This can be done in one of two ways. First, participants may count out loud to keep the pace of the exercises. Talking (counting) ensures that participants are not holding their breath. The second method entails inhaling before the lift, exhaling through the mouth while lifting, often referred to as “exhale during the exertion,” and inhaling through the nose during the lowering phase.

It is important for participants to start out at an easy level for all of these exercises. When the weight is light, the participant can safely learn the correct form of each strength exercise and learn how to breathe properly. After mastering proper technique, the participants can start to progress and meet the appropriate intensity for an effective workout.

3 The strength training protocol

Participants will complete 1 strength training exercise from all 5 groups, for a total of 5 exercises. All participants will complete the wide leg squat from group 1,

Group #1	Group #2	Group #3	Group #4	Group #5
Wide leg squat	Standing leg curl	Knee extension	Side hip raise	Toe stand
	Hip extension	Knee extension with ankle circles	Leg circles	Toe out calf raises
	Hip flexion			
	Bent leg raise			

and will have a choice of 1 exercise from each of the remaining 4 groups.

Group 1

STRENGTH EXERCISE 1: Wide Leg Squat

Starting position:

Participant stands with their feet slightly greater than shoulder-width apart about 6-8 inches in front of a chair with their arms crossed in front of their chest with shoulders relaxed.

The move:

1. Leaning slightly forward at the hip, participant aims their buttocks into the chair and slowly lowers themselves back to a seated position. During this exercise, keep their chest up (lifted) and their back, neck, and head in a straight line.
2. Pause for a breath in the seated position.
3. Leaning slightly forward, they should stand up slowly, making sure to keep their knees directly above the ankles. As they do this, they should push up from their heels through their lower legs, thighs, hips, and buttocks, which will help keep their knees from moving in front of their feet.
4. Participant repeats for a total 10 squats then pauses for a rest.
5. Participant completes 1 more set of 10 wide leg squats.

Notes for the study interventionist:

Participants should be sure to keep their chests lifted throughout the move, so that the body doesn't curl forward. Eyes should be looking straight ahead rather than down at the floor. If participants are experiencing any pain in their knees, interventionists should guide their technique to make sure they are not letting their knees move forward past their toes during the move and that the lower leg stays perpendicular to the floor. It is important to remind participants not to sit down in the chair completely. In addition, participants should be reminded to lower their bodies in a slow controlled manner during this exercise.

Make sure participants:

- Lean just slightly forward when beginning the move
- Don't allow their knees to come in front of their toes
- Tighten their abdominal muscles
- Don't hold their breath

Group 2

STRENGTH EXERCISE 2: Standing leg curl (with ankle weights)

Starting position:

Participant stands with their feet slightly apart behind a chair with their hands gently resting along the top of the chair back for balance. They are then instructed to shift their body weight to their left leg.

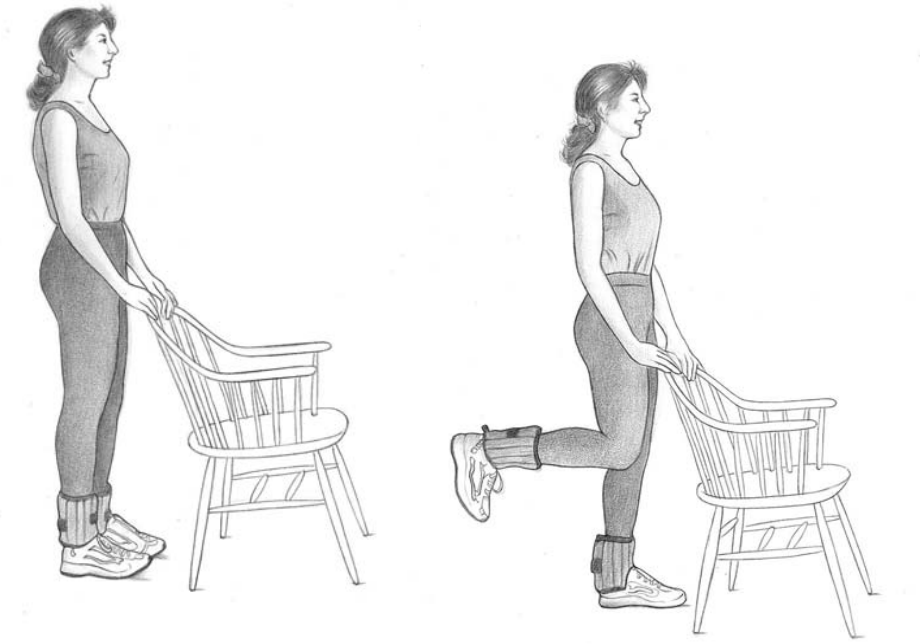
The move:

1. Keeping their thighs side-by-side, participant slowly lifts their right foot up towards their buttocks until their upper and lower leg form a ninety-degree angle.
2. Pause for a breath.
3. Slowly lower their right foot back to the ground. Repeat for a total of 10 times.
4. Shift weight to their right leg and perform the move 10 times with their left leg.
5. Participant completes 1 more set with right leg and then 1 more set with left leg.

Notes for the study interventionist:

Make sure the participants:

- ❖ Keep thighs and hips even and knees touching
- ❖ Don't arch their backs as they do the exercise
- ❖ Don't let the knee or thigh move forward as the lower leg curls up
- ❖ Don't hold their breath



STRENGTH EXERCISE 2: Hip Extension (with ankle weights)

Starting Position:

Participant stands with their feet slightly apart behind a chair with their hands gently resting along the top of the chair back for balance. They are then instructed to shift their body weight to their left leg.

The move:

1. Breathing in slowly, then breathing out and slowly lift right leg straight back without bending the knee or pointing the toes. Participant tries not to lean forward and the left leg should be slightly bent.
2. Hold position for 1 second.
3. Breathe in as the right leg is slowly lowered back to the ground.
4. Repeat for a total of 10 times with their right leg.
5. Participant shifts weight to their right leg and performs the move with left leg.
6. Repeat for a total 10 times with their left leg.
7. Participant completes 1 more set of 10 repetitions with their right leg and then 1 more set of 10 repetitions with their left leg.

STRENGTH EXERCISE 2: Hip Flexion (with ankle weights)

Starting Position:

Participant stands with their feet slightly apart behind a chair with their hands gently resting along the top of the chair back for balance. They are then instructed to shift their body weight to their left leg.

The move:

1. Slowly bend their right knee toward chest, without bending waist or hips.
2. Hold position for 1 second.
3. Slowly lower their right leg all the way down. Pause.
4. Repeat for a total 10 times with their right leg.
5. Shift body weight to their right leg. Perform the move with their left leg.
6. Repeat for a total 10 times with their left leg.
7. Participant completes 1 more set of 10 repetitions with their right leg and then 1 more set of 10 repetitions with their left leg.

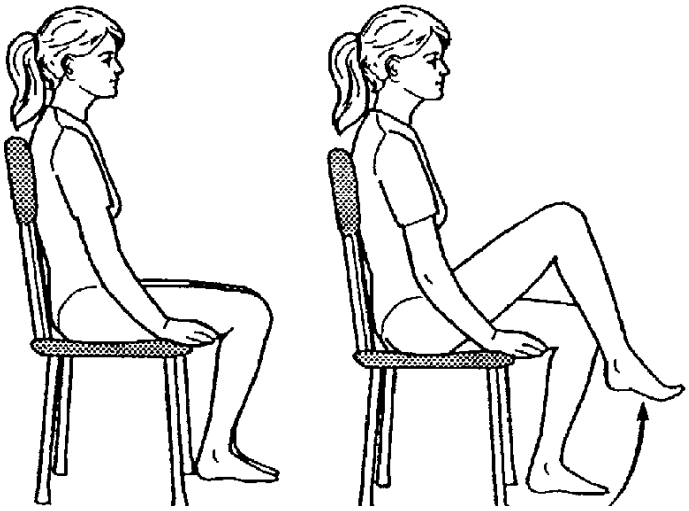
STRENGTH EXERCISE 2: Bent Leg Raise (alternative to standing hip flexion)

Starting position:

Participant is to sit back in a chair with their feet shoulder-width apart and knees slightly separated and directly above their feet.

The move:

1. Participant is to raise their right knee as high as possible while keeping the knee bent.
2. Slowly lower their right leg back down to the chair. Pause.
3. Repeat for a total 10 times with their right leg.
4. Participant then performs the move with their left leg.
5. Repeat for a total of 10 times with their left leg.
6. Participant completes 1 more set of 10 repetitions with their right leg and then 1 more set of 10 repetitions with their left leg.



<u>Group 3</u>

STRENGTH EXERCISE 3: Knee Extension (with ankle weights)

Starting position:

Participant is to sit back in a chair with their feet shoulder-width apart and knees slightly separated and directly above their feet. A rolled towel can be placed beneath the knees for comfort and to allow full range of motion during the exercise, as the toes should just brush against the floor when extending the leg.

The move:

1. Keeping their foot flexed, slowly raise their right leg until it is fully extended, with the knee as straight as possible.
2. Pause for a breath.
3. Slowly lower their right leg back to the ground.
4. Repeat for a total 10 times with their right leg.
5. Participant then performs the move with their left leg.
6. Repeat for a total 10 times with their left leg.
7. Participant completes 1 more set of 10 repetitions with their right leg and then 1 more set of 10 repetitions with their left leg.

Notes for the study interventionist:

Make sure participants:

- ❖ Don't arch their backs
- ❖ Straighten their legs as far as possible at the end of the lift – the last part of the muscle contraction is the most important
- ❖ Don't hold their breath

STRENGTH EXERCISE 3: Knee Extension and Ankle Circles (with ankle weights)

Starting position:

Participant is to sit back in a chair with their feet shoulder-width apart and knees slightly separated and directly above their feet. A rolled towel can be placed beneath the knees for comfort and to allow full range of motion during the exercise, as the toes should just brush against the floor when extending the leg.

The move:

1. Keeping their foot right foot flexed, slowly raise their right leg until it is fully extended.
2. With their right knee as straight as possible, rotate the right ankle 5 times to the right, and then 5 times to the left.
3. Slowly lower their right leg all the way down. Pause.
4. Repeat for a total 10 times with right leg.
5. Participant then performs the move with their left leg.
6. Repeat for a total 10 times with their left leg.
7. Participant completes 1 more set of 10 repetitions with their right leg and then 1 more set of 10 repetitions with their left leg.

Group 4

STRENGTH EXERCISE 4: Side Hip Raise (with ankle weights)

Starting position:

Participant stands straight with feet together and hands gently resting on the back of a chair for balance.

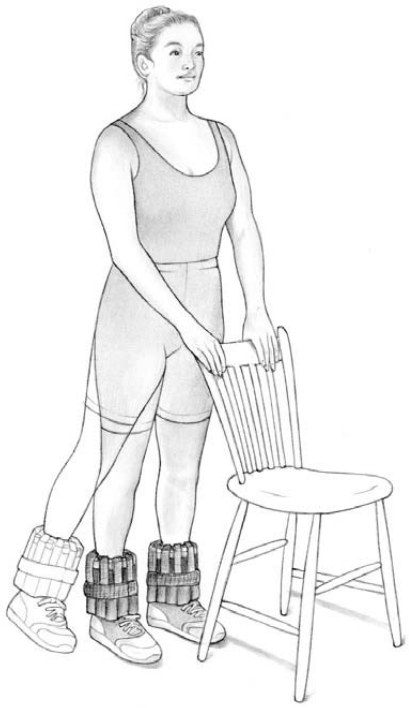
The move:

1. Keeping their toes pointed straight ahead; slowly lift their right leg out to the side until their foot is 5-8 inches off the ground. Do not lock the knee on the supporting leg.
2. Pause for a breath.
3. Slowly lower the right leg back to the ground.
4. Repeat for a total of 10 times with right leg.
5. Participant then performs the move with their left leg.
6. Repeat for a total 10 times with their left leg.
7. Participant completes 1 more set of 10 repetitions with their right leg and then 1 more set of 10 repetitions with their left leg.

Notes for the study interventionist:

Make sure participants:

- ❖ Keep their torsos upright during this exercise, not leaning to one side
- ❖ Raise their legs no more than 12 inches off the ground
- ❖ Keep their fingertips on top of the chair for balance
- ❖ Don't hold their breath



STRENGTH EXERCISE 4: Leg Circles

Starting position:

Participant stands straight with feet together and side toward back of chair. Have right hand gently resting on the back of a chair for balance.

The move:

1. Keeping foot flexed, slowly lift right leg until foot is 5-8 inches off the ground. Make a large circle clockwise while keeping the foot lifted and leg extended. Do not lock the knee on the supporting leg.
2. Repeat for a total of 5-10 circles with the right leg.
3. Slowly lower the right leg back to the ground.
4. Participant then performs the move with their left leg.
5. Repeat for a total of 5-10 clockwise circles with the left leg.
6. Slowly lower the left leg back to the ground.
7. Participant then completes 5-10 counterclockwise circles with their right leg and then 5-10 counterclockwise circles with their left leg.

Group 5

STRENGTH EXERCISE 5: Toe Stand

Starting Position:

Participant stands straight with feet together and hands gently resting on the back of a chair for balance.

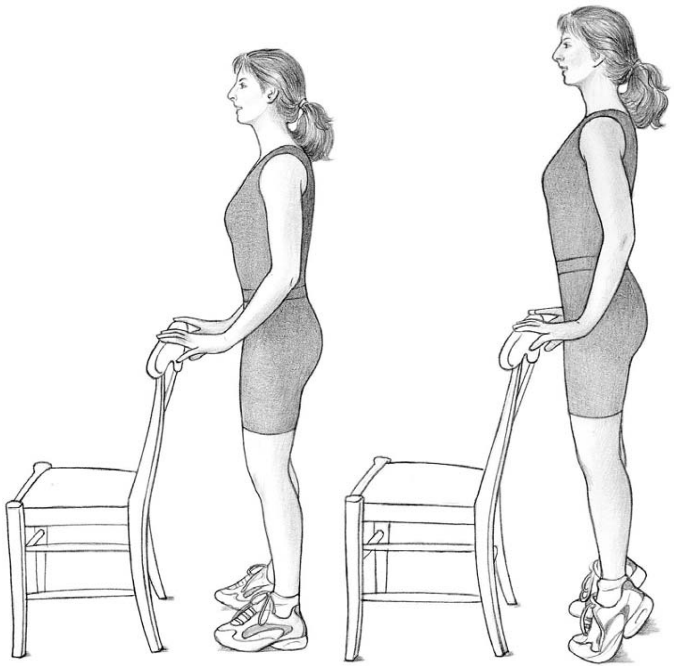
The move:

1. Participant slowly raises their body as high as possible on the balls of their feet.
2. Pause for a breath.
3. Slowly lower their heels back to the ground.
4. Repeat for a total of 10 times.
5. Participant completes 1 more set of 10 repetitions.

Notes for the study interventionist:

Make sure participants:

- ❖ Maintain good upright posture
- ❖ Do the toe stands slowly—many people have a tendency to raise and lower themselves too quickly
- ❖ Don't hold their breath

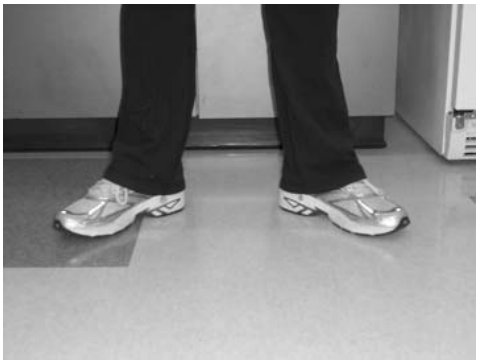


STRENGTH EXERCISE 5: Toes Out Calf Raise

Starting Position:
Participant stands behind chair with feet slightly apart then points their toes out to the side. Hands are gently resting on the back of a chair for balance.

The move:

1. Participant slowly raises their body as high as possible on the balls of their feet.
2. Pause for a breath.
3. Slowly lower their heels back to the ground.
4. Repeat for a total 10 times.
5. Participant completes 1 more set of 10 repetitions.



Cool-

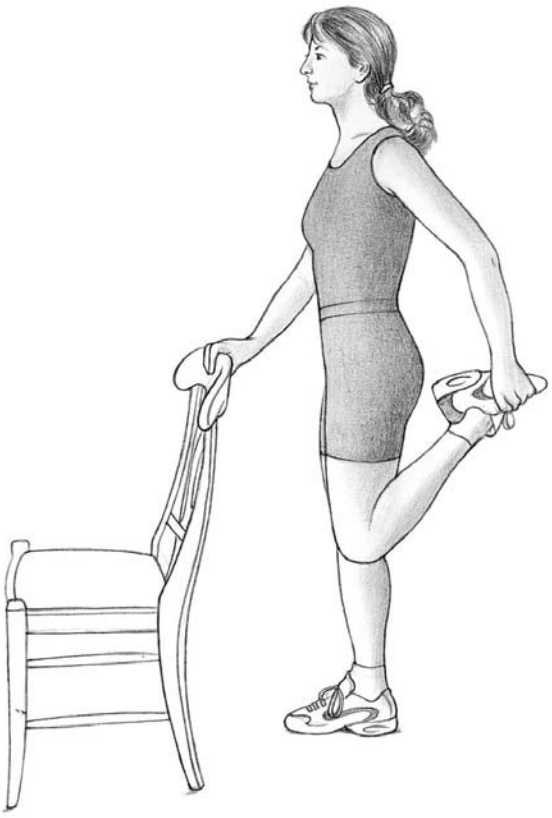
down

Hamstring & Calf Stretch

1. Stand facing a sturdy chair.
2. Slowly bend forward at the hip, keeping their legs straight without locking their knees. Rest your hands on the seat of the chair with their elbows slightly bent, feeling a stretch in the back of their upper and lower leg. Keep your back flat.
3. Hold the stretch for a count of 20-30 seconds.

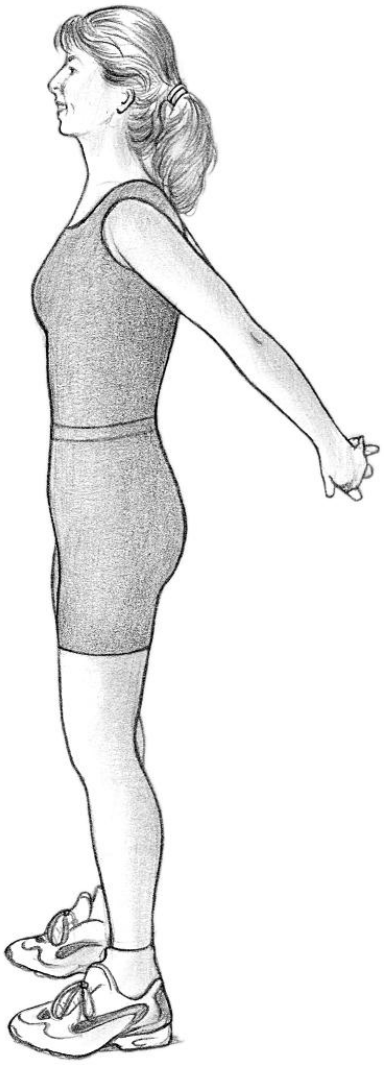
Quadriceps Stretch

1. Stand next to a sturdy chair with their feet about shoulder-width apart and their knees straight – but not locked.
2. Hold onto the chair for balance with their left hand. Bend their right leg back and grab their right foot or ankle in their right hand until their thigh is perpendicular to the ground. Make sure they stand up straight – don't lean forward. (If they can't grab their ankle in their hand, keep their leg as close to perpendicular as possible and hold the bend.) They should feel a stretch in the front of their thigh.
3. Hold the stretch for a count of 20-30 seconds, and then repeat the stretch with the other leg.



Chest & Arm Stretch

1. Stand with their arms down by your side.
2. Extend both arms behind you and clasp your hands together. Make sure their arms are straight before lifting them up behind you as high as possible. Keep their chest forward and shoulders back during the stretch.
3. Hold the stretch for a count of 20-30 seconds.



Upper Back Stretch

1. Stand (or sit) with their feet shoulder-width apart, their knees straight but not locked, and their hands clasped in front of themselves. Rotate their hands so that their palms face the ground. Then raise their arms to about chest height.
2. Press their palms away from their body and feel a stretch in your neck, upper back, and along their shoulders.
3. Hold the stretch for a count of 20-30 seconds.

10.7 Balance training module
Overview:

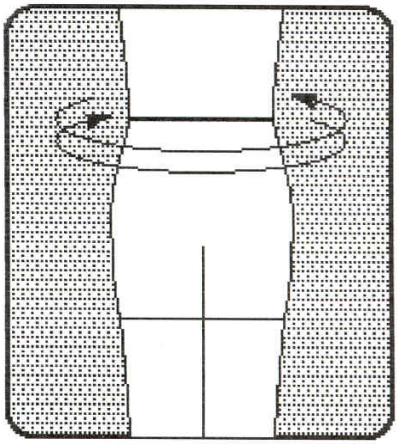
All participants will receive the balance training begin at Level I. Participants will perform all exercises their current level. Each participant will progress to the next level of balance exercises when all exercises at that level can be performed correctly and without difficulty by the participant. Correctness of performance indicates that the exercises demonstrated to the physical activity interventionist by the participant are performed as written in the physical activity program, eight out of ten times or 3 out of five times. Difficulty might be indicated if the exercises are performed with a strained facial grimace, holding one's breath, or performance of exercises in a jerky, hesitating manner. The balance exercises are performed once a day every day.

LEVEL I BALANCE EXERCISES

Once a day do the exercises marked by your interventionist.

The Sink Hip Circle I

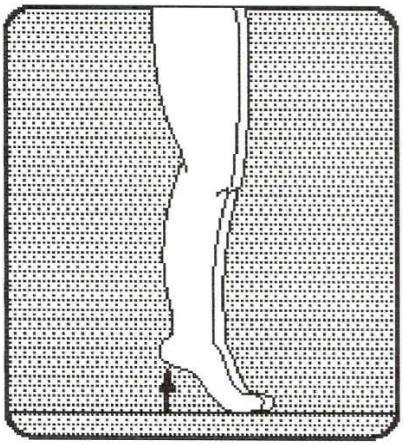
1. Stand facing kitchen sink
2. Hold on with both hands
3. Do not move shoulders or feet
4. Make a big circle to left with hips
5. Repeat 5 times
6. Make a big circle to right with hips
7. Repeat 5 times



(A)

The Sink Toe Stand I

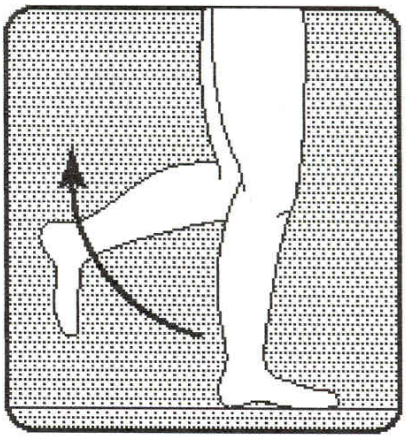
1. Stand facing kitchen sink
2. Hold on with both hands
3. Go up on your toes
4. Hold for count of 5
5. Then come down
6. Repeat 10 times



(B)

One Leg Sink Stand I

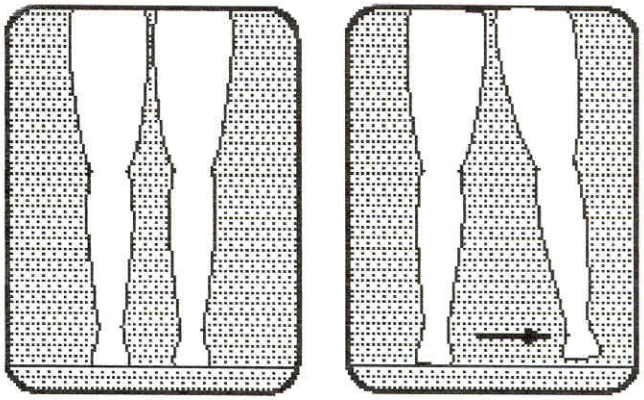
1. Stand facing kitchen sink
2. Hold on with both hands
3. Stand on your left leg for count of 5
4. Stand on your right leg for count of 5
5. Repeat 10 times



(C)

Sink Side Step I

1. Stand facing kitchen sink
2. Hold on with both hands
3. Move hands along kitchen sink as you step to left 5 steps
4. Step with both feet to right 5 steps
5. Repeat 5 times



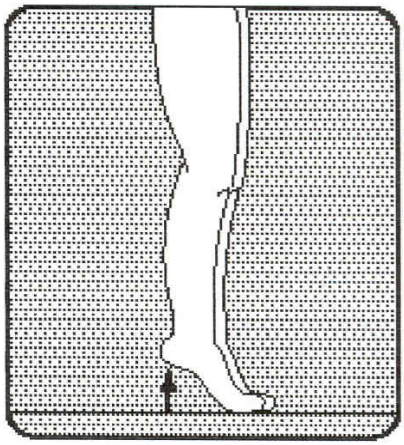
(D)

LEVEL II BALANCE EXERCISES

Once a day do the exercises marked by your interventionist.

The Sink Toe Stand II

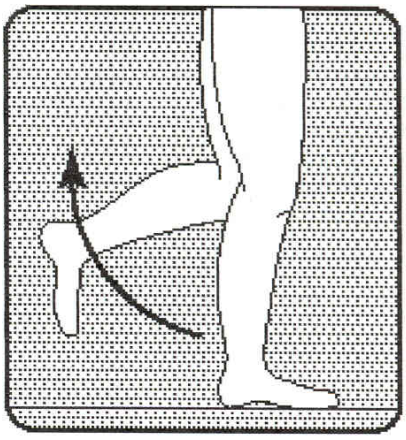
1. Stand facing kitchen sink
2. Hold on with one hand
3. Go up on your toes
4. Hold for count of 5
5. Then come down
6. Repeat 10 times



(A)

One Leg Sink Stand II

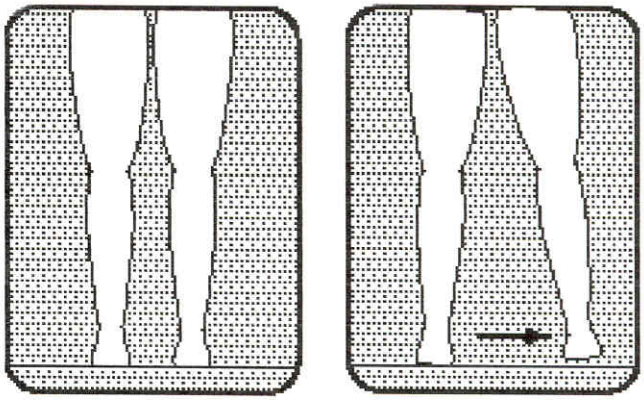
1. Stand facing kitchen sink
2. Hold on with both hands
3. Stand on your left leg for count of 5
4. Stand on your right leg for count of 5
5. Repeat 10 times



(B)

Sink Side Step II

1. Stand facing kitchen sink
2. Hold on with one hand
3. Move hand along kitchen sink as you step to left 5 steps
4. Step to right 5 steps
5. Repeat 5 times



(C)

Step forward II

1. Stand with right side toward kitchen sink.
2. Hold onto the sink with your right hand.
3. Step forward with your left leg; shift your weight forward over the left leg.
4. Do not step forward with the right leg.
5. Return the left leg to the starting position.
6. Repeat on opposite side.
7. Continue to alternate each leg.
8. Repeat 10 times.

Step backward II

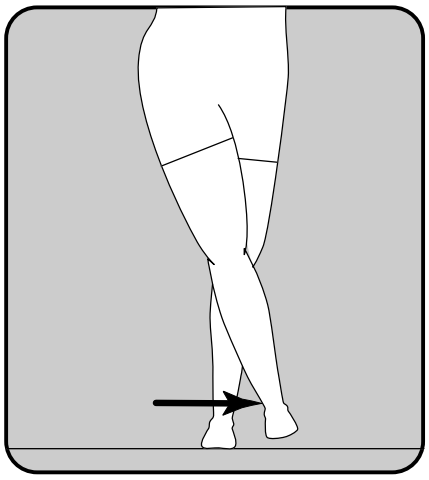
1. Stand with right side toward kitchen sink.
2. Hold onto the sink with your right hand.
3. Step backward with your left leg; shift your weight backward over the left leg.
4. Do not step backward with the right leg.
5. Return the left leg to the starting position.
6. Repeat on opposite leg.
7. Continue to alternate each leg.
8. Repeat 10 times.

LEVEL III BALANCE EXERCISES

Once a day do the exercises marked by your interventionist.

Sink Leg Cross III

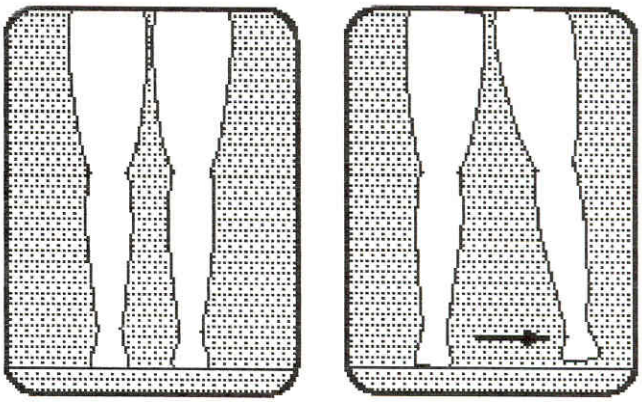
1. Stand facing kitchen sink
2. Hold on with both hands
3. Move hands along kitchen sink as you step
4. Cross foot in front of right foot
5. Take a side step with your right foot passing it out from behind your left foot
6. Repeat steps 4 & 5 three times
7. Now, cross right foot in front of left foot (reverse directions)
8. Take a side step with your left foot passing it out from behind your right foot
9. Repeat steps 7 & 8 three times



(A)

Sink Side Step III

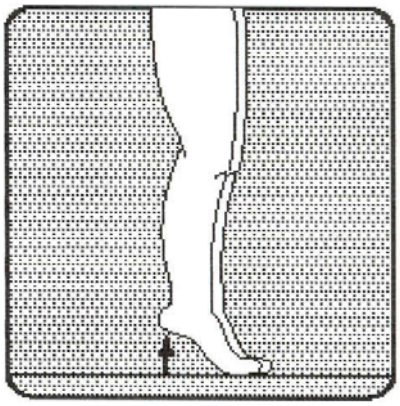
1. Stand facing kitchen sink
2. Do not hold onto sink
3. Step to left 5 steps
4. Step to right 5 steps
5. Repeat 5 times



(B)

The Sink Toe Stand III

1. Stand facing kitchen sink
2. Do not hold onto the sink
3. Go up on your toes
4. Hold for count of 5
5. Then come down
6. Repeat 10 times



(E)

Step forward III

1.Stand with right side toward kitchen sink.
   2. Balance with fingertips of the right hand.
   3. Step forward with your left leg; shift your weight forward over the left leg.
4. Do not step forward with the right leg.
5. Return the left leg to the starting position.
6. Repeat on opposite side.
7. Continue to alternate each leg.
8. Repeat 10 times.

Step backward III

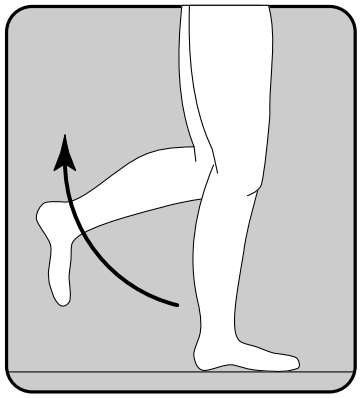
1. Stand with right side toward kitchen sink.
2. Balance with fingertips of the right hand.
3. Step backward with your left leg; shift your weight backward over the left leg.
4. Do not step backward with the right leg.
5. Return the left leg to the starting position.
6. Repeat on opposite leg.
7. Continue to alternate each leg.
8. Repeat 10 times.

LEVEL IV BALANCE EXERCISES

Once a day do the exercises marked by your interventionist.

One Leg Sink Stand IV

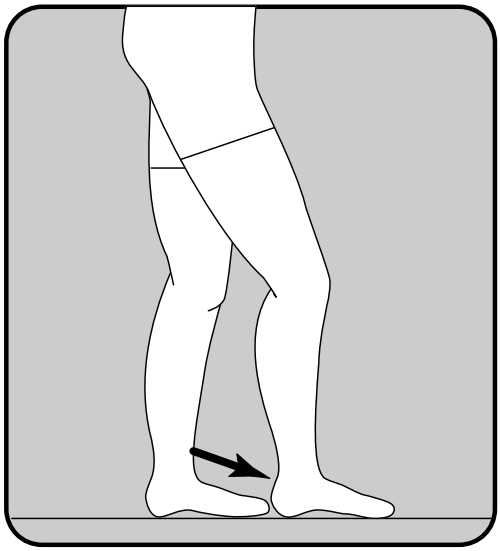
1. Stand facing kitchen sink
2. Do not hold onto the kitchen sink
3. Stand on your left leg for count of 5
4. Stand on your right leg for count of 5
5. Do each leg 10 times



(A)

Tandem Walking IV

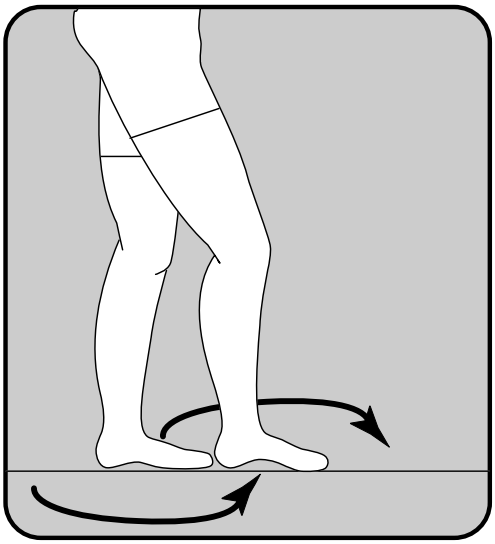
1. Stand with left side toward kitchen sink
2. Hold on with left hand
3. Move hand along kitchen sink as you step
4. Place right heel directly in front of toes of right foot
5. Now place left heel directly in front of toes of right foot
6. Repeat steps 4 and 5 three times
7. Turn around
8. Hold with right hand
9. Repeat steps 4 and 5 three times



(B)

Cross-over Walk IV

1. Stand with left side toward kitchen sink
2. Hold on with left hand
3. Move hand along kitchen sink as you step forward
4. Cross left foot over right foot
5. Cross right foot left foot
6. Repeat steps 4 and 5 three times
7. Turn around
8. Hold with right hand
9. Repeat steps 4 and 5 three times



(C)

Step Backward and Forward IV

1. Stand with right side toward kitchen sink.
2. Hold onto the sink with your right hand.
3. Step backward with your left leg, shift your weight backward over the left leg, pause.
4. Step forward with the left leg, past the right leg.
5. Shift your weight forward over the left leg.
6. Return the left leg to the starting position.
7. Repeat on opposite leg.
8. Continue to alternate each leg.
9. Repeat 10 times.

Modified Step-up IV

1. Stand with your right side toward the sink.
2. Hold on to the sink with your right hand.
3. Have a step stool or large book (phone book) on the floor in front of you.
4. Lift the right foot up and tap it on the stool/book.
5. Lower the right foot back to the floor.
6. Repeat with the left foot.
7. Alternate right and left steps.
8. Repeat 10 times.

LEVEL V BALANCE EXERCISES

Once a day do the exercises marked by your interventionist.

Walk with Head Turns V

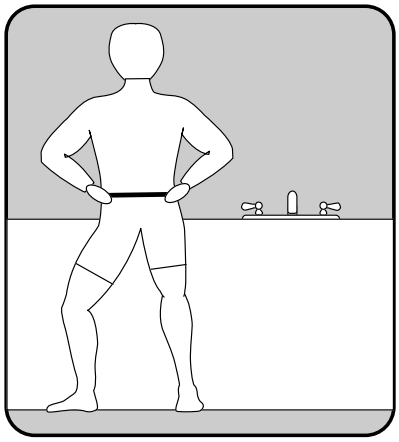
1. Stand with right side toward sink.
2. Hold on with the right hand.
3. Move hand along sink as you step.
4. Take 5 steps forward.
5. While stepping forward turn your head to the right and then to the left one time.
6. Turn around.
7. Hold with the left hand.
8. Repeat steps 4 and 5.
9. Repeat entire sequence 5 times.

Forward Lunge V

1. Stand with side to kitchen sink
2. Hands on hip
3. Lunge forward with right foot
4. Return to start position
5. Lunge forward with left foot
6. Return to start position
7. Repeat 10 times

(B)

Side Lunge, Hands on Hips V



(F)

1. Stand near kitchen sink
2. Hands on hip
3. Lunge to side on left foot
4. Return to upright position
5. Lunge to side on right
6. Return to upright position
7. Repeat 10 times
8. Repeat 10 times

Step Backward and Forward V

1. Stand with right side toward kitchen sink.
2. Balance with <u>fingertips</u> of your right hand.
3. Step backward with your left leg, shift your weight backward over the left leg, pause.
4. Step forward with the left leg, past the right leg.
5. Shift your weight forward over the left leg.
6. Return the left leg to the starting position.
7. Repeat on opposite leg.
8. Continue to alternate each leg.
9. Repeat 10 times.

Modified Step-up V

1. Stand with your right side toward the sink.
2. Balance with fingertips of your right hand.
3. Have a step stool or large book (phone book) on the floor in front of you.
4. Lift the right foot up and tap it on the stool/book.
5. Lower the right foot back to the floor.
6. Repeat with the left foot.
7. Alternate right and left steps.
8. Repeat 10 times.

10.8 Upper Body Exercises

These upper body exercises should be incorporated at the end of the session, so as not to interfere with the intervention protocol. These exercises will be done at home by the participants and only proper technique will be taught by the LIFE Staff. Each month, one upper body exercise will be chosen by the staff and taught at the end of each group session. It is important to properly explain the exercise in a way that all participants understand and demonstrate proper technique. Then, you can allow participants try out the exercise. Use the whole month to make sure participants are comfortable with the exercise and execute it correctly. Each month, choose a different exercise until all upper body exercises have been taught. After all exercises have been covered, re-visit the exercises again to make sure participants continue proper technique.

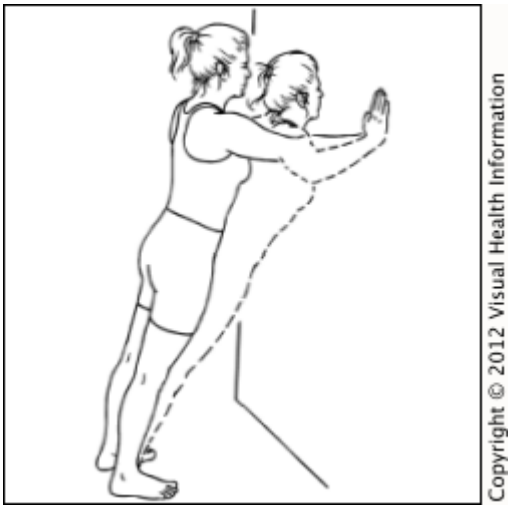
UPPER BODY EXERCISE 1: Wall Push-Up

Starting Position:

Participant stands facing wall approximately 2 feet away with feet shoulder-width apart.

The Move:

1. The participant will lean forward and place palms flat on the wall shoulder height and shoulder-width apart.
2. The participant will inhale in as they lean towards the wall, keeping their elbows tucked in as they bend. Participant will try to lean until their nose is almost touching the wall in a slow, controlled motion. Keep feet flat on the floor.
3. Hold this position for 1 second, focusing on a straight body line position.
4. Exhale out and slowly return to starting position until arms are straight.
5. Participant repeats for a total of ten wall push-ups and then pauses for a rest.



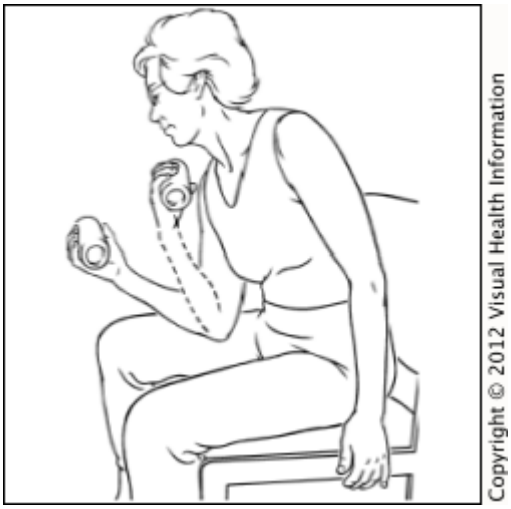
UPPER BODY EXERCISE 2: Bicep Curl

Starting Position:

Participant stands or sits in a chair with feet hip-width apart while holding ankle weight or soup can in one hand, palm facing forward.

The Move:

1. Keeping their wrist straight, participants will exhale as they bend at the elbow and raise their forearm up towards their chest. Hold for 1 second.
2. Inhale as they bring the arm slowly back down, keeping their hands facing their chest.
3. Participant repeats for a total of ten bicep curls and then pauses for a rest.
4. Repeat with other arm.



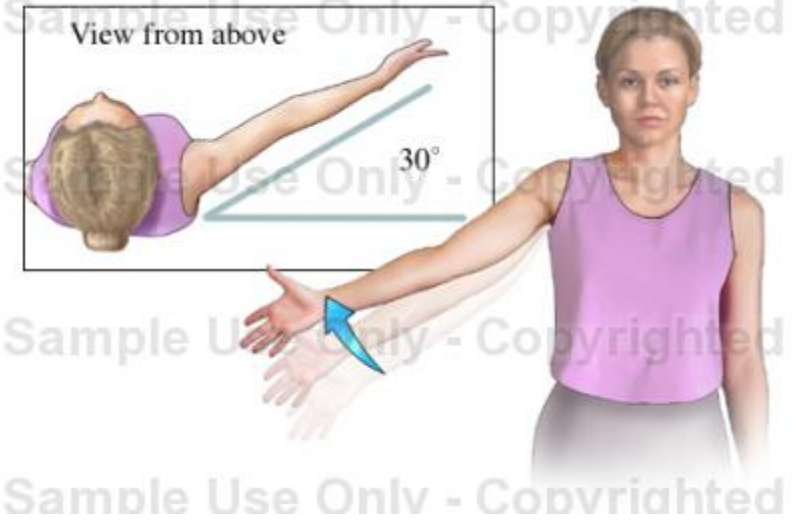
UPPER BODY EXERCISE 3: Arm Raise

Starting Position:

Participant stands with feet hip-width apart while holding ankle weight or soup can in each hand.

The Move:

1. Participant exhales as they raise arms forward to the “Y” position with thumbs facing up.
2. Arms should come up to shoulder height.
3. Hold position for 1 second, then inhale and lower arms back slowly to starting position.
4. Partcipant repeats for a total of ten arm raises and then pauses for a rest.



UPPER BODY EXERCISE 4: Chair Push (Tricep Extension)

Starting Position:

Participant sits in chair with armrests with feet shoulder-width apart and flat on the floor.

The Move:

1. Participant will lean slightly forward, keeping back and shoulders straight.
2. They will grab the arms of chair with each hand and exhale while pushing themselves slowly off the chair.
3. Hold position for 1 second.
4. Inhale and slowly lower themselves back to the sitting position.
5. Partcipant repeats for a total of ten arm raises and then pauses for a rest.

UPPER BODY EXERCISE 4: Tricep Kickback

Starting Position:

Participant sits in chair, holding a soup can or ankle weight in each hand, with feet shoulder-width apart and flat on the floor.

The Move:

1. Participant will hold arm down at their side with a straight elbow, keeping back and shoulders straight.
2. Participant will exhale as they bring their arm back slowly past hips or as far as comfortable, keeping the elbow straight. Hold position for 1 second.
3. Inhale and slowly lower their arm back to the starting position with a straight elbow, keeping back and shoulders straight.
4. Participant repeats for a total of ten repetitions and then pauses for a rest. Repeat with other arm.

UPPER BODY EXERCISE 5: Tennis Ball Squeeze

Starting Position:

Participant will sit holding a tennis ball in one hand.

The Move:

1.The participant places tennis ball in one hand. Exhale while gently squeezing tennis ball and hold for 5 seconds.

2. Participant will inhale as they relax grip their, then rest.

3. Repeat exercise 10 times.

4. Switch hands and and repeat exercise.

UPPER BODY EXERCISE 6: Lawn Mower Pull

Starting Position:

Participant will sit with feet shoulder-width apart holding an ankle weight, soup can, or water bottle with their hand crossed over to the opposite hip with palm faced inward.

The Move:

1. Participant will exhale while lifting their arm up and across their body ending with their palm outward. Hold for 1 second.
2. Inhale and slowly bring their arm back across their body with palm facing inward.
3. Participant repeats for a total of ten lawn mower pulls and then pauses for a rest. Switch arms and repeat.

UPPER BODY EXERCISE 7: Seated Neck Turn

Starting Position:

Participant will sit up straight in a chair with feet flat on the ground, head facing forward, and a towel or pillow supported their lower back.

The Move:

1. Participant will turn their head slowly to the right as far as comfortable. Hold for 1 second.
2. Participant will bring head slowly back to starting position. Then, participant will turn their head slowly to the left as far as comfortable. Hold for 1 second.
3. Return head slowly back to starting position and relax. Partcipant repeats for a total of five times.

10.9 Protocol for handling illnesses/injury and other health problems

Health event and symptom assessment by the intervention staff*.* In addition to participant feedback to the intervention team, semi-annual assessments are made by the assessment staff (masked to intervention group) in both the intervention and comparison groups to assess hospitalization, injury, new cardiopulmonary symptoms, pain, and other adverse events. If serious events are reported in the context of these assessments (particularly that are absolute contraindications to physical activity participation), this information is communicated to the field center study interventionists. Health problems reported to *intervention staff* should be reported as described in Chapter 22. At no time should such events be discussed with the assessment staff. A phone call is made by the interventionist to the participant to determine whether physical activity was suspended, should be suspended, or may be resolved. **If physical activity is reported to have been suspended due to a hospitalization, injury or other health reason, the participant is asked to come to the center for re-evaluation to determine the level of physical activity for restarting, once it is determined that the health event has resolved. If the health event remains unresolved, monthly calls are made to reassess whether criteria for restarting are met, as described below.** The interventionist should not discuss health events with the assessment staff.

Extended Medical Leave
A participant is classified as on "extended medical leave" during the adoption or maintenance phase if any one of the following criteria are indicated:

1. Participant misses ≥4 consecutive missed visits due to self-reported hospitalization, injury or other health reason (vacations excluded) or reports to study staff that he/she voluntarily and temporarily (≥4 consecutive missed visits) withdraws from the physical activity treatment due to self-reported hospitalization, injury or other health reason.
2. Withdrawal from physical activity as per primary care physician orders.

If participant is classified as on "extended medical leave", the interventionist must indicate participant status on the online tracking system. Regaining "active" status and restarting the physical activity program requires review and approval by a health professional, who may be the participant's physician, the site Medical Safety Officer and/ or the site Study physician. The review process is described below. It is important for the interventionists to not refer to participants as "suspended" or on "extended medical leave" as this may have negative connotations to the participant. Rather the participant should be told that their physical activity program has been put **"on hold"** until their medical condition has resolved and it is again safer for them to participate. Remind the participants that while they are **"on hold"**, they still should attend the scheduled clinic assessment visits and that they should **not disclose** to the assessors that they are "on hold" from physical activity.

****Remember to tell the participant that: 1) being "on hold" is not permanent and that they will get back to being active which will involve communication between yourself, your doctor, and the study staff; 2) it is being done to ensure their safety; 3) they can and should attend their clinic-based assessment visits (remind about maintaining the study blind)**

Intervention Tracking Data Entry for Extended Medical Leave

1. Confirm that the participant group session attendance indicates that ≥ 4 consecutive visits have been missed and the reason missed is for one of the following reasons: #1 -Illness/Health Reasons or #7 -Physician's advice in the tracking system.
2. Enter an Extended Leave Form via the tracking system. Note: The Start date equals the date of the fifth missed visit where "≥ 4 consecutive visits have been missed for illness / health reasons" has already been met.

Cognition evaluation triggers for intervention visits: Safety considerations

In cases where the interventionist notes that a participant exhibits significant confusion, disorientation, problems with judgment or bizarre behavior that may impair safety or ability to participate in the intervention that day, the following procedures will be taken:

1. The interventionist will immediately attempt contact and discussion of participant status with the MSO and obtain confirmation by the MSO to pull participant from current day's participation, (If MSO not available, refer to #3).
2. Interventionist will tactfully and sensitively advise participant that because of an observed change in his/her behavior that may require medical evaluation they are advising the participant to not complete the intervention that day. Inform participant that they have (or will ASAP) discuss the situation with LIFE MSO who will also contact the participant to see how they are doing and may refer them to see their primary care doctor for evaluation before returning.
3. For cases where the interventionist is unable to speak with the MSO right away, the interventionist may proceed to step #2 then ASAP advise the MSO that s/he has observed a change in behavior that should be evaluated.
4. The participant is at this point placed on extended leave by the MSO until such time that the safety concerns are resolved (see MOP Chapter 10.9 for more information on Extended Medical Leave and Restarting the intervention). The MSO may call the participant and/or their designated family member for more information and may refer the participant to his/her PCP with a letter that the referral is for evaluation of change in mental status noted during a study visit.

5. If the interventionist feels that the confusion, disorientation, judgment and/or bizarre behavior is so severe that the participant may not be able to safely return home on their own, then the MSO will be notified and the participant will be referred to Urgent care or an ED for evaluation. This event would be entered as an AE and the participant would not return to study until medically cleared and medical information from the evaluation should be gathered for the AE reporting.
6. Participants that have been evaluated by the PCP or other medical provider and who are determined safe to exercise but not able to be able drive temporarily or permanently; will be offered transportation to and from study visits. These participants will be encouraged to remain active in the study.

Restarting a suspended physical activity program following extended medical leave. Evaluation for restarting physical activity depend on the functional impact of the illness and any activity limitation prescriptions that may have been provided by the participant's health care team, including the primary care physician, surgeon, consultants, or interventionists (See table 10.9 for minimum criteria)*. The restart of physical activity will be a collaborative process with the participant.

a. If, after the illness episode, the participant is able to leave the home and walk independently a minimum of 4 meters outside the home with no more assistance than a straight cane, and if there is no prescribed activity or weight bearing-limitation or therapy, reevaluation is done at the Field Center, and a new physical activity prescription begins. The same protocol as was used for the baseline program prescription and progression are used.
b. Regardless of ability to leave the home, if after an acute illness and suspension of exercise, the participant is under prescribed activity or weight bearing limitation or rehabilitative treatment, re-evaluation is made at the end of the activity limitation prescription or treatment course.
c. If the physical activity is specifically limited, due to chest pain or dyspnea, physical activity is suspended and will not be restarted without definitive treatment by the participant's health care provider. In some of these cases, the primary care physician may refer the participant to a medically supervised rehabilitation program. When this occurs, the intervention staff will attempt to obtain information on what the participant is doing in the rehabilitation program so that this information can be added to study records.
d. If the participant remains unable to leave the home under the conditions prescribed above, and is nearing the end of a six-month assessment window, a home examination is done at the required interval to assess for study endpoints. A similar protocol is used for the comparison group.
e. If upon reassessment for the restart of the physical activity program, the participant appears unable to follow the brief commands necessary for participation in the reassessment of physical activity program, the study medical monitor should be contacted for possible evaluation of cognitive status.

Table 10.9.

Criteria for restart of Physical activity:
Participant is able to leave home and walk independently a minimum of 4 meters (no more than straight cane).
Participant is not under prescribed activity, weight bearing limitations or physical rehabilitation.*
If physical activity is limited due to chest pain or dyspnea, restart will not occur without definitive treatment from the participant's primary care provider*.

*** The process of review by a health professional should proceed as follows.**

1. Approval by the participant's physician should be sought first. In cases where the physician cannot be contacted or is not responsive to requests for further information, the interventionist can confer with the site Medical Safety Officer and/or Study Physician to discuss the participant's status. If, in the view of the MSO and/or Study Physician, the participant can safely re-enter the physical activity intervention, the participant can be re-entered into the physical activity intervention.
2. Whether or not the participant's physician has provided approval to restart physical activity, all proposed restarts should be reviewed by an interventionists with the site MSO on a regularly scheduled basis.
3. If in the opinion of the MSO, the restart involves complex medical decision making, then the MSO should review the case with the study physician. Examples of complex medical decision making include 1) myocardial infarction, aortic stenosis, aortic aneurysm > 5cm or life threatening arrhythmia, 2) exercise induced symptoms such as chest pain, syncope or hypotension, 3) potentially communicable disease, 4) severe immune suppression with risk of infection in group settings, 5) skin break down related to weight bearing, 6) any other condition in which exercise may present a significant health risk .
4. The MSO or study physician may gather information by multiple means to determine the safety of return to physical activity. Examples of activities include but are not limited to direct contact with any of the participant's medical providers, review of medical records, site clinic visit for a history and physical examination and/or acquisition of new ECG. If in the opinion of the Study Physician, further medical evaluation or treatment is required, then the Study physician should contact the participant's physician to discuss.
5. If the Study Physician remains unsure about the appropriateness of a return to activity, then he or she should contact one of the co-chairs of the Medical Safety Committee to seek additional advice.

Oversight of Safety of Return to Physical Activity

1. The MSO should maintain a record of all cases of pending restarts.

2. Each site MSO should be prepared to discuss cases of complex medical decision making on the monthly Medical Safety Call. The Medical Safety Committee should review and discuss decision making in complex cases on the monthly calls in order to promote consistency among sites.
3. Sample cases of common and complex medical safety decision making should be used by site MSOs and Study physicians for site based inservice training of interventionists

Individualizing restart of physical activity after illness or injury episode. An individualized approach to the restart of physical activity following extended medical leave will be conducted at all sites. Suggested guidelines for the restart of physical activity during different phases of the study are provided in the sections below. However, there may be appropriate individual variations in the resumption of physical activity during this period due to the length of the medical leave and the severity of the participant's illness or injury. For this reason all individual plans for the resumption of physical activity for a participant who has been placed on "extended medical leave" status will be reviewed and approved by the site Study Physician and confirmed by the **Lifestyle Resources Core**. The plan for the restart of exercise will follow the general guidelines listed below depending on what phase of the physical activity intervention the participant has completed.

Individualizing goals when physical activity's reduced because of illness or injury. If there is an illness episode that does not meet the above criteria for suspension of the physical activity program, reduction in physical activity may still occur, and is detected by either the tracking system, observation by staff, or self-report at a center visit. Physical activity goals are re-adjusted on an individual basis. Re-assessment or need for special attention and individualization are performed at the field center. All injuries are reported to the Medical Safety Committee. Rehabilitation staff and primary care physicians may also be consulted as needed.

10.10 The behavioral component of the intervention

I. Overview

The document that follows provides critical skills and content that forms the core of the LIFE physical activity intervention. Before participants begin the intervention, they will have an individual contact with an interventionist. The goal of this session is to inform each participant about "what he/she can expect over the next year", to gather information on individual needs, and to reassure each participant that the program is progressive and flexible (see section III of this document for details of this session).

Participants are in physical activity within a week after this initial individual contact. During the first 3 weeks of exercise, participants are exposed to 3

informational contacts. Although the first session must occur prior to activity on the first day of exercise, the other two are independent of one another (i.e., they do not have to be delivered in any order). The content of these informational lectures/contacts is as follows:

* Getting started (occurs before prior to physical activity and can be delivered to 1 or more individuals)
* The Frequency, Intensity, Time and Type Principle (FITT)
* Planning physical activity at home

In the sections that follow, we describe the following components of the LIFE physical activity intervention:

* Nature and Schedule of Contacts
* Basic Counseling Skills
* The First Individual Face-to-Face Contact
* Protocol for Phone Counseling (SCT)
* Outline and Content of Group Sessions
* Outline for Physical activity Lectures

II. Nature and Schedule of Contacts

As described previously, each participant will have an individual meeting with an interventionist prior to beginning formal physical activity therapy. Following this session, participants are required to attend center-based physical activity 2 times/week for the duration of the study. Additional supervised physical activity sessions can be offered to participants on an "as needed basis" provided that space is available. It is possible to schedule additional individual contacts on an "as needed basis" to address special needs (e.g., poor compliance, personal setbacks).

III. Basic Counseling Skills

In this section, we describe some basic counseling competencies. These have been divided into 9 discrete skills:

SKILL 1 Active Listening ("Attending") and Empathic Communication
SKILL 2 Asking Open-Ended Questions
SKILL 3 Paraphrasing
SKILL 4 Giving and Receiving Feedback
SKILL 5 Handling Emotions
SKILL 6 Summarizing
SKILL 7 Problem-Solving
SKILL 8 Group Leadership Skills
SKILL 9 Dealing with the Difficult/Challenging Participant

➢ Skill 1: Active Listening – "Attending" and Empathic Communication

Active listening (also called attending) is listening in such a way that lets a person know they have your full attention. Nonverbal attending skills include good eye contact, relaxed, non-defensive body posture, and an open, appropriate facial expression. Verbal attending skills include vocalizations or brief statements such as, "Mm hmm," "yes," or "I see" that let your participant know you are actively listening to him/her. When you use the telephone to deliver counseling, your participant can't see your warm expression and encouraging body language, but there are still things you can do to convey active listening.

1. Set aside a time to talk when you are least likely to be interrupted.
2. Turn away from the computer and turn down the radio so there are no competing noises. You don't want your participant to think you are doing other things while he/she's talking to you!
3. Listen more than you talk in every conversation.
4. Make encouraging sounds ("Mm hmm") so your participant knows you are paying attention.
5. Don't interrupt or change the subject (unless your participant has wandered and the conversation needs to be turned back to exercise).
6. Don't spend too much time talking about <u>your</u> experiences. Your job is to listen fully to your participant's experiences and to give personal advice sparingly. Your experiences are important and may be invaluable to your participant… just be sure your sharing doesn't take up too much time. A good general rule: the participant should talk for about 3/4 of the call.

ADVICE for Attending:

- Keep good boundaries. If you only have 15 minutes to talk, stick to your time frame. You are not being rude by interrupting your participant if he or she is off track or too chatty. You can say something like, "I'm going to stop you there. I know your time is precious and I want to be sure we get a chance to discuss your physical activity goals for the next month."
- Think of the people to whom you most enjoy talking. Chances are they're pretty good at listening. Free advice is cheap, but careful listening is precious.

More on Empathic Communication

Empathic communication is one of the primary vehicles for establishing a relationship with the participant. An individual's perception of genuine effort and commitment to understanding and experience of being "empathically received" creates a low-threat environment that relaxes self-defenses and resistance and facilitates self-exploration, a pre-requisite for self-understanding and subsequent behavior change.

Empathic communication is the most fundamental and vital counseling skill. It is the ability to convey accurate empathy to the client and involves 2 parts: understanding and reflection. Empathic understanding, or recognition, involves accurately perceiving the private, inner feelings and experiences of the participant as the participant experiences them. It involves a willingness to "walk in another person's shoes" and seeking to grasp the meaning of his/her experience. It requires the ability to go beyond factual knowledge and to achieve a moment-to-moment awareness of the affective, perceptual, and cognitive worlds of the participant. Understanding alone is not enough; the counselor must also be able to convey that understanding back to the participant.

Guidelines for empathic communication

1. Receptively attend to the participant by maintaining eye contact and a responsive posture, by remaining fully present and in contact psychologically, and by making furthering responses.

2. Make your baseline counseling intervention the reciprocal empathic reflection, acknowledging the explicitly expressed feelings of the participant and the reasons or experiences behind them.

3. Avoid professional jargon and stereotyped introductory phrases, and respond in language attuned to the participant.

4. Respond frequently and do not be afraid to interrupt if necessary to check out the accuracy of your understanding.

5. Respond to the impact of events on the participant (internal frame of reference) rather than to external facts only.

6. Be specific and concrete in formulating your responses, encourage the participant to be specific, and ask questions as required to elicit feelings or information needed for understanding.

7. Respond in a voice, tone, and intensity commensurate with the affect expressed by the participant.

From: Hammond, D.C., Hepworth, D.H., & Smith, V.G. (1977). Improving therapeutic communication. San Francisco, CA: Jossey-Bass, Inc.

- **Skill 2: Asking Open Questions**

Open questions encourage a person to talk without feeling defensive. Closed questions are the kind used by doctors ("Does this hurt?"), lawyers ("Can you identify the defendant?"), and parents ("Did you eat your vegetables?") to get specific information. While closed questions are necessary at times, they don't allow a person to explore their thoughts.

• A CLOSED question can be answered by “yes,” “no,” or by one word.
Example: “Did you perform physical activity Monday?” “Did you walk or bike?”

• A CLOSED question starts with “is,” “do,” “have,” etc.
Example: “Do you want to engage in physical activity this week?”

• A CLOSED question discourages talking and shuts down conversation.

• An OPEN question can’t be answered by one or two words.
Example: “What is your biggest challenge around exercise?”

• An OPEN question usually starts with “how” or “what.”
Example: “What do you do to motivate yourself to exercise?”
• An OPEN question encourages the person to talk.

Open questions are phrased to help people explore and discuss in-depth information. When you allow the participants to speak freely and personally, they are more likely to find their own solutions.

USES OF OPEN QUESTIONS:
1. **Beginning a conversation :“**What has your week been like?”
2. **Clarifying and elaborating:** “What do you mean when you say you feel ‘stuck’?” What’s been going on?”
3. **Working with feelings.** “How did you feel after you exercised?”
4. **Problem solving.** “How can you fit in a little physical activity into the week?”

ADVICE on Asking Open-Ended Questions:
- Avoid “why” questions. They make people feel defensive.
- Keep open questions simple and clear.
- Open-ended questions help participants to be real partners in the conversation.

➢ Skill 3: Paraphrasing

If you have ever seen a political post-debate analysis, you have observed the use of paraphrasing: The newscaster repeats in his or her own words what was said by the main players in the debate. A paraphrase reflects the factual essence of what was said without extraneous details.

A GOOD PARAPHRASE:
- conveys the same meaning, but usually uses different words.
- is brief. A paraphrase is shorter than what was originally said.
- is clear and concise. A paraphrase clarifies things, not confuses them.

- is tentative. You want the participant to feel comfortable about disagreeing or correcting your paraphrase if it is inaccurate.

REASONS FOR USING PARAPHRASE:

1. To check perceptions. A paraphrase verifies that you have accurately heard your participant. When you paraphrase what a participant has said, she can tell you whether you are accurate or inaccurate.
   YOU: "It sounds like you had trouble finding time to exercise."
   PARTICIPANT: "Yes, that's right. I just can't fit it in." <OR> "Well, not really. Time is a factor, but I don't really like it that much."

2. To encourage more in-depth discussion. Often a paraphrase brings up new thoughts and feelings.
   YOU: "So you feel happy after you exercise."
   PARTICIPANT: "Yes, and you know, I feel really proud of myself, too. I never thought I could do this, but now I feel great about myself."
3. To give empathy. An accurate paraphrase let's your participant know you really are listening to her, and that you understand. Empathy is central to counseling. When a person feels understood, they are more likely to open up.

ADVICE on Paraphrasing:
- Use paraphrase instead of restatement (i.e., repeating word-for-word what was said) to make a person feel heard and understood.
- Use standard opening lines such as, "Let me see if I got that right.." "Sounds like..." "So, in other words..." End by saying, "Is that right?"

➢ Skill 4: Giving and Receiving Feedback

Giving and receiving feedback require courage, skill, understanding, and respect for yourself and others. Here is a framework for delivering feedback in a positive, productive fashion.

1. **Focus your feedback on the person's behavior, not on the person's personality.** Refer to what the person does, not to what you imagine his or her traits to be.

2. **Be descriptive, not judgmental.** Refer to what occurred, not to your judgments of right or wrong, good or bad. Judgments arise out of a value system. Descriptions represent neutral reporting.

3. **Focus your feedback on a specific situation rather than on abstract behavior.** What a person does is always related to a specific time and place. Feedback that ties behavior to a specific situation increases self-awareness.

4. **Share your perceptions and feelings, not advice.** By sharing perceptions and feelings, you leave other people free to decide how to use the feedback in the light of their own goals in a particular situation at a particular time. When you give advice, you tell other people what to do with the information and thereby take away their freedom to determine for themselves what is for them the most appropriate course of action.

5. **Do not force feedback on people.** Feedback is given to help people become more self-aware. Feedback should serve the needs of the receiver, not the giver. If the person is too upset, defensive, or uninterested to understand it, do not force feedback upon them.

6. **Do not give people more feedback than they can understand at the time.** If you overload people with feedback, it reduces the chances that they will use it.

7. **Focus your feedback on actions that the person can change.**

Adapted from Reaching Out—Interpersonal Effectiveness and Self-Actualization, David Johnson, Allyn and Bacon Publishing, 2003

How to Receive Feedback about your Counseling

As a counselor, not only do you provide feedback, but you will also receive feedback about your performance. It's helpful to think about how you might receive feedback and how you can use it in a constructive discussion.

If your participant says: "I don't think you understand what I'm going through."
- *What would you think? How would you feel? How would you respond?*
- You could get offended, or you could turn these comments into a constructive discussion. "I'm glad you told me. Maybe I can understand this better if we explore this a little longer."

If your supervisor told you: "It might help to give your participants some more time to think before making your next comment."
- *What would you think? How would you feel? How would you respond?*
- You might think, "She thinks I talk too much. She doesn't think I'm a good mentor. Who made her the expert?" Or, you could turn it into a constructive discussion. "Really? I haven't noticed myself doing that. Can you give me some examples so I can understand better?"

Receiving feedback and turning it into a constructive conversation isn't that much different from utilizing the communication and listening skills that we've already covered. For example…

- Try paraphrasing what your participant said without judging the sender's thoughts, reactions, perceptions, needs, and feelings.*
- Ask questions to make sure you grasp the meaning of the message.*
- Try to understand the participant's or supervisor's perspective.*
- Remember that you and your supervisor have the same goals in mind — to improve communication between you and your participant, and to help you feel fulfilled as a physical activity interventionist. Your supervisor is not trying to hurt your feelings. (If you do feel hurt, let your supervisor know!) Fortunately, constructive feedback from supervisors can improve your skills, which in turn helps improve communication between you and your participant, which in turn helps you feel more successful and fulfilled.
- If you feel that your supervisor's feedback is incorrect — by all means, let her know! You certainly don't have to agree with your supervisor, and should feel comfortable correcting misperceptions.

**Adapted from Reaching Out—Interpersonal Effectiveness and Self-Actualization, David Johnson, Allyn and Bacon Publishing, 2003*

➢ Skill 5: Handling Emotions

You are counseling about **physical activity** and won't have a lot of time to explore deep feelings like you might in other counseling situations. Still, people have feelings about exercise, and helping them explore those feelings can help them work through barriers to behavior change.

1. Identify the feelings.
   ⇒ Ask "feeling questions".
   "How do you feel when you complete a physical activity session?"
   "How do you feel when you miss a session?"

2. Paraphrase spoken feelings.
   "So you feel exhilarated when you engage in physical activity, is that right?"
   "Sounds like you are disappointed when you don't exercise."

3. Acknowledge the feelings.
   "I can understand that you feel disappointed when you don't engage in physical activity."
   "It feels so good to be energized!"

4. Relate thoughts to feelings.
   "I can understand that you feel guilty when you don't exercise. Can you tell me what you feel guilty about?"
   (Often, participants feel guilty about not exercising because they think they are disappointing you. Let them know physical activity's for their own benefit, not to please anyone else.)

5. When working with negative feelings, provide positive feedback.
"I know you feel disappointed, but give yourself credit for what you did do. You have a lot on your hands right now. It's great that you exercised twice this week. Perhaps things are better next week and you can try to fit in one more session then."

ADVICE on Emotions:

- Some participants want to talk about personal problems and feelings beyond the scope of physical activity counseling. Don't feel bad about steering the conversation back to exercise.

➢ **Skill 6: Summarization**

A summary is several paraphrases combined, and often includes a reflection of feeling. A good summary helps a person see what they've done and what they plan to do in the future.

A SUMMARY:

- serves as a perception check (Do I really understand what we said?)
- demonstrates accurate empathy
- clarifies information for you and your participant

A summary is not just a sequential recounting of what has been said. A good summary takes what was said and puts it into a logical form. It mentions thoughts and feelings and ties them together.

WHEN SHOULD YOU USE A SUMMARY?

- A summary is useful after the main questions on the telephone contact, before you go into problem solving.

Example: "It sounds like you've been able to be physically active twice a week for about a half hour. You seem to get a lot of satisfaction from your exercise, but it's not always easy to get out. It sounds like you'd like to try to find ways to get out one or two more times a week. Is that right?"

- A summary is good at the end of the session to help tie things together and to give a clear picture of the session and of progress.

Example: "Well, Sharon, you did a great job this past week. You've added another session to your routine and you're really been enjoying the good weather. Physical activity seems to give you a real boost. In fact, you currently rate your enjoyment level at a 10, and when you started, it was only a 5. Now you plan to work on a new goal to make your sessions a little longer. You're doing great! Keep up the good work!"

ADVICE on Summarizing:

- It really makes a person feel heard when a counselor can accurately reflect back what was said during a conversation. Wouldn't it be nice if our friends and family listened so attentively?!

➢ **Skill 7: Problem Solving**

Inevitably, you will come across situations where your participant is stuck or is having trouble exercising. Your goal is to help the participant find solutions to barriers, hopefully ones that have worked well in the past. Now is the time to brainstorm problem-solving strategies.

STEPS TO PROBLEM SOLVING:

1. Make sure you have correctly identified the problem. Use paraphrasing.
   "So you've had trouble exercising because the weather is bad?"

2. Ask the participant what she has done before to cope with this barrier.
   "What has worked for you in the past when it has been raining?"

3. If the participant does not have a solution that has worked in the past, see if she can come up with one now.
   "What are other activities that you could do when it is raining?"

4. If the participant has trouble generating ideas, offer some to fuel the conversation.
   "When it rains, sometimes people go to the mall to walk."
   "Some people use stationary machines on rainy days."
   "I found a great physical activity video that I use on rainy days. It's easy and it's fun to do."

ADVICE on Problem Solving:

- No doubt, everyone has times when it is difficult to come up with solutions to problems. Give the participant time to grapple with this challenge. Try to not rush to come up with solutions for the participant.
- Silence on the part of the participant doesn't necessarily mean he/she doesn't have an answer. Try to be comfortable with the silence; it could mean the participant is thinking hard about their problem-solving dilemma.
- Try to think of similar, parallel situations that might help with problem-solving. Did the participant ever stop smoking, lose weight, cut the fat out of their diet? What strategies worked for them in those situations?
- Do not be overly reliant on personal experience. Facilitating the participant to find a solution is preferred over your providing a solution from your own past experience.

- **Skill 8 Group Leadership Skills**

In the table below, we have identified a number of important skills that are part of running effective groups. In addition, during the initiation of any group it is important to be explicit about the adoption of "rules for the group." This topic is covered as part of the first group session that is covered in section V.

Skills	Description	Aims and Desired Outcomes
Active listening	Attending to verbal and non-verbal communication without judgment.	To encourage trust and client self-disclosure and exploration.
Restating	Saying in slightly different words to clarify meaning	To determine if the leader has understood correctly the client's statement.
Clarifying	Grasping the essence of a message at both the feeling and the thinking levels	To arrive at a meaningful understanding of communication
Summarizing	Pulling together important elements	To avoid fragmentation and give direction to a session; to provide for continuity and meaning.
Questioning	Asking open-ended questions that lead to self-exploration of the "what" and "how" of behavior	To elicit further discussion; to get information; to stimulate thinking; to increase clarity and focus.
Interpreting	Offering possible explanations for certain behavior, feelings, and thoughts.	To encourage deeper self-exploration; to provide a new perspective.
Confronting	Challenging members to look at discrepancies between their words and actions or body and verbal messages; pointing to conflicting information or messages.	To encourage honest self-investigation; to promote full use of potentials; to bring about self-awareness of contradictions.
Reflecting feelings	Communicating understanding of the content of feelings.	To let members know that they are heard and understood beyond the level of words.
Supporting	Providing encouragement and reinforcement.	To create an atmosphere that encourages members to continue desired behaviors; to provide help when clients are facing difficult struggles; to create trust.
Empathizing	Identifying with clients by assuming their frames of mind	To foster trust in the therapeutic relationship; to communicate understanding; to encourage deeper levels of self-exploration.

Facilitating	Opening up clear and direct communication within the group, helping members assume increasing reasonability for the group's direction.	To promote effective communication among members; to help members reach their own goals in the group.
Initiating	Promoting group participation and introducing new directions in the group.	To prevent needless group floundering; to increase the pace of group process.
Goal setting	Planning specific goals for the group process and helping participants define concrete and meaningful goals.	To give direction to the group's activities; to help members select and clarify their goals.
Evaluating	Appraising the ongoing group process and the individual and group dynamics.	To promote better self-awareness and understanding of group movement and direction.
Giving feedback	Expressing concrete and honest reactions based on observation of members' behaviors.	To offer an external view of how the person appears to others; to increase the client's self-awareness.
Suggesting	Offering advice and information, direction, and ideas for new behavior.	To help members develop alternative courses of thinking and action.
Protecting	Safeguarding members from unnecessary psychological risks in the group.	To warn members of possible risks in group participation; to reduce these risks.
Disclosing oneself	Revealing one's reactions to here-and-now events in the group.	To facilitate deeper levels of group interaction; to create trust; to model ways of revealing oneself to others.
Modeling	Demonstrating desired behavior through actions.	To provide examples of desirable behavior; to inspire members to fully develop their potential.
Linking	Connecting the work that members do to common themes in the group.	To promote member-to member interaction; to encourage the development of cohesion.
Blocking	Intervening to stop counterproductive group behavior.	To protect members; to enhance the flow of group process.
Terminating	Preparing the group to close a session or end its existence.	To help members assimilate, integrate, and apply in-group learning to everyday life.

From: Corey, G. (1990). Theory and practice of group counseling. (3rd ed.). P

➢ Skill 9: Dealing with the Difficult/Challenging Participant

Here are some examples of the most common, challenging counseling interactions and some suggestions on how to handle them.

* The Participant Who Won't Return Calls

You can't force someone to return your calls. What you should do is call several times and leave a message from time to time. You can say something like, "Hi, this is Andrea calling from TEAM. I just wanted to chat with you for 5 or 10 minutes. Please give me a call at XXX-XXXX when you have a moment. If I don't hear from you in the next couple of days, I'll call again." This lets your participant know that you don't want to take up much of her time and that you are persistent and call her again if she doesn't follow up. Document each time you call and/or leave a message.

Sometimes, a person doesn't call back because they have not exercised. If you suspect this to be true, try something like: "Hi, this is Andrea calling. I haven't been able to get a hold of you lately. I just want to check in and make sure you're OK." Hopefully, this will let your participant "off the hook." Then, when you reach her, you can discuss what her barriers to physical activity are and help her problem solve, and ease the participant's mind that he/she hasn't let you down by not exercising. If everyone exercised successfully between calls, they wouldn't need a counselor!

* The Chatty Participant

Some participants can be isolated or lonely, and many times a participant is just excited or relieved to talk to a caring, concerned person. Usually, a couple of moments of "checking in" help. Something like, "How was your week?" can give your participant a moment to connect with you. Sometimes, though, you will find that it is very hard to keep the focus on exercise. Participants may want to discuss spouses, jobs, health problems...ANYTHING but exercise! Your role is to keep the participant focused on the objective of the call, and not let the conversation "run away" from either of you.

The best way to handle a chatty person is to keep tight-but-polite boundaries, specifically:

1. Explain your expectations at the very beginning of the call.
   Example:
   "Hi this is Andrea. I'm calling to check in about your exercise. I only want to take about ten minutes of your time. I have some specific questions to ask you, and then I'll give you some time to ask me any questions you might have. OK?"

2. Keep focused on the issues that need to be discussed and avoid the issues that don't need to be discussed.

   Example:
   "It sounds like you had a crazy week. In terms of exercise, what do you think you can do to fit in three sessions this week?"

3. An open-ended question may not give enough structure for the real chatterbox. Someone may answer the above question with, "Well I just don't know. The electrician is coming Tuesday. Did I tell you the microwave went out last week? It blew a fuse and now none of the appliances work..." Therefore, you might have to provide more structure.

   Example:
   "It sounds like you're having a lot of trouble around the house this week. Are you willing to try to walk one time for 30 minutes?"

4. With a talkative participant, you may have to interrupt at times to get the conversation back on track. That's OK! You're not being rude. Don't hesitate to interrupt, or you will find yourself on the telephone for much longer than you wanted, and are left with unanswered questions and a lot of frustration. It gets easier to interrupt once you've done it a few times and successfully re-focused the discussion.

   Example:
   "I'm going to interrupt for a second. I know your time is limited and I want to be sure we answer all of the questions I need to ask. You were telling me about walking. Exactly how many times did you walk?"

5. Since you've established boundaries at the start, stick to them. Letting the conversation stray or go over the stated length of time sends a message that you've got all the time in the world for your chatty participant!

* **The Busy Participant**

Some participants don't want to spend much time on the telephone. It is important to acknowledge that you understand how busy your participant is, and tailor the phone call to the time they have available for you.

Let her know that you will only take up ten minutes of her time...THEN STICK TO IT! You may have to shorten your calls by just asking essential questions such as frequency, duration, type of exercise, and enjoyment ratings.

Consider examining or evaluating your previous contacts with the busy or avoidant participant: Have the phone calls moved too slowly or been awkward in the past? Did the participant seem distracted, uninterested, or bored? Are there

ways that you as the Interventionist could have made the phone calls more effective or lively? You may have to test out different approaches or techniques in your counseling skills that may work better with each participant's telephone "personality".

Sometimes, the constantly busy participant just doesn't want to talk to you. Try to get a feel for whether she really is too busy to talk, or whether she's avoiding you because she hasn't been exercising. Let her off the hook if you think she's being avoidant.

* Our purpose is NOT to make people feel guilty if they don't exercise. Remind participants that physical activity's something they do for themselves, not for you. They don't disappoint or hurt you if they don't exercise! What kind of job would it be if none of your participants needed your help? Your goal is to help participants incorporate more activity into their lives, and it's okay to acknowledge that sometimes this is difficult. When you communicate your understanding in this way, the participant is more likely to open up and "confess" that they can't physical activity or they don't like to exercise. This opens the door for you to help them problem solve in new and effective ways.

* **The Emotional Participant**

People get emotional– it's natural. Sometimes people are disappointed in their physical activity and they turn that upset toward you. Sometimes, people have experienced a job loss, a family illness, or a stressor. Your job is to discuss exercise, not to be a counselor; however, you do need to discuss physical activity in a way that still acknowledges and respects the person's emotions. Here are some helpful steps for dealing with an emotional person:

1. **Do not get angry, hurt, or emotional back.** The first step is for you to control your own feelings and stay calm. If you cannot, as politely as possible, try to reschedule the contact.

2. **Give the other person the right to feel sad, disappointed, angry, or whatever the feeling is.** The other person has a right to feel and express anger as well as happiness, joy, and sadness.

3. **Recognize the emotions as feelings that may signal frustration, not feeling listened to, etc…** Try to identify the source of the upset.

4. **Keep focusing your own and the other person's attention on the task - exercise.** Don't get completely sidetracked by the emotions.

5. **Use other emotions such as respect or affection to help the emotional person regain composure.** Sometimes a sudden show of respect or affection will change the other person's mood. "It sounds like you're going through a hard time."

6. **Present a rational explanation of the situation.** Understanding the situation can help the other person understand the cause of his or her emotion and begin to calm down. "It sounds like caring for your mother is a big responsibility and you're disappointed that it's difficult to exercise."

7. **Model expressing emotions constructively.** Be a calm role model.

8. **Talk to yourself**. Remind yourself, "I'm good at managing other's emotions." "His anger is a minor annoyance, not a major catastrophe."

9. **When you cannot handle a situation seek help.** Call your supervisor without hesitation. Before telephoning an emotional person, talk through the situation with your supervisor.

Note: Occasionally, a person is just too emotional to discuss physical activity and it's best to say, "It sounds like you're going through a lot right now. Why don't I give you a call in a couple weeks and we can talk about physical activity then."

Adapted from Reaching Out—Interpersonal Effectiveness and Self-Actualization, David Johnson, Allyn and Bacon Publishing, 2003

∗ The Ill or Injured Participant

Over the course of a year-long program, participants may become ill or experience an injury beyond the occasional or expected soreness and fatigue that come with starting a new physical activity plan. *Never give a participant medical advice or opinions about treatment.* Do, however, refer the participant to his or her physician and our staff clinic coordinator. Use the following questions and guidelines to help you assess and handle the illness/injury appropriately.

1. *"What are your symptoms?"*
2. *"Have you seen your physician?"*

IF THE PARTICIPANT HAS SOUGHT MEDICAL ATTENTION…

1. *"What is the diagnosis?"*
2. *"Is your injury/illness exercise-related?"*

- If yes… *"When and how did the injury/illness occur?"*

1. *"Did your doctor recommend that you continue, modify or stop exercising*?"
2. Recommend that the participant follow his/her physician's advice.
3. Set a physical activity goal in accordance with the physician's recommendation.
   a. If the physician recommended modified exercise, set a modified goal (i.e. reduced frequency, intensity, duration, or a different activity).
   b. If the physician recommended against exercise, do not set a goal.
4. Tell the participant that when he/she is better and the physician recommends resuming exercise, he/she should resume at a lighter level.
5. If the participant is interested in discussing exercise, talk about physical activity prior to the illness/injury and the physical activity he/she looks forward to upon recovering.
6. Tell the participant that you will talk about this again during your next call.
7. Record the participant's responses to these questions in your progress notes.
8. Notify your project manager about the illness/injury.
9. Complete an Adverse Event form.

IF THE PARTICIPANT HAS <u>NOT</u> SOUGHT MEDICAL ATTENTION…

- *"Is your injury/illness exercise-related?"*
- If yes… *"When and how did the injury/illness occur*?"
- Recommend that the participant contact his/her physician or advice nurse for medical and physical activity advice.
- Recommend that the participant stop exercising until the participant receives approval for physical activity from his/her physician.
- Do not set a physical activity goal with the participant.
- If the participant is interested in discussing exercise, talk about physical activity prior to the illness/injury and the physical activity he/she looks forward to upon recovering.
- Tell the participant that you can call them in 2 weeks after they've spoken with their doctor, or you can talk to them at their next scheduled contact.
- Record the participant's responses to these questions in your progress notes.
- Notify your project manager about the injury/illness.
- Complete an Adverse Event form.

*****Note: In any circumstance, if a participant reports any of the following symptoms (dizziness, nausea, shortness of breath, chest pain (including chest discomfort or pressure, left arm pain, or report indigestion or stomach discomfort), tingling in the hands or feet, or left arm pain)**

during or after exercise, recommend that the participant stop exercising and call medical safety officer or his/her physician immediately.

Potential Illnesses and Injuries: Sorting out the Expected from the Unexpected

The following table lists the types of health complaints that participants tend to mention over the telephone. The health issues in the left-hand column are ordinary/common and generally are not cause for great concern. The issues in the right-hand column are atypical and warrant more attention. If you hear a participant mention issues in the right-hand column, please contact project manager so that you and the intervention team can develop an appropriate and safe action plan for the participant.

Common:	Uncommon:
• **Muscle soreness** • **Stiffness** • **Runny nose** • **Allergies (without chest congestion or asthma)** • **Stress** • **Fatigue**	• **Pulled or strained muscles, tendons, or ligaments.** • **Joint pain** • **Joint swelling** • **Ankle or knee injury** • **Chronic foot pain** • **Back pain** • **Neck pain** • **Decreased range of motion in joint** • **Broken bones** • **Recurring blisters** • **Fever** • **Chest congestion or chest cough** • **Asthma** • **Flu** • **Bronchitis** • **Pneumonia** • **Surgery** • **Other illness**

* **Keys to Counseling during Difficult Situations:**

1. Be nonjudgmental
2. Be empathic
3. Give individualized advice to help problem solve
4. Don't ask "why" or close-ended questions
5. Don't take ownership of the participant's behavior
6. Don't interpret (when a paraphrase will do)
7. Stick to the "Here and Now"
8. Stick with the topic of exercise
9. Ask for help when you need it
10. Give encouragement and praise for the small things

* **When to Seek Help:**

You are encouraged to seek support from your supervisory staff at any time. Seek consultation when:

1. You have a question about exercise, or when you can't answer a question posed by your participant.

2. You want to validate or verify something you told your participant.

3. You have a particular difficulty with your participant. For example, if he or she talks too much, or is resistant to your suggestions, and you have difficulty finding a solution, seek consultation from an objective third person.

Seek consultation ***immediately*** if a participant talks about depression, alcohol, drugs, abuse of self or another, or suicide.

IV. First Individual Face-to-Face Contact
Initial Counseling Session:
Welcome to the LIFE Physical Activity Program

Objectives

In this session the participant will:
- Meet the individual counselor
- Receive an overview of the physical activity program
- Review the goals of the program and why they are important
- Discuss personal outcome expectancies and concerns
- Discuss key aspects of the individual counselor–participant relationship

WELCOME AND INTRODUCTION

Greet the participant in an enthusiastic and friendly manner.

Hello. It is good to see you. How are you?

INTRODUCTION TO THE LIFE STUDY

The most important part of this session is to establish rapport with the participant. Encourage the participant to ask questions and express concerns. This session should be conversational rather than didactic. Use open-ended questions to facilitate the participant's speaking freely. Begin by covering the following:

- Greeting and your background/role in the LIFE STUDY
- Participant's background
- Program overview
- Personal goals and concerns

Participant Name (preferred name):_____**Date:** _____

Accommodation Needs: ☐ low vision ☐ hearing impairment
Permission to Acknowledge Birthday: ☐ yes ☐ no
Resides with: _____

First Individual Face-to-Face Contact-Welcome to the **LIFE** (Lifestyle Interventions and Independence for Elders) Physical Activity Program.

Objectives: In this session the interventionist will:

- Build a working relationship with the participant
- Discuss the participant's **past exercise experiences, motives/incentives, intended outcomes, and factors that may inhibit and facilitate participation**
- Receive an **overview** of the physical activity program
- Review the **goals** of the program and why they are important

A. Greeting / your background & role in LIFE / other intervention staff

B. Phase I of Collaborative Discussion: *Open-ended questions should be used to elicit information about participants and allow them to talk about the issues that are most important to them.*

1. What led you to join the LIFE Study?
2. **What benefits do you hope to achieve?**

3. What has been your past experience with physical activity/exercise programs?
4. If previously active, then ask: What happened? **Did you like being activity? What benefits did you experience?** **Was there anything negative about the experience? Why did you stop?**

C. Program Overview-*Provide a brief overview of the program* ***while completing a 5 minute walk with participant.***

"The **LIFE Physical Activity Program** is designed to help older adults improve their physical function and to prevent physical disability. We hope this will improve your physical function and overall health. This is an exciting study, as you are one of 1600 people from eight sites nationwide who is receiving the program (provide map). The program is sponsored by the National Institutes of Aging."

Briefly review the structure of treatment: *Refer to FITT Model at end of packet*

Center and home based physical activity: During the study, you will be participating in physical activity **2X each week** under close supervision at the physical activity facility. During this time we will provide information on the "nuts and bolts" of physical activity and exercise. We will also ask you be physically active at home on most days of the week; we will start with one day a week and progress until you eventually exercising 3-4 times a week at home.

D. Are there any things that may get in the way of your participating fully in the LIFE Successful Aging Program such as talking care of a spouse or other family member, health issues, or current physical symptoms?

E. Barriers/Facilitating Factors

- **Inter-goal conflict**
  Reflects degree to which other values/priorities may interfere with LIFE participation

1	2	3	4
None	slight	moderate	severe

- **Neighborhood environment**
  Do you think your neighborhood will have a (A) positive or (B) negative influence on your being physically active at home?

  A. If positive, how much so?

1	2	3
	Slightly	**Moderately** **Extremely**

  B. If negative, how much so?

1	2	3
	Slightly	**Moderately** **Extremely**

- **Family and Friends**
  Do you think your family and friends will be (A) positive, (B) negative or (C) really won't care either way (a rating of 0) about your being physically active at home?

  A. If positive, how much so?

1	2	3
	Slightly	**Moderately** **Extremely**

  B. If negative, how much so?

1	2	3
	Slightly	**Moderately** **Extremely**

- **Do you have transportation to get to the scheduled sessions at the center each week? Yes or No**

  If you needed to travel to find somewhere to be physically active at home, do you have the transportation necessary to do so? Yes or No

F. At this point in time, how confident are you that you will be able to do what we are asking you to do?

Using a 0 to 10 scale where 0 = Not at all Confident and 10 = Extremely Confident.

G. Personal Goals and Concerns--***It is very important to discuss personal goals and concerns regarding physical activity participation in the LIFE study. Goals should be generated by the participant and consistent with his/her abilities.***

Discussing SPPB scores and other data such as having COPD may help in realistic goal setting.

- **Long Term Goals** (e.g., improve health, decrease medication)

Considering everything in your life at the present time, how much do you value these goals?

Use a scale from 0 to 10, where 0 = not at all, 5 = moderate and 10 = the most important goal(s) in my life.

- **Short term goals** (e.g., attend 2 sessions each week for 4 weeks; walk for 15 minutes each session).

G. CLOSE

Is there anything else that we can do to help you be successful in this program?

Do you have any questions that we can answer for you?

Your first PA session is on _____ @ _____ am/pm

It was a pleasure to meet you and we look forward to seeing you next time.

Thank you for coming in today.

FITT Model (Frequency, Intensity, Time, Type)

- **Frequency:** You will attend exercise sessions at the CRC 2X/week. We will also ask you to complete 1-4 additional exercise sessions at home.
- **Intensity:** We will ask you to exercise at a moderate intensity using the following scale. On this scale, which ranges from 6-20, we will ask you to walk at an intensity of 13 (SOMEWHAT HARD) and not exceed 15 (HARD) or drop below 11 (FAIRLY LIGHT). For the strength exercises we will ask you to perform at an intensity or 15-16.

6	
7	**Very, very light (Rest)**
8	
9	**Very light - gentle walking**
10	
11	**Fairly light**
12	
13	**Somewhat hard - steady pace**
14	
15	**Hard**
16	
17	**Very hard**
18	
19	**Very, very hard**
20	

- **Time:** This exercise program is customized to you! The goal is to perform 40-60 minutes of exercise per session and 150-210 total minutes per week; however, we will tailor to your needs and progress as appropriate.
- **Type:** The physical activity program will include aerobic, strength, flexibility, and balance training. Walking will be the primary mode of aerobic exercise; however, other forms (such as a stationary cycle) will be permitted when walking is contraindicated. After each bout of walking, you will complete a 10-minute routine that focuses on strengthening exercises for the lower extremity muscle groups using variable ankle weights. Additionally, you will complete various balance training exercises

V. Protocol for Phone Counseling (SCT)

The following section will describe the structure of the telephone contacts in general and provide scripts and various example scenarios. Consistent with the behavioral intervention to be used in the LIFE study, telephone contacts are conducted based on social cognitive principles with the purpose of enhancing and/or maintaining motivation, retention/adherence to study protocols, and problem solving. Telephone contacts will consist of the following elements:

preparation, initial greeting, feedback (including examples of potential participant response scenarios), discussion targeted at social cognitive principles, social-environmental factors, behavioral contract, and salutation. Each of these elements is described below.

I. Preparation
   A. Consult clinical notes.
   B. Inspect attendance logs.
   C. Note any changes in physical activity behavior, performance.
   D. Inspect home physical activity logs (e.g., FITT; if not available, request this information from the participant).

II. Initial Greeting
   A. "Hello _____, this is _____from the LIFE Study. How are you today? I was wondering whether we could talk about your physical activity program for a few minutes. Do you have about 15 minutes to talk right now?

   B. If NO, arrange a specific time for telephone contact.

   C. YES, "Great! I would like to talk to you about to about your physical activity program, provide you with some feedback regarding your progress, discuss any problems you may have encountered, and develop some goals for the upcoming month. Does that sound OK?
   D. If NO, inquire why.

III. Feedback (sections III & IV can be merged into one discussion)
   A. Provide feedback regarding the participant's progress in the physical activity program.
   B. Discuss overall progress as well as progress over the past month.
   C. Example scenarios
      (1) Much progress: "I see here you have attended all your physical activity sessions with the group as well as your home exercises. That is fantastic! You should be very proud of your accomplishment. Sticking with a physical activity program is very difficult, and you have done very well. I can also see from your activity log that you have improved in every strength training physical activity and you are walking for a longer period of time. Well done! How do you feel about your progress?"
      (2) Mediocre progress: "I see you have attended some of your physical activity sessions with the group, and some at home, on your own. That is a great improvement! You moved from 'not doing anything (sedentary),' to being physically active. It seems that you have missed a few sessions over the past month, but

overall you seem to be getting the hang of it. How do you feel about your progress?"

(3) Very little progress: "It seems that you have not attended your physical activity session regularly. Is this accurate (I want to make sure my records are accurate)? Would you say that being physically active is not a priority for you? [at this point, you may proceed to 'problem solving.']

(4) If they have stopped exercising completing invite them back to the exercise sessions that are offered.

IV. Discuss motivational concepts (self-efficacy);

A. Objective: to enhance the participant's confidence in her ability to maintain her physical activity program. This can be done by using the below structure as a guide for discussion topics.

B. Performance accomplishments (this is the most powerful source of perceptions of capabilities and, thus, should be emphasized.

a. Objective: discuss mastery experiences and improvement with the participant.

b. Examples:

i. Attendance; center-based physical activity and home-based exercise.

ii. Improvements in strength, endurance (i.e., walking distance)

c. Changes in physical functioning

i. Everyday tasks

ii. IADL, BADL

C. Social modeling

a. Objective: to get participants to think about or observe other people who successfully maintain their physical activity program and, perhaps, their physical functioning.

b. Examples

i. Does the participant know anyone else that exercises regularly?

ii. Has the participant observed other members of the group exercising?

c. Please Note: when evaluating one's progress, it is common for participants to may make references to "social comparison." In other words, the participant may respond with, "Why can't I lift as much as Betty? She is older than I am!" This type of social comparison should be discouraged because it can be demotivational. In such cases discuss with the participant why "Betty" can lift more (e.g., Betty attends more physical activity sessions; she does not have osteoarthritis in her shoulders, etc.)

D. Verbal persuasion

a. objective: provide ample verbal encouragement to enhance the participant's confidence in her ability to maintain her physical activity program.

E. Interpretations of physiological events/changes
    a. Objective: discuss actual physiological changes experienced by the participant and how those changes are interpreted.
    b. Examples
        i. Feeling states:
            1. How does the participant feel while exercising? How does the participant feel now as compared to the beginning of the program?
            2. Is she as fatigued now as she was at the beginning of the program?
        ii. Heart rate:
            1. Demonstrate for the participant that her resting heart rate is lower than it was at the beginning of the program, which is an indication that she has increased her fitness level.
            2. Demonstrate that her physical activity heart rate is lower that it was prior to the program;
            3. heart rate recovery is faster.
        iii. Comfort level:
            1. Inquire as to the participant's comfort level with performing the exercises. Is she more comfortable with these skills now as compared with the beginning of the program?
            2. Is she more comfortable exercising in front of her peers?
F. Explore social-environmental factors
    a. Social support: are the participant's significant others supportive of her participation in the study? Do they encourage her to physical activity at home? If not, can that be changed?
    b. Social aspects of group: does the participant enjoy the group? Does the participant feel included in the group? Does the group offer any sort of motivation to physical activity for the participant?
    c. Environment
        i. Physical/built environment (e.g., access to facilities)
        ii. Weather
G. Barriers

V. Behavioral Contract
A. Tailor a new behavioral contract for the participant that is specific to the issues discussed thus far.
B. Should be designed for goals/expectations for the next month.

VI. Salutation

A. “Thank you very much for your time. It has been a pleasure speaking with you and discussing your physical activity program. I hope I was helpful in developing means to overcome barriers and resolving the issues we discussed. Please feel free to contact me if you have any questions.”

10.11. “Successful Aging” Health Education Group

10.11.1 Overview:

The comparison group will receive an active successful aging intervention based on the “Successful Aging” (SA) curricula that have been used at Stanford, WFUHS and the University of Pittsburgh for the LIFE-P trial and in other research settings. The successful aging group will receive staff attention, although this type of intervention is deemed “inert” (i.e., not affecting the outcomes of interest in this trial). The successful aging curriculum will involve interactive workshops, presentations, discussion groups, mailed materials, etc. As has been done successfully during LIFE-P and in other settings, the presentations will be delivered weekly throughout the first six months, and then offered at least bi-weekly (every two weeks) through the end of the trial, with monthly attendance required (see Table below). Participants must attend their first Successful Aging workshop within 8 weeks of randomization. Sessions will include topics such as stress management tactics, practical nutrition, life long learning, legal/financial issues, health maintenance, etc. nutrition. Physical activity will not be discussed in these sessions but participants will receive the American Heart Association information on the benefits of physical activity in their “Successful Aging” binders (See section 10.11.1B). During the first 26 weeks, intervention staff will contact participants after one missed session to problem-solve around barriers to attendance. Beginning in Week 27, for those who miss the first session of the month, intervention staff will call participants to encourage regular study participation. Participants will regularly be given giveaways/incentives (See section 10.11.5.1) to enhance participation and retention. Successful Aging Workshops will be conducted in meeting space that is separate from the clinic assessment area to ensure masking of the assessment staff.

Table: Intervention staff contacts for the successful aging group

Week	Center-Based Workshop	Telephone Contact
Adoption 1-26	1 time each week with encouragement to take an increasingly proactive role in workshop participation and delivery	Intervention staff contact made after one missed session to problem-solve around barriers to attendance.
Maintenance 27 – end	Offered twice per month, with ongoing monthly participation encouraged	Intervention staff contact made on a monthly basis to encourage regular study participation for those participants who miss the first session of the month. Monthly newsletters will be timed to be delivered between the first and 2nd scheduled monthly sessions to prompt participation and describe topic areas for future months.

10.11.1A. To promote sustained participation in the Successful Aging Intervention throughout the study period, each year of the SA program will be

launched using a **motivational campaign** to set the stage for the coming year. As part of the campaign, participants' continuing commitment to the LIFE Study will be discussed, participant topic areas of interest will be explored, and the setting of new goals for the coming year will occur for each participant and for each group/class as a whole.

10.11.1B. At the beginning of the interventions, subjects in **both** study arms will initially receive the same **standard, up-to-date physical activity pamphlet information**, which reflects the current national guidelines concerning the general health benefits of physical activity.

10.11.2 "Successful Aging Workshops" Class Format & Protocol

Note: All participants receive a monthly newsletter and class calendar.

Format of Class: Combination of interactive and didactic presentation, demonstration by group leader, guest speaker, or field trip/outing followed or preceded (up to the discretion of the interventionist) by gentle, guided Upper Extremity Stretching/Flexibility exercises (done in a seated position). Each study site will have the flexibility to choose their own topics based on local resources and participant interests. See section 10.11.2.1 for a listing of suggested class topics. When a field trip/outing is scheduled, upper extremity stretching can be omitted from that day's schedule.

Frequency of class: Participants are required to attend one class per week during the Adoption Phase (Weeks 1-26). Attendance is required a minimum of one time per month in the Maintenance Phase (Weeks 27+).

Based on number of participants to be enrolled in this arm at each site (i.e., approximately 100), Class Leaders/Organizers are expected to hold, several classes per week during the Adoption Phase, and several classes per month during the Maintenance Phase. Leaders may need to offer more class times per week/month to accommodate classroom size, number of enrolled participants and participant availability.

Length of class: up to 90 minutes (suggested time is 60-75 minutes) depending on topic and speaker.

Materials/Facilities required: Classroom for up to 25 people, LCD projector and laptop, overhead projector (if needed), whiteboard w/ dry erase pens & eraser; small table for attendance check-in & handouts, tape recorder with microphone (stand or lavaliere), blank 60-90 minute audiotapes (it is not required that sessions are taped), attendance sheet & pen.
NOTE that the suggested/optimal class size is typically no more than approximately 25 participants, given the utility of facilitating, along with class

logistics, positive group process and cohesion that is typically important to sustained intervention (and study) participation.

Staff required to conduct a class: 1 Group leader, 1 classroom assistant if needed (to take attendance, handouts), and optional guest speakers as appropriate.

Class Time Breakout: based on 60-75 min

30 Min. prior to start time	Classroom set-up, participant check-in. Participants often arrive early to socialize and get settled in.
5 - 10 Min.	REVIEW of previous session *address questions/problems, review/return previous assignments, if applicable*
25 - 30 Min.	PRESENTATION of topic *overview, topic defined, goals for session, provide worksheets or handouts*
5 - 10 Min.	LARGE GROUP discussion *based on topic/activity*
5 - 10 Min.	Upper Extremity Stretching Activity (see 10.11.3 for protocol) flexibility for this to be done at the beginning or end of a session
5 - 10 Min.	SUMMARY with assignments for next class if applicable, question/answer *provide handouts, contact information* Participants often linger to socialize; be aware of room usage.

*Format subject to change depending on topic or activity (e.g., field trip, film)

The Workshop Leader is expected to coordinate and schedule workshops at least 4-6 weeks in advance to allow time to prepare and distribute class calendars.

<u>4-6 Weeks in Advance:</u>

- Confirm room and equipment availability for the upcoming month.
- If workshop leader is giving presentations:
    - Schedule topics and dates.
- If guest speakers are giving presentations:
    - Contact guest speakers and review speaker criteria, suggested topic
    - Confirm date and time of presentation.

<u>3-4 Weeks in Advance:</u>

- Finalize & publish class calendar
- Publish monthly newsletter to complement scheduled presentations and/or speakers.
- Send confirmation letter to any guest speakers scheduled for the upcoming month.
- Draft classroom handouts or assignments in conjunction with topic.

2 Weeks in Advance:

- Mail/Distribute class calendar and monthly newsletter to all enrolled participants at least 2 weeks before the first presentation on that calendar schedule (i.e., if calendar starts April 1, mailing should go out March 15 at the latest).

One week prior to each class:

- Re-confirm room & equipment availability.
- Re-contact guest speaker (if applicable) to finalize details of presentation (A/V needs).
- Finalize and copy handouts or assignments for the class.

On Class Day:

- Arrive early for room set-up, greet & orient guest speaker (if applicable), greet participants, take attendance and distribute/collect any handouts or assignments

During Class:

- Review and discuss previous weeks session/homework task
- Presentation of topic and introduce self/guest speaker, (if applicable)
- Record session (if possible)
- After presentation is completed, large group discussion and questions
- After (or before) in-class presentation and/or discussion, lead class in upper extremity stretching exercises
-
- Review and discuss previous weeks' homework task
- Assign the homework task for next session as applicable

Day after Class:

- Send thank-you letter to guest speaker (if applicable)

Contact any participants who did not attend and send them any applicable handouts

10.11.2.1 Suggested Class Topics for the Successful Aging Workshops

The following are "allowable" workshop topics. Each study site has the flexibility to choose from this list or, to accommodate regional and/or cultural variations among sites, develop their own topics based on local resources and participant interests. If topics **not** on this list are generated, they should be discussed initially on the Successful Aging Subcommittee Call and then Dr. Glynn will consult with the Intervention Committee Chair/Co-Chairs (Drs. Fielding, King, and Rejeski) as well as on the Intervention Operations Committee on conference calls **prior** to their implementation. (Careful oversight by both the Interventions and Operations and the Successful Aging Subcommittee will ensure that SA activities will not increase physical activity participation in the

control group.)

NUTRITION

- Eating Well for Successful Aging
- Fiber and the Aging GI Tract
- Fluids & Hydration in aging
- food guide pyramid (adjusted for older adults)
- Deciphering nutrition labels on food packages
- stress-related eating
- healthy recipe ideas (in a hurry and using on-hand items)
- Foods and healthier fats
- organic farming vs chemically enhanced farming
- Local farmers' market
- Nutrition & The Healthy Heart
- Antioxidants: What's The Story?
- Eating For Cancer Prevention
- Good Eats For The "Empty Nester"
- Calcium: Not Just For Women
- The Lowdown On Lactose Intolerance
- Healthy Holiday Eating Strategies
- Fight Back!: Food Safety Issues ("the dirty dozen")
- Sodium And Blood Pressure: Is There A Connection?
- Healthful Vegetarianism
- Phytoestrogens
- Functional foods
- Mindful Eating – Lifelong Weight Maintenance

Suggested "Homework" Activities for Nutrition Topics: goal setting, tracking, reading labels in home/compare labels in store, recipes, articles; menu planning

SUPPLEMENTS

- Dietary Supplements: What are you taking and why?
- How to read a supplement label
- Vitamins - what are they, what do they do, how much, how often, what kind?
- Herbs - fact vs. myth
- Functional foods

Suggested "Homework" Activities for Supplements Topics: medicine cabinet check, label reading, tracking, read & review articles

MEDICATION & PILL USE

- Prescription vs. Over-the-Counter: safe use (expiration dates, mix and match)
- Pharmacist Q&A
- self-medicating- ETOH use, abuse/ estrogen/ tranquilizers
- Herbs as Medicines? Risks and benefits of "prescribed" herbs
- Medication Interactions (with foods, other OTCs. etc.)
- Saving Money on Generic Medications

Suggested "Homework Activities" for Medication Topics: medicine cabinet inventory, doctor check, reviewing possible medication/OTC interactions with pharmacist, reading labels on OTC meds, price comparisons

HEALTH CARE

- Medical Care & Insurance
- Finding good medical care
- HMO vs. PPO vs. Medicare vs. Medicaid
    - Know your rights as a patient/ how to talk to your physician/ hospital know-how/how to be your own advocate
    - Surgery considerations/ advanced directives (what to do if you need an attorney)

ALTERNATIVE MEDICINE: WHAT IS IT?

- Energy Healing
- Music Therapy
- Pet Therapy
    - Meditation, mindfulness, deep breathing
    - Hypnotherapy
    - Acupuncture/what is it?
    - Gentle yoga – note this should not be a series of sessions, maybe one session and done in a seated position
    - Massage
    - Chiropractic

Suggested "Homework Activities" for Health Care Topics: Review personal policies investigate and learn about alternative medicine.

PREVENTIVE MEDICINE – GOOD HEALTH HABITS ACROSS THE LIFE SPAN

- Dental Health: teeth, mouth, gum care
- Skin care – skin cancer check (skin surveillance)
- Hearing – screening & education, treatment options
- Vision – screening & education, tx options
- Foot care/ wound care
- Sexual Health across the Lifespan

- Immunizations across the Lifespan
- Seasonal allergies
- GI care
- Preventing Pneumonia
- Vaccinations: Flu, shingles. etc.

Suggested : personal inventory, professional follow-up PRN, provide a tracking form, scheduling regular appointments for check ups

ILLNESS, DISEASE KNOWLEDGE & TREATMENT

- Cancer (breast, prostate, skin, colon, etc)
- Heart disease (Peripheral Arterial Disease, Heart failure
- Hearing and Aging
- Living with Low Vision
- Hypertension: what is BP & HR? In Class Health Screenings
- Crash Course On Cholesterol
- Stroke
- HIV/AIDS
- Arthritis
- Osteoporosis, osteoarthritis
- Prostate problems
- Diabetes
- Heat stroke, exhaustion, dehydration
- Parkinson's Disease
- Sleep/Sleep Apnea
- Late-Life Depression
- GERD/heartburn
- Headaches/Migraines

Suggested "Homework Activities" for Illness Topics: articles, time for a physical? Where to get check-ups & screenings

LEGAL & FINANCIAL HEALTH

- Wills, estates, trusts
- Savings for the next generations
- Home buying/selling for older adults
- Senior Housing Options
- Retirement – Options & Decisions
- Charting Your Path to Financial Wellness
- Protect Yourself: Elder Law
- Elder Crime, Fraud, ID theft

Suggested "Homework Activities: for Legal/Financial Topics: Q & A with realtors, legal aid & advocacy, stock brokers

HAPPINESS IN THE HOME & COMMUNITY

- Safety-proofing the home
- Emergency response
- First Aid / CPR training
- Disaster preparedness, fire, flood and earthquake-readiness
- Crime prevention – financial/theft prevention, tips to avoid being victimized
- Driving over 55 (years old) / Driving Safety
- Community resources- phone numbers, services, activities
- Volunteerism & Outreach
- Recycling Programs
- Gardening, Landscaping and Home Improvements
- Going Green
- Travel & The Older American: What You Should Know
- Spirituality
- Dealing with Grief
- Cosmetic Surgery
- Playing an instrument, Drumming for health and happiness, Singing
- Life-Long Learning
- Forgiveness

Suggested "Homework Activities" for Home/Community Topics: visit community resources, house check-ups, make a disaster plan, hands-on training in first aid, safety procedures, research worthy volunteer activities, join a choir or singing group, learn a new instrument, experiment with new activities

10.11.2.2. Sample Presentations

Workshop example schedule from the "Successful Aging" series at the University of Pittsburgh in the LIFE-P Study

10 Keys to Healthy Aging	Erin Keddie, BS
Supplements / Nutrition for 70+	Deb Larsen, MPH, RD, LDN
Eye/Vision Care	Mickey King, Coordinator of Public Education,
Type 2 Diabetes	Ami Patel, Epidemiologist
Diabetes	Gretchen Piatt, MPH, CHES
Jewish Association on Aging	Miriam Cohen, LSW
Hearing Loss	Elaine Mormer, MA, CCC-A Clinical Instructor,
Communication	
Foot Care	Ray Burdett, PhD, PT, Cped
Osteoporosis	Michelle Danielson, PhD Epidemiology
Stress Management	Constance Mols Bayles, PhD, FACSM
Sleep Hygiene	Mark Sanders, MD, FCCP,D, ABSM
Eastern Area Adult Services	Pat Hoffman, MSW, LSW
Oral Cancer	Margaret Hamilton, MHPE, CHES

Cancer	Kay Lowmaster, MSW, LCSW
Incontinence & Urge Issues	Susan George, PT, MS Director of WomensRehab,
Retired & Senior Volunteer Program (RSVP)	Linda Soldressen, Project Director RSVP
Pennsylvania Resource Council	Nancy Martin-Silber, Community Educator
Drug Interactions	Pam Martinetti, RPh
Arthritis Foundation	Jill Hicks,
Smoking Cessation	Kathy Woll, BSN, MS
OASIS	Gail Weisberg, Dir. Of Pittsburgh OASIS
Healthy Holiday Eating	Hattye Boyd, MPH, RD, LDN
Medicare Drug Benefits	Joseph T. Hanlon, PharmD, MS
(Pittsburgh) Mediation	Sarah Geis, BS Intake Coordinator
Healthy Eating	Judy Dodd, MS, RD, LDN
Heart Disease & Atherosclerosis	Louis Kuller, MD, DrPH
Spinal Stenosis	Tony Delitto, PT, PhD, FAPTA
Tips for Dining Out & Cooking	Erin Keddie, BS
Maintaining Social Contact	Kendra Winters, MS, CHES
Safe Seniors	Bill & Mary Lou English,
Senior Abuse	Janet Necessary, Deputy District Attorney
Senior Roll Call	Joe Costanzo, Project Coordinator
Depression	Lee Wolfson, Med
Life Long Learning	Ruth Buckley, Community Consultant
Nutrition Series:	Krista Clark, MS, RD, LDN
1- New Food Guide Pyramid	Senior Research Coordinator, PITT
2- Blood Pressure	
3- Heart Healthy Cooking	
4- Cholesterol	
5- Pre-Diabetes	
Complementary & Alternative Medicine (CAM)	Drs. Natalia Morone & Daniel Schenck
Nationality Classroom Tour	Cathedral of Learning Field Trip
Elder Law	Carol Silkov Gross, Esquire, CLEA
Area Agency on Aging (AAA) &	Kurt Emmerling, MS Ed, NCC, LPC
Identity Theft	Bureau Chief of Safety Services, local AAA
Sexuality & Intimacy in Aging	Cathy Ravella, RN,C PhD
Parkinson's Disease	Deborah Josbeno, MS, PT, NCS, CSCS
Alzheimer's Disease	Elaine Dively, MSW, LSW
Grief & Bereavement	Mark Miller, MD Medical Director of the
Stroke Association	Diane McClune, BSN, MBA
Painless Trama Techniques	Joseph Weiss, PhD
New Research Opportunities	Lisa DeSantes, BS Program Manager
T**oxin Exposure & Seniors**	Rita Mrvos, RN, BSN, CSPI

Workshop example schedule from the "Successful Aging" series at Stanford in the LIFE-P Study

Workshop 1	**Orientation/Introduction:**
Workshop 2	**That's LIFE! Managing Life's Stress**
Workshop 3	**Elder Fraud/Identity Theft**
Workshop 4	**To Sell Or Not or Sell (Your Home): Sorting Out Priorities**
Workshop 5	**Classical Music for Health and Happiness**
Workshop 6	**Medicare and HMO's for Seniors**
Workshop 7	**Current Update: Functional Foods**
Workshop 8	**What You Need Know About Breast and Prostate Cancers**
Workshop 9	**Tapping Into Your Inner E**
Workshop 10	**Services for Today's Seniors:** (local Senior Center)
Workshop 11	**Keeping on Top of Health News/Stanford Health Library**
Workshop 12	**Rx for Health and Happiness: Forgiveness**
Workshop 13	**Med Check –** Nurse Practitioner
Workshop 14	**Cantor Museum: Field Trip**
Workshop 15	**Hearing Loss, CA Ear Institute**
Workshop 16`	**Stroke: A Brain Attack**
Workshop 17	**Preparing For Disasters: Written By Older Adults For Older Adults –** Local Fire Department, Office of Emergency Services
Workshop 18	**Living With Low Vision** – Center for the Visually Impaired
Workshop 19	**Are You Subject to Undue Influence** (Elder abuse issues**)**
Workshop 20	**Volunteerism in Your Community**
Workshop 21	**The Quest For The Optimal Diet**
Workshop 22	**Self Help for the Hard of Hearing**
Workshop 23	**Did You Sleep Well Last Night?**
Workshop 24	**Living Lightly On the World**
Workshop 25	**Mature Drivers**
Workshop 27	**Compassionate Touch: Self-Massage**
Workshop 28	**New Teeth In A Day: Dental Implants** (video)
Workshop 29	**Antioxidants and Diet: Original Research**
Workshop 30	**Aging In The New Millennium**
Workshop 31	**Nutrition Update: Fat**
Workshop 32	**"Pawsative" Feelings: Pet Assisted Therapy**
Workshop 33	**Legal Issues For Older Adults – Elder Lawyer**
Workshop 34	**Travel/Elderhostel**
Workshop 35	**Seasonal Produce:** Summer/Fall/Winter/Spring
Workshop 36	**Who Decides? Making Your Wishes Known**
Workshop 37	**Field Trip: Amazonia Exhibit, Cantor Museum**
Workshop 38	**Dietary Approaches To Stop Hypertension**
Workshop 39	**Telling Our Stories – Professional Story Teller**
Workshop 41	**Daytime Relaxation/Sounder Sleep**
Workshop 42	**The Silk Road – Armchair Travel**
Workshop 43	**Got The Blues? Treating Late Life Depression-** Geropsychologist

Workshop 44	**Aging Preparedness: Contingency Planning for the Unpredicted –** Elder Care Options, Catholic Charities
Workshop 45	**Filoli Estate Historical House and Gardens: A Virtual Tour**
Workshop 46	**The American Red Cross and National Disasters –** Volunteers' Stories
Workshop 47	**The Kite Runner: A Book Review/Discussion –** Participant Book Group
Workshop 48	**Hypnotherapy and Pain Management –** Certified Medical Hypnotherapist
Workshop 49	**Drumming for Health and Happiness**

Workshop 47	**The Kite Runner: A Book Review/Discussion –** Participant Book Group
Workshop 48	**Hypnotherapy and Pain Management –** Certified Medical Hypnotherapist

The following slide presentations will be available on the LIFE Study website. Additional presentations may also be added regularly.

1) Breast Cancer
2) Age-Related Macular Degeneration
3) Osteoporosis
4) Prostate Cancer
5) New Dietary Guidelines
6) Supplements
7) Plant-Based Diets

10.11.2.3. Sample Class Calendar & Attendance Sheet

Successful Aging Workshop Calendar

For the Month of: October 7-November 11
Day & Time: Thursdays at 10:00 AM
Location: Hoover Pavilion, Conference Room, Fourth Floor

Date	Topic/Title
Thursday, October 7	**Elder Fraud/Identity Theft** Ron Sayre, Crime Prevention Officer Los Altos Police Department
Thursday, October 14	**To Sell or Not to Sell: Sorting Out Priorities** Joy Valentine, MSW, MFT, Broker Joy Valentine & Associates
Thursday, October 21	**Classical Music for Health and Happiness** Maureen Draper
Thursday, October 28	**Medicare and HMO's** Don Rush, HICAP Counselor
Thursday, November 4	**Current Update: Functional Foods** Carolyn Prosak, R.D., Stanford University
Thursday, November 11	**What You Need to Know About Breast and Prostate Cancers** Sarah French, RNC, NP

LIFE Workshop Attendance Sign-in Sheet

Date:
Topic:

Name:	*Attended?*	Notes/Comments
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	

10.11.2.4. Sample Homework Assignments

Take home recipe for low fat/low calorie cooking:

"OVEN-FRIED" FISH FILLETS
SERVES: 4

ENTREE

1 lb. Frozen flounder or sole fillets, thawed
2 Tbsp. Plain non-fat yogurt
1 Tbsp. olive oil
1-1/2 tsp. Lemon (or lime) juice
4 Tbsp. Packaged bread crumbs
1 tsp. seasoned salt
½ tsp. pepper paprika (optional)

Directions:

Preheat oven to very hot (475°F). Spray a nonstick cookie sheet or shallow baking pan liberally with cooking spray.

Combine yogurt, oil, and juice in shallow dish; mix well. Sprinkle bread crumbs on wax paper. Dip fish fillets in the yogurt mixture, then press into the crumbs, lightly coating both sides. Arrange fish in a single layer on the cookie sheet. Sprinkle with salt, pepper and paprika. Bake fish, uncovered, in preheated oven for 8 minutes (or longer depending on thickness of the fillets). DO NOT TURN FILLETS. Fish is done when coating is golden and fish flakes easily. Remove fish with a spatula.

Nutrition Facts

Calories	165	Cholesterol	55 mg		
Fat	5 g	Carbohydrate	6 g	Fiber	0 g
Saturated Fat	.9 g	Protein	23 g	Sodium	535 mg

CAN OFFER RECIPES:
Quick Heallthy Snacks
Easy to Prepare Foods
Meals for One
When You Don't Feel Like Eating
Healthy Foods Taste Testings (muffins, breads, cereals, etc)

10.11.2.5 Protocol for Soliciting Guest Speakers

- Workshop leaders are expected to obtain names and contact information from trusted sources (personal contacts, professional colleagues, known community leaders).

- Workshop leaders are expected to create a master list or database of contact information. Many speakers may not be available in the next month or two, but could be available to schedule later in the year.

- Workshop leaders should use the telephone guide to communicate the important information about the Workshop and the role of guest speakers.

- When negotiating with a guest speaker, clarify the major points of the "Guest Speaker Requirement/Criteria" (i.e., is able to relate to an older audience, must not provide physical activity instruction or guidance, agrees not to solicit participants for business purposes).

- Workshop Leaders are expected to send Confirmation letters prior to Guest presentations, and Thank-You letters following presentations (see samples)

Workshop Leader/Guest Speaker Requirements & Criteria

- Recognized expert or authority on the subject

- Prepared to provide 25-30 minute lecture/discussion on topic

- Able to relate the topic to an audience ages 70+ years

- Willing & able to provide handout on topic before the workshop

- Debriefed on major study goals (main outcomes, differences between conditions)

- Agrees not to discuss or present information that may contaminate the condition

- Does not attempt to solicit business or sell products during the workshop (can provide contact information for interested participants)

- Able to schedule at least one month in advance

Telephone Guide for Soliciting Guest Speakers for Successful Aging Workshops

- Greeting

- State how you know contact (personal connection, referral from colleague, recommendation from participant, etc.).

"My name is ____ and I was put in touch with you by ____".

- Explain the LIFE study. Example:

"I am an Interventionist with the LIFE study. This is a research project on physical disability prevention for adults ages 70-89. We have 200 people in this study: half of them are receiving structured physical activity training, and half are in a comparison condition called the Successful Aging Workshops. I'm the coordinator for the Workshops. In the classes, we try to teach a variety of health topics about everything except physical activity or exercise. We hold a class every week for about an hour. Many times, we try to bring in guest speakers who have special knowledge or expertise in certain areas. "

- Inquire about interest in being a guest speaker. Example:

"The topic of _____ is important to the people in this class, and we were hoping you might be available to give a presentation on this topic. Does this sound like a possibility? Or, do you have another topic in mind?"

- Explain Guest Speaker Requirements/Criteria
  - Does Speaker feel able to provide a talk that meets the guidelines?
  - Explain general format of presentation (didactic presentation, group discussion, Q&A, group activity, handouts, etc.).

- Explain date, time, location and calendar availability

- Verbally confirm a time & date.

- THANK the person for their time and contribution. Say you will follow up with a letter of confirmation and you will receive a phone call one week prior to your date of presentation to finalize plans for your session. Obtain mailing contact information.

Sample Confirmation Letter

<Insert Date>

<Name>
<Address>
<City>, <STATE> <ZIP>

Dear <Name>,

Thank you again for your willingness to give a presentation to the LIFE Successful Aging Workshop. You are providing a valuable service to your community and many older adults in our area. You are scheduled for:

Date:
Time:
Topic:
Location:
Enclosed are directions, a map, and parking information.

As we discussed on the telephone, the workshops are the comparison condition for the LIFE study of physical disability prevention for older adults. The workshop is for adults ages 70-89 yrs. They come from a diverse background of life experiences, education and professions, and all are eager to learn about healthier living. The group meets for up to 90 minutes, with 25-30 minutes allotted for the topic presentation. Based on our experience, we find it especially helpful when presenters prepare a small in-class activity or group discussion topic. We would also appreciate any handouts (e.g., worksheets, self-assessments, articles, handouts of slides) that you would be willing to share with the group; if we could receive these at least a week before your scheduled talk, we will make the appropriate number of copies. We have several visual aids at your disposal if you should need/want them: an overhead projector, LCD projector/computer, and slide projector.

Due to the nature of the study, we ask that workshop guest speakers refrain from providing any guidance, recommendations or instruction specific to physical activity. If you are concerned about the impact this may have on your talk, please feel free to contact me to discuss ways to work around this.

I greatly appreciate your help and the participants look forward to your presentation. I'll contact you again with a reminder before your talk. Until then, feel free to contact me if you have any questions or concerns.

Sincerely,
Workshop Leader
LIFE Site

Sample inclusion to Speaker Letter: Considerations When Presenting to Participants with Vision and Hearing Changes – SA Workshops

- Use as large as possible font when preparing slides. Minimize the amount of information on each slide. Use contrasting colors for print and background. ”Elder-friendly” handouts: use a font of 14 or more. Organize information with open spacing on the page. For slide handouts: 1-2 slides per page, no more than 3.
- Be aware of any background noise that may make it very difficult to hear and focus. Turn on all the lights for people with low vision. With a PowerPoint presentation, experiment with how much light you can leave on. Pull shade to decrease glare.
- Place the laptop forward so the audience can see your face. In this way, you will not need to turn your back to the group to see your slides. If you want to make a point, try using the laser rather than turning your back. If you need to turn to the screen, don’t continue talking until you have turned back to face the group.
- Begin presentation in full-face view. Keep good eye contact. Speak a little slower, but keep your natural pace. Speak clearly, and at normal conversational loudness. Ask if the audience can hear you. Invite anyone to move closer. Ask at various parts of the presentation also.
- Some in the audience may also lip-read in conjunction with their hearing device. Lip-reading involves the whole face. Facial expressions, gestures, etc make up a great percentage of what is communicated.
- Check for questions and understanding every so often. If a statement is misunderstood, rephrase the statement.
  Hold things up for viewing or point to them when necessary. If you write on a white board, give people time to look before going on with any verbal information.

Sample Thank-You Letter

<Insert Date>

<Name>
<Address>
<City>, <STATE> <ZIP>

Dear <Name>,

Thank you so very much for your presentation to the LIFE Successful Aging Workshop. Your talk was very informative and important to our audience, and we all appreciated your willingness to volunteer your time to our group.

Sincerely,

Workshop Leader
LIFE Site

10.11.3. Upper Extremity Stretching Protocol

The upper extremity stretching should be performed at the end of each education workshop and can be directed by the workshop leader. The stretches should be performed to each individual's comfortable range of motion (they should be instructed to stretch without any pain perception and perform each physical activity smoothly and slowly). Below is an initial list of stretches from which the workshop leader can choose. The stretches can vary from session to session. All of the stretches are to be performed seated with the exception of the biceps stretch. Choose the stretches that meet the needs of your participants. To reduce boredom, additional stretches will be added during the study and will be included in the MOP when they are introduced.

Each stretch should be performed 2 times

Elbow Stretching:

Triceps stretch: Flex elbow by touching open palm to the front of shoulder on same arm. Use opposite hand to flex shoulder by lifting elbow forward and pointing toward ceiling. Hold the stretch for 20 seconds. Repeat on the other arm.

Biceps stretch: Let arm hang with palm facing back of room. Use opposite arm to reach behind back, and placing hand around the elbow of hanging arm, push straightened arm as if to point fingers at wall behind subject. Hold the stretch for 20 Repeat with the other arm.

Back Stretching:

Oblique stretch: Raise one arm towards ceiling. Bend at waist to point the fingers of the raised hand towards the opposite side. Hold the stretch for 20 seconds. Repeat to the other side.

Trunk Rotators: Sit with feet facing forward. Use both hands on chair back or arm rests to turn shoulders towards one

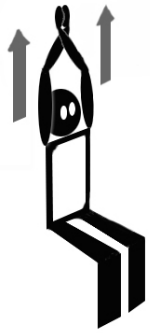
side while hips, knees and feet retain forward orientation. Hold the stretch for 20 seconds. Repeat to the other side.

Neck and Shoulders: With back straight, rotate head 45 degrees and look down towards waist. Grab seat bottom with hand of arm opposite the direction of head turn. Hold the stretch for 20 seconds. Repeat to the other side.

Shoulder Stretching:

Posterior Deltoids/Lateral Rotators: Sit with arm extended straight in front and palm facing down. Horizontally adduct arm with aid of opposite hand. Hold the stretch for 20 seconds. Repeat to the other side.

Flexion: Cross arms in front of body and turn palms of hands together. Raise the arms together overhead, and extend elbows. Hold the stretch for 20 seconds.



Forearm Stretching:

Flexors: Extend arm in front of body with palm facing away. Use opposite hand to pull hand towards body. Hold the stretch for 20 seconds. Repeat to the other side.

Extensors: Extend arm in front of body with palm facing towards body. Use opposite hand to pull hand towards body. Hold the stretch for 20 seconds. Repeat to the other side.

LIFE STUDY SUCCESFUL AGING STRETCHING EXERCISES

Note: All stretches are to be done in a seated position; each stretch should be performed twice and held for 20 seconds

Routine 1	Routine 2	Routine 3
(1) Chin Tucks (Neck)	(2) Head Turns (Neck)	(3) Head Tilt (Neck)
(4) Jaw Open Wide (Jaw)	(5) Jaw Forward (Jaw)	(4) Jaw Open Wide (Jaw)
(6) Shoulder Shrugs	(7) Shoulder Blade Pinch	(8) Shoulder Circles
(17) Elbow Bend (Elbow)	(18) Door Opener (Elbow)	(19) Elbow Bend and Turn
(22) Wrist Bend (Wrist)	(23) Wrist Stretch (Wrist)	(22) Wrist Bend (Wrist)
(24) Thumb Bend (Thumb)	(25) Finger “Os” (Fingers)	(26) Finger Curl (Fingers)
(28) Side Bend with Overhead Arm (Trunk)	(27) Side Bends (Trunk)	(30) Trunk Twist (Trunk)
(29) Back Stretch	(31) Sitting Pelvic Tilt	(32) Rocking Chair (Abs)

Routine 4	Routine 5	Routine 6
(20) Shoulder Touch	(17) Elbow Bend	(4) Jaw Open Wide (Jaw)
(28) Overhead Side Bend	(12) Arm Swings	(6) Shoulder Shrugs
(Shoulder)		
(15) Back Pat and Rub	(14) Shoulder Rotator	(18) Door Opener (Elbow)
(18) Door Opener	(22) Wrist Bend (Wrist)	(30) Trunk Twist (Trunk)
(1) Chin Tucks (Neck)	(25) Finger “O’s” (Fingers)	(26) Finger Curls (Fingers)
(23) Wrist Stretch (Wrist)	(27) Side Bends (Trunk)	(31) Sitting Pelvic Tilt
(24) Thumb Bend (Thumb)	(1) Chin Tucks (Neck)	(2) Head Turns (Neck)
(21) Hug Yourself	(29) Back Stretch	(32) Rocking Chair (Abs)

*** Number in parenthesis corresponds to PACE stretching exercise. See PACE Stretching Book for diagrams and instructions in Appendix A.**

Routine 7

(9) Forward Arm Reach (Flexion)

(16) Arm Circles (Abduction with Circling)

(23) Wrist Stretch (Wrist)

(28) Overhead Side Bend

(3) Head Tilt (Neck)

(29) Back Stretch

(24) Thumb Bend (Thumb)

(21) Hug Yourself (Elbow / Shoulder Flexion)

Routine 8

(5) Jaw Forward (Jaw)

(1) Chin Tucks (Neck)

(25) Finger "O's" (Fingers)

(11) Shoulder Scissors

(13) Self Back Rub

(17) Elbow Bend

(32) Rocking Chair (Abs)

(30) Trunk Twist (Trunk)

Routine 9

(4) Jaw Open Wide (Jaw)

(2) Head Turns (Neck)

(24) Thumb Bend (Thumb)

(18) Door Opener

(10) Sideways Arm Reach

(8) Shoulder Circles

(14) Shoulder Rotation

(29) Back Stretch

Routine 10

(26) Finger Curl (Fingers)

(3) Head Tilt (Neck)

(23) Wrist Stretch

(9) Forward Arm Reach

(16) Arm Circles

(13) Self Back Rub

(28) Overhead Side Bend

(31) Sitting Pelvic Tilt

*** Number in parenthesis corresponds to PACE stretching exercise. See PACE Stretching Book for diagrams and instructions in Appendix A.**

10.11.4. Monthly Newsletter

Life newsletters have been developed and include the following topics. These newsletters were generally tied to seasonal topics related to the month they were used. They are available on the LIFE website and can be adapted by each field center to meet their local needs. Additionally, 17 more newsletters, specifically designed for LIFE-P by the Stanford Field Center, are on the LIFE website and available for use by field centers.

Month	Front Page	Back Page
1	5-a-Day	5-a-Day Recipes
2	Fruits: Berries	Fruit Recipes
3	Colds & Flu	Health & Travel
4	Nutrition Did You Know…	Current Events (TBD)
5	Dining Out	Dining Out
6	Estate Planning	Estate Planning Checklist
7	Nutritional Goal Setting	Healthy Holiday Eating
8	Nutrition for a Healthy Heart	AHA Research Topics
9	Nutrition Labels	Nutrition Advertising Claims
10	Dietary Supplements	False Health Claims
11	Travel Tips	Travel Resources
12	Water	Water: Bottled vs. Tap?

10.11.5. Behavioral Strategies for the Successful Aging Intervention Arm

The purpose of the Successful Aging group is to control for general levels of staff and participant time and attention, in addition to general secular and seasonal effects that could influence the outcomes of interest. In choosing a successful aging program, we were guided by three overriding principles: 1) to optimize participant recruitment and to ensure participants' ongoing cooperation and retention in the study; 2) to select a comparison intervention that would have minimal effects on the composite primary outcome; and 3) to utilize an intervention that participants would perceive as offering some benefit. The third factor derives from findings in previous studies of older adults, namely, that individuals are significantly less inclined to participate in a study if they perceive a lack of benefit in any of the treatment groups.

The LIFE Study comparison group is based on both the Successful Aging workshop series developed at Stanford (a program that has been successfully utilized as a successful aging group model in three physical activity clinical trials with older adults) and on similar successful aging programs developed for adults at WFUHS, Tufts, Yale and Pittsburgh. Participants will receive information on a variety of topic areas of relevance to older adults (e.g., how to effectively

negotiate the health care system, how to travel safely, recommended preventive services and screenings at different ages, where to go for reliable health information, etc.). The program will include an experiential component, in which participants learn how to actively 'take charge' of their health and well being in seeking out appropriate medical information, services and resources.

The following behavioral strategies, which have been used successfully to promote sustained participation in previously studied successful aging groups, parallel the behavioral strategies to be used in the physical activity group. These include the following:

During the **adoption and transition phase** (first 6 months) **for the successful aging comparison group the primary behavioral techniques include:**

1) **General feedback** obtained from baseline testing related to overall levels of health and functioning. This will be accomplished at the initial individualized face-to-fact contact visit described in section 10.11.7.
2) **Specific structuring of expectations** concerning the Successful Aging curriculum, to ensure that subjects' expectations are reasonable and realistic. This will be accomplished through both the randomization visit and the initial individualized face-to-face visit.
3) **Consciousness raising** and similar experiential processes related to the problems of a poor diet and other health areas (e.g., foot and eye care; medical screening), and the benefits of adopting a healthier lifestyle. This will be accomplished through the Workshop series.
4) Establishing **concrete goals** related to attending the Successful Aging sessions and participating in that intervention throughout the intervention period. This will be introduced at the randomization visit and then further discussed at the initial individual face-to-face meeting. Attendance goals will further be reinforced during the monthly contacts beginning in Month 7.
5) A staff-participant **contract** (following randomization) is used to clarify the above goals and expectations and to increase initial participant commitment to the goals. This contract, reviewed and signed by the participant and a staff member, restates the responsibilities of both the participant and project staff with respect to the study, and is used to note the specifics of the first several weeks of the successful aging group intervention (e.g., days, location). This will be accomplished at the randomization visit and reinforced at the initial individual face-to-face visit.
6) Distribution of easy-to-read **written materials** to prompt regular and appropriate participation in the Successful Aging program. Appropriate materials will be distributed at each session and participants will be encouraged to keep the materials in their study binder for future reference.

All participants assigned to this group are required to attend the Successful Aging sessions on a weekly basis, to foster **early 'buy in'** to this intervention group, and to set the stage for continued participation throughout the intervention period. During the latter portion of the initial 6-month period, participants are

encouraged to actively participate in choosing topic areas that will receive additional focus during the second 6-month period. Participants will be invited to provide feedback for topic areas at the initial individual meeting as well as by completing comment cards. They will also be asked about future topics of interest during their monthly telephone contact. To promote sustained participation in the Successful Aging Intervention throughout the study period, each year of the SA program will be launched using a **motivational campaign** to set the stage for the coming year. As part of the campaign, participants' continuing commitment to the LIFE study will be discussed, participant topic areas of interest will be explored, and the setting of new goals for the coming year will occur for each participant and for each group/class as a whole.

7) Similar to the physical activity group, participants assigned to the successful aging group are encouraged to **track behavior changes** related to nutrition and other areas. This will be accomplished by providing relevant homework assignments on an as needed basis to reinforce important topics and keep the participants engaged. Homework is not required for each SA workshop session. If homework is assigned, it should be completed prior to the next class meeting (e.g., trying specific healthful recipes; undergoing simple pantry checks in their homes; food label reading activities, medication interactions, being proactive in legal, financial and medical issues, etc)..
8) Participants who miss a scheduled meeting are contacted via telephone by a study interventionist to encourage continued participation in this group and to use **problem-solving** skills to overcome potential barriers to continued participation. See section 10.11.8. for a description of the monthly telephone contact.

During the **maintenance phase** (7^{th} month through the end of the trial), participants in the **Successful Aging** group receive support from study intervention staff that relate to participation in the monthly Successful Aging meetings. Those participants who miss the first scheduled meeting of the month will be contacted via telephone to encourage continued participation in this group and to use problem-solving skills to overcome potential barriers to continued participation. Participants are encouraged to actively participate in their ongoing program experience, with respect to topic areas of interest, guest speakers, etc. The study newsletter will be timed so that it is received by the participants between the two sessions/month and will also serve as a session reminder.

10.11.5.1. Incentives

Each field center will purchase a variety of giveaways/incentives to distribute to the LIFE Study participants at various times during the intervention. The following is a listing compiled by the Pittsburgh group, of possible incentives at different study milestones:

At Clinic Visits:

Randomization:	Bag (canvas/nylon), Magnet, and Pen
6 months:	Date Book
12 months:	Sunsaver Pack
18 months:	Ice Scraper
Closeout:	Certificate

Activity Intervention:

Face-to-Face:	T-shirt
Intervention Milestones:	Sweat towel, Shoestring Springs, Water Bottle, Stress Ball, Jar Openers, Toothpaste aids, Flashlights, Nightlights, Stickers, Letter Openers, Sport Tubes, Magnifying Ruler, Visors, Notepads , Insulated mini cooler
On-Site:	Goal board for participant interaction.

Successful Aging Intervention:	(In accordance with session topics) Shoestring Springs, BPA free-Water Bottle, Stress Ball, Jar Openers, Caribiner clip pen, Toothpaste aids, Flashlights, Nightlights, Letter Openers, Mug, Cloth/Vinyl grocery bag Magnifying Ruler, Visors, Notepads

10.11.6. Intentionally Blank

10.11.6.1. Binder/folder Contents for Successful Aging

The following is a suggested format for the Workshop binders that are distributed at the randomization visit. A similar binder should be distributed to the Physical Activity Group upon randomization. All binder materials can be found under Study Tools on the LIFE website.

- Front cover should have LIFE logo.
- Inside front cover should have a sticker with participant's name and phone number (To call if left behind after a session).
- Welcome note (See sample in section 10.11.6.2 below) from PI
- Welcome note from Interventionist
- Contact Sheet: Names/Phone number/Address Successful Aging staff
- Include session day, time, location, etc.
- Monthly group calendar and newsletter
- Parking Information & Map
- Copy of Contract
- Physical Activity Guidelines
- Tufts Food Pyramid and supporting materials
- Successful Aging Stretching routine (found at the end of this chapter)

10.11.6.2. Sample Welcome Letter for Study Binder

WELCOME TO THE SUCCESSFUL AGING GROUP OF THE LIFE STUDY!

As the coordinator of the Successful Aging health education group, I want to congratulate and welcome you to the LIFE Study. Your participation is very important to the study and your commitment will make a difference.

A special Workshop series has been prepared for you. This program will focus on health education, successful aging tactics and topics of concern and interest to older adults. We are particularly interested in your feedback. If there are any special topics that you would like to learn more about, please let us know, and we will make every effort to address your interests.

Every month you will receive in the mail a newsletter and a calendar that provides the topics and dates for the upcoming education series. We ask if you are unable to attend a session, to please give me a call at (phone number).

Sincerely,

Staff Name
Successful Aging Health Education Coordinator
LIFE Study

10.11.6.3. "Successful Aging" Workshop Description and Expectations Contract

LIFE Successful Aging Workshops

Congratulations! You have been selected to participate in the Successful Aging Workshop Group. The workshop series has been carefully design to provide topics relevant to healthy living and aging. Examples of workshop topics include: diet and nutrition, successfully navigating the health care system, and legal and financial planning, wellness, disease prevention and treatment and happiness in the home and community planning. As part of this group, you are expected to attend and participate in regularly scheduled meetings.

Workshops are offered:

Day:_____

Time:_____

Location:_____

Workshop Leader:_____

Phone Number:_____

Expectations for Participation:

- You are expected to attend one meeting per week for 6 months. After 6 months, you are expected to attend at least one meeting per month. There will be two sessions/mo offered.

- Notify your workshop leader in advance if you are unable to attend any workshop sessions. A monthly calendar will be sent to you that outlines upcoming events.

Attend scheduled health evaluations. These will occur every 6 months

- Maintain contact with LIFE staff so we know how you are doing.

Your signature below indicates that you understand your role in the Successful Aging Workshop Group and agree to meet the expectations outlined above.

Signed (participant):_____ Date: ____
Interventionist:_____ Date: ____

10.11.6.4. Draft Letter to PCP about LIFE Study

<Physician's name>
<Address>

<Date>

Dear Dr. <Name>:

Your patient, _____, has been enrolled in the Lifestyle Interventions and Independence for Elders (LIFE) study. This clinical research study is sponsored by the National Institute on Aging. A total of 1,600 sedentary persons aged 70-89 years who are at risk of disability will be followed for up to 4 years at 8 sites in the United States.
This research study will assess 2 different programs designed to enhance independence and to improve your patient's health. The 2 programs being evaluated are a physical activity program and a successful aging program. **Your patient has been randomized to the Successful Aging program.** He/she will attend one session per week for the first six months then one per month for the remainder of the trial. A variety of information will be provided at these sessions by trained health professional in order to promote healthy aging. The study will last up to 3 years.

The Principal Investigator of the (field center) is (field center PI) and the Co-Principal Investigator/Study Physician is (Field Center Physician). **The Successful Aging Workshop Coordinator is (interventionist)**. He/she can be reached at (phone number) if you have any questions or concerns.

Sincerely,

Project Director
The LIFE Study

10.11.7. First Individual Face-to-Face Contact

Initial Counseling Session:
Welcome to the LIFE Successful Aging Program

Objectives

In this session the participant will:
- Meet the individual counselor
- Receive an overview of the Successful Aging program
- Review the goals of the program and why they are important
- Discuss personal outcome expectancies and concerns
- Review results from your baseline clinic assessment

Participant Name (preferred name):_____**Date:** _____

Accommodation Needs: ☐ low vision ☐ hearing impairment ☐ seating needs

Permission to Acknowledge Birthday: ☐ yes ☐ no

Resides with: _____

Allergies: _____

First Individual Face-to-Face Contact-Welcome to the **LIFE** (Lifestyle Interventions and Independence for Elders) Successful Aging Program.

Objectives: In this session the interventionist will:
- Build a working relationship with the participant
- Discuss the participant's **past health education experiences, motives/incentives, intended outcomes, and factors that may inhibit and facilitate participation**
- Receive an **overview** of the successful aging program
- Review the **goals** of the program and why they are important

B. Greeting / your background & role in LIFE / other intervention staff

C. Program Overview-*Provide a brief overview of the program; workshop day and time**.***

D. **Phase I of Collaborative Discussion:** *Open-ended questions should be used to elicit information about participants and allow them to talk about the issues that are most important to them.*

5. What led you to join the LIFE Study?
6. Now that you have been randomized to the SA group and I have reviewed the content with you, what benefits do you hope to achieve?
7. What has been your past experience with health education programs?
8. Favorite Activities:
9. Interests you would like to pursue:
10. Other:

D. Are there any things that may get in the way of your participating fully in the LIFE Successful Aging Program such as talking care of a spouse or other family member, health issues, or current physical symptoms?

E. Barriers/Facilitating Factors

- **Inter-goal conflict**
  Reflects degree to which other values/priorities may interfere with LIFE participation

1	2	3	4
None	slight	moderate	severe

- **Family and Friends**
  Do you think your family and friends will be (A) positive, (B) negative or (C) really won't care either way(a rating of 0) about your participation in the Successful Aging Program?

  A. If positive, how much so?

1	**2**	**3**
	Slightly	**Moderately** **Extremely**

  B. If negative, how much so?

1	**2**	**3**
	Slightly	**Moderately** **Extremely**

- **Your Doctor**
  Do you think your family physician is (A) positive, (B) negative or (C) really doesn't care either way (a rating of 0) about your participation in the Successful Aging Program?

  A. If positive, how much so?

1	**2**	**3**
	Slightly	**Moderately** **Extremely**

  B. If negative, how much so?

1	**2**	**3**
	Slightly	**Moderately** **Extremely**

- **Do you have transportation to get to the scheduled workshops each week?**
  Yes or No

F. At this point in time, how confident are you that you will be able to do what we are asking you to do?

Using a 0 to 10 scale where 0 = Not at all Confident and 10 = Extremely Confident.

G. Personal Goals and Concerns--***It is very important to discuss personal goals and concerns regarding your participation in the LIFE study. Goals should be generated by the participant and consistent with his/her abilities.***

Discussing other commitments and health concerns such as having COPD may help in realistic goal setting.

- **Long Term Goals** (e.g., decrease medication, self-management, increase knowledge)

Considering everything in your life at the present time, how much do you value these goals?

Use a scale from 0 to 10, where 0 = not at all, 5 = moderate and 10 = the most important goal(s) in my life.

- **Short term goals** (e.g., attend workshops each week for first 4 weeks).

H. CLOSE

Is there anything else that we can do to help you be successful in this program?
Do you have any questions that we can answer for you?
Your first SA session is on _____ @ _____ am/pm
It was a pleasure to meet you and we look forward to seeing you next time.
Thank you for coming in today.

10.11.8. Telephone Contact

The following section will describe the structure of the telephone contacts in general and provide scripts and various example scenarios. For the Successful Aging group, telephone contacts are used only for participants who have missed a session/sessions. Consistent with the behavioral intervention to be used in the LIFE study, telephone contacts are conducted based on social cognitive principles with the purpose of enhancing and/or maintaining motivation, retention/adherence to study protocols, and problem solving. Telephone contacts will consist of the following elements: preparation, initial greeting, feedback (including examples of potential participant response scenarios),

discussion targeted at social cognitive principles, social-environmental factors, behavioral contract, and salutation. Each of these elements is described below.

I. Preparation
- Inspect attendance logs.
- Review notes from homework assignments

II. Initial Greeting
i. "Hello _____, this is _____from the LIFE Study. How are you today? I was wondering whether we could talk about your participation in the Successful Aging Workshop for a few minutes. Do you have about 15 minutes to talk right now?

ii. If NO, arrange a specific time for telephone contact.

iii. YES, "Great! I would like to talk to you to see if the program is meeting your expectations and whether there are any topics that you would be interested in hearing about that we have not included in our schedule. Does that sound OK?

iv. If NO, inquire why.

III. Feedback (sections III & IV can be merged into one discussion)
i. Provide feedback regarding the participant's progress in the behavioral change (using homework assignments as a measure of change).
ii. Discuss overall progress as well as progress over the past month.
iii. Example scenarios
1. Much progress: "I see here you have attended _____weekly/monthly Workshop sessions. That is fantastic! You should be very proud of your accomplishment. Sticking with the program can be difficult, and you have done very well. I can also see from your homework tasks that you are making some changes in your (eating patterns, etc). How do you feel about your progress?"
2. Mediocre progress: "It seems that currently you have missed a few sessions over the past few months, but overall you seem to be getting the hang of it. How do you feel about your progress?"

3. Very little progress: “I have noticed that you have not attended your Workshop sessions regularly. I know that this has been a priority for you in the past, I am wondering what has changed? (*Listen, explore ambivalence, strengthen commitment and facilitate action planning if appropriate.)*

IV. Discuss motivational concepts (self-efficacy);

1. Objective: to enhance the participant’s confidence in his/her ability to make health behavior changes. This can be done by using the below structure as a guide for discussion topics.
2. Performance accomplishments (this is the most powerful source of perceptions of capabilities and, thus, should be emphasized.
3. Objective: discuss mastery experiences and improvement with the participant.

V. Verbal persuasion

A. Objective: provide ample verbal encouragement to enhance the participant’s confidence in his/her ability to maintain her physical activity program.

VI. Explore social-environmental factors

A. Social support: are the participant’s significant others supportive of his/her participation in the study? Do they encourage him/her to attend sessions? Does the participant feel included in the group? Does the group offer any sort of motivation?

B. Environment

C. Physical/built environment (e.g., access to facilities)

D. Weather

VII. Barriers

VIII. Review Contract

IX. Salutation

“Thank you very much for your time. It has been a pleasure speaking with you and discussing your Successful Aging health education program. I hope I was helpful in developing means to overcome barriers and resolving the issues we discussed. Please feel free to contact me if you have any questions.”

INTERVENTIONIST GUIDE FOR MISSED VISIT WINDOW

INITIAL CONTACT OR RECONTACT

PREPARATION

Review notes from previous monthly call (if relevant)

GREETING

Check for appropriate time

What has been going on that has been making it difficult to get into the workshops?

REASONS FOR MISSED VISIT WINDOW

- Motivational
- Health
- Transportation
- Travel
- Other

FACTORS INFLUENCING SATISFACTION

Topics for discussion

- Group dynamics: *How is the group working for you?*
- Workshop topics/speakers: *What do you enjoy most about the workshops?*
- Relevant changes in health habits: *How has this knowledge made you think about better ways to take care of your health?*
- Support: *What can we do to help you get more out of the successful aging program?*

PLAN FOR RETURN TO SUCCESFUL AGING

I am wondering, when do you see yourself coming back to the workshops?
(see next page)

CLOSURE

- Summarize
- Reinforce plan
- Appreciate & encourage
- Review recontact plan

I appreciate you for taking the time to let me know how you feel and what has been going on for you. I do want to encourage you to continue to come to the successful aging workshops. You are an important part of the LIFE study. Your participation and feedback is valuable to the study and will make a difference to other older adults. We miss you and look forward to seeing you soon. Please call me if something comes up. If I do not hear from you, I will give you a call back – is that okay?

RECONTACT(S)

- Review previous phone contact.
- Check changes regarding participant challenges
- Follow Flow Chart for Missed Window Visit as appropriate.

READY TO RETURN	***AMBIVALENT***	***NOT READY TO RETURN***
Topics to discuss: • Establish attendance plan • Confirm plan attainability • Reaffirm commitment • Appreciate participation *It sounds like you have a plan for returning to the Successful Aging workshops. I can see that you have made a real commitment to the LIFE study.* *I hope you realize what an accomplishment this is. Sticking with a program like this can be challenging and you've done very well.*	Topics to discuss: • *Check barriers & challenges* • *Explore ideas for retur* • *Logistics/Transportatio* • *Check confidence* • *Offer support* • *Provide reassurance* *It sounds like you have been thinking about returning to the workshops What ideas do you have to make that happen? What might make it difficult for you to get to the workshops?* *Let me ask you on a scale of 1 to 10 (1 being lowest and 10, highest) How confident does you feel in getting back to attending the workshops? What would you say?* *Would extra support be something that would make a difference to you? How can I be of help?* *Although you missed a few sessions over the past few months, it sounds like you have gotten a lot from the workshops and have been able to use some of the information in your life.*	Topics to discuss: • Relay understanding • Express concern • Explore options • Offer support • Negotiate clinic contact • Set recontact date *I can see that you are not ready to return at this point I understand it has been a challenge to get into the workshops. Tell me more about that.* *If at some point, you did feel ready to return to the workshops, what would be your main concern?* *What would need to be different in your life for you to consider returning to the workshops?* *Is there any way that we, at the LIFE study, can help?* *I am planning to give you a call from time to time to check in. Is that okay with you?*

SUCCESSFUL AGING PROGRAM - TELEPHONE CONTACT – MISSED VISIT WINDOW

PID#_____Participant_____Date_____

Window Missed:_____ Next Window: _____

Reason(s) for missed Visit Window

☐ Motivational ☐ Health ☐Transportation ☐Travel ☐ Other: _____

Factors influencing participant satisfaction:

Plan for return to Successful Aging Workshops:

☐ Ready ☐ Ambivalent ☐ Not Ready

Options:

☐ participant taking time off/undecided ☐ participant not returning to workshop:

☐ willing to continue clinic contacts and appointments

☐ willing to be called by Interventionist ever 4-6 weeks

☐ would like to receive

☐ schedules ☐ newsletters ☐ session material of interest

Signature:_____ Follow Up Date: _____

10.11.9. Successful Aging Workshop Debriefing Protocol

1) *Thank* them for their participation.

2) *Debrief*. Explain the value of their dedication to the study.
   a) **"Your participation was very important. Your Workshop assignment will help us assess how people maintain their health compared to people who got physical activity training. We will also learn if weekly classes helped people live healthier lives in areas other than exercise and if these changes are different as compared to the physical activity group."**
   b) Inquire about satisfaction with their experience in the Workshops.

   If response is negative: Empathize with their feelings (frustration or disappointment). Reinforce the value of their condition & their important contribution to the field.

   If response is positive: reinforce their satisfaction and the benefits they experienced.

NOTE: Section below is OPTIONAL & determined by individual sites

3) *Review* the Optional Plan mentioned at Orientation and Randomization visits They would have the option of getting written information and referral resources on physical activity.

4) *Ask* Participant to make their decision. Do they want the Optional Plan?

   a) If they say **NO:**

   Acknowledge and accept their answer.
   Thank them profusely for their participation.
   Inform them that when the study results are ready, they will be invited to an info session.
   Offer a T-shirt, or other thank-you gift or Certificate of Appreciation, etc.

   b) If they say **YES to optional information**:

   Structure Initial Plan
   - *Assess* prior physical activity history and current physical activity patterns.
   - How will this assessment be done and by whom?
   - *Review* safety considerations.

   Explain Resource Guide and Stretching Tips (exercises demonstrated by PA staff)

10.12 Intervention safety

Overview:
The safety of the participants will be our major concern in the LIFE trial. Safety screening for morbid conditions, protection against potential risks, safety precautions and the data safety monitoring plan are all components of participant safety. For the intervention we have developed specific criteria and protocols for suspending or stopping physical activity and have developed a protocol to adjust the program for intercurrent illness. We have developed specific documentation forms reporting adverse events that occur during the interventions. Subjects will also be instructed on self-monitoring of signs and symptoms of possible emergent conditions. The Medical Safety Committee will serve as early monitor of adverse experiences and ensure standardization of clinical practice and safety issues across all sites.

A. Center based interventions will be conducted at a central location and all sessions will be conducted and supervised by trained interventionists, who will monitor potential adverse experiences and symptoms. During the physical activity sessions an automated external defibrillator (AED) is available. Practice codes are conducted with staff every other month to handle medical emergencies. On-site staff, including a study interventionist, will be available to deal with medical emergencies. All LIFE study interventionists will be CPR and AED certified. Also, institutional and community EMS services will be activated if needed. During each center-based visit, subjects will sign an attendance sheet and log any health-related problems or symptoms they are experiencing. These sheets will be reviewed by intervention staff before physical activity's initiated. They will also be queried about any pertinent medical events using the attached list of question to be asked at each center visit by the intervention staff (See LIFE Study Intervention Health Check). As indicated previously, participants will be taught the importance and proper method of warming-up prior to and cooling-down following structured activity sessions. If at any point during a physical activity session, participants develop chest pain (including chest discomfort or pressure, left arm pain, or report indigestion or stomach discomfort), shortness of breath, or dizziness, they will be instructed to rest and to contact the center and their physicians if these symptoms persist or recur with further exercise. During the center-based training sessions, we will monitor blood pressure, heart rate and symptoms to identify participants who may show abnormal responses to physical activity (i.e., decrease in systolic blood pressure ($\geq$20 mm Hg); increase in systolic blood pressure to $\geq$250 mm Hg or in diastolic blood pressure $\geq$115 mm Hg; frequent premature ventricular contractions; a resting heart rate $\geq$120

bts./min or increase in heart rate ≥90% of age predicted maximum). These individuals will be instructed to see their physicians before continuing with the physical activity program. If exaggerated blood pressures, heart rate, or symptoms develop during center-based physical activity sessions, the intervention staff should also contact the Field Center Medical Safety Officer and or the participant's PCP. Currently blood pressure and heart rate are monitored **before and after** the walking activity at each center-based intervention session. To enhance safety, blood pressure and heart rate are monitored **during** the walking at **each** center based session in participants who had experienced any of the following at a previous physical activity session:

- Resting blood pressure systolic ≥ 200 mm Hg or diastolic ≥ 100 mm Hg
- Decrease in systolic blood pressure ≥20 mm Hg following the activity
- Increase in systolic blood pressure to ≥250 mm Hg or in diastolic blood pressure ≥115 mm Hg following the activity
- Resting heart rate ≥120 bts./min or ≤ 45 bts./min
- Increase in heart rate ≥90% of age predicted maximum
- Unusual or severe shortness of breath
- Chest pain including chest discomfort or pressure, left arm pain, report of indigestion, or stomach discomfort
- Palpitations
- Light headedness, dizziness or feeling about to faint
- A physical activity session had to be discontinued because of other symptoms excluding musculoskeletal symptoms (e.g., knees, ankles, hips) reported by the participant.

*If participants exhibit hypertensive responses, exaggerated heart rate responses, or symptoms with exercise (See BP guidelines Ch. 10, p 198), they will be referred to their PCP for follow up and blood pressure and heart rate will be subsequently monitored during exercise at all onsite physical activity sessions.

B. We have developed several mechanisms to standardize exercise intensity across sites for the dual purposes of maintaining the fidelity of the intervention and ensuring participant safety. The primary mechanism for maintaining intervention fidelity will utilize the subjective evaluation of perceived exertion (RPE). The primary mechanism for ensuring participant safety will be clinical observation of symptoms during exercise, including chest pain/discomfort (including chest discomfort or pressure, left arm pain, or report indigestion or stomach discomfort), palpitations, significant shortness of breath and lightheadedness. As an additional mechanism, exercise training sessions will be terminated

if the exercising heart rate is observed to be greater than 90% of age-predicted maximal heart rate. The participant will subsequently be reevaluated for medical contraindications to exercise and re-assessment of their exercise intensity goals. These steps will assist in standardizing the joint goals of "moderate" exercise during the physical activity intervention and ensuring participant safety.

C. In an effort to ensure the safety of participants during center-based supervised and home-based unsupervised exercise in the intervention, participants should be provided with the Health/Symptom letter (See section 10.13. 2. Health/Symptoms Letter) describing potential dangerous symptoms.

D. Cool-down activities that include cycling and flexibility exercises. The participants will also be introduced to the intervention exercises in a structured way, such that they begin with lighter resistance and gradually increase over the course of the first 2-3 weeks of the intervention. During the intervention visits, participants will be supervised at all times and instructed on correct physical activity techniques. Participants will be instructed to talk with the interventionists about any muscle soreness.

Because persons with diabetes or peripheral vascular disease may be participants in the LIFE trial, and these conditions increase the risk for foot ulceration, use of proper footwear during physical activity's essential for all participants. Where applicable, affected participants should also be taught to inspect their feet. The use of silica gel or air midsoles is to be encouraged, as is the use of polyester or cotton-polyester blend socks to keep the feet dry and prevent blisters. Participants should also be taught to inspect their feet for blisters and other damage daily. For participants with severe peripheral neuropathy, or the presence of a foot ulcer, non-weight-bearing physical activity's recommended, such as swimming and bicycling. For participants with severe neuropathy, walking for more than 30 minutes should be avoided.

Physical activity can provoke hypoglycemia in individuals with type 2 diabetes although this risk is limited to those receiving insulin, sulfonylurea, repaglinide or nateglinide. All participants in LIFE who have diabetes receive education on the risk of hypoglycemia. Participants who have diabetes will be required to perform self-monitoring of blood glucose before and following physical activity sessions during the first month of training to determine the effect of physical activation blood glucose. After this initial monitoring, regular monthly checks of blood glucose response to physical activity will be recommended but not required. Participants are encouraged to review this information with their PCP or with the LIFE medical staff. Persons on these medications are noted by intervention staff. In the event of an episode of faintness or altered mental status, immediate safety procedures include supervised assistance to a seated or lying state, offer sweetened beverage and provide constant observation until episode has resolved. Field sites will have glucometers and intervention staff will be trained on their use for those participants unwilling to perform their own self-monitoring.

Physical activity should be postponed if blood glucose is > 240 mg/dl or <80 mg/dl. In participants with blood glucose < 80 mg/dl, physical activity can be initiated if provision of an adequate high carbohydrate “snack” can restore blood glucose to >100 mg/dl.

As described in Chapter 22, the LIFE study has defined an adverse event as an unanticipated problem involving risks to study participants and others. The LIFE study has further defined adverse events into several categories of occurrences: serious adverse events, unexpected adverse events, and unfavorable medical events that occur at the intervention or assessment site. Certain adverse events may be protocol-defined outcomes (i.e., myocardial infarction). Of particular note to the intervention staff is that in the LIFE study, adverse events include “all unfavorable medical events that occur at the intervention site”. Interventionists should refer to Chapter 22 for specific guidelines on adverse event reporting.

In the LIFE trial, a participant reporting an adverse event to any staff person at any time is reported on an adverse event form. This might occur when a participant spontaneously telephones the clinic or speaks to intervention staff during an intervention visit, to cite two examples. In these and similar instances, the unmasked study staff will be responsible for identifying, recording, and, if required, dealing with these events. Safety-related events will be reported in a timely fashion as required by the Data Safety Monitoring Board and the individual Institutional Review Boards responsible for the protection of human subjects (see Chapter 22).

To prevent a potential bias in the outcomes database, the interventionists and other staff reporting or managing spontaneously reported adverse events at unscheduled times will not at any time communicate information regarding these events to masked study assessment personnel responsible for collecting outcome data at scheduled data collection times. Participants should be instructed not to contact the assessment clinic to report events.

If a participant misses an intervention visit for successful aging or physical activity for reasons that are not serious, the missed visit is recorded only on the appropriate missed visit form. If the reason for the missed visit meets the criteria for a serious or unexpected adverse event, an Adverse Event form is completed and forwarded to the Medical Safety Officer. Any adverse event which occurs at the intervention site is recorded on the Adverse Event form and forwarded to the Medical Safety Officer.

10.13 Intervention forms

Overview: The following data collection forms are described in this section:

1. LIFE Physical Activity Session: Center
2. LIFE Physical Activity Session: Home
3. Tracking system format

4. LIFE health/symptoms letter

Center-based:
The goal is to train study participants to record as much of their own individual physical activity session as possible. It may be necessary to shorten the physical activity sessions during this time to instruct participants on the forms. Over the course of the first three center-based sessions that the forms are used the interventionist should do the following:
Session 1:

1. Announce to the group during the first session that a form is being used to collect their individual information and should make this easier for the whole group.
2. Show the participants the form. Attached are sample forms, indicating how the forms are to be completed by the participant. It is suggested that these be posted at the clinic sites.
3. During the first session the interventionist will likely record the information on the form but begin to instruct the participant in how and where specific information should be recorded.

Session 2:

1. Now that the participants are aware of the form, the interventionists should allow participants to fill out their own individual forms and these can be reviewed for completeness and accuracy during and at the end of the session by the intervention staff.

Session 3:

1. Again, the participants will complete the data collection forms with some oversight by the staff.
2. Following completion of the session (recommend finishing 10 minutes early), the interventionists should congratulate the participants on completing and working with these new forms and briefly review them, while allowing time for questions and answers.

Home-based logs:
At the beginning of each week, on the day that the home-based logs are turned in for the previous week, the activity logs will be turned in. The interventionist should enter in each participants Acrostic, the verified by line, and the date the form is distributed in the appropriate boxes. In addition, interventionists should take this time to reinforce, in an enthusiastic manner, how important completing these forms is to the process of changing their behavior. Inform participants that you look forward to reviewing the activity that they report on these forms—it is a lifeline between the two of you!

Key points to mention regarding the home-based logs:

1. We only want structured activity to be reported on the form (different from the previous form). So for each date they should record (1) the number of minutes walked (offsite) in their walking program, (2) whether they

completed their flexibility program, (3) the strength training program (record data on knee extension but remind them that they need to perform all of the strength training exercises), and (4) the balance training (indicate the level).

10.13.1 Tracking system

The tracking system is a web-based system that was designed as a tool to facilitate delivery of the intervention and to enable the intervention committee to monitor the fidelity of the intervention. Details of the system are best understood by visiting the LIFE web-site. The primary capabilities of the tracking system include the following:

- The assignment of individual participants to PA or SA groups at each site
- Accessing key information on participants relevant to the delivery of the intervention (e.g., contact information, medications, comorbid conditions)
- Generating paper forms to track information on participants during scheduled sessions
- A data repository on all participants for all intervention related activities
- A free text field for clinical notes
- Documenting and monitoring participants that are placed on extended leave from the intervention due to illness, care giving, etc.
- Generating dynamic reports on attendance and physical activity behaviors for the PA treatment arm each site
- Generation of attendance reports for the SA arm
- The creation of graphs at the individual and group level to be used as feedback
- Generation of multiple site reports for the intervention committee and the DSMB on attendance for PA and SA as well as physical activity behavior in the PA treatment arm
- A repository for sharing of materials and behavioral strategies developed at each site related to the delivery of the intervention

Clinic Closures

The Physical Activity and Successful Aging tracking systems are designed to allow interventionists the ability to designate when the clinic is closed so that attendance is not expected for adherence reporting. The design of the two interventions requires that documentation of “clinic closed” be handled differently within the two interventions. Below are brief descriptions of the procedures to follow for each intervention. Note: Types of situations where the clinic closed option should be used are: when your Institution is closed for a holiday or there are unsafe travel conditions (i.e.: winter weather warnings, tornado warnings, etc.). Whenever “clinic closed” is checked, the visit is removed from the denominator in the attendance report.

Physical Activity (PA) Intervention Tracking

The intervention tracking system is designed to allow interventionists the ability to designate when the clinic is closed so that attendance is not expected for a specific visit session. Whenever group sessions are **not**

offered to participants the visit session should be designated as "clinic closed".

This option is located in the "Administrative" section of the tracking system. Once the "Clinic Closed" option is used that visit in the tracking system will display "clinic closed" in the visit schedule and attendance documentation at a participant level is not required. Whenever "clinic closed" is checked, the visit is removed from the denominator in the attendance report. Note: Only Lead interventionists have access to this area of the tracking system.

Successful Aging (SA) Intervention Tracking

The SA intervention has two separate tracking systems to allow for interventionist to designate when a clinic is closed so that attendance is not expected for a group session during adoption and for a missed 4 week block during maintenance. Documenting clinic closed in these two systems requires different procedures since the participant is no longer in a "group" once they move to the maintenance phase of the intervention. Below are the procedures for documenting clinic closed for each phase of the SA intervention.

Adoption Phase: follow the same procedure as in PA tracking above.

Maintenance phase: The tracking system is designed to allow interventionists the ability to designate when the clinic is closed and attendance is not expected for a specific 4 week block during maintenance. Whenever a 4 week block is **not offered** to a participant the block should be designated as "clinic closed". This option is located on the "Missed Visit" data entry screen in the drop down for reasons missed.

Cognitive Decline Documentation within the Tracking system

Cognitive decline documentation in the intervention tracking systems for both PA and SA steps are provided below.

a. PA Attendance log and Extended Leave completion
    i. Enter Attendance as "Extended Leave"
    ii. Enter "Reason Missed" as "3-cognitive difficulties
    iii. Enter an Extended Leave form
    iv. Text will be added to the top of the **Extended Leave** data entry screen that reads: **[Please copy and paste "C9Rzp6Em1tQ7sBY" into the first row of the comments text box for the participant.]**
    v. MSO referral and PCP approval needed to return to PA Intervention
b. SA Attendance log completion
    i. Enter Attendance as "No"
    ii. Enter "Reason Missed" as "3-cognitive difficulties

iii. Text will be added to the top of the data entry screen for **the attendance log** that reads: **Please copy and paste "C9Rzp6Em1tQ7sBY" into the first row of the comments text box for the participant**.]
iv. And add additional pertinent comments as needed.
v. Interventionists will work together with the MSO for intervention planning

10.13. 2. Health/Symptoms Letter

The draft letter below will be given to all physical activity participants at the beginning of the study to alert them to any signs and symptoms that should be reported to the intervention staff.

To: LIFE Study Research Participant
From: [Site PI, Program Coordinator, Intervention Staff]
Re: Participant Safety Guidelines for Center and Home Exercise

Thank you for participating in the LIFE research study. Your involvement in this study is important to us. In order to minimize any risk and ensure that your experience in this study is safe and enjoyable, we ask that you follow these guidelines:

1. Inform the research staff if you have any changes in current medical conditions, or if you have altered your medications. If you are not scheduled to see a staff member, please call [contact number(s) for intervention staff]

2. Be careful to follow all instructions from the study personnel.

3. Be mindful of any new or increased joint or muscle discomfort during or following exercises. While some discomfort is common in the first few weeks of exercise and when duration and/or intensity of exercise is increased, persistent or severe pain may require attention.

4. Inform the research staff immediately if you notice any of the following during an physical activity session:
   A: Unusual or severe shortness of breath
   B: Severe or increasing chest pain (including chest discomfort or pressure, left arm pain, or report indigestion or stomach discomfort)
   C: Light headedness, dizziness or feeling about to faint

If these symptoms present themselves while you are not under the supervision of the research staff, always notify your primary care physician as soon as possible. If you feel the situation to be an emergency, call 911 and arrange for immediate medical treatment. Please notify [names and contact numbers of intervention staff]

5. Please report any falls that you have, to the research staff, regardless of the cause. You may note this on your Home Activity Log and tell the assessor during your quarterly call or visit.

6. If you have Diabetes, you should notify the research staff and/or your Primary Care Physician if you develop signs or symptoms associated with “hypoglycemia” or low blood sugar. These signs and symptoms may include: “feeling faint”, a rapid pulse rate, excess sweating, or confusion. You are also encouraged to regularly monitor your blood sugar during the course of the study. You may also call [names and contact numbers of intervention staff] and should note this information on your Home Activity Log.

If you have any questions regarding these instructions for physical activity safety, please feel free to contact us at any time.

,
Study Coordinator:

Interventionist:
Principal Investigator:
Physician:

10.13.3 Physical Activity Training Procedures

1. All forms should be completely filled by the end of each training session. Prior to physical activity all participants should be asked about changes in their health status using the questions listed below. If they respond in the affirmative to any of these questions, clarification should be sought from the study medical monitor before the physical activity session is initiated.

LIFE Study Intervention Health Check

IMPORTANT!

Since your last visit – have you?

- ✓ Seen your Doctor or been hospitalized:
- ✓ Changed any medications:
  - ➢ Dosage or brand?
  - ➢ Stopped taking a current medication?
  - ➢ Added a new medication?
- ✓ Experienced:
  - ➢ Chest discomfort or angina?
  - ➢ Rapid or irregular heartbeat?
  - ➢ Shortness of breath or dizziness?
  - ➢ Weight gain greater than 4 lbs.?
  - ➢ Swelling of both ankles?
  - ➢ Increased fatigue with usual activity?
  - ➢ Any other problem or symptom?

If so, please report to the staff.

Have a good physical activity session.

2. All study intervention staff and medical monitors should be provided with the following information on contraindications to physical activity and they should be used as guidelines to determine participant safety for exercise:

Contraindications to exercise
-Unstable angina

-Resting systolic blood pressure of ≥ 200 mm Hg or resting diastolic blood pressure of ≥ 100 mm Hg should be evaluated on a case-by-case basis

-Orthostatic blood pressure drop of > 20 mm Hg with symptoms

-Critical aortic stenosis (peak systolic pressure gradient of > 50 mm Hg with an aortic valve orifice area of < 0.75 cm2 in an average size adult)

-Acute systemic illness or fever

-Uncontrolled atrial or ventricular arrhythmias

-Uncontrolled sinus tachycardia (≥ 120 beats·min-1)

-Sinus bradycardia (< 45 beats beats·min-1)

-Uncompensated congestive heart failure

-3º AV block (without pacemaker)

-Active pericarditis or myocarditis

-Recent embolism

-Thrombophlebitis

-Resting ST segment displacement (> 2 mm)

-Uncontrolled diabetes (resting blood glucose of > 300 mg/dL)

-Severe orthopedic conditions that would prohibit exercise

-Other metabolic conditions, such as acute thyroiditis, hypokalemia or hyperkalemia, hypovolemia, etc

3. Be sure to determine heart rate and blood pressure (see protocol below for heart rate and blood pressure assessment). Heart rate and blood pressure will be determined before and after physical activity at all clinic visits. During the center-based training sessions, we will monitor blood pressure and heart rate to identify participants who may show abnormal responses to physical activity(i.e., resting blood pressure systolic ≥ 200 mm Hg or diastolic ≥ 100 mm Hg; decrease in systolic blood pressure (≥20 mm Hg); increase in systolic blood

pressure to ≥250 mm Hg or in diastolic blood pressure ≥115 mm Hg; frequent premature ventricular contractions; a resting heart rate ≥120 bts./min or ≤ 45 bts./min, or increase in heart rate ≥90% of age predicted maximum). These individuals are instructed to see their physicians before continuing with the physical activity program. If necessary, the study interventionists should contact the Field Center Medical Safety Officer. An adverse event form should be generated if these abnormalities occur.

Schedule of Blood Pressure and Heart Rate Monitoring

Blood Pressure and Heart Rate	Schedule
Resting	At each center-based session
During walking*	
After walking	At each center-based session

*If participants exhibit hypertensive responses, exaggerated heart rate responses, or symptoms with exercise (See BP guidelines Ch 10, p. 198), they will be referred to their PCP for follow up and blood pressure will be subsequently monitored during exercise at all onsite physical activity sessions.

Blood pressure protocol

Patients should be seated for at least 5 min in a chair with their back supported and their arms bared and supported at heart level. Patients should refrain from smoking cigarettes or ingesting caffeine during the 30 min preceding the measurement. Under special circumstances, measuring supine and standing positions may be indicated

Wrap cuff firmly around upper arm at heart level; align cuff with brachial artery. The appropriate cuff size must be used to ensure accurate measurement. The bladder within the cuff should encircle at least two-thirds of the upper arm. Many adults require a large adult cuff. Place stethoscope bell below the antecubital space over the brachial artery. Quickly inflate cuff pressure to 20 mmHg above estimated systolic BP. Slowly release pressure at rate equal to 2 to 3 mmHg/s, noting first Korotkoff sound (SBP). Continue releasing pressure, noting when sound becomes muffled (4th phase diastolic BP) and when sound disappears (5th phase diastolic BP). For classification purposes, the latter is used. If abnormal, wait 5 minutes and repeat the measurement. Record the second value on the exercise session form. At all other time points (during exercise, after exercise), a single blood pressure reading should be made. The exercising and recovery blood pressure measurements should be taken immediately after the participant stops or has completed their walking protocol.

Radial Pulse (Heart Rate) Protocol

For the resting pulse measurements, be sure that the participant has been resting for a minimum of 5 minutes. If the first resting pulse measurement is abnormal, repeat the measurement and record the second reading. The exercising and recovery heart rate measurements should be taken immediately

after the participant stops or has completed their walking protocol. Have the participant turn their palm upward. Palpate the radial pulse with your index and middle fingers. Use the stopwatch to count the pulse for 30 seconds and record the number of beats in 30 seconds. After completing the radial pulse, multiply the number of beats recorded in 30 seconds by two and record the data on the form.

Blood Pressure and Heart Rate Safety Alerts:

	Systolic	Diastolic	Heart Rate
Resting	≥ 200 mm Hg	≥ 100 mm Hg	≥ 120 bts./min. or ≤ 45 bts./min.
Exercise	≥ 250 mm Hg decrease ≥ 20 mmHg	≥ 115 mm Hg	≥ 90% age-predicted max HR

4. Indicate on the form where the walking physical activity is to take place (treadmill, track, community, or other).

5. During the participant's walk be sure to collect the RPE data at the prescribed intervals, and at completion of the walk. (Note: If a participant walks less than 30 minutes, RPEs will be collected at 20 minutes and completion).

Instructions for the RPE scale:

These instructions should be read to the participant prior to the start of exercise. Perceived exertion will be obtained during the walking program to assess the participants overall perceived effort (central and peripheral) and during the strength training to assess their effort at the level of the working muscles involved in the activity (local RPE). The target RPE goal for the walking is 11-13 and for strength training is 15-16. The RPE measurements during strength training should be reported as a single number representing both legs at the end of the second set of repetitions for each particular exercise. In order to not bias RPE reporting, every attempt should be made to query and record individual participant RPE data confidentially whenever possible.

- You are now going to take part in your physical activity program and you will be walking and performing some strength training exercises.
- During exercise, I will also want to know how hard you are working so you will be looking at a scale containing numbers from 6 to 20 – these will be used to rate your perception of physical exertion..
- When you do this for the walking part of the program, I want you to think about the total feeling of exertion in your overall body, including your breathing, and muscles.

- When you do this for the strength training (leg weights) part of the program, I want you to think about the feeling of exertion in the muscles that are lifting the weights (local rating).
- When looking at this scale, I want you to think of a 6 as no exertion at all. So if you were to rate your perception of exertion right now – you would assign that a 6.

6. Immediately upon completion of the walk, determine heart rate and blood pressure see attached protocol for measurement of resting heart rate and seated blood pressure.

7. Upon completion of the walk record the time, distance covered, and number of pedometer steps.

8. Record the weight, RPE score, and whether each strength training physical activity is completed

9. Record whether the stretching exercises are completed.

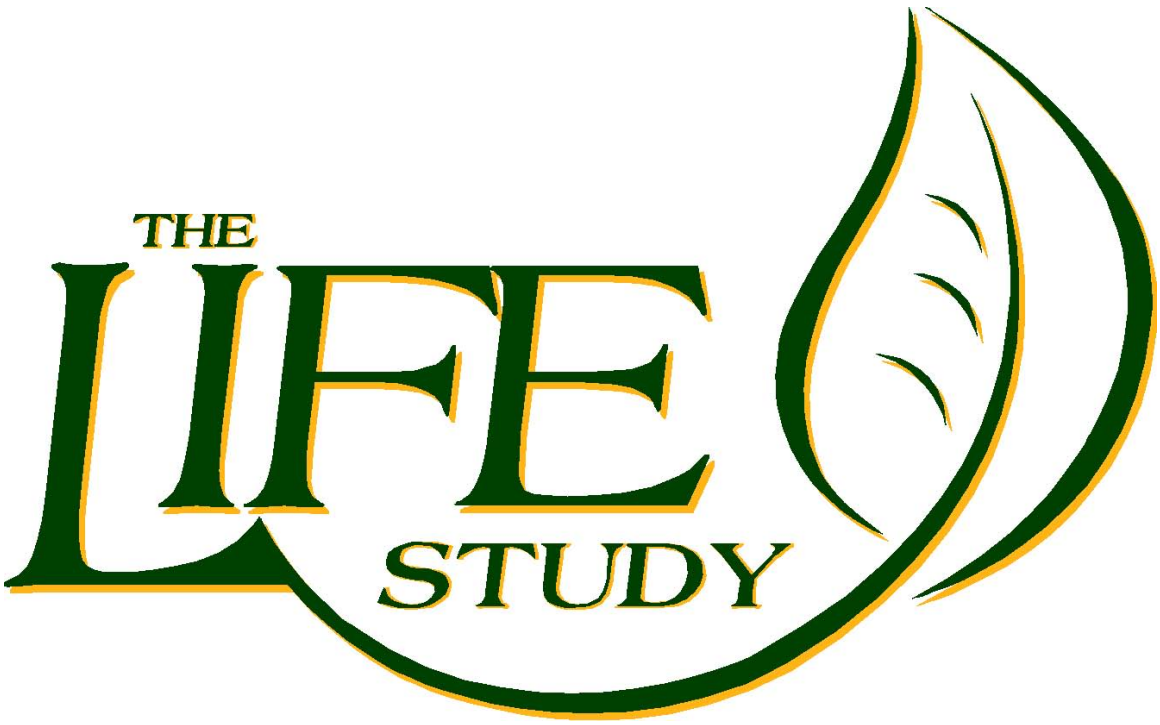
10. Record which balance level the participant is performing and record whether the balance physical activity was completed.

11. Enter and appropriate notes relevant to the participant's training session.

Physical Activity-Center Form
If a participant misses a scheduled physical activity session, this form is to be completed.

APPENDIX A

LIFE Study SA Stretching Manual



Successful Aging Stretching Routines

LIFE STUDY SUCCESFUL AGING STRETCHING EXERCISES

Note: All stretches are to be done in a seated position; each stretch should be performed twice and held for 20 seconds

Routine 1	**Routine 2**	**Routine 3**
(1) Chin Tuck	(2) Head Turn	(3) Head Tilt
(4) Jaw Open	(5) Jaw Forward	(4) Jaw Open
(6) Shoulder Shrug	(8) Shoulder Blade Pinch	(7) Shoulder Backward Circle
(20) Elbow Bend	(21) Elbow Turn	(22) Elbow Bend and Turn
(26) Wrist Bend	(27) Wrist Stretch	(31) Knuckle Wave
(33) Finger Walk	(29) Finger O	(34) Finger Spread
(24) The Row	(38) Seated Side Trunk Bend	(39) Trunk Rotation
(41) Abdominal Strengthener	(40) Abdominal Tightener	(41) Abdominal Strengthener

Routine 4	**Routine 5**	**Routine 6**
(8) Shoulder Blade Pinch	(20) Elbow Bend	(4) Jaw Open
(11) Overhead Arm Reach	(14) Arm Swing	(6) Shoulder Shrug
(33) Finger Walk	(16) Shoulder Rotator	(19) Arm Circle
(21) Elbow Turn	(26) Wrist Bend	(39) Trunk Rotation
(1) Chin Tuck	(32) Cat's Claw	(30) Finger Curl
(27) Wrist Stretch	(24) The Row	(18) Diagonal Arm Reach
(28) Thumb Bend	(1) Chin Tuck	(2) Head Turn
(25) The Hug	(40) Abdominal Tightener	(41) Abdominal Strengthener

*** Number in parenthesis corresponds to the Arthritis Foundation Exercise Program. Refer to the attached manual for diagrams and instructions.**

Routine 7

(9) Forward Arm Reach

(7) Shoulder Backward Circle

(27) Wrist Stretch

(13) Scissors

(3) Head Tilt

(39) Trunk Rotation

(35) Finger Lift

(25) The Hug

Routine 8

(5) Jaw Forward

(1) Chin Tuck

(31) Knuckle Wave

(24) The Row

(15) Self Back Rub

(20) Elbow Bend

(41) Abdominal Strengthener

(39) Trunk Rotation

Routine 9

(4) Jaw Open

(2) Head Turn

(28) Thumb Bend

(21) Elbow Turn

(12) Sideways Arm Reach

(7) Shoulder Backward Circle

(23) Shoulder Touch and Reach

(39) Trunk Rotation

Routine 10

(32) Cat's Claw

(3) Head Tilt

(27) Wrist Stretch

(9) Forward Arm Reach

(19) Arm Circle

(15) Self Back Rub

(24) The Row

(40) Abdominal Tightener

*** Number in parenthesis corresponds to the Arthritis Foundation Exercise Program. Refer to the attached manual for diagrams and instructions.**

a NECK EXERCISES (#1-3)

1. Chin Tuck (axial extension)

Purpose: ROM, Posture

- Look straight ahead. Make an "L" with index finger on chin and thumb on breastbone.
- Glide chin back, away from index finger, to make a double chin.
- Hold 3 seconds.
- Relax.

PRECAUTIONS
- Dizziness, Neck pain

2. Head Turn (rotation)

Purpose: ROM, ADLs – Driving, dressing, cleaning

- Look straight ahead.
- Turn head to look over shoulder.
- Hold 3 seconds.
- Return to front.
- Repeat to other side.

PRECAUTIONS
- Dizziness, Neck pain

NECK

3. **Head Tilt** (lateral flexion)

Purpose: ROM, ADL – Looking under cabinet or around an object

- **Look straight ahead.**
- **Tilt head gently sideways toward shoulder. (Do not raise shoulder toward ear.)**
- **Hold 3 seconds.**
- **Repeat to other side.**

PRECAUTIONS
- Dizziness, Neck pain

JAW

b JAW EXERCISES (#4-5)

4. **Jaw Open** (jaw ROM)

Purpose: ROM, ADLs – Eating, yawning, laughing

- **Open mouth slowly (may cover mouth as in yawn).**
- **Hold 3 seconds.**
- **Note: A three-finger opening is functional.**

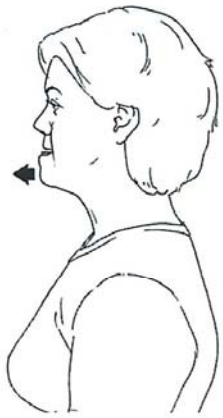
PRECAUTIONS
- Jaw joint surgery

5. Jaw Forward (jaw ROM)

Purpose: ROM, ADLs – Eating, yawning, laughing

- **Move lower jaw forward gently. (Be careful not to jut neck out.)**
- **Hold 3 seconds.**
- **Relax.**

PRECAUTIONS
- Jaw joint surgery



C SHOULDER GIRDLE EXERCISES (#6-8)

6. Shoulder Shrug (elevation and depression)

Purpose: ROM, Relaxation (Version A), Strength (Version B)

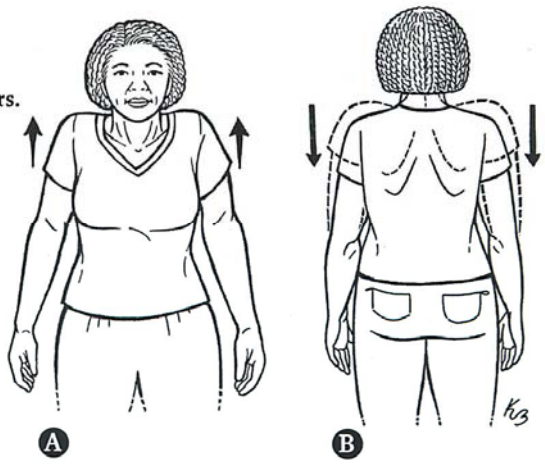
VERSION A

- **Raise both shoulders up toward ears.**
- **Hold 3 seconds.**
- **Slowly lower shoulders and relax.**

VERSION B

- **Raise both shoulders up toward ears.**
- **Hold 3 seconds.**
- **Lower shoulder blades back and down as if putting them in your back pockets.**
- **Hold 3 seconds.**
- **Relax.**

PRECAUTIONS
- None



7. Shoulder Backward Circle
(scapular range of motion)

Purpose: ROM, Posture

- Sit at edge of chair or stand with correct posture.
- Move shoulders slowly up, back and around in a circular motion.
- Note: Do not go the other way as this encourages a rounded shoulder posture.

PRECAUTIONS
None

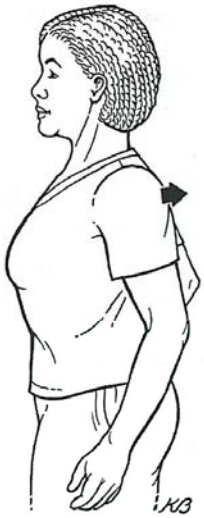
SHOULDER GIRDLE

8. Shoulder Blade Pinch (retraction)

Purpose: ROM, Strength, Posture

VERSION A

- Sit at edge of chair or stand with arms relaxed at sides.
- Pull shoulder blades back and toward each other.
- Hands should remain relaxed at sides.
- Hold 6 seconds.
- Relax.



PRECAUTIONS
None

CONTINUED

CONTINUED

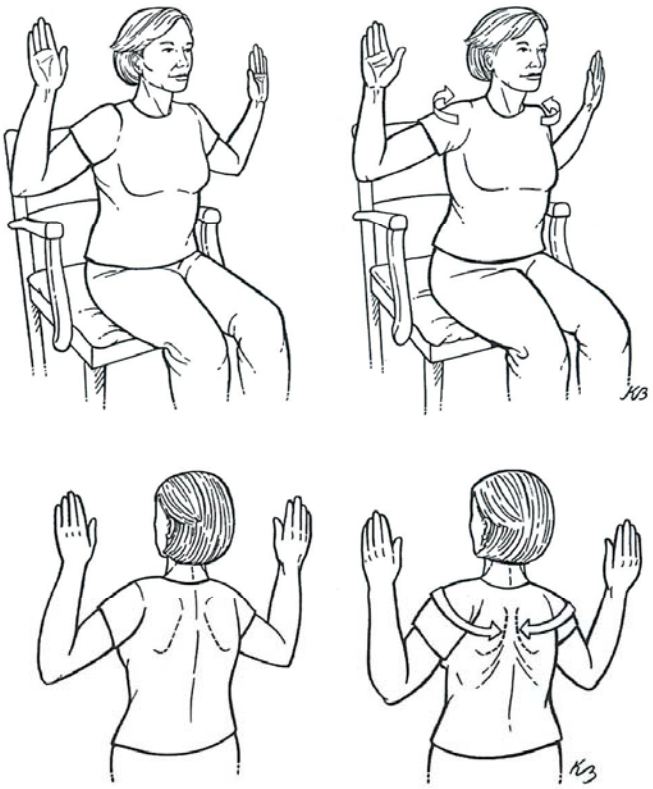
8. Shoulder Blade Pinch (retraction)

Purpose: ROM, Strength, Posture

VERSION B

- Sit at edge of chair or stand correctly.
- Place arms in a "W" position, with shoulders relaxed.
- Bring elbows back, pinching shoulder blades together.
- Hold 6 seconds.
- Relax.

PRECAUTIONS
None



d ARM EXERCISES FOR SHOULDER AND ELBOW (#9-25)

9. Forward Arm Reach
(shoulder flexion)

Purpose: ROM, Relaxation, ADL - Reaching

VERSION A

- Position arms out front, palms facing one another.
- Raise one or both arms forward and up as high as possible (one arm may help the other, if needed).
- Lower slowly.

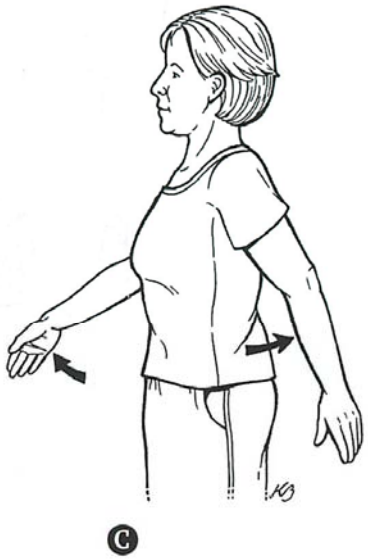
VERSION B

- Repeat Version A.
- Continue motion by bringing arms behind the body.

VERSION C

- Alternate one arm forward and one behind.

PRECAUTIONS
- Shoulder joint surgery



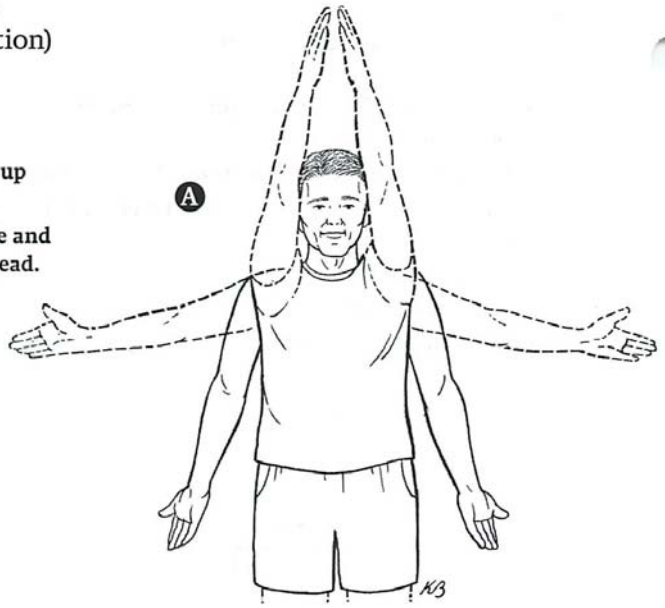
11. Overhead Arm Reach

(shoulder flexion, abduction)

Purpose: ROM, Relaxation,
ADLs – Dressing, reaching

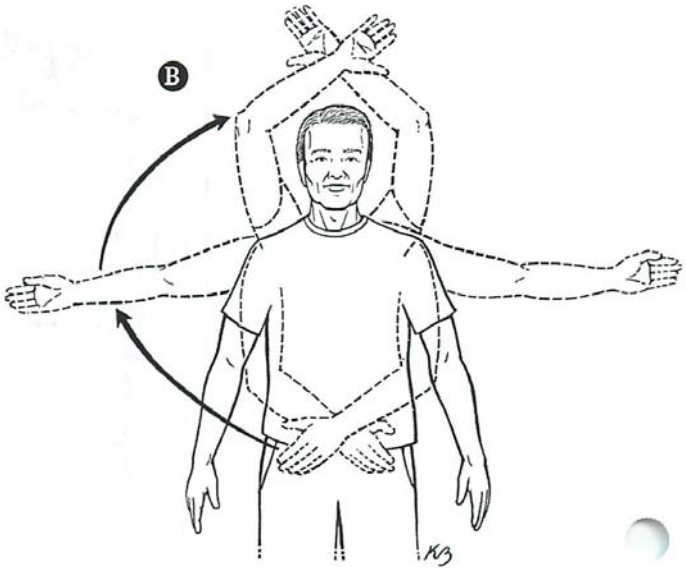
VERSION A

- Hold arms at side, palms up and elbows straight.
- Raise arms out to the side and up as if clapping above head.
- Lower slowly.



VERSION B

- Do Version A, then cross arms above head.
- Bring arms down and cross arms while down.



PRECAUTIONS
- Shoulder joint surgery

12. Sideways Arm Reach

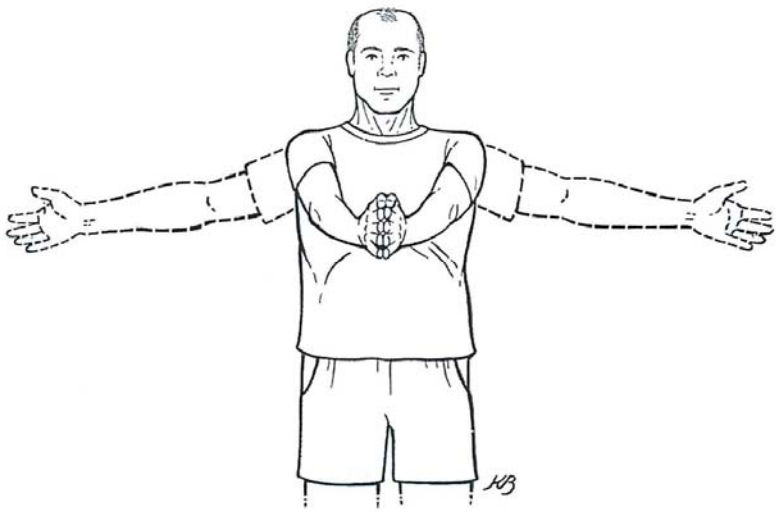
(horizontal abduction and adduction)

Purpose: ROM

- **Straighten elbows, arms at shoulder level in front.**
- **Spread arms out to side, opening chest.**

PRECAUTIONS

None

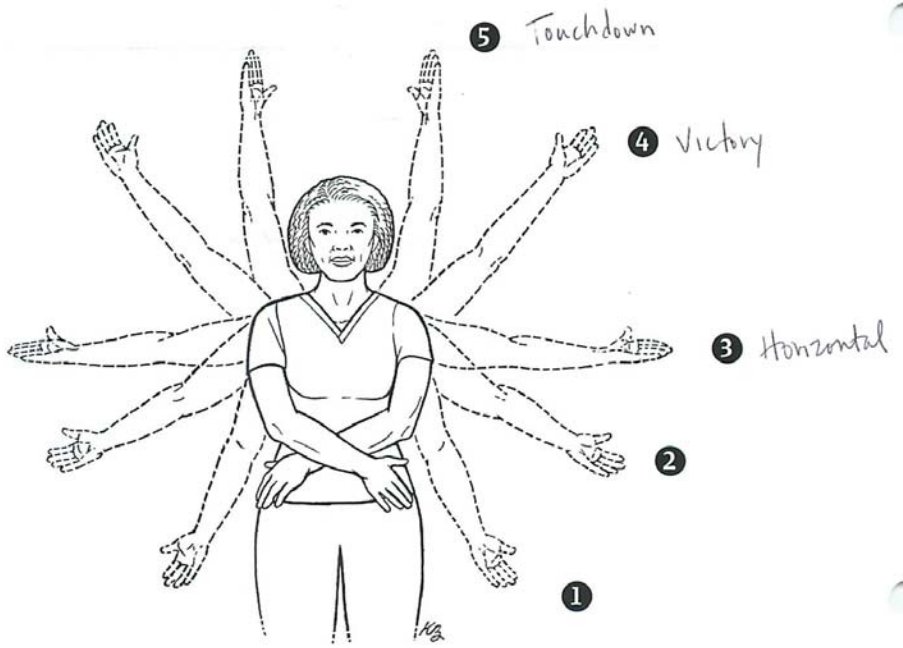


13. Scissors (combined shoulder abduction, adduction, external rotation and scapular retraction)

Purpose: ROM, Strength, Posture, ADL – Dressing

- **Cross arms at hips.**
- **Uncross arms with thumbs pointing back (like a hitchhiker) to position #1. (You will feel the shoulder blades pull together.)**
- **Hold 3 seconds.**
- **Alternate crossing arms at hips with moving arms into positions #2–5 and holding at each position 3 seconds.**

PRECAUTIONS
- Shoulder joint surgery

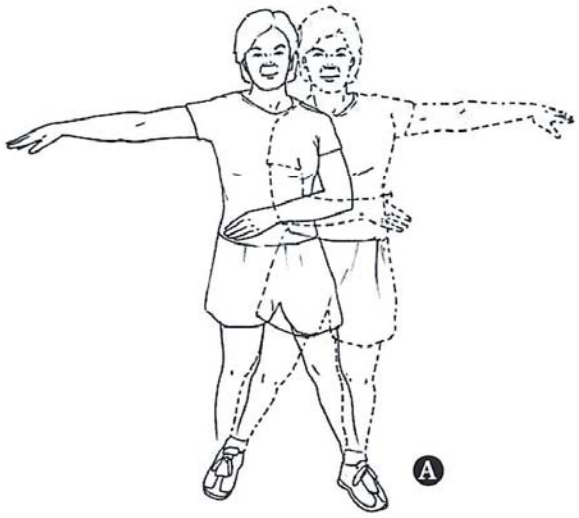


14. Arm Swing (combined shoulder abduction, adduction and horizontal movements

Purpose: ROM

VERSION A

- **Shift weight as you sway arms from one side to the other.**



VERSION B

- **Sway one or both arms in a figure 8 in front of you.**

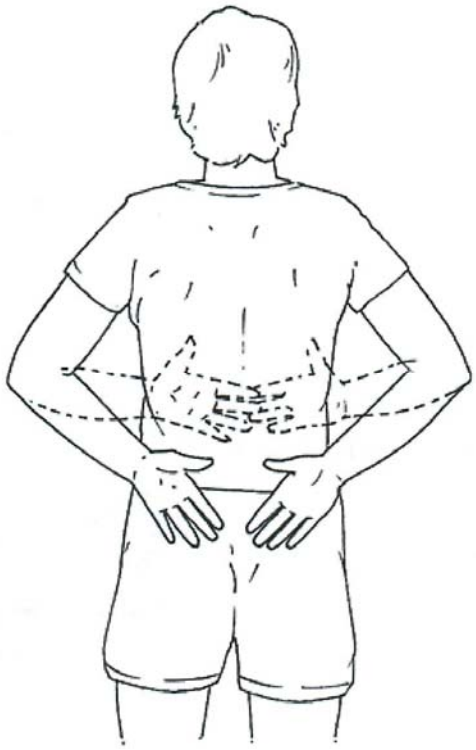
PRECAUTIONS
- Shoulder joint surgery, Balance if standing

15. Self Back Rub (internal rotation)

Purpose: ROM, ADLs - Dressing, hooking bra, scratching back

- **Place back of hands on buttocks.**
- **Slowly slide hands up back and down.**

PRECAUTIONS
- Shoulder joint surgery



16. Shoulder Rotator
(external rotation)

Purpose: ROM, ADLs – Brushing hair, passing a plate

VERSION A

- Bend elbows and tuck them into side of waist.
- Position forearms parallel to floor (with palms facing up).
- Rotate arms away from abdomen.
- Return to start position.

VERSION B

- Start with arms at side.
- Place hands behind ears with elbows apart.
- Move elbows toward each other.
- Open elbows out to the sides.

PRECAUTIONS
- Shoulder joint surgery

17. Shoulder Rotator Stretch

(combined shoulder internal and external rotation)

Purpose: ROM, ADL – Dressing

- Sit or stand with correct posture.
- Reach one arm up to pat back.
- Reach other arm behind lower back.
- Slide hands toward each other.
- Hold 3 seconds.
- Alternate arms.

PRECAUTIONS
Shoulder joint surgery

18. Diagonal Arm Reach (shoulder abduction and adduction)

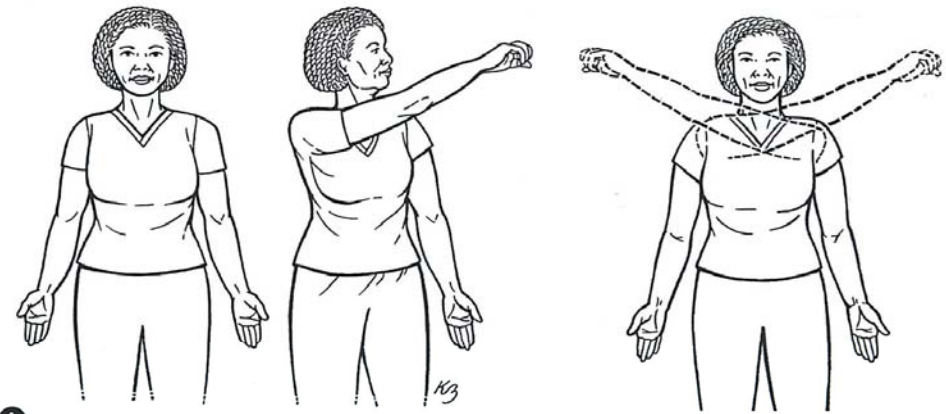
Purpose: ROM, ADL - Reaching

VERSION A

- **Start with arms at sides.**
- **While watching your hand, raise one arm above opposite shoulder (as if you were picking an apple from a tree).**
- **Repeat with other arm.**
- **Note: This exercise may also be done moving both arms at the same time.**

PRECAUTIONS
- Shoulder joint surgery

CONTINUED



A

CONTINUED

18. Diagonal Arm Reach (shoulder abduction and adduction)

VERSION B

- **Start with one hand on opposite hip.**
- **While watching your hand, move arm across body and above the shoulder (as if you were drawing a sword).**
- **Repeat with other arm.**
- **Note: This exercise may also be done moving both arms at the same time.**

PRECAUTIONS
- Shoulder joint surgery

B

19. Arm Circle (abduction with circling)

Purpose: ROM, Posture, ADLs – Dressing, reaching

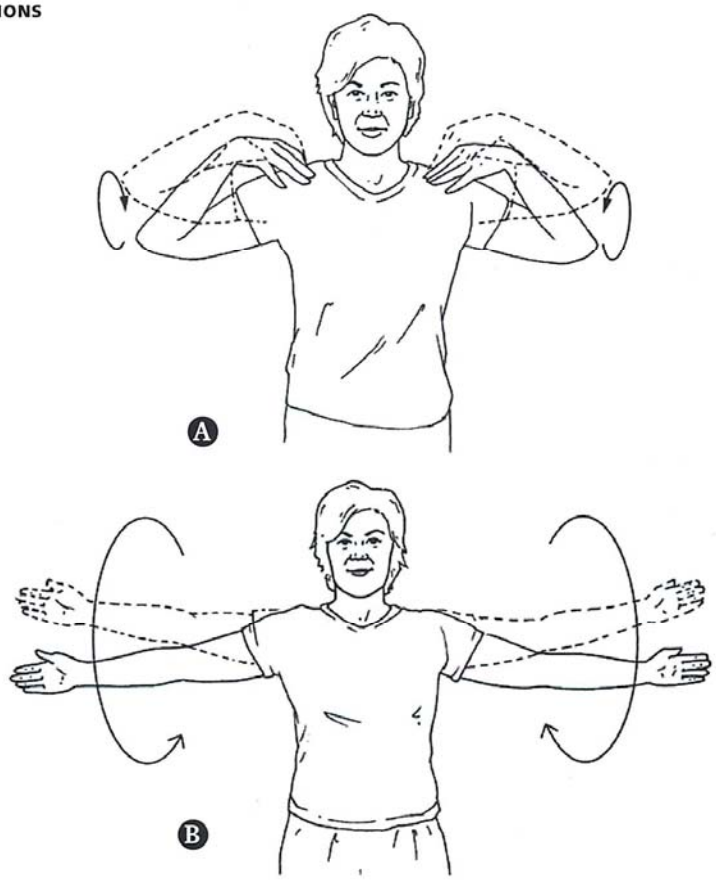
VERSION A

- Rest hands on shoulders, elbows pointed out.
- Make circles with elbows.
- Vary size and direction of circles.

VERSION B

- Position straight arms out at shoulder level.
- Make circles.
- Vary size and direction of circles.

PRECAUTIONS
- None

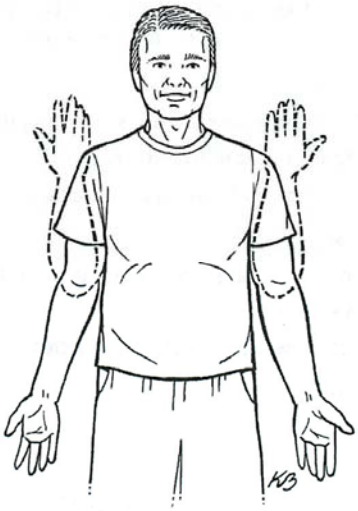


20. Elbow Bend
(flexion and extension)

Purpose: ROM, ADLs - Eating, lifting

- **Sit or stand with arms at side and palms up.**
- **Bend elbows, bringing palms toward shoulders.**
- **Straighten elbows down beside you.**

PRECAUTIONS
- None

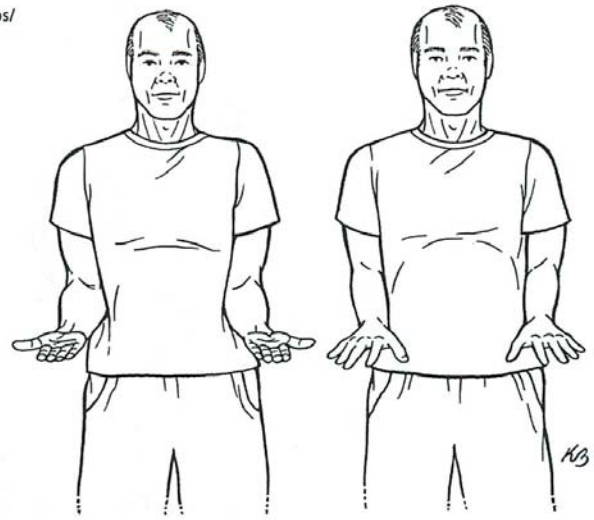


21. Elbow Turn (elbow pronation and supination)

Purpose: ROM, ADLs – Turning doorknobs/ screwdriver, taking change

- **Tuck elbows at sides.**
- **Turn palms up.**
- **Turn palms down.**

PRECAUTIONS
- None



22. Elbow Bend and Turn (combined elbow motion)

Purpose: ROM, ADL – Picking up objects

This exercise combines #20 and #21.

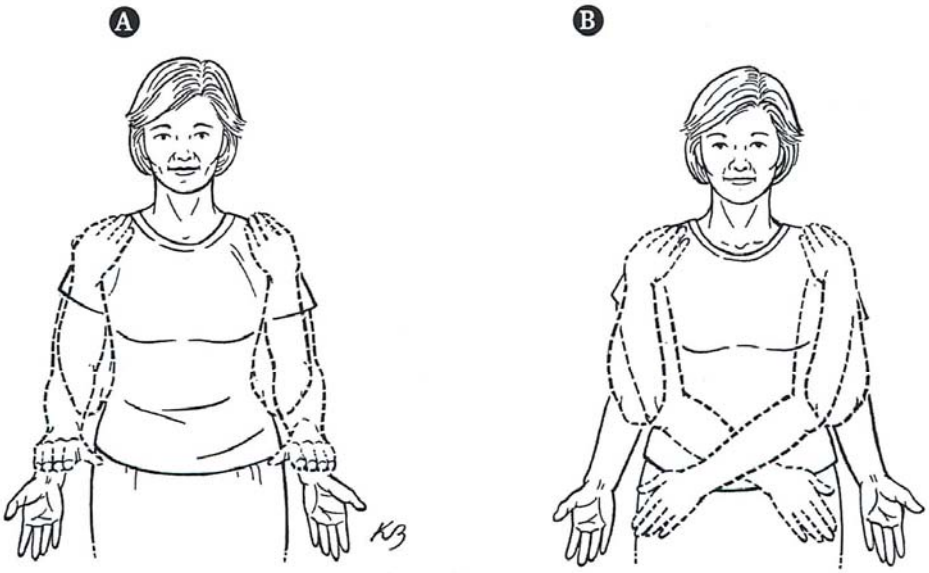
VERSION A

- **Touch fingers to shoulders, palm toward you.**
- **Turn palms down as you straighten elbows.**

VERSION B

- **Touch fingers to shoulders, palms toward you.**
- **Turn palms down as you straighten elbows and cross hands to opposite hips.**

PRECAUTIONS
None



23. Shoulder Touch and Reach
(combined shoulder and elbow movements)

Purpose: ROM, Strength, ADLs – Reaching, dressing, bathing

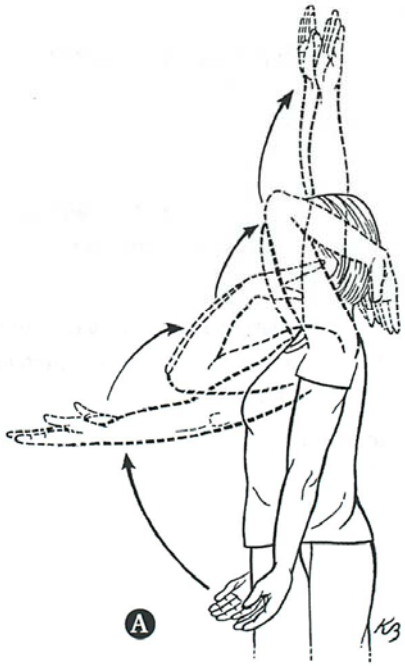
VERSION A

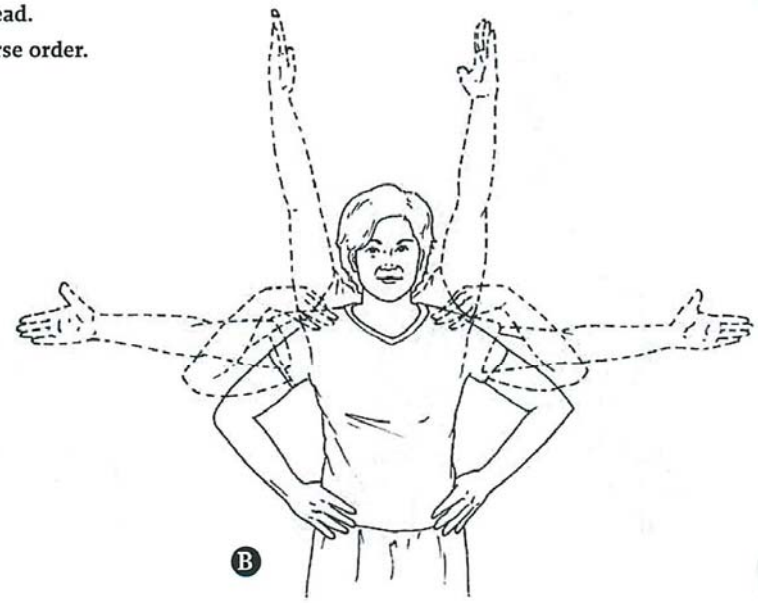
- Start with arms at sides and palms facing forward.
- Raise arms forward to shoulder level.
- Bend elbows, touching shoulders.
- Lift elbows up, reaching over back.
- Raise arms up over head.
- Return in reverse to starting position.

VERSION B

- Start with hands on waist.
- Reach arms out to side, palms up.
- Touch shoulders.
- Reach above head.
- Return in reverse order.

PRECAUTIONS
None





24. The Row (elbow bend and scapular retraction)

Purpose: ADLs-Pulling, lifting

- Sit or stand with elbows bent and tucked to the side.
- Bend slightly forward from the hips, keeping the back straight.
- Lower hands slowly toward the floor by straightening the elbows.
- Row elbows up and back, pinching shoulder blades together.
- Repeat rowing motion.

PRECAUTIONS
- None

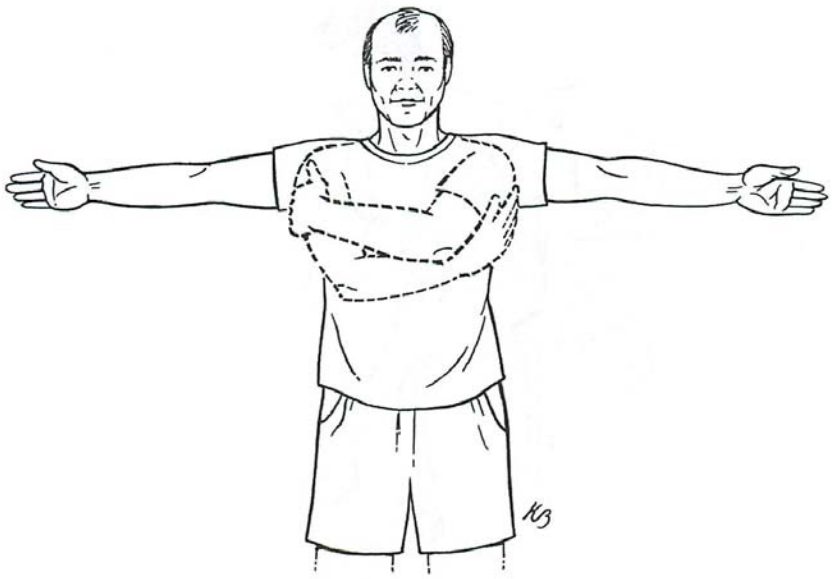
25. The Hug

(combination elbow flexion and shoulder horizontal movements)

Purpose: ROM, ADLs – Eating, dressing

- **Start with straight arms out to the side and palms facing forward.**
- **Bring arms together, touching opposite shoulder to hug yourself.**
- **Repeat with other arm on top.**

PRECAUTIONS
None

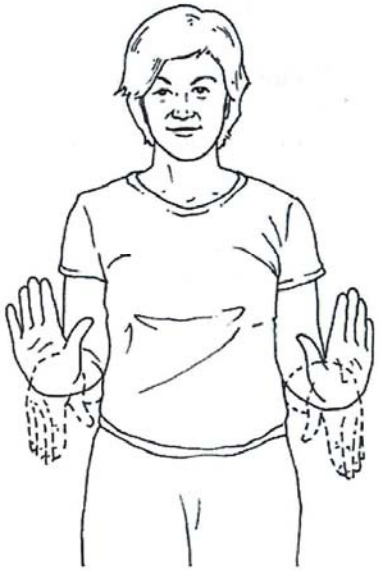


e WRIST EXERCISES (#26–27)

26. Wrist Bend
(flexion and extension)

Purpose: ROM

- Sit or stand with elbows tucked to sides and palms facing down.
- Bend wrist up.
- Hold 3 seconds.
- Bend wrist down.
- Hold 3 seconds.

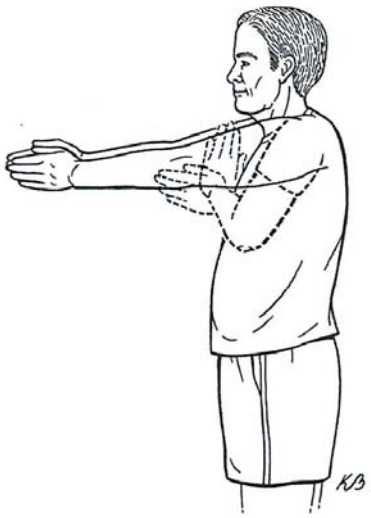


PRECAUTIONS
- Numbness of wrist or fingers

27. Wrist Stretch (extension)

Purpose: ROM, ADL – Pushing down on chair arms to come to a standing position

- Sit or stand with palms together and arms straight out in front.
- Keeping palms together, pull hands in toward chest and point hands up toward ceiling.
- The elbows will go out to the side.



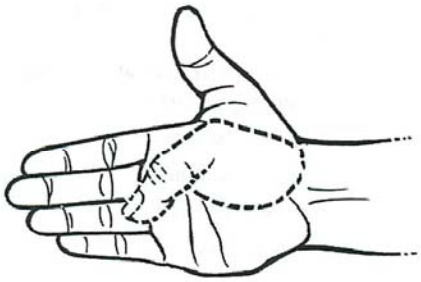
PRECAUTIONS
- Numbness of wrist or fingers

f FINGER EXERCISES (#28–35)

28. **Thumb Bend** (thumb flexion)

Purpose: ROM, ADLs – Grasping, picking up objects

- Open hands, fingers relaxed.
- Reach thumb across palm toward base of middle or ring finger.
- Hold 3 seconds.
- Move thumb out again.

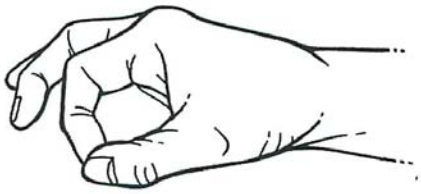


PRECAUTIONS
None

29. **Finger O** (opposition)

Purpose: ROM, ADLs – Grasping, picking up objects

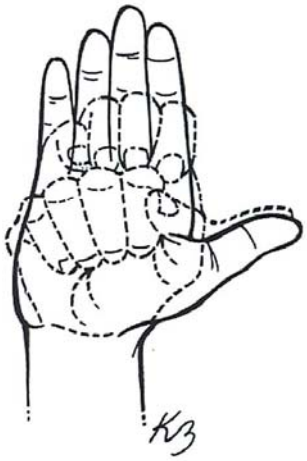
- Start with open hand, fingers apart.
- Touch tip of thumbnail to tip of index fingernail (make an "O" shape).
- Repeat with each finger.
- Open hand wide after each "O."



PRECAUTIONS
None

30. Finger Curl (flexion/extension)

Purpose: ADL – Picking up and holding objects, ROM (Version A), Strength (Version B)



VERSION A

- Start with open hand flat, fingers straight.
- Bend each joint slowly to make a loose fist.
- Hold 3 seconds.
- Straighten fingers again.

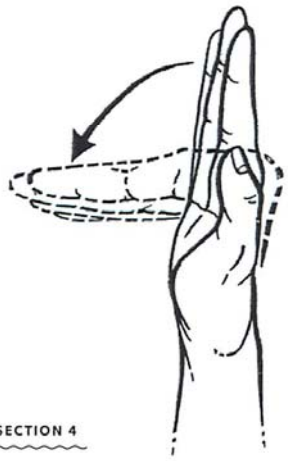
VERSION B (PAPER CRUNCH)

- Hold an 8 ½ x 11" sheet of paper in one hand.
- Crunch paper into a small ball in the palm of your hand.
- Using the same hand, unfold the paper, opening up to its original size. (No shaking allowed!)
- Repeat with the other hand, using a new sheet of paper.

PRECAUTIONS
- None

31. Knuckle Wave (lumbrical muscles)

Purpose: ROM, Strength, ADL - Holding cards or books



- With wrists and fingers straight, bend at the large knuckles while keeping the middle and end joints straight.
- Straighten knuckles.

PRECAUTIONS
- None

32. Cat's Claw (intrinsics)

Purpose: ROM, Strength, ADL – Maintain grasp

- Sit or stand.
- Open hand wide.
- Bend fingertips and thumb toward the base of the fingers.
- Keep large knuckles straight.
- Hold 6 seconds.

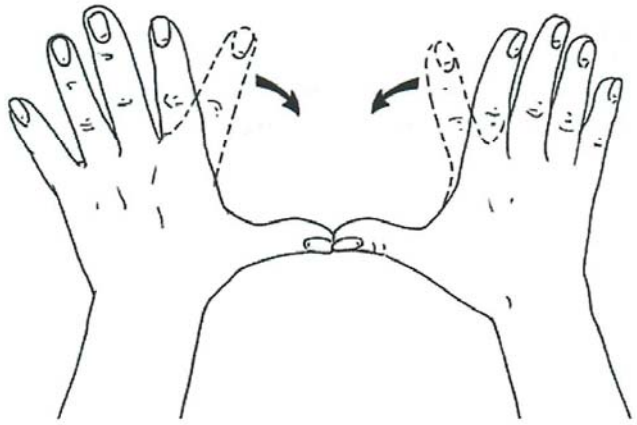
PRECAUTIONS
None

33. Finger Walk (intrinsics, abduction, adduction)

Purpose: ROM, Strength, ADLs – Grasping, preventing ulnar drift deformities

- Rest palms on thighs with thumbs toward each other.
- Slide one finger at a time toward thumb.
- Relax. Do NOT slide the other way (prevents ulnar drift deformity).

PRECAUTIONS
None

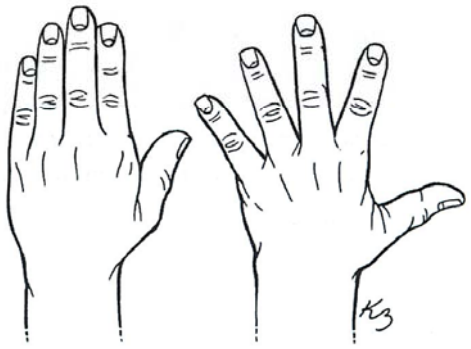


34. Finger Spread (finger abduction, adduction)

Purpose: ROM, Strength

- Rest palms on thighs or table.
- Spread fingers apart.
- Move fingers back together.

PRECAUTIONS
- None

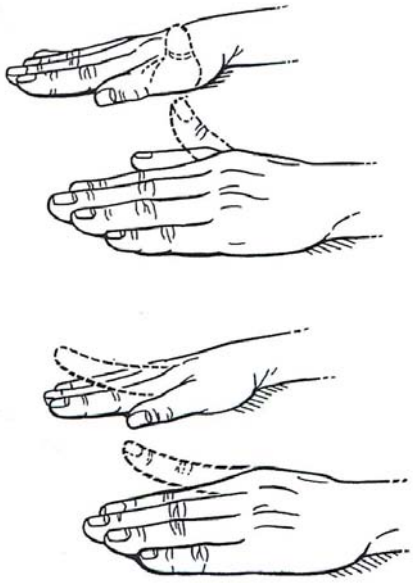


35. Finger Lift (finger extension)

Purpose: ROM, Strength

- Rest palms on thighs.
- Lift both thumbs up.
- Hold for 3 seconds.
- Relax and repeat with each finger.

PRECAUTIONS
- None



39. Trunk Rotation (rotation)

Purpose: ROM, ADLs – Driving, looking behind you

- Sit or stand.
- Cross hands or place them on hips.
- Twist trunk around to look over one shoulder.
- Be sure you are turning at the waist and not the neck or hips.
- Repeat to opposite side.

PRECAUTIONS
- Back pain, Osteoporosis (if done sitting)

40. Abdominal Tightener (transverse abdominal muscle)

Purpose: Strength, Posture

- Standing or sitting in chair, tighten abdominal muscles, moving navel toward spine. *(Cue participants to place their fingers below the belly button and feel the abdomen draw in.)*
- Hold 6 seconds.
- Relax.
- Note: There is no pelvic movement— the spine remains in neutral.

PRECAUTIONS
- None

41. Abdominal Strengthener
(rectus abdominal muscle)

Purpose: Strength

- Sit at edge of chair, arms straight out in front.
- Pull navel to spine.
- Keeping back straight, lean back until you feel abdominal muscles tighten. Don't touch back of chair.
- Hold 6 seconds while continuing to breathe normally.

PRECAUTIONS
- Back pain