ExtensionGetFit

Program Guide

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Division of Agriculture Cooperative Extension Service
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The Extension Get Fit Program is a series of routines intended for use with adults. The Extension Get Fit Program Guide contains instructions and safety precautions for instructors. It is essential that you, the Extension Get Fit Program instructor or program director, read the entire Program Guide carefully before implementing the program. Some exercises outlined in the routines that follow are not appropriate for individuals with unstable medical conditions or serious musculoskeletal problems.

The Program Guide is not intended to replace the services of a healthcare provider who knows the participants of your program personally. As an instructor, never give medical advice to a participant in your program. Always refer the individual to a healthcare provider.

Every effort has been made to ensure the information contained in this Program Guide is complete and accurate. However, neither the authors nor the University of Arkansas Division of Agriculture, Cooperative Extension Service, is engaged in rendering medical advice or services to individual participants in the Extension Get Fit Program. The ideas, procedures, and suggestions contained in this Program Guide are not intended as a substitute for consulting with a physician. All matters regarding a participant's health require medical supervision. The University of Arkansas, it’s Division of Agriculture, Cooperative Extension Service, and their current and formal trustees, representatives, agents, officials, volunteers, and employees shall not be liable or responsible for any loss, injury, or damage allegedly arising from any information or suggestion in this Program Guide.

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Overview

Physical activity is important for adults of all ages. Despite strong evidence of the health benefits of physical activity, the majority of Americans do not regularly participate. There are many possible reasons why people do not engage in recommended physical activity – lack of time, lack of access to programs or facilities, and lack of motivation, to name a few. The Extension Get Fit (EGF) program aims to address some common barriers to engaging in regular, structured physical activity (referred to as exercise throughout this publication) by increasing access to structured and safe programs offered through local county Extension offices.

The EGF program employs a unique delivery strategy. After an initial program period led by county agents (typically 12 weeks), program sites are transitioned to instruction by a volunteer leader. Volunteer leaders are recruited from among the participant group. Volunteer leaders must participate in an EGF Fundamental Training to lead an EGF group. The volunteer leader structure allows Extension to provide ongoing access to Extension exercise opportunities and permits the agent to start a new Extension exercise group while still providing program oversight.

The EGF program was developed based on strength training research, with a focus on mid-life and older adults. This program is appropriate for adults of all ages. Modifications are offered for exercises in each of the structured routines in the program. The exercises may be tailored to individual needs and fitness levels.

The Extension Get Fit Volunteer Guide

The EGF Volunteer Guide is intended for use by those who will conduct local EGF group sessions. The Guide includes tools for recruiting participants, conducting exercise sessions, and evaluating program impact. Background information on exercise recommendations and ensuring participant and program safety are also included. The Guide includes many strength training exercises and options to add variety to EGF groups as they are sustained long term.

Physical Activity Recommendations

The *Physical Activity Guidelines for American, 2nd Edition* (2018) recommend adults regularly engage in two main types of physical activity: 1) aerobic activity (endurance or cardio activity) and 2) muscle-strengthening activity (resistance training). In addition to the general guidelines, older adults, those over the age of 55, should add balance training to their fitness routines.

Aerobic Activity

Current guidelines recommend that adults engage in 150-minutes of moderate-intensity or 75-minutes of vigorous-intensity physical activity throughout the week. These types of activities increase breathing and heart rate. Examples of exercises that are moderate-intensity include brisk walking (at least 2.5 miles per hour), water aerobics, and bicycling (slower than 10 miles per hour on level ground). Vigorous-intensity exercises include jogging, swimming laps, step aerobics, jumping rope, and bicycling (over 10 miles per hour). Actions, such as general yard and house work, can also be considered aerobic activity if they increase the heartrate.

Muscle-Strengthening Activity

Adults should engage in muscle-strengthening activities two or more days a week targeting all major muscle groups. The major muscle groups are the shoulders, arms, chest, abdomen, back, hips/glutes and legs. Exercises that target the same muscle group should not be performed on consecutive days. Be sure to include a rest day in between sessions to allow muscles time to recover. Muscle-strengthening exercises include using dumbbells, ankle weights, stretch tubes, and weight machines. Exercises can use your own body weight for resistance, such as lunges, squats, and push-ups, also build strength, Actions, such as carrying heavy loads and heavy gardening, are also considered muscle-strengthening activities.

Balance Training

Balance training is recommended for older adults to help resist falling and should be performed at least three days a week. Examples of balance training activities include walking heel-to-toe and moving between a standing and sitting position. Muscle-strengthening activities that target the back, abdomen, and legs will also help to improve balance. To ensure older adults meet the current guidelines, multicomponent physical activity is recommended. Multicomponent includes more than one type of physical activity, or a combination of aerobic, muscle-strengthening and balance. Examples of multicomponent activities include dancing, yoga, tai chi, sports, and gardening.

Flexibility Activity

Flexibility, or stretching, helps improve the mobility of a joint. This type of activity can be performed every day, but be sure muscles are warm. Flexibility activities are important for overall physical fitness and should be included when engaging in physical activity. It is important for older adults to maintain the flexibility needed to engage in normal daily activities. Examples of flexibility activities include the calf stretch, hamstring stretch, quadriceps stretch, and chest and arm stretch.

Benefits of Muscle-Strengthening Activities and the Lay-Leader Approach

The health benefits of engaging in muscle-strengthening activities weekly are well established. Despite the evidence, most American adults do not meet physical activity recommendations. Physical activity is important for adults of all ages, but it is particularly important for older adults. Older adults are the least active group of Americans. According to Warburton, Nicol and Bredin, “the greatest improvements in health status are seen when people who are least fit become physically active.” The most recent recommendations for physical activity advise adults to participate in at least 150 minutes of moderate-intensity aerobic activity each week, plus two or more days of muscle-strengthening activities for all major muscle groups.

Muscle-strengthening activities are an important component of overall physical activity, conferring numerous health benefits, such as increasing strength, muscle mass, and bone density and reducing the risk and aid management of numerous chronic diseases such as diabetes, heart disease, osteoporosis, and arthritis. In addition to preserving functional fitness and preventing osteoporosis and sarcopenia, muscle-strengthening activities help to reduce the risk of falling, fractures, and disabilities that often result from these conditions.

The current need for structured physical activity programs is greater than Extension, public health, or other health-focused agencies’ capacity to address without employing new strategies. As the older adult population continues to grow in number, the gap between need and availability of programs will likely continue to widen. Use of volunteer lay leaders in delivery of physical activity programs, which expands access and offers an alternative to professionally-led classes, can bridge this gap. The term ‘lay leader’ refers to a non-professional community member with characteristics similar to those of the target audience.

Peer- or lay-leadership of health promotion programs is an approach used effectively for decades. Use of lay leaders offers benefits over professional leadership of physical activity programs, such as increased program sustainability. For lay-led programs in general, benefits extend beyond those received by participants; the lay leaders themselves benefit physically and emotionally from serving in this capacity. From the standpoint of resource allocation and sustainability, the sponsoring organization benefits as well, particularly when lay leaders are volunteers.

Lay Leaders in Health Promotion Programs

In rural areas, there is limited access to programs designed to increase fitness and facilities where people can exercise. Programs designed to increase physical activity for this age group are an important part of the equation for improving health for residents in these areas. Lay leaders can be used effectively in health promotion interventions, including group exercise classes.

At the heart of the lay delivery approach is the use of similar others, or peers, to communicate information intended to increase knowledge, change attitudes, or lead to adoption of new health behaviors or discontinuance of unhealthy behaviors. Lay leaders have been referred to as lay health advisors, community health workers, community health aides, community health advisors and indigenous natural helpers in the health promotion literature. These persons may be volunteers, receive a small stipend for service, or be a paid employee of an organization. Lay or peer leaders may be similar to the target audience in age, income level, racial or ethnic group, or residential geography.

Because of the variety of terms used to refer to lay persons who work in their communities to promote health, it is useful to define what a volunteer lay leader is within the context of the EGF program. A volunteer lay leader for the EGF program is an unpaid volunteer. No monetary support is provided to them, but they may receive equipment and resources, such as weights and health-related books, which are offered not in exchange for their service, but to support them in their role. Volunteer lay leaders come from the group of EGF participants.

Lay Leadership of Muscle-Strengthening Programs

Lay leaders or peer educators have been used in delivery of health promotion programs for several decades. Several studies demonstrate the effectiveness of this approach for group muscle-strengthening classes and show using lay leaders can improve exercise adherence, maintenance of physical activity, and enhance sustainability of interventions. Sustainability, which can be defined as the capacity of a project to continue to deliver its intended benefits over a long period of time, is important for community-based programs to make a long-term difference in health behaviors. Physical accessibility, equipment purchase, and identification of qualified leaders have been identified as barriers to implementing exercise programs. Those with low incomes have identified program access and availability of suitable facilities as the primary barriers to physical activity. All of these issues may be addressed by use of lay leaders in program delivery.

Lay leaders, in drawing from their own experiences, can serve as powerful role models and can be more effective than professionals. Advice may be more readily accepted from peers and new knowledge more readily digested in an atmosphere of shared common experiences. The lay leader approach also serves to promote a sense of self-efficacy, which is a major determinant of physical activity maintenance. Further, lay leaders are able to advise participants of the challenges they may face in being physically active, communicate strategies to deal with them, and as a result, increase self-efficacy of participants in dealing with difficulties they might encounter. Self-efficacy is important in exercise adoption, is a predictor of exercise maintenance, and can decrease attrition from exercise programs. Self-efficacy can be increased within a supportive social environment.

The World Health Organization[40] has identified strengthening social relationships as a health promotion strategy. Programs using lay leaders can potentially become surrogate support systems for those participants lacking strong social networks. Indeed, lay-led programs have shown to increase perceptions of social support among participants. Such programs can foster social support to help participants overcome barriers and reinforce healthy decisions. Social support is a significant predictor of physical activity, enhances program compliance and motivation, and is a factor that positively reinforces maintenance of physical activity.

Prevention of relapse to sedentary lifestyles is critical, as losses in fitness gains can be observed after only six weeks of inactivity. Lay-led programs provide social support and social networking which enhances program compliance and motivation. Thus, programs using lay leaders can produce changes more enduring than those resulting from other educational or health promotion methods by altering the social group norms influencing behavior after the program ends.

SECTION 2: PROGRAM STRUCTURE

Program Structure

Program Duration

EGF programs should be conducted a minimum of twice weekly for at least 12 weeks. Use of volunteer leaders may enable the program to continue indefinitely. Decisions about delivery method (agent leader versus volunteer leader and the transition of a group from agent-led to volunteer-led) should be made at the county level.

Program Delivery Options

- *Trained Volunteer Continues Class*
  Agent delivers program for 12 weeks. At least one volunteer leader is recruited from members of the exercise group (more than one leader is better). The volunteer attends EGF Fundamental Training prior to leading the group without supervision by the agent OR attends the next Fundamental Training offered.

- *Agent-led and Volunteer-led Rotation*
  Agent delivers program for 12 weeks and volunteer leaders are recruited and trained as described above. The agent may choose to limit group membership to those attending while he or she conducted the first 12 weeks of the program, which means no new group members will be allowed to join while volunteers lead the class. After a volunteer-led period, agents may choose to instruct the group again for 12 weeks and allow new members to join during that time. After the 12 agent-taught weeks, the group would revert to volunteer instruction and closed enrollment.

- *Volunteer-led with Open Enrollment Period*
  Agent delivers the program for 12 weeks and volunteers are recruited and trained as described above (Option 1). The agent may choose to limit group membership to those attending while he or she conducted the first 12 weeks of the program. The agent may open enrollment to new group members for a period of time (in January, for example), hold an orientation meeting, and collect enrollment paperwork. Volunteers continue to lead the group as before, but enrollment is closed to those who did not enroll during open enrollment, or who had not previously been attending the class.

- *Volunteer-led with Rolling Enrollment*
  Agent delivers program for 12 weeks and volunteer leaders are recruited and trained as described above (Option 1). The group continues to be led by one or more volunteers. Enrollment is rolling, meaning new people are allowed to join the group at any time.

Volunteer leaders collect enrollment paperwork and enrollment fees and return to the county Extension office.

Scheduling Classes

EGF classes should meet a minimum of two days each week, with at least one day between sessions to allow the body to rest and muscles to recover. For example, classes might meet on a Tuesday and Thursday, or a Monday and Wednesday. A third, nonconsecutive day may be added if desired.

Use your knowledge of the target audience to set class times. Many classes meet at 9:00 or 10:00 AM. Successful programs have also been scheduled to meet at noon or immediately after the work day. Classes conducted for teachers may be offered immediately after school. EGF classes will take approximately one hour.

Enrollment Options – New Class

You, as the program manager, will decide how to handle program enrollment for new groups. Here are a few options to consider before you promote the program and set registration deadlines.

Option 1:

Require participants to contact the Extension office to pre-register before the orientation meeting. This allows you to keep tabs on participant numbers, collect contact information, and create a waiting list if more people are interested than can be accommodated. You can determine if a second class should be offered for those wait-listed before the program starts and make arrangements.

Option 2:

Direct interested participants to attend a scheduled orientation meeting without pre-registering beforehand. This approach is less labor intensive for county staff, but allows less room for making adjustments if interest is higher than anticipated. Also, you will not know how many enrollment folders to bring to the orientation meeting and may risk having more people than you can accommodate with a single class.

Program Location

EGF programs may be held at any location where open space is available. Classes have been held at churches, community centers, libraries, senior centers, and community rooms of local organizations. Meeting rooms at county Extension offices have also been used for exercise classes.

Although an Extension office meeting space may be most convenient for the agent, sites within the community are preferred for EGF classes. There are several reasons why community settings are more appropriate.
Community settings:

- Provide greater visibility for the program.
- May already be frequented by the target audience.
- Promote partnerships with other organizations.
- Often serve as meeting locations for existing groups, making sustainability more likely.
- May employ people willing to be trained to sustain the exercise program after the agent-led period.

A study of Extension exercise programs in Arkansas found that groups were more likely to be sustained by volunteers when classes met at locations other than the Extension office. Volunteer-led programs were most often held at churches.

When classes are held at the Extension office, the program is perceived to “belong” to Extension, making it harder for the group to develop ownership of the program. Ownership is key to transitioning groups to volunteer leadership. Participants need to see the program as their own. The group needs to develop its own identity. The program will still be an Extension-sponsored program at a community site; group leaders will be Extension volunteers.

Churches may be viable locations for volunteer-led groups to meet, particularly if participants or volunteers are associated with the church site. When Extension exercise programs are implemented at churches and attract congregation members, mechanisms for social support are likely already in place. Groups with pre-existing bonds seem to be more likely to continue independently, and church members often have experience as lay leaders in other capacities. Many churches consider hosting a program like EGF to be an outreach effort. Access to church buildings may be easier to secure than Extension or other government-owned buildings when volunteers are responsible for instruction and locking up the building after the session. Partnering with churches at the local level to conduct EGF situates the program in a setting that allows for sustainability beyond the agent-led period.

<u>Physical Space</u>
Space required depends on the number of participants and the type of activity. For strength training routines using weights or other resistance equipment, a minimum of 200 square feet for a class of eight, or 400 square feet for a class of 16 to 18 people is recommended. The room should be large enough to accommodate chairs (if used) and allow enough space between chairs so that participants can move arms and legs out to sides without touching one another.

Floor exercises using mats will require about 21 square feet per person. This space guideline takes into account the average 2 x 6 foot mat and allows an extra one to two feet per person. For a class of twenty people, about 420 square feet of space is ideal. If in a pinch for space, about 16 to 18 square feet per person, or 320-360 square feet total, would tightly accommodate a class of twenty people.

Be sure there is enough space for exercise AND for participants to store their personal belongings (purses, jackets, etc.) during sessions. These items should be stored away from the exercise area (not at participant's feet or under their chairs).

Equipment

The exercise routine chosen will determine your equipment needs. Note: Many types of resistance training equipment are available for increasing strength, all of which are specifically designed for exercise. We strongly discourage participants from using homemade weights or household objects as weights in EGF programs. Water bottles, canned foods, laundry detergent, gallon jugs, etc. should not be used in EGF classes. These items are not specifically designed for exercise, lack the appropriate grip, may have liquid weight that shifts, and can pose injury risk. It is important that participants determine the appropriate amount of weight for their fitness level and slowly increase weight as they grow stronger. Standardized weights, which are available through major retailers and fitness stores, are optimal. Medicine balls, stretch tubes/bands, and kettle balls are also acceptable resistance training equipment for the exercise included in this manual.

Selecting weights or resistance levels

Participants should select a weight they can lift at least eight times (but no more than twelve times) with moderate difficulty. EGF is a progressive resistance training program, which means participants should *progress* as they become stronger and increase the amount of weight lifted. After a couple of weeks of strength training, participants should reassess the difficulty of each exercise with the amount of weight they are lifting to determine if weight should be increased.

For example, a participant who started the program using a three-pound dumbbell for the biceps curl may determine that the exercise is too easy after several weeks of strength training if they can perform the exercise more than twelve times in proper form. The Borg Rating of Perceived Exertion Scale may also be used to determine if increased weight is needed. Participants should aim to exercise at a perceived exertion of 12-14 on the scale.

Dumbbells or hand weights

Dumbbells, also called hand weights, are widely available in a variety of styles and materials. Most commonly, dumbbells are made of iron and may be coated with neoprene or vinyl to make them more comfortable to grip.

Specialty weights, such as palm weights, soft weighted balls, soft-grip weights, and wrist and forearm weights are an option for those who are unable to grip a traditional dumbbell. Those with severe arthritis should consult their doctor before beginning to strength train to determine the exercises and equipment most appropriate and safety precautions.

Medicine Balls

Medicine balls are an effective strength training tool, a creative way to change up your strength training routine, and come in various styles and sizes. Most medicine balls are suitable for people of all ages, fitness levels, and abilities

What medicine ball should you use? This depends on your gender, age, current strength and fitness levels, and the type of exercise. Medicine balls range in size from 1 pound up to over 30 pounds. According to the American College of Sports Medicine, many people use a heavier ball than needed. As a rule of thumb, the medicine ball should be heavy enough to slow the motion but not so heavy that the control, accuracy or range of motion is com promised during the exercise. If you lose control by the end of your exercise routine, the ball is too heavy. While most medicine balls are round, they are also available in other shapes and with built-in handles for improving your grip.

Stretch Tubes and Bands

Stretch tubes and bands can be substituted for free weights or machines to help you build muscle strength and bone density. Both are color-coded based on the level of resistance. However, there is not an industry standard on colors, and all companies label and color code their bands differently.

Stretch tubes consist of elastic tubes with handles. Stretch bands are elastic bands without handles. Both come in various thicknesses to increase the tension. You can also increase the intensity by using the “choke hold” described later. Many contain latex, so be sure to check the packaging for latex-free if you have an allergy.

Before you can begin to exercise with stretch tubes and bands, you first need to know how to hold them.

Stretch Band Hold

To hold a stretch band:

- Lay the band flat in your hand with the end toward your pinky finger.
- Wrap the long end of the band around the back of your hand.
- Grasp firmly.

Stretch Tube Standard Hold – Grasp the handle with a firm grip. Four fingers wrap around one side, and the thumb comes across from the other. Resist the temptation to excessively squeeze the handle.

Stretch Tube Choke Hold –In some instances, the resistance tube may be too long to properly perform the exercise. When this occurs, simply loop the tube around and lay it beside the handle. Grasp both the handle and the tube together.

Stretch Tube Foot Hold –The way you stand on the resistance tube or band will affect the tension. Typically, an exercise will call for you to step in the middle with feet hip width apart. Only standing with one foot offers the least resistance, while standing with feet further than hip width apart offers more resistance.

<u>Ankle weights</u>

Adjustable ankle weights are recommended for EGF participants. As participants increase strength, they can increase the amount of weight lifted without the added expense of purchasing new ankle weights.

Ankle weights are available in several styles, weight increments, and material types. For most participants, we recommend purchasing ankle weights adjustable up to 10 pounds with weighted inserts made of solid iron. Ten-pound ankle weights are usually available individually, meaning two ankle weights will need to be purchased to make a pair. Be aware that retailers often package a pair of five- pound adjustable weights together labeled as a “10-pound pair.” Be sure you are purchasing ankle weights that can be adjusted individually to ten pounds. Ankle weights can be costly. Some participants and

groups opt to use one ankle weight and switch the weight from leg to leg to perform exercises. This is an acceptable option but makes exercise sessions longer due to the added transition time.

Most ankle weights attach to the legs using a Velcro strap. The type of weighted material will affect the bulkiness of the ankle weight. Commonly, ankle weights are made adjustable by packets of sand or other granulated material, or metal beads, which are sealed and inserted into pockets on the ankle weight. Ankle weights using these types of materials may be bulkier and less comfortable to wear than those using solid iron inserts. The packets containing the weighted material may be made of plastic or a fiber, such as nylon. Depending upon the material used, these weighted units may be prone to puncture and release the weighted material.

Chairs

A chair may be needed to perform some exercises. Modifications may also require a chair. The ideal chair:

- Will be sturdy.
- Will not have arms.
- Will have a firm seat reaching the backs of the knees. The seat should be high enough that participants can sit all the way back with their feet barely touching the floor.
- Will have a firm seat back. The back of the chair should be high enough that participants can hold onto it when standing without stooping over.

If the chair seat is too low and participants' feet hit or graze the floor on exercises like the knee extension, a rolled up towel or pillow may be placed under the thigh to raise the leg.

SECTION 3: PROGRAM PROMOTION

Program Promotion

Take advantage of multiple methods to promote availability of new and existing EGF programs. Use your knowledge of the target audience to determine the best methods for reaching potential participants.

Articles – Newspaper and Newsletters

Traditional Extension efforts to promote programs have included articles in local newspapers. Newspaper and newsletter articles are probably the most common way EGF programs are publicized. A sample news article is also available electronically. The sample article should be customized and distributed to local newspapers.

The same article can also be used in newsletters. Use the information in EHC, 4-H, Master Gardener or subject-matter newsletters. You may also want to run the article in agriculture-related newsletters. Other organizations you collaborate with may have their own newsletters. Ask them to run the article also.

Cooperative Extension to hold 12-week fitness class

Are you ready to improve your health? Have you decided it is time for you to start exercising regularly? A regular exercise program can help with weight management, reduce diabetes and stroke risk, increase energy levels, and improve overall sense of well-being.

The University of Arkansas Division of Agriculture, Cooperative Extension Service in [county name] County is offering a group fitness program, Extension Get Fit, to help adults increase strength, flexibility, and balance. This 12-week program uses [insert type of equipment – dumbbells and ankle weights; stretch tubes; medicine balls; etc.] to improve fitness in a fun and relaxed one-hour class. Sessions will meet twice weekly on [days of week] at [time] at the [location]. The class will be instructed by [name], County Extension Agent, who has been trained to lead the program.

To participate in the program, you must be 18 years or older. Space is limited, so sign up now by contacting [name of person or county office] at [phone#] or by emailing [email address] by the [date] registration deadline. Program participants must attend an orientation meeting on [date] at [time] in [location] [room or building]. Cost for participating in the program is $12, which includes all sessions and a fitness assessment.

Public Service Announcements

Local radio stations will often air Public Service Announcements, or PSAs, submitted by community groups. Some stations will simply read on-air the text provided to them, and others will ask the agent to come in and record the PSA for them to run. A sample PSA is included below and is available electronically. Customize the PSA to your county.

Sample PSA - 30 seconds

Are you ready to improve your health? Have you decided it is time for you to start exercising? A regular exercise program can help with weight management, reduce diabetes and stroke risk, increase energy levels, and improve overall sense of well-being. The new Extension Get Fit program from the University of Arkansas Cooperative Extension Service can help! To learn more, contact [agent's name] at [phone number or email].

Cable TV Announcements

Local cable providers in many counties have a "community" or public access channel. Program announcements may be posted slide-show style or may run across the screen as a ticker. A sample announcement for cable TV is available electronically.

Sample:

Are you ready to improve your health? Have you decided it is time to start exercising? The Extension Get Fit program from the UA Cooperative Extension Service can help! Contact: [insert info]

Facebook & Twitter

Posts to Facebook and Twitter can generate interest. Sample Facebook and Twitter posts are available electronically. Posts with pictures generate more interest than those without, so try to insert or link to a page containing a picture if possible. You can link to the county Extension web page, or to the state EGF page at www.uaex.edu.

Twitter posts are limited to 140 characters. When linking to a web site, shorten the URL by going to bitly.com. Paste the regular URL into the "paste a link to shorten it" box, click "shorten," and then paste the new URL into your Twitter post.

Sample Twitter Post:

Are you ready to improve your health? The Extension Get Fit program from the UA Cooperative Extension Service can help! [insert link to county web page; shorten using bitly.com]

Sample Facebook Post:
Are you ready to improve your health? Have you decided it is time to start exercising? The new Extension Get Fit program from the University of Arkansas Cooperative Extension Service can help! To learn more, contact [agent's name] at [phone number or email].

County Web Page

Post program information to the county Extension web page. Then you can link back to it in social media posts. You may also choose to post a flyer about the program. A sample flier is available electronically.
Include on the county web page:

- Meeting dates, times, and location
- Program fees
- Registration deadlines and dates for Orientation meeting
- Flier with program information (or format information as text)

Email

Email can be part of your program promotion strategy. Most counties have at least one email distribution list at the county level. Use these email lists to promote new or existing exercise classes. Send an email with program information in the body of the email. You may also want to provide a link to other information on the county Extension web page. If you include a flier attachment, be sure to include information in the body also – sometimes attachments are not opened by the receiver. You may partner with community organizations who maintain their own email lists. Forward program information to the list manager with a request it be shared with their email list.

SECTION 4: ORIENTATION & PAPERWORK

Orientation Meeting

An orientation meeting needs to be scheduled before the first session of an EGF class. The purpose of the orientation meeting is to provide participants with introductory information, share what they should expect at the first class, provide enrollment paperwork (available in section 9: Supporting Documents and electronically), and answer questions. Ideally, the orientation meeting is held two weeks before the first class day. This gives participants time to complete the paperwork and purchase any needed equipment. At a minimum, have the orientation meeting one week before the first class day.

Orientation Meeting Tips:

- After setting dates and the time for EGF class meetings, schedule the orientation meeting for the same day of the week and time a few weeks out from the start date. For example, if classes will meet Tuesday and Thursday at 9:00 AM, schedule the orientation meeting for a Tuesday or Thursday at 9:00 AM.
- Keep the meeting brief – no longer than your exercise sessions will last.
- Show Orientation PowerPoint (available electronically). Demonstrate the exercises that will be included in the class. Emphasize to attendees that exercises will be modified for all levels of fitness. Trained volunteer leaders in the county can assist with demonstrating exercises. They can also share personal success stories.
- Have equipment examples on hand for attendees to handle. They may have questions about the amount of weight appropriate for them. If volunteer leaders are available, have them man the equipment table to assist people with selecting the most appropriate weight or resistance level.
- Collect enrollment paperwork and place in a file folder (see next page for Enrollment Paperwork Checklist). Distribute the folders to participants and review. Allow participants to take the paperwork and folder home with them to fill out. They may need assistance from a family member or friend to complete the paperwork due to low literacy level, poor eyesight, etc.
- Provide participants with a flier listing the class meeting location, days and times; and equipment they need to purchase; a reminder to wear appropriate exercise attire to class (i.e. closed toe athletic shoes); your contact information and contact information for any volunteer leaders involved in the class.
- The Senior Fitness Test should be conducted before the EGF program starts. There are several options for conducting fitness tests (see Section 5: Program Evaluation). If you plan to schedule individual appointments, you may wish to have people sign up for time slots at orientation. Provide an appointment card listing the time, date, and location of their test appointment. If you plan to conduct fitness tests in a group setting, such as immediately

before the first class, or on the first day in lieu of an exercise session, give participants a flier listing this information.

Enrollment Paperwork

Before participants will be allowed to take part in an EGF program, they must return their completed enrollment paperwork. It is best to distribute enrollment paperwork at an orientation meeting prior to the first session. All paperwork is available in the Supporting Documents section and electronically.

Enrollment Paperwork Checklist:

- Participant Information Sheet
- Extension Exercise Informed Consent
- PAR-Q+

Participant Information Sheet

The Participant Information Sheet collects contact information and emergency contact information. “Start date” is the date of the first session. “End date” is listed to track length of program participation. Leave this line blank and fill in when class ends, or when participant ceases attending.

Extension Exercise Informed Consent

Each participant should sign and return the Extension Exercise Informed Consent form prior to starting the program. The full title of the document is “Informed Consent, Release and Waiver Agreement for Participants in the University of Arkansas Division of Agriculture Cooperative Extension Service Exercise Programs.”

This Extension Exercise Informed Consent form is not the same as Informed Consent required by Institutional Review Boards for research purposes. The Extension Exercise Informed Consent describes risks associated with the program, asks the participant to acknowledge the risks with their signature, and releases the University from liability.

PAR-Q+

The PAR-Q+ (Physical Activity Readiness Questionnaire for Everyone) may be used by participants of any age to assess whether a doctor’s approval is recommended prior to participation in EGF sessions. The PAR-Q+ asks seven questions about current health status. Participants who answer “YES” to one or more of the questions will complete follow-up questions on specific chronic conditions as directed on the PAR-Q+ form. The PAR-Q+ does not need to be returned with the rest of the enrollment paperwork. Completed forms will contain personal health information and should be kept by the participant, or shared with a healthcare professional if answers indicate the participant should talk with their doctor.

The PAR-Q+ is posted online at http://eparmedx.com. Visit the web site to find the most up-to-date forms. The current form is titled "2014 PAR-Q+." The PAR-Q+ screening is valid for 12 months, assuming the participant's health condition does not change during this time.

ePARmed-X+
An additional assessment, the ePARmed-X+ (electronic Physical Activity Readiness Medical Examination), is referenced in the PAR-Q+. The ePARmed-X+ is an online assessment tool that can be used to further evaluate those who answered YES to one or more PAR-Q+ questions. It is more extensive and offers specific recommendations based on the participant information entered. Participants may access the ePARmed-X+ at http://eparmedx.com.

Other Paperwork and Records

Participant Information Cards
In addition to the enrollment paperwork, some counties opt to have participants complete an information card listing emergency contact information, allergies, special medical considerations, physician, and preferred hospital. Participant cards should be brought to each exercise session and may be stored in a small card file box. Since enrollment paperwork is returned to the county office, this card provides valuable information for group members and the volunteer leader should an emergency arise.

Sign-in sheets
Participant attendance should be tracked for reporting. Federal guidelines require reporting of contacts by gender and race/ethnicity. There are several options for collecting attendance data.

- Standard Extension sign-in sheets for each session. This option gives you detailed information for reporting contacts for each session.
- A spreadsheet or table with rows for participant names and a header row with columns for marking meeting date. Participants would mark an "x" on the row with their name for each date of attendance. This approach saves paper but may require additional effort when reporting to identify gender and race/ethnicity.
- A less desirable option is to provide an attendance count for each session, making note of gender and race/ethnicity.

Keeping Paperwork Up-to-Date
Participants should review and update their paperwork at least once per year. To keep track, try taking each groups' folders when fitness assessments are conducted on-site. Participants can review and update their paperwork as part of the assessment process. At a minimum, have participants mark any changes to their Participant Information Sheet. You may also opt to provide the PAR-Q+ for participants to self-assess. Remember, the PAR-Q+ is for their

reference. It does not need to be returned. This is also a good time to administer the post-questionnaire (see section 5: Program Evaluation). Retain active program participant records at the county office. Files for participants that are no longer active may be destroyed after three years.

Program Fees

Arkansas EGF programs are fee-based. Participant fees help sustain the program by funding volunteer leader training and providing program support. The program fee is currently $20 per participant (as of January 2018). Agents are responsible for ensuring program fees are collected at the county level. Half of the program fee ($10) is sent to the state Extension office (FCS – Health and Aging). The other half ($10) stays at the county level and should be used to support healthy living programs.

Program fees should be collected when new groups start or annually for ongoing groups. Options for collecting fees from ongoing groups are varied. Use your judgment and knowledge of local clientele to choose the best method for your county. Ask leaders of volunteer-led groups to help determine the most acceptable way to collect fees. They know their group members. Often they can suggest the easiest way, saving the agent time and effort.

We suggest collecting program fees in very early January. It may be tempting to work ahead and send fee reminders in December, but this is not usually effective. Mailed reminders may be overlooked among holiday cards.

A note about scholarships

Participants unable to pay the $20 program fee may still attend EGF classes. We offer scholarships in the form of a fee waiver for those in financial need.

SECTION 5: PROGRAM EVALUATION

Program Evaluation

Program evaluation is a critical, but often overlooked, part of the program process. The evaluation plan for EGF is fairly simple and includes two components: 1) the Senior Fitness Test; 2) Participant Post-Questionnaire. Timing of fitness testing and questionnaire administration will vary depending on program type. Programs of a set length (12 weeks, for example) will concentrate evaluation activities at the start and end of the program. Those with on-going programs will need to schedule evaluation activities to ensure they are not forgotten after programs are up and going.

This section is organized by evaluation component (Senior Fitness Test and Participant Post-Questionnaire). Instructions and administration options are included, as well as trouble-shooting tips.

Senior Fitness Test

The Senior Fitness Test measures seven aspects of functional fitness and is an important part of EGF program evaluation. The Senior Fitness Test Manual, Second Edition, may be purchased from book retailers.

It is preferred leaders and County Extension Agents work together to conduct fitness assessments for EGF participants. Use the Fitness Assessment Scorecard (available Section 9: Supporting Documents and electronically) to record scores for each participant.

Chair Stand Test

The *purpose* of the Chair Stand Test is to measure lower-body strength.

Equipment: Stopwatch, straight-back or folding chair with seat height of 17 inches. Place chair against a wall for stability.

Instructions:

- Participants should sit in the middle of the chair with their back straight and feet flat on the floor with arms crossed in front of chest.
- On the “go” signal, participant should rise to a full stand, then return to a fully seated position.
- Start the test after the participant has done a couple of warm-up repetitions of the chair stand.
- Count the number of complete stands in 30 seconds. This number is the test score.
- If the participant is more than halfway up at the end of 30 seconds, count this as a full stand.
- *Note:* Do not count stands that were not “full” stands or when participants used hands for assistance. Note if participants had incomplete stands or used their hands in the “comments” section of the scorecard.

Arm Curl Test

The *purpose* of the Arm Curl Test is to measure upper-body strength.

Equipment: Stopwatch, straight-back or folding chair with no arms, 5-lb dumbbell for women or 8-lb dumbbell for men.

Instructions:

- Participants should sit on a chair with a straight back, feet flat on the floor. They should move slightly toward the side of the chair of the arm used for this test.
- The participant should hold the weight down by their side, palm facing inward, in their dominant hand.
- Start the test after the participant has done a few warm-up curls to check for correct form.
- On the “go” signal, the participant should complete as many arm curls as possible, using correct form, within the 30-second time frame. The palm should rotate up and toward the body during the “up” phase, and rotate back down the starting position in the “down” phase. Be sure the upper arm remains stable throughout the test. Bracing the elbow against the body helps stabilize the upper arm.
- Count how many arm curls are completed within 30 seconds. This number is the test score.
- If the arm is more than halfway up at the end of the 30 seconds, count as a curl.
- *Note:* Test only the dominant arm. Females must use a 5-lb dumbbell for this test. Males use an 8-lb dumbbell. The norms for the test are based on these weights.

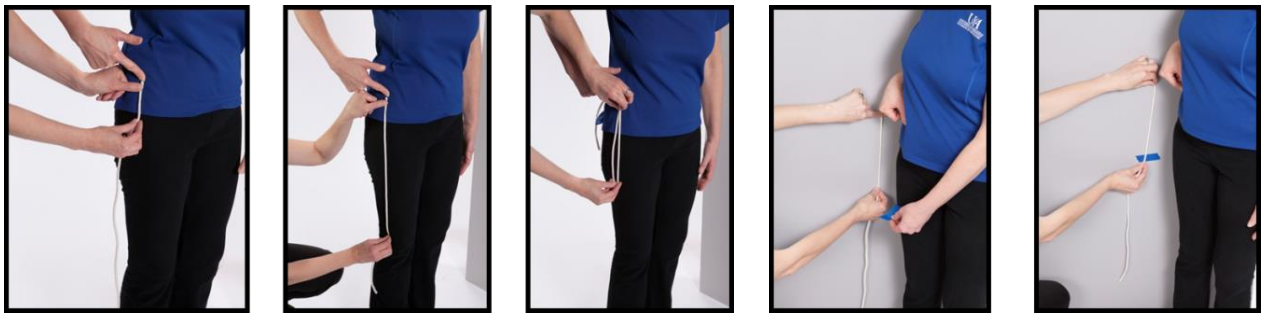
2-Minute Step Test

The *purpose* of the 2-Minute Step Test is to measure aerobic endurance.

Equipment: Stopwatch, piece of string or cord about 30 inches long, masking tape, tally counter (if available) to count steps.

Instructions:

- Determine step height for each participant by using masking tape to mark the mid-point between the kneecap and iliac crest (the front protruding hip bone). To find this point, use a string or cord to measure from the middle of the kneecap to the hip bone. Then double the string or cord and use masking tape on the wall to use as a guide for the correct step height.



- On the “go” signal, the participant will begin stepping in place, raising each knee to the height indicated by the masking tape.
- Participant will step in place for two minutes. Count the number of times both knees are raised to the correct height. Do not count steps where knees do not reach the target.
- The score on this test is the number of full steps in 2 minutes. Count the number of times the right knee reaches the appropriate height. Record this number on the scorecard.

- *Note:* Make a note on the scorecard if participants are not able to raise knees to the appropriate height or can only lift one knee to this height.

Chair Sit-and-Reach Test

The *purpose* of the Sit-and-Reach Test is to measure lower body flexibility.

Equipment: Folding chair with seat height of 17 inches; a ruler, preferably 18 inches long.

Instructions:

- The participant should sit toward the front edge of the chair with the crease between the top of the leg and buttocks even with the front edge. One leg should be bent with foot on the floor; the other leg should be extended as straight as possible in front of the hip with the heel on the floor. Foot should be flexed.
- The participant should overlap their hands, with middle fingers aligned, and stretch forward from the hips toward the toes of the extended leg. They should reach as far as possible. The stretch should be held for two seconds.
- Have the participant practice the reach on both sides. Administer the test on the preferred side.

- Using the ruler, measure the distance from finger tips to toes if reach is short, or the length of reach past the toes.
- Record the number of inches short of the toes with a minus (-) in front of the number. Reach past the toes should be recorded with the number of inches, preceded by a plus (+). If reach stopped at the toes, the score is zero (0).

Score = 0

Score = -2

Score = +2

- *Note:* Those with severe osteoporosis or who have pain when flexing forward should not perform this test.

Back Scratch Test

The *purpose* of the Back Scratch Test is to measure upper body flexibility.

Equipment: Ruler, preferably 18 inches long.

Instructions:

- Have each participant stand and reach the preferred arm over the same shoulder with the palm down and fingers extended. Reach down the back as far as possible.
- The other arm should reach behind the waist, palm up, and travel up the middle of the back as far as possible to try to reach or overlap the extended fingers of the top arm.

- Measure the distance between the middle fingers of each hand to the nearest half inch. A gap between the fingers will be recorded as the number of inches, preceded by a minus (-). Record an overlap by noting the number of inches fingers overlapped, preceded by a plus (+). If fingertips meet but do not overlap the score is zero (0).

Score = 0

Score = -1.75

Score = +1.75

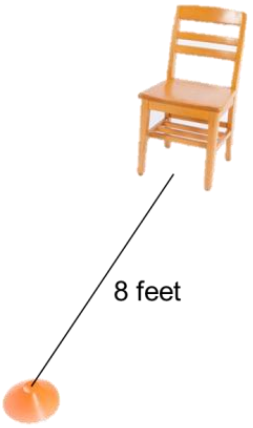
8-Foot Up-and-Go Test

The *purpose* of the 8-Foot Up-and-Go Test is to measure agility and dynamic balance.

Equipment: Folding chair placed against a wall, stopwatch, tape measure, cone (or similar marker).

Instructions:

- Place a chair against a wall. Measure 8 feet from the front edge of the chair. Place a cone on the floor to mark this point. Use masking tape to mark the position in case the cone is moved during testing.



  - Participant should sit in the middle of the chair with feet flat on the floor. One foot should be slightly in front of the other, and the participant slightly leaning forward.
  - On the “go” signal, the participant will stand from the chair and walk as quickly as possible around the cone, returning to a seated position in the chair.
  - Start the time on the “go” signal and stop it when the participant returns and sits in the chair.
  - Record the time it took to circle the cone and sit down to the nearest tenth of a second.
  - Allow participant two tries and use the best time.

Height and Weight

The *purpose* of measuring height and weight is to calculate body mass index (BMI).

Equipment: Scale, 60-inch tape measure, masking tape, ruler (or other flat object to mark top of head)

Instructions for measuring height:

- Attach tape measure to wall 20 inches up from floor.
- Have participant stand with his or her back to the wall, back of the head lined up with the tape measure. Place a ruler or other flat object on top of the participant's head. Keeping it level, extend back to line up with the tape measure.
- Record the participant's height as indicated by the tape measure, plus 20 inches (because the tape measure is 20 inches from the floor).
- *Note:* If shoes are worn, subtract ½ inch to one inch or more from height, using your best judgment.

Instructions for measuring weight:

- Participants should remove any heavy articles of clothing, such as coats and sweaters.
- Record participant's weight, rounding to the nearest pound.
- *Note:* If shoes are worn, subtract 1 pound for lightweight shoes and 2 pounds for heavier shoes, using your best judgment.
  Use an online BMI calculator to figure BMI from height and weight information. BMI is calculated automatically if using the web-based Senior Fitness Test 2.0 reporting system.

Frequency

Participants should be assessed using the Senior Fitness Test before starting the program, but after they have returned a signed Informed Consent, Release, and Waiver Agreement (single form). Ideally, fitness assessments are conducted every 12 weeks. The largest fitness gains are usually seen in the first 12 weeks of the program. If it is not feasible to conduct assessments this often, strive to collect data at baseline and at 12 weeks for new program participants, and twice yearly for participants in ongoing programs.

When classes are volunteer-led and participants may enroll at any time, it can be difficult to keep up with baseline and 12-week assessments. Volunteer leaders may be trained to conduct assessments and provided an assessment kit containing needed equipment (see below for equipment list). This makes collecting baseline data for new participants easier. Coordinate data collection at the 12-week point by making note of the first assessment and reminding the participant when it is time to do the assessment again. Return the Fitness Test Scorecard to the county office for entry into the online reporting system, Senior Fitness Test 2.0. Use of this online system is not required. It provides reports for each participant and will track progress over time.

Senior Fitness Test Equipment List

- Sturdy chairs without arms (folding chairs are fine)
- Stopwatch (most smartphones include a stopwatch feature)
- 5- and 8-lb dumbbell
- Masking tape
- 18” ruler
- Pencils for each station
- 30” of cording or string
- Tape measure (at least 8-feet long)
- Cone or a similar marker
- Scale

If opting to set up stations you will need multiples of some items. For example, four tests require a stopwatch (chair stand test, arm curl test, 2-minute step test, and 8-foot up-and-go). Two tests require a ruler (sit-and-reach and back scratch tests).

Testing Options

<u>Appointments</u>

One option for administering the Senior Fitness Test is to schedule individual appointments. This can be accomplished by assigning individuals to a particular time slot, or by having participants sign up for a time slot convenient for them. Allow 20 to 30 minutes for each appointment. Give participants an appointment slip with the date, time, and location of their assessment appointment. You may choose to conduct assessments at the EGF class meeting site or at the Extension office. Use your judgment and choose the location where participants will feel most comfortable. This is particularly important if the class meets in a geographically

isolated area and participants are unlikely to travel to the county seat for their assessment appointment.

When opting for appointments, having two people to conduct the Senior Fitness Test can speed up the process. Participants will need to warm up for five to eight minutes before beginning the assessment. The second person might lead the individual warm up and assist with conducting tests. Alternately, participants may be asked to warm-up on their own by walking in place and doing light stretching. The type of warm up activity does not matter as long as it involves movement of large muscle groups and is not too strenuous. The muscle groups stretched during the Senior Fitness Test, such as the lower body (hamstrings) and upper body (shoulder), should be stretched during the warm-up.

The appointment option will help participants to feel they are being given individual attention. In comparison to other options, such as setting up stations (described below), this option might work best for participants uncomfortable with being assessed in front of others. The downside is that assessments conducted by appointment will take longer than those conducted in stations and may require several days of agent time, depending upon group size.

Stations

Setting up testing stations is an efficient way to conduct the Senior Fitness Test with a group. There are several options.

A. Set up one station for each test: 1) Chair Stand, 2) Arm Curl, 3) Back Scratch, 4) Sit-and-Reach, 5) 8-foot Up-and-Go, 6) 2-minute Step Test, 7) Height and Weight.

Participants will move from station to station with their Fitness Test Scorecard. Recruit others (volunteers, Extension staff) to man each station. Provide training for them ahead of time so they will know how to correctly conduct the test and record the score on the Fitness Test Scorecard. Accuracy in measurement is important, as is accuracy in recording the score. (This is especially important for the Sit-and-Reach and Back Scratch tests where a plus (+) or minus (-) in front of the number makes a difference in results.)

B. Set up several stations, some of which will conduct two tests: 1) Chair Stand and Arm Curl; 2) Back Scratch and Sit-and-Reach; 3) 8-foot Up-and-Go; 4) 2-minute Step Test; and 5) Height and Weight.

Other Tips

Place signs on the wall around the room to identify each assessment station. Remember to warm up the group before they begin rotating through the stations. You may allow participants to rotate to any open station (following no particular order) to complete the tests and fill their scorecard. Those desiring a more organized environment can assign participants to a small group (group A, B, C, etc.), with each group starting at a specific station and rotating through to

complete all assessments together. The 2-minute Step Test usually takes the longest and can delay rotation to other stations. Consider recruiting two people to assist with this test. Another option is to stagger participant start times to decrease the crowded atmosphere often created by group fitness assessments.

Testing Approaches

There are several approaches for conducting the Senior Fitness Test on a class day. Three strategies have been used to conduct the assessments before the EGF class, during the EGF class (described below) or instead of the EGF class.

Testing before the EGF class

Ask participants to come to class early to participate in the Senior Fitness Test. Make a plan for how to handle tests that are not completed by the start time of the class. Do not delay start of the EGF class to finish up fitness tests. This inconveniences those who are waiting to participate in the EGF class.

During the EGF class

Sometimes participants will not hang around for fitness assessments when they are offered instead of the class. If no-shows are a problem in conducting fitness assessments, conducting assessments during the EGF class may be a good option. After participants have warmed up, one by one, they will dismiss to the testing station, which may be set up in a nearby room. When one person has completed their assessment, they return to the class and send another participant to be assessed. You will need to estimate how long it will take to complete assessments on the entire group. Two assessment days may be necessary for larger groups. A drawback to this approach is that participants' muscles may be fatigued, which can negatively affect performance on the Senior Fitness Test.

Instead of the EGF class

The Senior Fitness Test may be offered on a regular class day during the class time slot. This approach works well for some groups, especially if participants are enthusiastic about completing the Senior Fitness Test.

It is not desirable to conduct the Senior Fitness Test following an EGF class. Participants' muscles should be fatigued if they are lifting an appropriate amount of weight in the EGF class. This may negatively affect performance on the Senior Fitness Test and risk overexertion.

Trouble-shooting – Fitness Testing FAQs

My participants do not show up for fitness testing. What can I do?

Every county and group is different. Participants in some groups are excited to see improvements and ask for fitness tests to be conducted. Others, particularly those involved in

the program for a while, grow weary of fitness tests and may not attend scheduled testing dates. There are many reasons why participants do not want to participate in fitness tests.

There are several approaches to increase fitness test participation.

- *Communicate importance of fitness test data for program continuance.* Fitness test data is critical to demonstrate program effectiveness. Extension is supported by public dollars. Fitness test data shows that Extension programs are having an impact and are a good use of public funds. Fitness test results allow Extension to communicate program value to county and state elected officials. It also demonstrates to Extension program planners that this program is worthwhile and should continue to be supported.
- *Offer tangible incentives.* Some counties have found that offering t-shirts or cups with program logos is effective in getting people to show up who otherwise would not. Use county program funds to purchase these items.
- *Conduct fitness tests during the regularly scheduled class.* Some participants are all about the exercise. An EGF class displaced by fitness testing may be seen as a waste of time. A solution is to conduct fitness tests while the class is meeting. Pull participants out of class for just long enough to do the fitness test. Then they go back and resume their routine with the group, sending the next person out to be tested. Ideally, a separate but close-by room is used for testing.
- *Schedule personal appointments.* This approach leverages the obligation participants may feel to show up for an appointment. Some may be more likely to show up for a personal appointment than to show up for a class where fitness tests will be conducted.
- *Coordinate with leaders and show up unannounced.* When people will not show up for fitness tests it may be necessary to surprise them. This will not work for every group; some participants need time to mentally and physically prepare for fitness assessment days.
- *Coordinate with leaders and announce the date.* This is the opposite of the previous approach. Depending upon the group, people may want to be sure they do not miss the fitness test date. This can be tricky to discern. You will have to know your group and work with volunteer leaders.
- *Share fitness test data with participants.* This can be done at two levels. First, provide participants with a report of their individual results. This type of feedback will help them stick with the program. It also makes them more likely to show up for testing next time. Second, provide the group with information on how the group did as a whole. Cohesion is usually high in EGF groups; people want to support efforts of the group. Those who did not participate may be more likely to next time after seeing groups results presented.

Some participants are under age 60. The Senior Fitness Test is for ages 60 and up. Should they still do the fitness test?

Yes, participants under age 60 should complete the Senior Fitness Test. There is value for them in comparing their improvements across data collection points. For example, the

participant can chart improvements in upper body strength from pre- to post-assessment. Norm reference values are available for ages 60 and above; for younger participants, scores are compared for each data collection point.

The Senior Fitness Test is selected as most appropriate for EGF due to the age range of participants, the need for consistent measures across participant groups, and ease of administration.

How should I handle participants who have taken a break from the program to go on vacation and return right before the fitness test, or those who do not attend regularly? Their scores will not reflect benefits of the program.
There will always be those who attend class inconsistently. After fitness tests are conducted, you may choose to exclude results from those who attend inconsistently, or who have had a long lapse in their strength training routine if you are concerned their results will bring down those of the group overall. Use your judgment.

New people come into our program all the time. How can I keep up with baseline fitness assessments for new people?
For ongoing, volunteer-led groups we recommend training a designated volunteer(s) at program sites to conduct baseline fitness assessments. Provide the group with a fitness test kit containing the equipment needed and instructions. They can assess new people as needed and return the test scorecard to the county office for reporting.

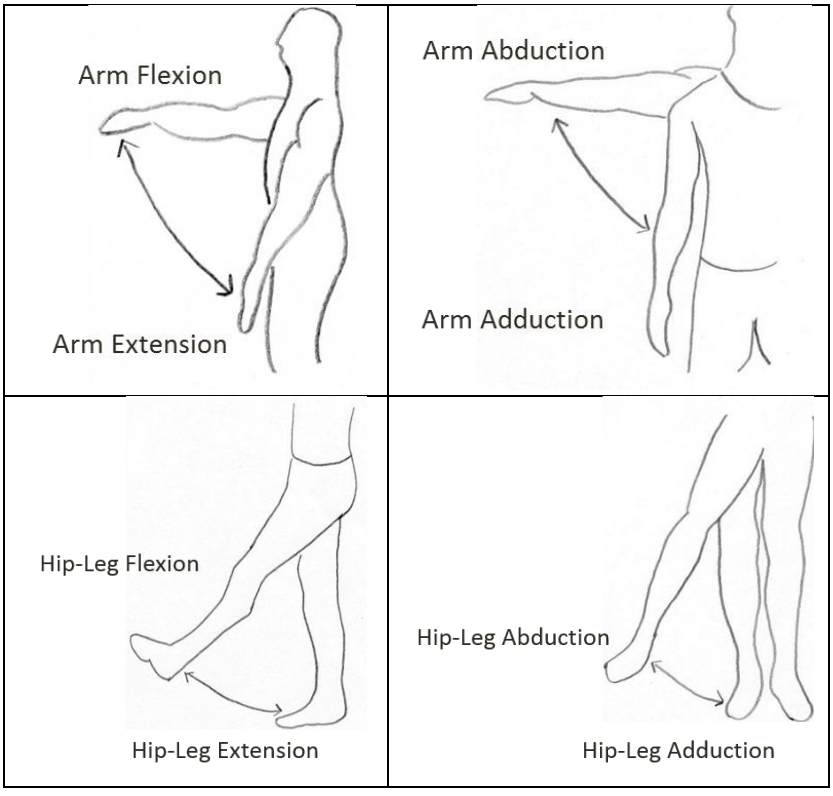
Participant Post-Questionnaire

The Post-Questionnaire (available in Section 9: Supporting Documents and electronically) includes questions about quality of life. An open-ended question is also included to collect personal success stories and participant comments. Collection of Participant Post-Questionnaire data depends on the program structure. If conducting a 12-week program, have participants complete the questionnaire when the program ends. Many EGF programs are ongoing, meaning they do not have an “end date” or final session. For ongoing classes, decide when it is best for you to collect post-questionnaires based upon enrollment patterns, scheduled program breaks (summer or winter holidays, for example), and reporting deadlines. Keep in mind that the biggest impact is usually in the first 12-weeks (3 months) of the program. Consider mailing the questionnaires to participants or conducting site visits and distributing the surveys then. Ask leaders to collect and return surveys for any missing participants.

SECTION 6: Anatomy of Movement [1]

Anatomical Terminology

In the world of science, the body is divided into different planes. Anterior, posterior, medial, and lateral are terms that describe a part of the body in relation to another part. Anterior and posterior are used to distinguish between the front and back, respectively. Medial and lateral refer to how close something is to the midline of the body. The midline is an imaginary line that divides the body into equal left and right halves. If something is medial, it is closer to the midline. Lateral is the opposite of medial. Extension, flexion, abduction, and adduction are all terms to explain how the body moves within the different planes. In the real world, these movements are very similar and often times the terms extension and flexion are used interchangeably with abduction and adduction. Extension and flexion refer to movements that are forward and backward. Abduction and adduction refer to movements that are side-to-side. Flexion and abduction are movements that go away from the body and usually result in the narrowing of a joint or shortening of a muscle. Extension and adduction are movements toward the body and usually result in the straightening of a joint or lengthening muscle.

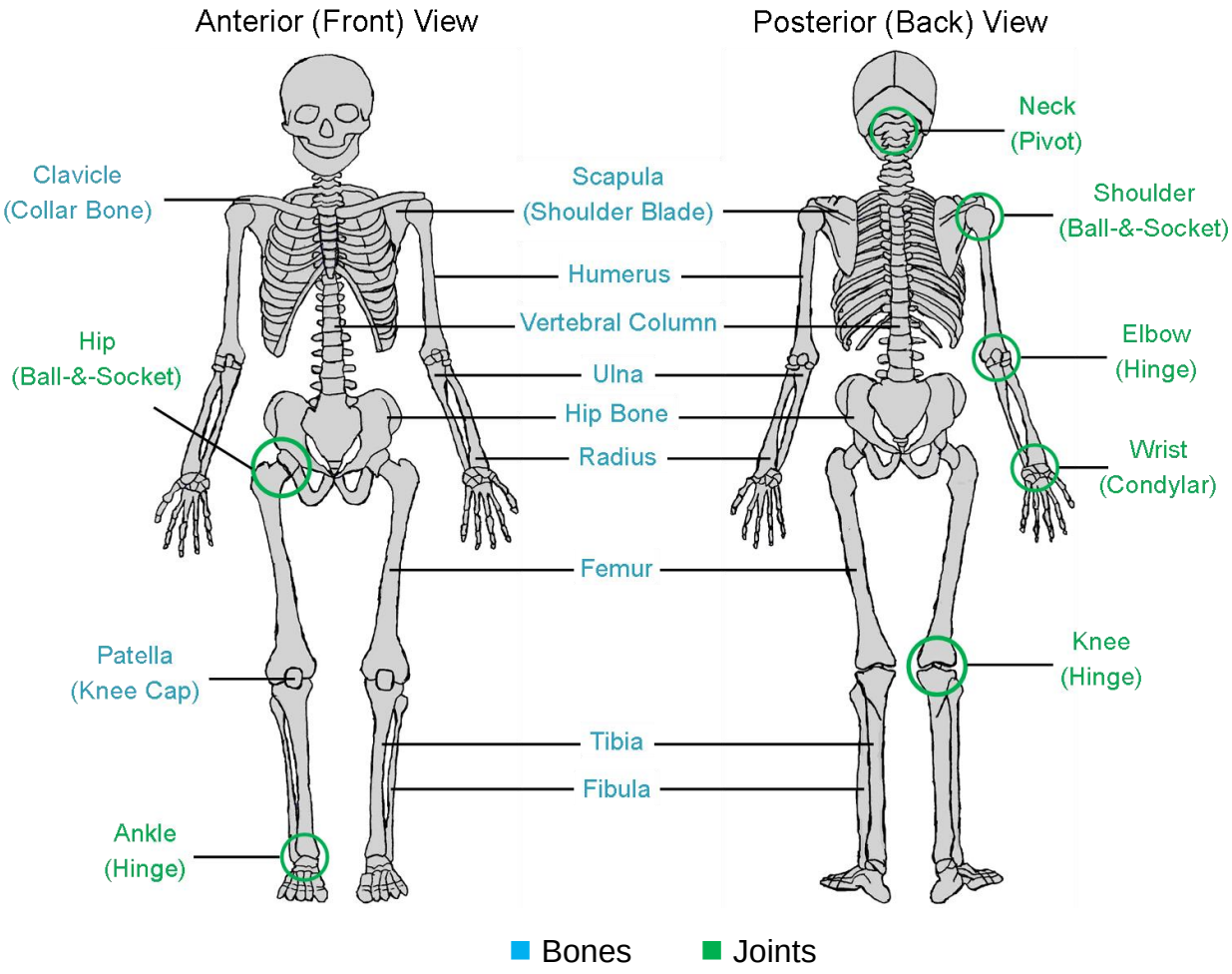


Other important movement terms include hyperextension, rotation, and plantar flexion. Hyperextension occurs when the parts of a joint extend beyond their normal range of motion. While it is not always dangerous, it is often used to describe an over-extension that results in injury. Movement of a body part around an axis is called rotation. There are two ways to describe rotation. Medial, or internal, rotation is movement toward the midline of the anterior surface. Lateral, or external, rotation is movement away from the midline and toward the posterior surface. Plantar flexion occurs when the top of the foot moves away from the shin (e.g. walking or standing on tip-toes).

Bones and Joints

There are 206 bones in the adult human skeleton. The skeleton provides support and structure for the body, as well as many other functions. The bones are classified by their shape. The long bones of the body (those that are longer than they are wide), serve as levers that are used by the muscles. Examples of long bones are the humerus (upper arm) and the femur (upper leg). The role of shorter bones (those that are about the same length and width), is support and stability. Short bones are found in the carpals (hands and wrists) and the tarsals (feet and ankles). Flat bones and irregular bones offer broad surfaces for muscles to attach, protect soft tissues and organs, and/or provide mechanical support. The scapula (shoulder blade), skull and ribs are flat bones and the vertebral column is made up of irregular bones.

A joint is the place where two or more bones meet. Joints are where movement happens in the body. There are three different categories of joints in the body (fibrous, cartilaginous, and synovial). Some joints are flexible and move freely while others do not. Regardless of their range of motion, joints are held together by connective tissue. Immovable (fibrous) joints, such as the skull, are held together by a fibrous tissue. Slightly moveable (cartilaginous) joints, such as the spine, are held together by cartilage. Ligaments are the connective tissues that connect freely moving (synovial) joints. Synovial joints are mostly found in the arms and legs and include the shoulder, elbow, wrist, hip, knee, and ankle. The synovial joints are categorized according to their type of movement and structure. The most important ones to remember for exercise are ball-and-socket, condyloid, hinge, and pivot. The following is a diagram of the major bones and joints in the body.

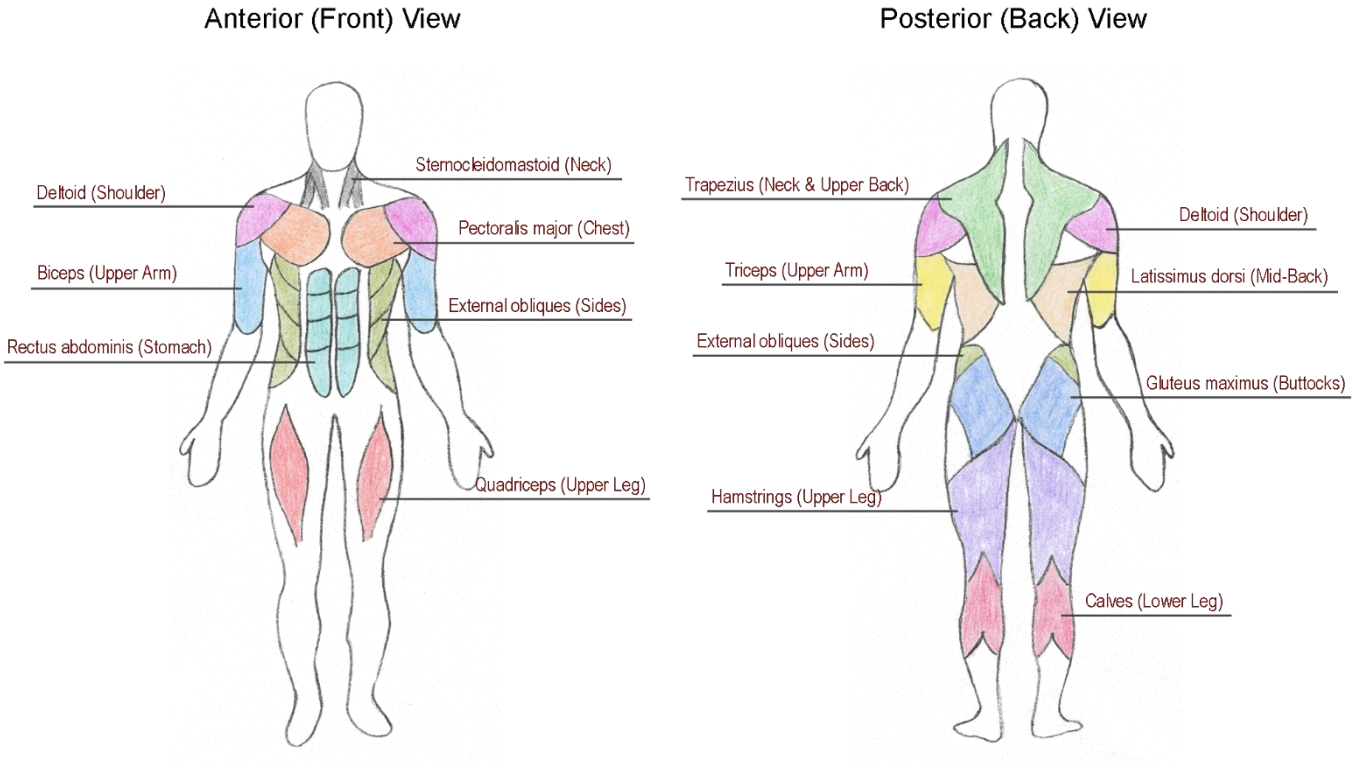


Muscles

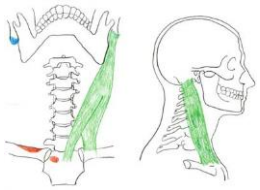
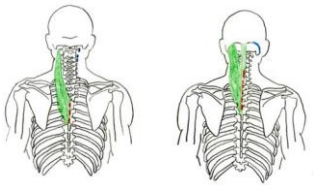
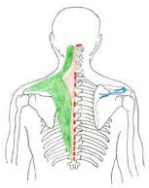
All movements require muscles. There are three types of muscles in the body: cardiac, skeletal, and smooth. Smooth muscle can be found in hollow internal organs, and cardiac muscle is only found in the heart, but both types are involuntary (cannot be controlled consciously). On the other hand, skeletal muscles are attached to bone and are, for the most part, controlled voluntarily.

The following is a diagram of the major muscle groups of the body. There is also a table below the diagram with drawings and descriptions of the main muscles used for exercise and their functions in the body.

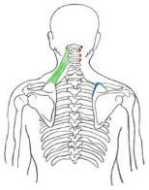
Major Muscle Groups



Muscles That Move the Upper Body

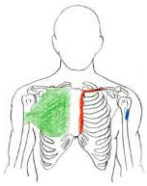
The **Sternocleidomastoid** muscle runs down both sides of the outer neck and is responsible for flexing the head (moving the head forward – chin toward the chest) and rotating, or twisting, the head side-to-side.	
The **Splenius capitis** and **Splenius cervicis** muscles run down both sides of the back of the neck and are responsible for extending the head – moving it backwards, chin away from the chest.	
The **Trapezius** muscle is a large, flat, triangular muscle on both sides of the upper back that extends from the skull down through the thoracic vertebrae (the lung and chest area). It is responsible for extending, rotating, and flexing the head and for elevating, or raising, the scapula.	

The **Levator scapulae** run down the back of the neck and attach to the upper part of the scapula. It is responsible for elevating the scapula.



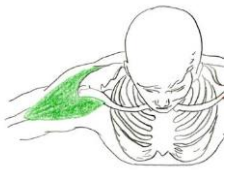
The **Rhomboid** muscle connects the scapula to the vertebrae of the spinal column and is responsible for the adduction of the scapula (squeezing the shoulder blades together).

The **Pectoralis major** is a large, fan-shaped muscle of the chest. It is responsible for internal rotation, arm adduction, and arm flexion.



The **Latissimus dorsi**, although located in the mid to lower back, is a powerful muscle responsible for arm extension, adduction, and internal rotation. It is the muscle known as the swimmer's muscle.

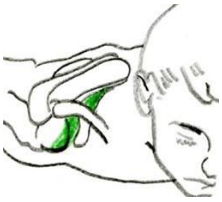
The **Deltoid** muscle covers the shoulder and has three parts – the anterior, middle, and posterior. It is responsible for arm abduction, extension, and flexion.



The **rotator cuff** (shown below) is a group of four muscles that make up the shoulder. These muscles are responsible for abducting and rotating the arm. The infraspinatus and supraspinatus are located on the posterior surface of the scapula. The subscapularis is located on the anterior surface of the scapula, and the teres minor is located on the lateral border of the scapula. All four muscles attach to the humerus.

Infraspinatus

Supraspinatus

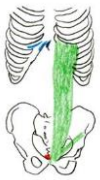
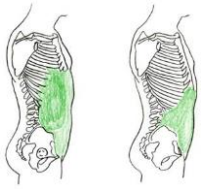
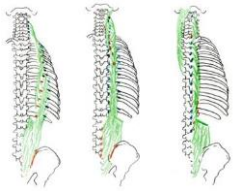


Subscapularis

Teres minor

The **Biceps brachii** (biceps) is located on the anterior surface of the upper arm. It is responsible for flexing the elbow and rotating the hand laterally.	
The **Triceps brachii** (triceps) is the only muscle located on the posterior surface of the upper arm. It is responsible for extending the elbow.	
The **Brachioradialis** is located on the lateral anterior side of the forearm. It is responsible for flexing the elbow.	

Muscles That Move the Mid-Section (Trunk)

The **Rectus abdominis** is a long, flat muscle that extends vertically down both sides of the abdomen (stomach). It is the most well-known and prominent muscle of the abdomen and is responsible for trunk stabilization and spinal flexion (bending forward).	
The **External and Internal obliques** are attached to the sides of the spine. As their names imply, the internal oblique is located beneath the external oblique. These muscles work together to help maintain posture, support the lower back, bend side-to-side, and rotate the spine.	
The **Transverse abdominis** is the deepest muscle within the abdominal wall (stomach). These muscle fibers run horizontally and encircle the abdominal cavity. They are responsible for compressing the abdomen or “sucking in your gut”, and they aid in forced expiration (breathing out).	
The **Erector spinae** is a group of three muscles that run the length of the spine. These muscles work together to help hold-up the spine and the gluteal (butt) muscles.	

Muscles That Move the Lower Body

The **Gluteus maximus** is the large outer muscle of the buttocks that is responsible for hip and leg extension.

The **Gluteus medius** is located on the lateral surface of the hip and is partly covered by the Gluteus maximus. It is responsible for abducting and medially rotating the thigh.

The **Gluteus minimus** is located underneath the Gluteus medius on the lateral surface of the hip. Like the Gluteus medius, it is responsible for abducting and medially rotating the thigh.

The **Quadriceps femoris group** (quads) composes the front part of the upper leg and is made up of four muscles (shown below). They are responsible for knee extension.

Rectus femoris

Vastus intermedius

Vastus lateralis

Vastus medialis

The **Hamstring group** composes the back part of the upper leg and is made up of three muscles (shown below). These are all responsible for extending the thigh, rotating the leg, and knee flexion.

Biceps femoris

Semimembranosus

Semitendinosus

The **Calf** is located on the back side of the lower leg and is made up of two muscles (shown below). These muscles are responsible for plantar flexion and propelling the body forward for walking, running, etc. Additionally, the gastrocnemius is responsible for flexing the knee.

Gastrocnemius

Soleus

Skeletal muscles move by contracting when stimulated by motor neurons. There are two types of skeletal muscle contraction: isotonic and isometric. Contractions are considered isotonic, or dynamic, when the length of a muscle changes as force is exerted. If the muscle shortens during contraction, it is call concentric. If the muscle lengthens during contraction, it is called eccentric. An isometric, or static, contraction occurs when muscle tension increases but the length stays the same.

Proper form and body alignment during exercise is important to reduce your risk of injury, but it is also important to make sure that you are working the muscle you intended to target instead of a neighboring muscle or muscle group. For every movement and exercise, muscles can play one of three roles: agonist, antagonist, or synergist. Agonist muscles are the primary muscles involved in a movement. Antagonist muscles are usually located on the opposite side of the agonist (primary) muscle, and they help to control a movement. Synergist, or guiding, muscles are muscles that move alongside the agonist (primary) muscle to assist a movement. If you do an exercise incorrectly, you may work a synergist, or guiding, muscle rather than the agonist, or primary, muscle.

SECTION 7: Principles of Exercise

Basic Terms

Warm-Up and Cool-Down

The first thing that should be done before beginning a workout is a warm-up. A warm-up allows your body time to adjust from a resting state to exercise. Because a warm-up can improve the elasticity of your muscles, it can decrease your risk of injury. A warm-up should gradually increase the temperature of your body, heart rate and blood flow, and breathing. It should be intense enough to raise your heart rate, but it should not be so intense that it causes fatigue. A cool-down after a workout allows your body time to adjust from exercise back down to a resting state. It is designed to facilitate muscle relaxation, reduce muscle soreness, and lower heart rate.

Repetitions and Sets

Repetitions (reps) are the number of times an exercise is performed. A set is the number of times each group of reps is performed. For example, when doing a squat, squatting down and then standing back up one time is one rep. Doing 10 squats is one set. When doing exercises that only work one side of the body at a time (e.g. lunges), one rep is completed when the exercise is done on both sides one time, and one set is completed when the exercise is done an equal number of times on both sides. For example, 10 lunges on the right side and 10 lunges on the left side equals 10 total reps and one set. The number of reps and sets you perform will vary depending on the exercise, overall fitness level, and overall fitness goals (strength vs. endurance).

Principle of Progressive Overload

For fitness to improve, muscles must be challenged to work harder than normal. This is known as the progressive overload principle. This principle refers to improving fitness by challenging the body to work at a level it is not accustomed to. This can be achieved by increasing the amount of weight lifted for an exercise, increasing the number of sessions per week, adding exercises, reps, or sets to your current routine, and/or resting less time between sets.
How can you know if you're using the right amount of weight? If you cannot do at least eight reps with proper form with a given weight, then the weight is too heavy, and you need to use lighter weights. If you can easily do 12 or more reps with a given weight, then the weight is too light, and you need to use heavier weights. Each exercise should be assessed individually because they work different muscles. Reassess every two weeks.

How Does Exercise Improve Physical Fitness?

As a whole, exercise is designed to improve specific components of physical fitness. Physical fitness has four major areas: muscular fitness, cardiovascular or aerobic endurance, flexibility, and body composition[6].

1. Muscular Fitness

   Muscular strength is the ability of muscle to exert force, and is essential for everyday activities. These include, but are not limited to, moves that require upper-body strength such as lifting and carrying objects like groceries, and moves that require lower-body strength like walking up stairs or getting up out of a chair. Muscular strength is improved through strength training exercises such as the biceps curl and squats. To increase strength, do fewer reps, more sets, and lift heavier weights:

   Example: Exercises with Weights

   - If you are currently doing two sets of 10 reps with three-pound weights, try switching to four sets of six to eight reps (resting 30 seconds to one minute between sets) with as much weight as you can safely lift.

   Example: Body Weight Exercises (push-ups, crunches, squats, etc.)

   - If you are currently doing two sets of 10 reps, switch to doing four sets of six to eight reps (resting 30 seconds to one minute between sets).

   Muscular endurance is how long a muscle can exert force over a period of time. In daily activities, this is how long you can walk or run before the muscles in your legs get tired or rake leaves before the muscles in your arms get tired. During exercise, this is how many repetitions you can do before your muscles become too tired to perform the exercise correctly. To increase endurance, do more reps, fewer sets, and lift lighter weights:

   Example: Exercises with Weights

   - If you are currently doing two sets of 10 reps with three-pound weights, try switching to one set and do as many reps as you can (maintaining proper form is important) with the three-pound weight before the muscle(s) fatigues. Keep a slow, steady pace for all reps.

   Example: Body Weight Exercises (push-ups, crunches, squats, etc.)

   - Do as many as you can, maintaining proper form, before the muscle(s) fatigues. Keep a slow, steady pace for all reps.

2. Cardiovascular or Aerobic Endurance
   Cardiovascular or aerobic endurance is the ability of your heart, blood vessels, and lungs to deliver oxygen and nutrients to your muscles so that energy can be produced and your muscles can perform an exercise or a movement. This is important for activities such as walking, running, swimming, and bike riding.

3. Flexibility
   Flexibility is your body's ability to move joints through a range of motion (ROM). A certain level of flexibility is needed to:
   - prevent injuries
   - maintain good posture
   - allow for movements of daily activities such as bending and reaching

4. Body Composition
   Body composition refers to how your body is made up in terms of body fat and lean body mass. Lean body mass includes vital parts of your body such as your muscles, bones, organs, skin, etc. Lean body mass can decrease with age, through inactivity, and as a result of disease. Body fat has two categories:
   - *Essential fat* is the fat necessary for life maintenance. For men, essential fat is 2-5%. For women, essential fat is 10-13%. A woman's essential fat is higher because women have reproductive functions, such as childbearing, requiring extra fat storage. This extra essential fat is located in the breasts and pelvic area.
   - *Storage fat* is the percentage of fat your body has over essential. This is the fat that leads to a person being overweight or obese and is a risk factor for many preventable diseases such as hypertension, type 2 diabetes, and heart disease.

Using the FITT Principle to Improve Physical Fitness

The American College of Sports Medicine (ACSM) recommends using the FITT Principle to safely apply the principle of progressive overload. FITT stands for frequency, intensity, time, and type.

Frequency

Frequency refers to how often a person exercises. After any type of exercise the body goes through a repair and rebuilding process. Exercise often enough to stress the body so it will adapt to your exercise regimen. Also, be sure to allow time for muscle repair between sessions.

Intensity

Intensity refers to how hard a person exercises or the level of effort exerted. When talking about exercise intensity, the terms “moderate” and “vigorous” are often used. When performing at a moderate intensity, you are working hard enough to raise your heart rate and break a sweat. You should still be able to talk with someone, but not sing the words to your favorite song. With vigorous-intensity exercise, you are breathing hard and fast, and your heart rate is elevated. When working at this level, you will not be able to say more than a few words without pausing for a breath.

Examples of Moderate- and Vigorous-Intensity Exercises	
Moderate-Intensity	Vigorous-Intensity
• Walking fast • Water aerobics • Riding a bike on level ground or with few hills • Playing doubles tennis • Pushing a lawn mower	• Jogging or running • Swimming laps • Riding a bike fast or on hills • Playing singles tennis • Playing basketball

Measuring Intensity for Aerobic Activity

Heart rate monitoring is the primary way to measure intensity during aerobic activity. Before starting to exercise, determine your target heart rate (THR). First, figure your maximum heart rate (MHR) by subtracting your age from 220. For beginners, the THR is 50-70 percent of your MHR. For more advanced exercisers, the THR is 70-85 percent of MHR. For example, the MHR for a 40-year-old person is 180. Beginners would exercise at a THR of 90 – 126 beats per minute (bpm). Beats per minute is the number of times the heart beats in one minute. Advanced exercisers would exercise at a THR of 126bpm – 153bpm.

Another way to measure intensity is by using the Borg Rating of Perceived Exertion Scale (RPE). The intensity levels range from 6 to 20 and roughly correlate to heart rate when multiplied by 10.

RPE	Exertion	RPE	Exertion
6	No exertion at all	14	
7	Extremely light	15	Hard (heavy)
8		16	
9	Very light	17	Very Hard
10		18	
11	Light	19	Extremely hard
12		20	Maximal exertion
13	Somewhat hard		

While exercising, rate your perception of your total feelings of exertion, combining all sensations and feelings of physical stress, then choose the number on the RPE that best describes your level of exertion.

Measuring Intensity for Muscle-Strengthening Activity

Intensity during muscle-strengthening activity has three parts:

1. the amount of weight lifted
2. the number of repetitions performed
3. the length of time it takes to complete one set of exercises

To increase your intensity, change only one of the three components at a time.

Time

Time is the how long you exercise. The type of exercise performed determines the length of the exercise session. To improve health, exercise should be at least 10 minutes in duration.

Type

Type is the specific kind of exercise performed. There are four types of exercise: cardiovascular/aerobic endurance, strength training, stretching, and balance. While there is some of overlap with the benefits of the different types of exercise, it is important to perform each type of exercise because of their more specific benefits.

1. *Aerobic activity* increases your breathing and heart rate. Examples of aerobic activity include walking, jogging, swimming, and riding a bike. Benefits of aerobic activity include:
    - lower risk of cardiovascular disease including lower rates of heart disease and stroke, lower blood pressure, and improved blood lipid profiles
    - help to manage or prevent diabetes
    - weight management
    - improved stamina for daily activities
    - decreased anxiety and depression

2. *Muscle-strengthening activity* targets specific muscle groups to increase muscular strength and endurance. Muscle-strengthening activity includes the biceps curl, squat, and overhead press. Other benefits of muscle-strengthening activity include:
    - increased bone density
    - reduced risk for chronic diseases such as diabetes, heart disease, osteoporosis, and arthritis
    - improved sleep
    - reduced depression and improved sense of well-being
    - weight management

3. *Flexibility activity* is a form of exercise in which a specific skeletal muscle or muscle group is deliberately elongated to its fullest length. Benefits of flexibility activity includes:
    - improved muscle elasticity and flexibility
    - increased range of motion
    - improved circulation
    - reduced risk of injury (when performed any time after a sufficient warm-up)
    - reduced stress
    - reduced muscle soreness

4. *Balance* is a state of bodily equilibrium. Whether or not you have good balance depends on your ability to maintain or regain your body's stability. Some balance exercises build up the strength in your leg muscles, while others focus on stability. Benefits of balance activity includes:
    - improved stability
    - fall prevention
    - improved ability to perform everyday activities such as walking and bending over to tie shoelaces

Not everyone progresses at the same rate. Use the FITT principle chart to help determine an exercise routine that is suitable for you and your needs.

FITT Principle Chart (part 1)				
Fitness and/or health benefit	**Variables**			
	F **Frequency**	**I** **Intensity**	**T** **Time**	**T** **Type**
Cardiovascular endurance	5 or more days a week for moderate; 3 days a week for vigorous	Moderate to vigorous intensity (60% – 85% of MHR)	30 – 60 minutes of moderate intensity; 20 – 60 minutes of vigorous intensity	Continuous motion of a large muscle group – such as running, biking, swimming
Muscular strength	Alternate days 2-3 times a week	High resistance (close to maximum capability)	2 to 4 sets of 8 to 12 repetitions	Free weights Stretch tubes Body weight Weight machines

FITT Principle Chart (part 2)				
Fitness and/or health benefit	**Variables**			
	F **Frequency**	**I** **Intensity**	**T** **Time**	**T** **Type**
Muscular endurance	Alternate days 2- 3 times a week	Low to moderate resistance	2 to 4 sets of 15 to 20 repetitions	Free weights Stretch tubes Body weight Weight machines
Flexibility	Daily (minimum of 2-3 days a week)	Slow and controlled movements	Hold poses for 10 to 30 seconds	Static (no movement)
Activities of daily living	Daily	Low to moderate intensity	30 to 60 minutes	Gardening Walking Housework

Muscle Soreness

To build strength when you exercise, you must work hard enough to break the muscle down so it can repair itself and adapt. This often causes soreness, especially when you do something your body is not used to.

Acute Muscle Soreness:

Acute muscle soreness is the soreness felt during or immediately following exercise. Your body is constantly burning energy by breaking down glucose, but it also produces some by-products. Generally, you don't feel sore from normal day to day activities because your body can use or dispose of the by-products before they build up. When you exercise, you produce these by-products at a rate too fast for your body to deal with. That build up can cause muscle soreness during your work out.

Edema, or swelling, occurs during exercise because of the shift of fluid from the blood to the muscle tissues when the muscles fibers (muscle cells) begin to break down. This swelling can also cause acute muscle soreness.

Delayed-Onset Muscle Soreness (DOMS):

Delayed-Onset Muscle Soreness (DOMS) is soreness felt a day or two after exercise. Causes are not fully understood, but DOMS is thought to be caused by the damage done to the muscle when exercising or an immune system response to inflammation.

DOMS is your body's way to force you to take time to recover. It inhibits your ability to perform at your best, and it almost completely halts glycogen re-synthesis (which is where our energy comes from) so muscle tissue can be repaired. This soreness should only last a day or two. Muscle soreness is not a bad thing; in fact, it is an easy way to tell you are making progress. If you never feel sore then you are not breaking the muscle down enough to experience any significant strength gain. Do not let the fear of soreness keep you from working out.

Recovery

Recovery is an important part of the strength training process of strength training. If you have a really good workout one day and are sore the next day, it is ok to take the day off to recover or do a lighter workout (like going for a walk). The muscles need time to repair themselves in order for strength to increase. But when the soreness goes away, get right back into your regular routine. If you don't, you will lose the progress you have made. Muscle atrophy (loss of muscle tissue) can begin to happen in as little as 72 hours.

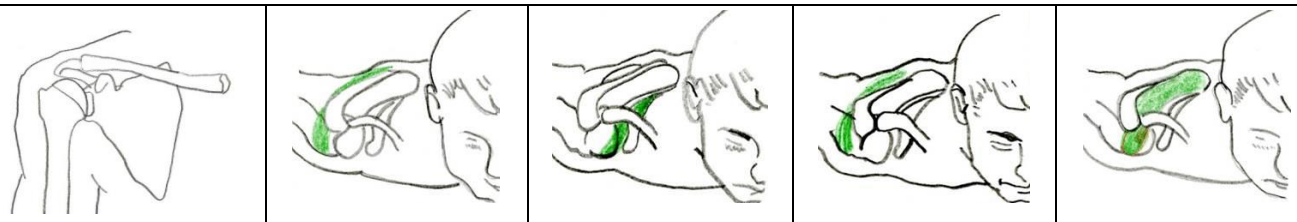
Exercise Safety: Injury Prevention and Joint Protection

Joints

Joints can become sore or injured when they endure undue stress. Proper form or technique during exercise can help to reduce this risk. Two joints that can be prone to injury because of incorrect form or technique are the shoulder joint and the knee joint.

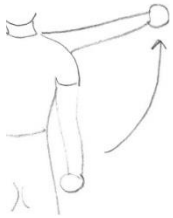
Shoulder Joint: The shoulder joint is the most mobile joint in the human body and is comprised of four muscles called the rotator cuff (see Figure 1). Injury to the shoulder joint can occur when the arms are raised higher than shoulder height while bearing excessive weight. This may cause the muscles to become pinched or trapped leading to compression, inflammation, and possible damage.

Figure 1: Shoulder Joint and Rotator Cuff Muscles



Shoulder Joint	**Infraspinatus**	**Subscapularis**	**Teres minor**	**Supraspinatus**

The front and side raise use the shoulder joint. Both exercises are often performed incorrectly. Take care to lift the arms no higher than shoulder level to avoid the pinching or trapping of the rotator cuff muscles. See Figure 2 for correct form.

Figure 2: Correct Form for Front and Side Raise		
		
Correct Front Raise	**Correct Side Raise**	**<u>Incorrect</u> Side Raise**

Knee Joint: The knee joint is composed of several muscles (see Figure 3) and can carry a tremendous amount of stress, especially when performing the squat or the lunge exercise. However, these exercises are two of the most effective lower body exercises. The squat mimics the movement of sitting down and getting up out of a chair, and the lunge helps to improve balance and stability. Both exercises incorporate many muscle groups in the lower body including the hips, thighs, buttocks, and calves. Proper form during the squat and lunge means the knee is lined up over the ankle. This helps to keep the bulk of body weight distributed through the heels. When form is incorrect and the knees are pushed forward toward toes, body weight is placed in the front part of the knees.

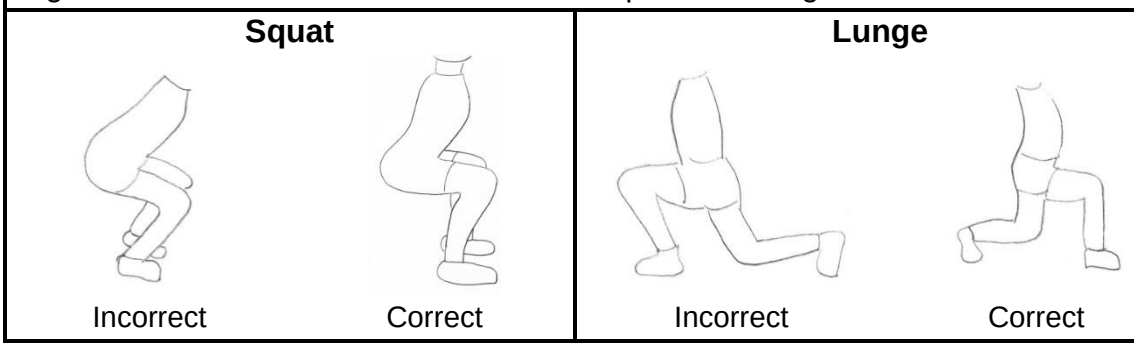
Figure 3: Knee Joint and Muscles of the Knee Joint				
				
Knee Joint	**Popliteus**	**Vastus intermedius**	**Vastus lateralis**	**Vastus medialis**

To prevent excessive stress on the knee joint when doing the squat or lunge, make sure you:

- Avoid leaning forward; keep torso erect.
- Avoid pushing your knees forward. Keep knees aligned over ankles – not toes.
- Avoid locking knees when standing.
- Keep your knees pointed in the same direction as your foot.

For the squat exercise, shift your hips backward as though you are going to sit in a chair. This will help keep your weight distributed through your heels and prevent forward movement of the knee. For the lunge, take a large step forward and lower your torso straight down toward the floor until your knee is at a 90° angle. Push back through the heel of your front foot to return to standing (see Figure 4).

Figure 4: Correct and Incorrect Form for Squat and Lunge



Muscles

Proper form and technique are also important when doing stretching, or flexibility, exercises. Stretching exercises can help to keep your body flexible by enabling more freedom of movement for regular physical activity and activities of daily living such as getting dressed, tying your shoes, and reaching for objects overhead. They can also help to prevent injuries, reduce muscle tightness and tension, promote relaxation, and help with coordination. Stretching can be done as a stand-alone workout or after other types of exercise, such as endurance and strength training, to help prevent muscle soreness and stiffness.

Be sure to practice proper stretching technique. When performed incorrectly, stretching exercises can result in injury to the muscle, joint, and/or ligaments. Below are some guidelines for stretching safely.

- Always warm up before stretching. A warm up should increase blood flow through muscle tissue and increase overall body temperature.
- Slowly stretch into a position as far as possible without pain. Relax, breathe, and hold the stretch for 10 to 30 seconds. Repeat the stretch a second time. The first stretch “wakes up” the targeted area. The second time you should be able to reach into the stretch a little farther.
- Do not bounce or jerk into a stretch.
- Do not lock your joints. Always keep a slight bend in your elbows and knees while stretching.
- Remember to breathe normally.

When performed correctly, stretching exercises can help to:

- ease tension, stiffness, and pain
- improve range of motion
- improve posture
- reduce low back pain

Exercise Safety Pointers

Here are a few additional exercise pointers to help reduce your risk of injury:

- Refrain from excessive joint flexion (narrowing the angle of a joint), extension (widening the angle of a joint), or locking a joint. This can cause ligament and cartilage damage.
- Never exceed your comfortable range of motion.
- Do not excessively flex or extend the back. Maintain the natural curvature of your spine. This can be accomplished by tightening the core muscles.
- Breathe. Failing to breathe increases blood pressure, strains on the heart and arteries, and can cause dizziness, headaches, and even blackouts.
- Keep a steady pace. Performing at the right pace reduces your risk of injury by helping to ensure proper form and range of motion.

<u>Caution</u>

Any exercise movement that is selected for an exercise program should have a health benefit, i.e. improve flexibility, strength, endurance, and/or balance. However, not all exercises are appropriate for everyone, and some health concerns can increase risk for injury. Such exercises are considered to be “contraindicated.” Contraindicated means an exercise movement is not recommended because it could be dangerous. Always check with your health care provider to make sure the exercise movements are appropriate, especially if you have any of the following health concerns:

- Cancer
- Diabetes
- Heart disease
- High blood pressure
- Hip replacement
- Knee pain/Replacement
- Low back pain/Sciatica
- Neck pain
- Pregnancy
- Shoulder pain

SECTION 8: Teaching Techniques

Effective Cueing and Learning Styles

Cueing is anything an exercise instructor uses to lead a class. Cueing may be visual, verbal, or kinesthetic, which corresponds to the three learning styles.

1. *Visual***:** Visual learners learn best when they can see what is being taught. To visually cue an exercise class, demonstrate the exercise movement.
2. *Verbal***:** Verbal learners learn best when they can hear what is being taught. To verbally cue an exercise class, speak the instructions on how to perform an exercise movement.
3. *Kinesthetic***:** Kinesthetic learners learn best when they can do or feel what is being taught. Kinesthetic cues should tell a participant which muscles are being worked and how they should feel.

The best instructors use all three methods when leading a class. Most people have a dominant learning style, but everyone uses all three styles in some way. The learning styles are explained in more detail below.

<u>Visual Learning</u>

Visual learners need to see the exercise cues. Good visual cues are also beneficial for those who are hearing impaired or who speak a different primary language. Visual cues need to be logical and clearly visible to participants. Here are a few pointers for effective visual cueing:

- Point to the primary muscle you are working. For example, when telling participants they are going to do the biceps curl, point to the biceps.
- Point in the direction you want participants to move. For example, if you are going to step to the left, stretch your arm out to the left.
- Hold up fingers to show how many repetitions are left. For example, if you say “four more”, hold up four fingers.
- If a joint could be at risk for injury, point to the joint and demonstrate the correct and incorrect form. For example, when demonstrating the lunge exercise, hold the pose with the knee at a 90° angle and run your hand from the thigh, to the knee, and down the calf. Then, lower to where the knee is less than a 90° angle.

<u>Verbal Learning</u>

Verbal learners need to hear instructions and sound-specific cues. Many times, participants will wait until all instructions have been verbalized before they will begin the movement. Good verbal cues are also beneficial for those who are visually impaired. Verbal cues should be specific, positive, transitional, and goal or process oriented. Here are a few pointers for effective verbal cueing:

- Avoid cues that are non-specific. For example, instead of saying, “Go this way,” say, “Go to the right;” or instead of saying, “We are going to work this muscle,” say, “We are going to work the triceps.”
- Avoid negative language by omitting the word “don’t.” For example, instead of saying, “Don’t let your knees go past your toes” when performing the squat exercise, say, “Keep your weight in your heels and your knees lined up over your ankles.” Instead of saying, “Don’t forget to breathe,” say, “Remember to breathe.”
- Count down, rather than up, so participants can predict when a change is coming or when an exercise move will be over.
- Make sure to speak loud and clear enough for everyone to hear.
- Give cues before an exercise move rather than after the move has started.

Kinesthetic Learning

Kinesthetic learners need to feel and do the exercise cues. Many times, participants will wait to see what everyone else is doing before they begin. Kinesthetic learners also like equipment because it gives them something to touch. Here are a few pointers for effective kinesthetic cueing:

- Have a participant perform an exercise move with both correct form and incorrect form. This will allow the participant the feel the difference between the two positions.
- Tell participants which muscle should feel the exercise. For example, when performing the overhead press say, “You should feel this exercise in your shoulders.”
- Tell participants how muscles should feel. For example, when performing the overhead press say, “If you feel discomfort in your lower back, slightly bend your knees to properly align your hips.”
- Typically, kinesthetic learners do not mind being touched, but if you notice a participant performing an exercise move incorrectly, ask permission to move them into the correct form before touching them.

Types of Effective Cues

In addition to combining the three learning styles, cueing should follow the acronym STEMS. STEMS stands for *safety, timing, education, motivation*, and *structure*.

Safety

Safety cueing helps to ensure proper alignment, breathing, and use of equipment. Alignment cues should include exercise form and body posture both before and during an exercise movement. Breathing cues should indicate when to inhale and exhale and also how to breathe.

Timing

Time cueing is for rhythm, tempo, and counting. Many timing cues are numerical. This tells participants how many repetitions or sets they will be doing or how many are left.

Education
Education cueing gives general instruction such as relevance, function and progression. Educational cues are good for informing participants about the muscle groups they are working during each exercise or for letting participants know when they need to progress to a heavier weight.

Motivation
Motivation cueing is used to encourage participants. Tell participants they are doing a good job, that you are glad to see them, and/or that you recognize progress they have made.

Structure
Structure cueing directs movement and describes type of equipment being used. Instruct participants to do something specific by using the room or the participant's body as reference points. For example, say things like, "Place your hand weights completely under your chair," "Raise your arms until they are parallel to the floor," or "Take three steps toward the window with the blue curtain."

Over time, most leaders develop their own teaching style. Keep in mind that no teaching style is perfect, and there is always room for improvement. Be flexible enough to adapt to your participants' needs, and be aware of participant feedback. Feedback is not always verbal so look for non-verbal communication such as facial expressions. Also, don't feel like you have to speak for the entire class time. Quiet time allows participants time to focus on themselves, their performance, and how their muscles and joints feel.

Providing Positive Feedback

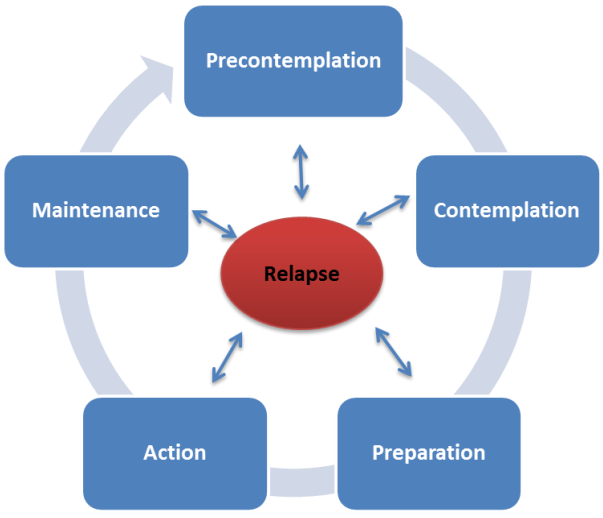
One of the most important roles of Extension Get Fit leaders is helping participants feel successful in the group exercise setting. Increased confidence (or self-efficacy) makes participants more likely to continue strength training. Feedback and encouragement foster a positive, supportive environment and help to develop cohesion among group members. The following are guidelines to ensure the feedback you provide is effective and positive.

- Ask for permission before touching a participant to correct form. Ask, "May I touch you?"
- Provide plenty of positive reassurance and eye contact.
- Focus on positive behaviors, not negative. To do this, use positive language. Instead of saying, "Don't point the toe toward the ceiling," instruct participants to "Keep the toe pointed forward." Tell participants to remember to breathe instead of saying, "Don't hold your breath."
- Do not expect perfection from participants. Verbal cuing can be used to provide group instructions to help participants avoid injury. If you observe behaviors that increase injury risk, address the participant individually.
- Provide encouragement, not criticism.

Exercise Leader Behaviors[1]	
Behaviors to Adopt	**Behaviors to Avoid**
Address participants by name	Not addressing participants by name
Engage in general conversation with the participants before, during, and after class	Avoiding conversation unrelated to the exercise class
Provide specific reinforcement for positive behaviors to each participant at some point during the exercise session (e.g., "Good form, Mary. You're getting the hang of it.")	Not directing individualized praise or attention: directing comments to the group in general
Give encouragement before and after a skill and after mistakes	Failing to follow-up with praise or comment after a skill
Focus on positive comments during instruction	Focusing on negative comments during instruction
Give specific instructions	Giving vague instructions (e.g., "Okay, now follow what I do next.")
Ignore mistakes (i.e. no verbal punishment of mistakes)	Not giving encouragement and not reinforcing positive behaviors
Verbally reward effort and ability immediately after the exercise	Verbally noting mistakes; not rewarding effort and ability immediately after the exercise

Change is Hard: Using health behavior theory to help participants

People attend exercise classes for various reasons. When people decide to start exercising, or to begin participating in an Extension Get Fit class, they have gone through several stages in the decision-making process. As the program leader, you can learn to recognize these stages and use them to help people continue their exercise habits.



Stages of Change Model

Stages of Change

The Stages of Change Model describes the process of change in five stages: Pre-contemplation, Contemplation, Preparation, Action, and Maintenance. Relapse is also part of the model; preventing relapse to maintain changes is important to success.

This model can be helpful when trying to change your own behavior. It can also help to guide efforts to help others adopt healthy behaviors or quit unhealthy ones.

The Stages of Change Model evolved from work with smoking cessation and the treatment of drug and alcohol addiction. It has been applied to a variety of other health behaviors. The basic premise is that behavior change is a process and not an event, and that individuals are at varying levels of motivation, or readiness, to change. People at different points in the process of change respond best to efforts tailored to their particular stage.

Stage 1: Pre-contemplation

In the pre-contemplation stage, people are not thinking seriously about changing. People in this stage may defend their current bad habit(s) or lack of good habit(s) when other people pressure them to change. They do not see their behavior as a problem, and may be unaware that a problem exists.

Example: Ginger has no desire, thought, or intention of starting an exercise program.

In pre-contemplation, the person:

- Does not see behavior as a problem.
- Is not interested in discussing behavior with others that do see the behavior as a problem.
- Has no intention of changing behavior.
- Is unaware of the risks or easily rationalizes them.
- May have made previous attempts to change and feels hopeless about change.

To help those in the pre-contemplation stage, leave the door open for communication. To help people in the pre-contemplation stage move to contemplation, try to ask questions, listen, and provide unbiased information. They may also benefit from awareness activities to acknowledge a need for behavior change.

Those in the pre-contemplation stage may seem:

- naïve
- Impatient
- closed minded

Stage 2: Contemplation

In the contemplation stage, people are more aware of the personal consequences of their habits. They may spend time thinking about the problem, such as needing to exercise, but have not made a commitment to take action. Although they are able to consider the possibility of changing, they tend to be hesitant about it and may weigh the pros and cons of changing their behavior. They may be unsure if the long-term benefits outweigh the short-term costs. People in the contemplation stage may be more open to receiving information about behavior change than before. They are more likely to take advantage of educational opportunities. This stage may last a few weeks or forever. Some people spend a lifetime thinking about a change but never take action.

Example: Ginger is considering starting an exercise program but is not ready to begin yet.

In contemplation, the person:

- Has some awareness of the need to change behavior.
- Begins to realize the risks of the behavior.
- Is actively weighing the pros and cons of the behavior.
- Expresses awareness of need for change but may waver in willingness to change.

To help those in the contemplation stage, provide information to assist in decision-making. Discuss the benefits and drawbacks of behavior change, with an emphasis on positive aspects. Give them information to take home.
Those in the contemplation stage may seem:

- unsure or go back and forth between a decision to change
- willing to listen but describe barriers or reasons why change is not possible

Stage 3: Preparation

In the preparation stage, a commitment to change has been made with change intended within the next month. Research on making the change, such as gathering information, developing strategies, and identifying resources is typical. Preparation is an important stage to make action more successful. Skipping from the contemplation stage to action without the necessary preparation will make maintaining the change less likely.

Example: Ginger wants to start exercising. She buys a new pair of tennis shoes and workout clothes. She also researches several nearby gyms and Extension Get Fit classes to find out their cost and benefits.

In preparation, the person:

- Believes that the behavior can be changed, and she/he can manage the change.
- Has made some successful attempts to change in the past.
- Expresses intent to change.
- Clearly sees the benefits of changing the behavior.

Those in the preparation stage may need help in implementing a plan to change behavior. Support them by discussing barriers, providing referrals to others who can help, and helping them form strategies to overcome obstacles.
Those in the preparation stage may:

- start planning
- set dates
- look for support

Stage 4: Action

This stage involves the most time and energy. Relapse risk is greatest in the action stage. To be successful in this stage, which can last from three to six months, one must think about barriers they might encounter and strategies to overcome them. Setting short-term goals can be helpful. Motivation can be sustained by rewarding success and asking family and friends to help with accountability. People in this stage are likely to seek support from others. An environment supportive of the new behavior is essential.

Example: Ginger makes it her goal to exercise 3-5 days/week for 20-60 minutes/day.

In action, a person:

- Has begun to make the behavior change (1st day to 6 months).
- Is emotionally, intellectually, and behaviorally prepared to make the change consistently.
- Has expressed commitment to change.
- Has developed plans to maintain change.

To help those in the action stage, provide encouragement, congratulate success, and offer reminders of the end goal. People in the action stage can also be supported through assistance with handling tempting situations and coping skills.
Those in the action stage may:

- struggle with habits and the change process
- complete goals but may need help mastering them

Stage 5: Maintenance

In the maintenance stage, the focus is on maintaining the new behavior and resisting temptation to return to old habits. During this stage, it is important to anticipate situations and barriers that could lead to relapse. Coping strategies should be planned in advance to avoid relapse when barriers are present.

Example: Exercise is now a habit for Ginger and will continue to be included in her schedule for the long-term.

In maintenance, the:

- New behavior is practiced consistently for over six months.
- New behavior is becoming habitual.
- Person expresses confidence in ability to continue change.

In the maintenance stage, people may need reminders of support systems in place. They may also need encouragement to stick with their plan. Allow them to discuss their successes and

challenges. Listen and provide support, and address possible relapse and how to avoid relapse.
Those in the maintenance stage may:

- feel like they have everything under control
- have an improved quality of life

Relapse

Relapse is common when trying to change behavior. When a person relapses, they fall out of their new habits and return to old, unhealthy behaviors. While relapse can be discouraging, it is important to consider what triggered a relapse and to restart the process again at the preparation, action or maintenance stage.

Example: Ginger went on vacation for a week and had difficulty getting back into an exercise routine. Rather than count this as a failure and giving up, she reviewed her goals and determined how she could start exercising again.

Relapse is a part of behavior change and does not mean that you or the individual have done anything "wrong." Relapse can happen in any of the stages. It is natural to feel disappointed when relapse occurs. Sometimes people experience low self-esteem and need reinforcement and support. Some people may need to discuss what has happened to figure out what triggered a relapse and how to overcome relapse and get back on track. People who have relapsed may need help in progressing from their current stage.

Identifying a Slip

Slips do not necessarily indicate a relapse. Nearly everyone has an occasional slip from time to time. It is important to identify slips when they occur and to resume new, healthy habits as soon as possible.
Slip Examples:

- I missed a dose of my medication.
- I puffed a cigar at the wedding.
- I ate an extra slice of cheese cake.
- I did not complete my exercise routine this week.

Health Belief Model

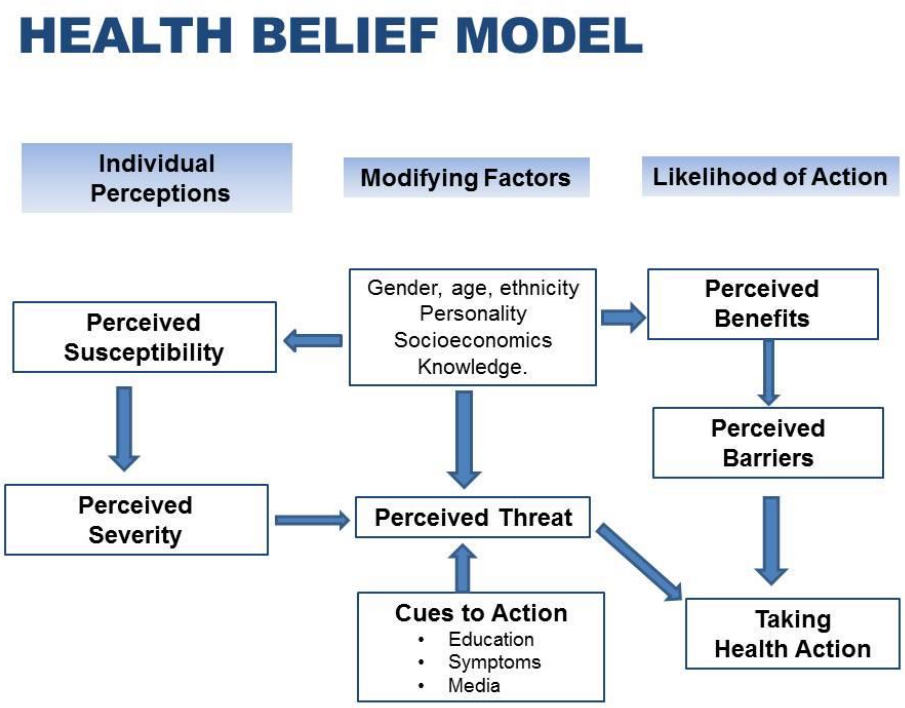
The health belief model states that people's beliefs influence their health-related actions or behaviors.

The health belief model proposes that readiness to take action is based on the following beliefs or conditions:

- I am susceptible to this health risk or problem.
- The threat to my health is serious.
- I perceive that the benefits of the recommended action outweigh the barriers or costs.
- I am confident that I can carry out the action successfully.
- Cues to action are present to remind me to take action.

When people experience a personal threat about a health condition, they will likely take action, but only if the benefits of taking action outweigh the barriers, actual and psychological. Having the ability to take action is also crucial.

Six Health Belief Model Concepts



1. Perceived Susceptibility
   Perceived susceptibility refers to a person's belief about their chances of getting a given condition. For a person to take action, they must believe they are at risk. When people believe that they are at risk for a disease, they will be more likely to do something to prevent it from happening. The opposite is also true: when people believe they are not at risk or are at low risk, they tend to have less healthy behaviors. Perceived susceptibility alone is often not enough to cause behavior change. For example, older adults are among those most at risk for food-borne illness, often with serious ill health effects. Older adults may know they are at risk for food borne illness, but still not use safe food handling practices.

2. Perceived Severity
   Perceived severity refers to a person's belief about the seriousness or severity of a disease. Severity can be based on medical consequences (like death or disability) or personal beliefs about how the condition or disease would affect their life. For example, some people do not get the flu vaccine for various reasons. They likely know they can get the flu, but perhaps believe that getting the flu will not be serious. However, getting the flu can be very serious for some groups, like older adults and people with asthma. Perceived severity might also be heightened among those self-employed because missing a week of work means reduced income. When perceived susceptibility and severity are heightened, people are more likely to take action.

3. Perceived Benefits
   Perceived benefits refers to a person's opinion of the value or usefulness of a new behavior in lowering the risk of disease. To make a change, people must believe that the change will have a positive result. For example, people take medication for diabetes believing that it will work to control blood sugar. People quit smoking because they believe it will improve their health. When people get a colonoscopy, they do so believing it will effectively screen for colon cancer. A belief that action will lead to beneficial results makes a person more likely to take action. Sometimes the benefits of changing behavior are not strong enough to cause a change, even when a person believes they are susceptible. The perceived benefits may be outweighed by perceived barriers.

4. Perceived Barriers
   Perceived barriers are the most significant factor in determining behavior change. Perceived barriers are a person's view of the obstacles that stand in the way of behavior change. Barriers can be tangible or intangible. Tangible barriers can be a lack of financial resources, lack of transportation, childcare needs, etc. Intangible barriers may be psychological, like fear of pain, embarrassment, or inconvenience. For a new behavior to be adopted, a person needs to believe the benefits of the new behavior outweigh the

consequences of continuing the old behavior. If barriers are stronger than benefits, change will not occur. Sometimes people need help to find ways to overcome barriers.

5. Cues to Action
   Cues to action are events, people, or things that trigger people to change behavior. Advice from others, the illness of a family member, or a newspaper article can serve as a cue. Fast food restaurants that post menu items with calories offer a cue to consider calorie content in food choices. Posters in public restrooms offer hand washing cues. Highway signs to "buckle up" provide cues to action. Calendar reminders and cell phone alarms can also trigger action. Cues can also be internal, such as chest pain, discomfort, or fatigue.

6. Self-efficacy
   Self-efficacy is a person's confidence and belief in their ability to take action or perform a given behavior. Generally, people do not try to adopt new behaviors unless they believe they can do them. If someone thinks altering their behavior is worthwhile (perceived benefit) but is unsure of their ability to make changes, they are unlikely to attempt lifestyle changes. Said another way, a person may believe that living a healthier lifestyle has significant benefits. However, if a person believes they will be unable to address barriers to making changes, they most likely will not alter their current behaviors. Self-efficacy can be increased with encouragement, training, and other support.

Health Belief Model Chart	
Perceived susceptibility	An individual's assessment of his or her chances of getting a disease or condition
Perceived severity	An individual's judgment as to the severity of the disease
Perceived benefits	An individual's conclusion as to whether the new behavior is better than what he or she is already doing
Perceived barriers	An individual's opinion as to what will stop him or her from adopting the new behavior
Cues to action	Factors that trigger behavior change
Self-efficacy	Personal belief in ability to do something

SECTION 9: Supporting Documents

Participant Information Sheet

Name: _____

Street Address: _____

City, State, Zip: _____

Phone Number: _____

Email Address: _____

Date of Birth: _____ Age: _____

Program Site: _____

Start Date: _____ End Date (leave blank): _____

In case of emergency, please call:

Name: _____

Relationship: _____

Phone Number: _____

INFORMED CONSENT, RELEASE AND WAIVER AGREEMENT FOR PARTICIPANTS IN THE UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE COOPERATIVE EXTENSION SERVICE EXERCISE PROGRAMS

Extension Get Fit is an umbrella term for all of the University of Arkansas Cooperative Extension Service's exercise programs. These may include, but are not limited to, Walk Across Arkansas, Fit in 10, Yoga for Kids, and Wellness Ambassador Program. The Cooperative Extension Service is committed to conducting its programs and activities in a safe manner and holds the safety of participants in high regard. However, participants in these programs must recognize there is an inherent risk when choosing to participate in any physical activity program. This form is to make you aware of those risks and to ask that you assume certain responsibilities for your decisions and actions.

Risks

The reaction of the body to certain physical activities, including these programs, cannot be predicted. There exists the risk of certain biological changes occurring during or following your participation in the cardiovascular, strength training, balance, and/or flexibility exercises. These changes may include, but are not limited to: abnormal blood pressure; fainting; disorder of the heartbeat; and in rare instances, heart attack or death. Thus, it is advisable for you to consult with a physician before participating in this program.

Consent, Release and Waiver

I understand that I am engaging voluntarily in the Extension Get Fit program:

_____

(*Name of specific program and county*)

I also recognize and fully acknowledge that there are certain risks of physical injury to participants of the program as explained above. I voluntarily agree to assume the full risk of any and all injuries, damages, or losses that I might sustain as a result of participating in any and all activities connected with the program.

I am aware of my own physical condition and physical limitations and represent that I am in sound health and able to willingly engage in this program. I also understand and agree that it is my responsibility to monitor my own condition during this program, and if any unusual symptoms occur, I will cease my participation.

Furthermore, I hereby agree to release and hold harmless the University of Arkansas System Division of Agriculture and Cooperative Extension Service, including its officials, agents, volunteers and employees from any liability, any and all claims, demands or any cause of action, arising out of or connected with my participation in any of the Extension Get Fit programs.

I have read and fully understand the above important information, warning of risk, assumption of risk, and release of all claims.

Signature of Participant _____ Date _____

Print Name _____

2014 PAR-Q+

The Physical Activity Readiness Questionnaire for Everyone

The health benefits of regular physical activity are clear; more people should engage in physical activity every day of the week. Participating in physical activity is very safe for MOST people. This questionnaire will tell you whether it is necessary for you to seek further advice from your doctor OR a qualified exercise professional before becoming more physically active.

GENERAL HEALTH QUESTIONS

Please read the 7 questions below carefully and answer each one honestly: check YES or NO.	YES	NO
1) Has your doctor ever said that you have a heart condition ☐ OR high blood pressure ☐?	☐	☐
2) Do you feel pain in your chest at rest, during your daily activities of living, **OR** when you do physical activity?	☐	☐
3) Do you lose balance because of dizziness **OR** have you lost consciousness in the last 12 months? Please answer **NO** if your dizziness was associated with over-breathing (including during vigorous exercise).	☐	☐
4) Have you ever been diagnosed with another chronic medical condition (other than heart disease or high blood pressure)? **PLEASE LIST CONDITION(S) HERE:** _____	☐	☐
5) Are you currently taking prescribed medications for a chronic medical condition? **PLEASE LIST CONDITION(S) AND MEDICATIONS HERE:** _____	☐	☐
6) Do you currently have (or have had within the past 12 months) a bone, joint, or soft tissue (muscle, ligament, or tendon) problem that could be made worse by becoming more physically active? Please answer **NO** if you had a problem in the past, but it ***does not limit your current ability*** to be physically active. **PLEASE LIST CONDITION(S) HERE:** _____	☐	☐
7) Has your doctor ever said that you should only do medically supervised physical activity?	☐	☐

If you answered NO to all of the questions above, you are cleared for physical activity.
Go to Page 4 to sign the PARTICIPANT DECLARATION. You do not need to complete Pages 2 and 3.

- Start becoming much more physically active – start slowly and build up gradually.
- Follow International Physical Activity Guidelines for your age (www.who.int/dietphysicalactivity/en/).
- You may take part in a health and fitness appraisal.
- If you are over the age of 45 yr and **NOT** accustomed to regular vigorous to maximal effort exercise, consult a qualified exercise professional before engaging in this intensity of exercise.
- If you have any further questions, contact a qualified exercise professional.

If you answered YES to one or more of the questions above, COMPLETE PAGES 2 AND 3.

Delay becoming more active if:

- You have a temporary illness such as a cold or fever; it is best to wait until you feel better.
- You are pregnant - talk to your health care practitioner, your physician, a qualified exercise professional, and/or complete the ePARmed-X+ at **www.eparmedx.com** before becoming more physically active.
- Your health changes - answer the questions on Pages 2 and 3 of this document and/or talk to your doctor or a qualified exercise professional before continuing with any physical activity program.

OSHF

08-01-2014

2014 PAR-Q+

FOLLOW-UP QUESTIONS ABOUT YOUR MEDICAL CONDITION(S)

1. Do you have Arthritis, Osteoporosis, or Back Problems?

If the above condition(s) is/are present, answer questions 1a-1c — If **NO** ☐ go to question 2

1a.	Do you have difficulty controlling your condition with medications or other physician-prescribed therapies? (Answer **NO** if you are not currently taking medications or other treatments)	YES ☐ NO ☐
1b.	Do you have joint problems causing pain, a recent fracture or fracture caused by osteoporosis or cancer, displaced vertebra (e.g., spondylolisthesis), and/or spondylolysis/pars defect (a crack in the bony ring on the back of the spinal column)?	YES ☐ NO ☐
1c.	Have you had steroid injections or taken steroid tablets regularly for more than 3 months?	YES ☐ NO ☐

2. Do you have Cancer of any kind?

If the above condition(s) is/are present, answer questions 2a-2b — If **NO** ☐ go to question 3

2a.	Does your cancer diagnosis include any of the following types: lung/bronchogenic, multiple myeloma (cancer of plasma cells), head, and neck?	YES ☐ NO ☐
2b.	Are you currently receiving cancer therapy (such as chemotheraphy or radiotherapy)?	YES ☐ NO ☐

3. Do you have a Heart or Cardiovascular Condition? *This includes Coronary Artery Disease, Heart Failure, Diagnosed Abnormality of Heart Rhythm*

If the above condition(s) is/are present, answer questions 3a-3d — If **NO** ☐ go to question 4

3a.	Do you have difficulty controlling your condition with medications or other physician-prescribed therapies? (Answer **NO** if you are not currently taking medications or other treatments)	YES ☐ NO ☐
3b.	Do you have an irregular heart beat that requires medical management? (e.g., atrial fibrillation, premature ventricular contraction)	YES ☐ NO ☐
3c.	Do you have chronic heart failure?	YES ☐ NO ☐
3d.	Do you have diagnosed coronary artery (cardiovascular) disease and have not participated in regular physical activity in the last 2 months?	YES ☐ NO ☐

4. Do you have High Blood Pressure?

If the above condition(s) is/are present, answer questions 4a-4b — If **NO** ☐ go to question 5

4a.	Do you have difficulty controlling your condition with medications or other physician-prescribed therapies? (Answer **NO** if you are not currently taking medications or other treatments)	YES ☐ NO ☐
4b.	Do you have a resting blood pressure equal to or greater than 160/90 mmHg with or without medication? (Answer **YES** if you do not know your resting blood pressure)	YES ☐ NO ☐

5. Do you have any Metabolic Conditions? *This includes Type 1 Diabetes, Type 2 Diabetes, Pre-Diabetes*

If the above condition(s) is/are present, answer questions 5a-5e — If **NO** ☐ go to question 6

5a.	Do you often have difficulty controlling your blood sugar levels with foods, medications, or other physician-prescribed therapies?	YES ☐ NO ☐
5b.	Do you often suffer from signs and symptoms of low blood sugar (hypoglycemia) following exercise and/or during activities of daily living? Signs of hypoglycemia may include shakiness, nervousness, unusual irritability, abnormal sweating, dizziness or light-headedness, mental confusion, difficulty speaking, weakness, or sleepiness.	YES ☐ NO ☐
5c.	Do you have any signs or symptoms of diabetes complications such as heart or vascular disease and/or complications affecting your eyes, kidneys, **OR** the sensation in your toes and feet?	YES ☐ NO ☐
5d.	Do you have other metabolic conditions (such as current pregnancy-related diabetes, chronic kidney disease, or liver problems)?	YES ☐ NO ☐
5e.	Are you planning to engage in what for you is unusually high (or vigorous) intensity exercise in the near future?	YES ☐ NO ☐

2014 PAR-Q+

6. **Do you have any Mental Health Problems or Learning Difficulties?** *This includes Alzheimer's, Dementia, Depression, Anxiety Disorder, Eating Disorder, Psychotic Disorder, Intellectual Disability, Down Syndrome*

If the above condition(s) is/are present, answer questions 6a-6b — If **NO** ☐ go to question 7

6a.	Do you have difficulty controlling your condition with medications or other physician-prescribed therapies? (Answer **NO** if you are not currently taking medications or other treatments)	YES ☐ NO ☐
6b.	Do you **ALSO** have back problems affecting nerves or muscles?	YES ☐ NO ☐

7. **Do you have a Respiratory Disease?** *This includes Chronic Obstructive Pulmonary Disease, Asthma, Pulmonary High Blood Pressure*

If the above condition(s) is/are present, answer questions 7a-7d — If **NO** ☐ go to question 8

7a.	Do you have difficulty controlling your condition with medications or other physician-prescribed therapies? (Answer **NO** if you are not currently taking medications or other treatments)	YES ☐ NO ☐
7b.	Has your doctor ever said your blood oxygen level is low at rest or during exercise and/or that you require supplemental oxygen therapy?	YES ☐ NO ☐
7c.	If asthmatic, do you currently have symptoms of chest tightness, wheezing, laboured breathing, consistent cough (more than 2 days/week), or have you used your rescue medication more than twice in the last week?	YES ☐ NO ☐
7d.	Has your doctor ever said you have high blood pressure in the blood vessels of your lungs?	YES ☐ NO ☐

8. **Do you have a Spinal Cord Injury?** *This includes Tetraplegia and Paraplegia*

If the above condition(s) is/are present, answer questions 8a-8c — If **NO** ☐ go to question 9

8a.	Do you have difficulty controlling your condition with medications or other physician-prescribed therapies? (Answer **NO** if you are not currently taking medications or other treatments)	YES ☐ NO ☐
8b.	Do you commonly exhibit low resting blood pressure significant enough to cause dizziness, light-headedness, and/or fainting?	YES ☐ NO ☐
8c.	Has your physician indicated that you exhibit sudden bouts of high blood pressure (known as Autonomic Dysreflexia)?	YES ☐ NO ☐

9. **Have you had a Stroke?** *This includes Transient Ischemic Attack (TIA) or Cerebrovascular Event*

If the above condition(s) is/are present, answer questions 9a-9c — If **NO** ☐ go to question 10

9a.	Do you have difficulty controlling your condition with medications or other physician-prescribed therapies? (Answer **NO** if you are not currently taking medications or other treatments)	YES ☐ NO ☐
9b.	Do you have any impairment in walking or mobility?	YES ☐ NO ☐
9c.	Have you experienced a stroke or impairment in nerves or muscles in the past 6 months?	YES ☐ NO ☐

10. **Do you have any other medical condition not listed above or do you have two or more medical conditions?**

If you have other medical conditions, answer questions 10a-10c — If **NO** ☐ read the Page 4 recommendations

10a.	Have you experienced a blackout, fainted, or lost consciousness as a result of a head injury within the last 12 months **OR** have you had a diagnosed concussion within the last 12 months?	YES ☐ NO ☐
10b.	Do you have a medical condition that is not listed (such as epilepsy, neurological conditions, kidney problems)?	YES ☐ NO ☐
10c.	Do you currently live with two or more medical conditions?	YES ☐ NO ☐

PLEASE LIST YOUR MEDICAL CONDITION(S) AND ANY RELATED MEDICATIONS HERE: _____

_____

GO to Page 4 for recommendations about your current medical condition(s) and sign the PARTICIPANT DECLARATION.

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2014 PAR-Q+

If you answered NO to all of the follow-up questions about your medical condition, you are ready to become more physically active - sign the PARTICIPANT DECLARATION below:

- It is advised that you consult a qualified exercise professional to help you develop a safe and effective physical activity plan to meet your health needs.
- You are encouraged to start slowly and build up gradually - 20 to 60 minutes of low to moderate intensity exercise, 3-5 days per week including aerobic and muscle strengthening exercises.
- As you progress, you should aim to accumulate 150 minutes or more of moderate intensity physical activity per week.
- If you are over the age of 45 yr and **NOT** accustomed to regular vigorous to maximal effort exercise, consult a qualified exercise professional before engaging in this intensity of exercise.

If you answered **YES** to **one or more of the follow-up questions** about your medical condition:

You should seek further information before becoming more physically active or engaging in a fitness appraisal. You should complete the specially designed online screening and exercise recommendations program - the **ePARmed-X+ at www.eparmedx.com** and/or visit a qualified exercise professional to work through the ePARmed-X+ and for further information.

Delay becoming more active if:

- You have a temporary illness such as a cold or fever; it is best to wait until you feel better.
- You are pregnant - talk to your health care practitioner, your physician, a qualified exercise professional, and/or complete the ePARmed-X+ **at www.eparmedx.com** before becoming more physically active.
- Your health changes - talk to your doctor or qualified exercise professional before continuing with any physical activity program.

- You are encouraged to photocopy the PAR-Q+. You must use the entire questionnaire and NO changes are permitted.
- The authors, the PAR-Q+ Collaboration, partner organizations, and their agents assume no liability for persons who undertake physical activity and/or make use of the PAR-Q+ or ePARmed-X+. If in doubt after completing the questionnaire, consult your doctor prior to physical activity.

PARTICIPANT DECLARATION

- All persons who have completed the PAR-Q+ please read and sign the declaration below.
- If you are less than the legal age required for consent or require the assent of a care provider, your parent, guardian or care provider must also sign this form.

I, the undersigned, have read, understood to my full satisfaction and completed this questionnaire. I acknowledge that this physical activity clearance is valid for a maximum of 12 months from the date it is completed and becomes invalid if my condition changes. I also acknowledge that a Trustee (such as my employer, community/fitness centre, health care provider, or other designate) may retain a copy of this form for their records. In these instances, the Trustee will be required to adhere to local, national, and international guidelines regarding the storage of personal health information ensuring that the Trustee maintains the privacy of the information and does not misuse or wrongfully disclose such information.

NAME _____ DATE _____

SIGNATURE _____ WITNESS _____

SIGNATURE OF PARENT/GUARDIAN/CARE PROVIDER _____

For more information, please contact

www.eparmedx.com
Email: eparmedx@gmail.com

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Key References

1. Jamnik VK, Warburton DER, Makarski J, McKenzie DC, Shephard RJ, Stone J, and Gledhill N. Enhancing the effectiveness of clearance for physical activity participation; background and overall process. APNM 36(S1):S3-S13, 2011.
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08-01-2014

Extension Get Fit Information Card

NAME: _____

HOME PHONE: _____CELL:_____

EMER. CONTACT: _____PHONE: _____

ALLERGIES: _____

SPECIAL MEDICAL CONSIDERATIONS: _____

PHYSICAN: _____

HOSPITAL OF CHOICE: _____

Participant Attendance Sheet

Program Leader Name: _____
Site: _____ Starting Date _____

Name	10/1	10/3	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Jane Doe	[Symbol]	[Symbol]																

Extension Exercise Programs
[year] Program Fee

It's a new year, and that means it's time to pay the yearly fee of $20 for your Extension Exercise class. What a great deal!

Frequently Asked Questions

Where does the $20 go?
Half of the $20 fee goes to the state level, and half stays in the county to support your volunteer leaders and local programs. The fee is necessary to support growth and continuance of the program. Funds are needed to train new leaders, start new programs, and provide continuing training for volunteers, both in our county and across the state.

What if I no longer attend Extension Exercise classes?
If you no longer attend, there is no need for payment of the program fee.

What if I do not attend all year?
The fee is $20 for the year, due the first month of the year, regardless of length of participation.

What if I feel I can't afford the $20 fee?
Scholarships are available! Contact the Extension Office for information.

My class brings a dollar to class each week. Is that the same fee?
No. Some classes collect additional funds to be used as they deem necessary. The $20 fee is separate.

My class pays dues to EHC. Do we still have to pay the $20 fee?
Yes. EHC dues cover membership in an organization. The Extension Exercise program fee covers your participation in the exercise classes, separate from EHC, although some Extension Exercise groups are also EH clubs.

Make checks payable to the [insert county] County Extension Service.

Send checks to: [insert] County Cooperative Extension Service
[address]
[address]

Questions? Contact: [agent name] [phone #]
or email at [email address]

✂ ✂

Please complete and return with $20 fee *(please print legibly)*

Name		Program location (name of site) _____			
Address					
City		State		Zip Code	
Phone		☐ Home ☐ Work			
Email					

Scorecard: Fitness Assessment

Month_____, 20_____

Name _____ M___ F____ Birthdate _____Age_____

Test Item	Trial 1	Trial 2	Comments
1. Chair Stand Test (# in 30 sec)	_____	N/A	
2. Arm Curl Test (# in 30 sec)	_____	N/A	
3. 2-Minute Step Test (# of steps)	_____	N/A	
4. Chair Sit-and-Reach Test (nearest ½ in. +/-)	_____	_____	
Extended leg:	R or L	R or L	
5. Back Scratch Test (nearest ½ in. +/-)	_____	_____	
Hand over Shoulder:	R or L	R or L	
6. 8-Foot Up-and-Go Test (nearest 1/10 sec.)	_____	_____	

7. Height: _____

Weight: _____

Scorecard: Fitness Assessment

Month_____, 20_____

Name _____ M___ F____ Birthdate _____Age_____

Test Item	Trial 1	Trial 2	Comments
1. Chair Stand Test (# in 30 sec)	_____	N/A	
2. Arm Curl Test (# in 30 sec)	_____	N/A	
3. 2-Minute Step Test (# of steps)	_____	N/A	
4. Chair Sit-and-Reach Test (nearest ½ in. +/-)	_____	_____	
Extended leg:	R or L	R or L	
5. Back Scratch Test (nearest ½ in. +/-)	_____	_____	
Hand over Shoulder:	R or L	R or L	
6. 8-Foot Up-and-Go Test (nearest 1/10 sec.)	_____	_____	

7. Height: _____

Weight: _____

Extension Get Fit Program
Participant Post-Questionnaire

Today's date: _____

County: _____

A. Quality of Life

For the following questions, please answer by circling the most appropriate response on the right. The number 1 corresponds to "not at all," number 3 to "somewhat," and number 5 to "very much." Numbers 2 and 4 are in between.

	Not at all		Somewhat		Very much
Overall, were you satisfied with the class?	1	2	3	4	5
Do you feel that your health is better because of the program?	1	2	3	4	5
Do you feel physically stronger?	1	2	3	4	5
Do you have more energy?	1	2	3	4	5
Do you sleep better?	1	2	3	4	5
Are your joints any less painful?	1	2	3	4	5
Have you become more active?	1	2	3	4	5

Use the space below to write your personal success story. Please tell us how being in the program has helped you. Have you improved your balance, flexibility, and strength? Do you feel better? Can you get out of a chair easier? Tell us how your quality of life has improved.

_____
_____
_____

Frequently Asked Questions

What if I have to miss a session during the first 12 weeks of the program? Is it better to cancel that session, or can a group member fill in for me that day?
Rather than cancelling a session, it is generally better for the group to meet in your absence. Schedule your program so that you will not miss sessions during the first several weeks (preferably, the first 6 weeks) of the agent-led period so participants have time to learn and become comfortable with the exercises. After that time, the group should be able to meet for a session on their own and lead themselves through the exercises. A participant (or a couple of participants) can fill in and cue exercises. Or if the group prefers, they might rotate responsibility for starting exercises throughout the session. For example, participant A might start the group on a biceps curl, while participant B starts the group on an overhead press, and so on until the routine is complete. The experience of the group leading itself provides an opportunity to develop group ownership of the program, provide social support to one another, and develop confidence in their collective ability to continue as a group after the agent-led period.

Why is more than one volunteer leader needed for each Extension Get Fit group?
Extension Get Fit groups are more likely to be sustained if the instructing responsibilities are shared between two or more volunteer leaders. This allows for flexibility when one volunteer must be absent and reduces the perceived “burden” of being responsible for a group that meets several days each week. It is also important for volunteer leaders to provide social support to each other. Study of volunteer exercise leaders found that, second to being asked by the agent, providing support to a co-leader was a primary motivator for agreeing to serve as an instructor.

What if there are no Extension Get Fit Leader Trainings scheduled when my group is ready to move to volunteer leadership?
Volunteer leaders may temporarily lead Extension Get Fit sessions before attending Basic Training, provided they are closely supervised by the agent until training is completed. Volunteer leaders should attend the next available training within a reasonable driving distance. Contact the state program coordinator when an Extension Get Fit program starts to notify of potential training needs.

I have volunteers trained to lead the class, but I like to lead it myself. Can I lead it when I can be there and let the volunteers fill in when I have to miss?
It is essential that group members develop ownership of the program. When willing and trained volunteers are available to lead exercise sessions, the agent should avoid leading the group

for several reasons. First, if the agent steps in to lead the group when volunteers are available, it implies that volunteer leaders are not as good instructors as the agent. Second, it denies volunteers opportunity to develop their instructional skills and increase their confidence. Third, it denies group members the opportunity to provide positive feedback and social support to volunteer leaders. This social support is important for group cohesion and increases the confidence of volunteers in leading the group exercise session.

The volunteer leader(s) should have primary responsibility for teaching the class. There may be situations, following a site visit to observe instruction techniques, indicating a need for the agent to teach a class for the purpose of modeling. However, in most cases, issues can be handled more effectively one-on-one. Volunteer leaders, and possibly participants, may encourage you to teach on site visit dates. It is in the best interest of all that site visits be reserved for observation.

What if volunteers do not lead the group the way I would do it myself?
Just as individuals vary in learning styles, teachers vary in their teaching styles. This means that volunteers, and other agents for that matter, will lead groups differently. After exercise leaders learn the basics, they will add their own flair or flavor to exercise sessions. This is largely influenced by personality. It is important that leaders are allowed the freedom to teach according to their strengths, provided that proper form, technique and timing are adhered to.

What if people decide to transfer from one Extension Get Fit group to another, or attend more than one group?
One advantage to the volunteer leader approach is that it increases access to Extension Get Fit programs by making more classes available. This may mean that participants begin the program in one location, and then begin attending sessions at another location later, perhaps if a group starts closer to their residence. This is permissible, provided that participants have completed the appropriate enrollment paperwork and paid the program fee for the year.

A participant's enrollment in the Extension Get Fit program is transferrable, meaning that they may attend one group, and then switch to another group later. They may also attend more than one group if it suits their needs. For example, if a participant begins a program in Group A, which meets at 9:00 AM, and then has a change in work schedule making a 5:00 PM class more convenient, the participant can switch. Similarly, if a participant begins a program in County A but then moves to County B, he or she may attend an Extension Get Fit program in County B. Agents in each county will need to work together to transfer enrollment paperwork and ensure that all necessary forms have been completed. The yearly program fee paid in County A is good for the entire calendar year. The program fee would be paid in County B for subsequent years.

Glossary of Terms

Abduction – Side-to-side movement away from the body that usually results in the narrowing of an angle, joint, or muscle
Adduction – Side-to-side movement toward the body that usually results in the straightening of an angle, joint, or muscle
Aerobic – Requiring oxygen
Agonist – The primary, or target, muscle during an exercise
Antagonist – The stabilizing muscle during an exercise
Anterior – Toward the front
Body composition – The relative amounts of muscle, fat, bone, and other vital parts of the body
Cardiovascular endurance – The ability of the circulatory and respiratory systems to supply oxygen during sustained physical activity; also known as aerobic endurance
Contraindication – A movement that is not recommended because it is potentially dangerous
Elevation – Raising a part of the body; an increase in heart rate
Exercise – A type of physical activity consisting of planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness
Extension – Forward or backward movement toward the body that usually results in the straightening of an angle, joint, or muscle
Flexibility – The range of motion available at a joint
Flexion – Forward or backward movement away from the body that usually results in the narrowing of an angle, joint, or muscle
Isometric – A muscle contraction that occurs when muscle tension increases but the length stays the same; also known as a static contraction
Isotonic – A muscle contraction that occurs when the length of a muscle changes when force is exerted; also known as a dynamic contraction
Joint – The place where 2 or more bones meet; also the place where movement occurs in the body
Kinesiology – The study of how muscles, bones, and joints are involved in movement – such as exercise
Lateral – Away from the midline of the body
Lateral (external) rotation – Movement away from the midline toward the posterior surface
Lay leader – (as it relates to Extension Get Fit) An unpaid volunteer that has participated in an Extension Get Fit Program and has received the Extension Get Fit Volunteer Leader Training
Lean body mass – Muscles, bones, organs, skin, etc.
Medial – Toward the midline of the body
Medial (internal) rotation – Movement toward the midline of the anterior surface
Midline – An imaginary line that divides the body into equal right and left halves

Muscular endurance – The ability of muscle to continue to perform without fatigue
Muscular strength – The ability of muscle to exert force
Physical activity – Any bodily movement produced by the contraction of skeletal muscles that results in a substantial increase over resting expenditure
Plantar flexion – Moving the foot away from the shin (walking or standing on toes)
Posterior – Toward the back
Progressive overload – Increasing the intensity of a workout to challenge the muscles and gain strength
Repetition – The number of times a particular exercise is performed
Sarcopenia – The loss of muscle mass due to age, inactivity, or disease
Set – The number of times a group of repetitions is performed
Synergist – The guiding muscle(s) that help the agonist muscle perform an exercise

Abbreviations and Acronyms

BPM – beats per minute
DOMS – Delayed-Onset Muscle Soreness
FITT – Frequency, Intensity, Time, Type
HR – Heart Rate
MHR – Maximum Heart Rate
Rep - Repetition
ROM – Range of Motion
RPE – Borg Rating of Perceived Exertion Scale
THR – Target Heart Rate

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