



**a team building program that promotes
healthy lifestyle behaviors for aging adults**

Lifelong Improvements Through Fitness Together ©

Program Manual Citation:

Harden SM, Wilson ML, Estabrooks PA, and Members of the Physical Activity Leadership Team of Virginia Cooperative Extension. (2018). Lifelong Improvements through Fitness Together Program Manual. Blacksburg, VA: Virginia Tech.

Citation for Process of Adapting Previous Interventions to LIFT:

Wilson ML, Strayer TE 3rd, Davis R, Harden SM. Informed Adaptations of a Strength-Training Program through a Research-Practice Partnership. Front Public Health. 2018 Mar 2;6:58. doi: 10.3389/fpubh.2018.00058. eCollection 2018.

Citation for Initial Reach and Effect of LIFT:

Wilson ML, Strayer TE 3rd, Davis R, Harden SM. Use of an Integrated Research-Practice Partnership to Improve Outcomes of a Community-Based Strength-Training Program for Older Adults: Reach and Effect of Lifelong Improvements through Fitness Together (LIFT). Int J Environ Res Public Health. 2018 Jan 31;15(2). pii: E237. doi: 10.3390/ijerph15020237.

This guidance is educational in nature and is not meant to take the place of medical services which may be needed. Not all exercises are suitable for everyone. It is recommended that you consult with your physician before beginning this program. When participating in physical activity, there is always risk of injury or soreness. If at any point during your workout you begin to feel faint, dizzy, or have physical discomfort, you should stop immediately. If you engage in this exercise program, you do so at your own risk, you are voluntarily participating in these activities, and you assume all risk of injury to yourself and release any LIFT instructor from any and all liability.

Design by Sherri Songer,
Department of Human Nutrition, Foods, and Exercise, Virginia Tech, 2016-2019.



Exercise and Warm Up Modifications



EXERCISE MODIFICATIONS



BICEPS CURL

This exercise could be made easier by alternating right and left bicep curls rather than attempting to curl both arms at the same time.

CHEST AND ARM STRETCH

Exercise Modification (easier):

The difficulty of this stretch can be modified by having participants hold a towel or band instead of grasping their hands behind their back.

1. Hold a towel or band in both hands with arms extending behind the hips.
2. Place hands so that they are at a comfortable distance apart from each other.
3. While keeping arms straight, lift arms up as far as possible.
4. Hold the stretch for 20-30 seconds.

Trainer Tips:

Other items can be used instead of a towel, such as a sweatshirt or a broom. The item just has to be long enough for participants to hold behind their backs.



KNEE EXTENSION

Exercise Modification (easier):

To make the exercise less difficult, have participants reduce the range of motion of the leg. Instead of extending the knee fully (180 degrees), have participants stop the extension 20-30 degrees early.

1. Sit back in a chair with feet shoulder-width apart with knees slightly separated and directly above feet.
2. While keeping the right foot on the floor, raise left leg while keeping the foot flexed.
3. Extend leg to about 150 degrees.
4. Pause for a breath.
5. Slowly lower left leg back to the ground.
6. Complete 10 repetitions on each leg, rest for one minute, and then repeat.

Exercise Modification (harder):

To increase the difficulty of the exercise, have participants increase the range the leg moves. Instead of starting the exercise with the foot flat on the floor, have them start with the knee in a slightly more bent position (under the chair). If legs are too long to do so, place a pillow or rolled towel under the knees to increase seated height.



EXERCISE MODIFICATIONS

HAMSTRING AND CALF STRETCH

Exercise Variation: Have participants perform the stretch while seated in a chair.

1. Sit toward the front edge of the chair.
2. While seated, bend left knee so that it is at 90 degrees with foot flat on the floor.
3. Extend right leg out in front while keeping toes pointed to the ceiling.
4. With arms extended in front, slowly lean forward and reach hands toward the extended leg.
5. This movement should be performed while maintaining a flat back position.
6. Hold the position for 20-30 seconds, and then switch legs.

Trainer Tips:

Depending flexibility level, participants may have a difficult time extending their arms toward their toes. In this case, have them rest their hands on top of the bent leg, so that it can be used for support as they lean forward toward the extended leg.



OVERHEAD PRESS**Exercise Modification (easier):**

This exercise can be made easier for participants who have a limited shoulder range of motion by decreasing the range of motion of the arm.

1. Start the exercise so that the upper arms are parallel to the shoulder.
2. Arms should be bent at 90 degrees so that the forearm is perpendicular to the floor.
3. Slowly push the dumbbells up over head until arms are almost fully extended, but do not lock out elbows.
4. Pause for a breath.
5. Slowly lower the dumbbells until upper arms are in line with shoulders.

Exercise Modification (easier, for rotator cuff injuries):

This exercise can be modified for participants who have experienced a rotator cuff injury by changing the starting position of the upper arm.

1. Start the exercise with upper arms at the side of body with palms facing each other and dumbbells at shoulder height.
2. Slowly push the dumbbells up over head while keeping palms facing each other until arms are almost fully extended; do not lock out elbows.
3. Pause for a breath.
4. Slowly lower the dumbbells until they are in line with shoulders.



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EXERCISE MODIFICATIONS



SEATED ROW

This exercise can be made easier by sitting completely upright in the chair or by rowing only one arm at a time.

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SIDE HIP RAISE

This exercise can be made easier by keeping the leg fully extended but moving it out in front or behind. This may be less painful if the participant has hip issues.



EXERCISE MODIFICATIONS

STANDING LEG CURL

This exercise can be made easier by sitting while each leg is curled.



TOE STAND

This exercise can be made easier by alternating right and left toe stands rather than attempting to lift both toes at the same time.

EXERCISE MODIFICATIONS

UPPER BACK STRETCH

Exercise Variation:

An additional stretch can be felt if participants extend their arms overhead at the end of the original exercise.

1. While sitting or standing, clasp hands in front and then rotate so that palms face the ground.
2. Raise arms to about chest height and press palms away from the body.
3. Hold for 20-30 seconds.
4. During the last five seconds of the stretch, while keeping hands woven together, extend arms overhead while stretching as tall as possible.
5. Hold for five seconds.



WIDE LEG SQUAT

Exercise Modification (easier):

Reducing the range of motion of the squat can make the exercise easier for participants who are struggling to stay in control during the downward movement of the squat or look as if they are falling into the chair. The range of motion is decreased by stacking pillows (try two) or using a towel on the seat of the chair. Additionally, participants may find it helpful to use a chair with arm rests for additional support.

1. Leaning slightly forward at the hips, aim buttocks into the chair and slowly lower back to a seated position on pillow(s) or towel.
2. Keep chest lifted and back, neck, and head in a straight line.
3. Pause for a breath in the seated position.
4. Leaning slightly forward, stand up slowly, making sure to keep knees above ankle; if this still feels too difficult, use chair arm for additional support while standing up.

Exercise Modification (intermediate): To progress the wide leg squat, remove pillows (one at a time) until the participant is performing the exercise on the chair seat as described in the original wide leg squat exercise (from the StrongWomen Tool Kit).

Exercise Modification (harder): To make the wide leg squat more difficult, have participants hover above the chair seat instead of coming to a complete sitting position.



LOWER BODY MODIFICATIONS

Move	Muscular Engagement	Limited lower body mobility	Single leg or partial leg amputation	Paralysis or double leg amputation
Wide Leg Squat	Gluteus Maximus Quadriceps	Remain seated in wheel chair and press heels into ground or footrests and lift torso upward creating resistance strength Squeeze buttocks Squeeze and release as reps	Remain seated in wheel chair, press heel into ground or footrest and lift torso upward, creating resistance strength Squeeze buttocks Squeeze and release as reps	Extend arms upward, push hips into seat, lift torso upward creating resistance strength and spinal length
Standing Leg Curl	Hamstring	With or without weights Curl leg under chair, bending at the knee, and squeeze heel towards bottom of seat OR If feet need to remain on footrest, press calf backwards until feeling hamstring engage Squeeze and release as reps	Curl leg under chair, bending at the knee and squeeze heel towards bottom of seat OR If foot needs to remain on footrest, press calf backwards until the hamstring engages Squeeze and release as reps Depending upon amputation location, repeat on both sides, or do twice on one side	No similar movement: replace with triceps strength. Hold weight. Straighten arm wide and as far behind chair back as possible. Bend and straighten from the elbow.
Knee Extension	Quadriceps	No modification needed	Depending upon amputation location, repeat on both sides or do twice on one side	No similar movement; replace with pectoral strength Use weights: elbows bent, weights at shoulders, then press forward crossing forearms, elbows extended in an X shape
Side Hip Raise	Sartorius Gluteus Maximus	Create slight pigeon toes and press knees out wide into outer edges (arms) of wheelchair Press and release as reps	Create slight pigeon toes and press knees out wide into outer edges (arms) of wheelchair Press and release as reps	No similar movement: replace with wide arm raises With weights Straight elbow, arms to the left and right, lift arms away from chair and lower back down, lateral movement

LOWER BODY MODIFICATIONS

Move	Muscular Engagement	Limited lower body mobility	Single leg or partial leg amputation	Paralysis or double leg amputation
Biceps Curl	Biceps	As big of a range of motion as possible, lowering weight outside the arm of the chair to straighten at elbow	As big of a range of motion as possible, lowering weight outside the arm of the chair to straighten at elbow	As big of a range of motion as possible, lowering weight outside the arm of the chair to straighten at elbow
Overhead Press	Deltoid Latissimus Dorsi	Complete action seated	Complete action seated	Complete action seated
Seated Row	Triceps Rhomboids	Holding weight, use resistance of chair and push elbows into the back and squeeze shoulder blades together, extend arms forward, parallel to the floor, then repeat	Holding weight, use resistance of chair and push elbows into the back and squeeze shoulder blades together, extend arms forward, parallel to the floor, then repeat	Holding weight, use resistance of chair and push elbows into the back and squeeze shoulder blades together, extend arms forward, parallel to the floor, then repeat
Toe Stand	Calf	Point and flex at ankle More action if holding leg out in front with straightened knee	Point and flex at ankle More action if holding leg out in front with straightened knee	No similar movement: replace with shoulder shrugs Hands on arm rest, press down into armrest, lifting torso upward as elbows straighten
Hamstring and Calf Stretch	Hamstrings Calf	Loop strap around one foot and try to push heel forward while pulling toes back toward the body. If possible, lift leg parallel to the ground.	Loop strap around one foot and try to push heel forward while pulling toes back toward the body. If possible, lift leg parallel to the ground.	Side stretch Right arm lifts, lean left Repeat other side
Upper Back Stretch	Rhomboids Trapezius Latissimus Dorsi	Same action but add pushing ribs into the back of the chair	Same action but add pushing ribs into the back of the chair	Same action but add pushing ribs into the back of the chair
Chest and Arm Stretch	Pectoral Biceps	Grab the back edges of the chair and stretch ribs forward	Grab the back edges of the chair and stretch ribs forward	Grab the back edges of the chair and stretch ribs forward

UPPER BODY MODIFICATIONS

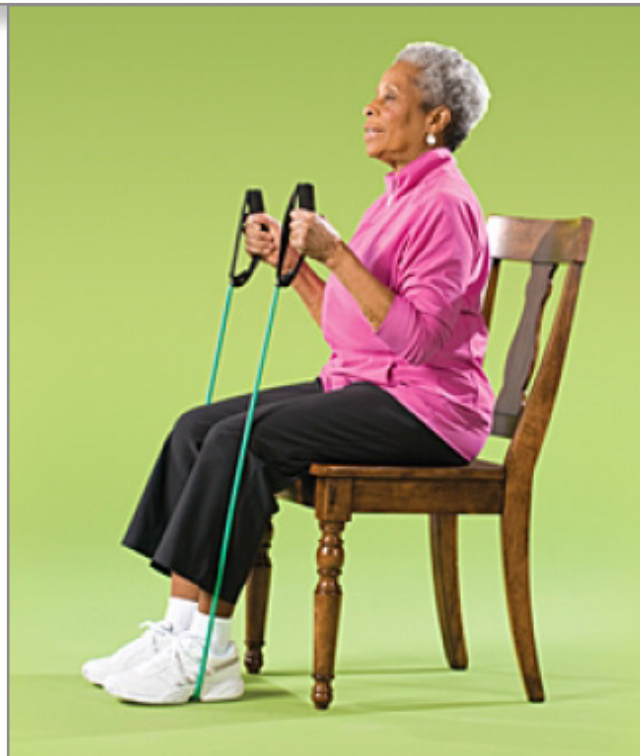
Move	Muscular Engagement	First modification	Change range or direction of motion	Endurance modification
Biceps Curl	Biceps	Do not use weights	Limit range of motion to a comfortable distance OR turn hand so instead of knuckles toward shoulder, bring thumb toward shoulder as a hammer curl; this can be done seated or standing	Start with the same motion and hold the weight half way into range of motion, hold the weight here for the full reps without moving (or as long as you can).
Overhead press	Pectoral Deltoids Triceps	Do not use weights	Limit range of motion to a comfortable distance OR hold weights with long straight arms at your sides and lift them, with straight elbows in front of you, arms parallel to the ground; this can be done seated or standing	Start with the same motion and hold the weight half way into your range of motion. Hold the weight here for the full reps without moving (or as long as you can).
Seated Rows	Triceps	Do not use weights	Limit range of motion to a comfortable distance OR with straight arms, behind you, bend at elbows bringing weight towards shoulder	Start with the same motion and hold the weight half way into your range of motion. Hold the weight here for the full reps without moving (or as long as you can).
Upper Back Stretch	Pectorals Biceps		Instead of arms reaching in front of the body, hold forearms, low towards the abdomen, round the spine and pull elbows wide while still holding forearms	
Chest and Arm Stretch	Pectorals Biceps		Use a towel or strap to grab behind the body instead of holding your own hands behind the back. OR Do one arm at a time, stand with the right side of the body near a wall, place your hand behind you on a wall at a height between hip and shoulder. Right hand on wall, thumb pointing up, relax shoulders and turn body to the left until you feel the stretch in the front of arm and shoulder.	

ARM CURL WITH BAND

This variation uses a resistance band instead of weights.

1. Sit in a sturdy, armless chair with feet flat on the floor and shoulder-width apart.
2. Place the center of the resistance band under both feet.
3. Hold each end of the band with palms facing inward and keep elbows at sides.
4. Breathe in slowly.
5. Keep wrists straight and slowly breathe out as you bend elbows and bring hands toward shoulders.
6. Hold the position for one second.
7. Breathe in as arms are slowly lowered.
8. Repeat 10-15 times.
9. Rest, then repeat 10-15 more times.

Tip: As you progress, use a heavier strength band.



RESISTANCE BAND WARM UPS

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SHOULDER RAISE WITH BAND

1. Place the resistance band under feet and grasp each handle.
2. Sit tall with abs engaged and arms slightly bent at the elbows.
3. Lift the arms up to shoulder level and slowly release back down to the start position.
4. Keep wrists in line with the forearm; do not bend.
5. Move feet further apart to make it harder and closer together to make it easier.
6. Repeat for 15 total reps.
7. Exhale when pulling and inhale on releasing.

RESISTANCE BAND WARM UPS

BUDDY STRETCH

This is a good overall stretch for the shoulders, arms, backs, and legs that is fun to do with a partner. If participants had hip or back surgery, talk with a doctor before attempting.

1. Sit on the floor facing buddy and place feet against partner's feet.
2. Both people should grab one end of a resistance band or towel, and depending on flexibility, someone may need to loop two bands or towels together.
3. Slowly pull the band or towel so that one person bends forward and one leans backward.
4. Hold the position for 10-30 seconds.
5. Slowly return to starting position.
6. Now the other person pulls the band or towel and bends forward while the other person leans backward. Hold for 10-30 seconds and return to the starting position.
7. Repeat three to five more times.



RESISTANCE BAND WARM UPS

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CHEST PULL WITH BAND

1. Sit tall in a chair with abs engaged.
2. Fold the resistance band in half and grip each end in front of chest with bent elbows.
3. Pull the band and bring it closer to the chest, then straighten arms and slowly release it back to the starting position.
4. Exhale when pulling and inhale on releasing.
5. Repeat for a total of 15 reps.

LOWER BACK EXTENSION WITH BAND

1. Place the resistance band under feet and grasp each handle.
2. Engage abs and bend forward from the waist until the back is parallel to the floor, releasing arms toward the ground.
3. Pull the handles upward, drawing shoulder blades together and elbows toward the ceiling while slowly releasing back down to the starting position.
4. Keep abs engaged to protect the lower back.
5. Move feet closer to the handles to make it harder and closer to the center of the band to make it easier.
6. Exhale when pulling and inhale on releasing.
7. Repeat for a total of 15 reps.



RESISTANCE BAND WARM UPS

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CALF RAISES WITH BAND

1. Sit tall in a chair with abs engaged.
2. Fold the resistance band in half and grip each end in front of chest with bent elbows.
3. Pull the band, bringing it closer to the chest with straight arms, and then slowly release back to the starting position.
4. Exhale when pulling and inhale on releasing.
5. Repeat for a total of 15 reps.

RESISTANCE BAND WARM UPS

BENT OVER ROW WITH BAND

1. Place the resistance band under feet and grasp each handle.
2. Engage abs and bend forward from the waist until back is parallel to the floor, releasing arms down toward the ground.
3. Pull the handles upward, drawing shoulder blades together and elbows toward the ceiling and slowly release back down to the start position.
4. Keep abs engaged to protect the lower back.
5. Move feet closer to the handles to make it harder and closer to the center of the band to make it easier.
6. Exhale when pulling and inhale on releasing.
7. Repeat for a total of 15 reps.



RESISTANCE BAND WARM UPS

SEATED ROW WITH BAND

1. Sit in a sturdy, armless chair with feet flat on the floor and shoulder-width apart.
2. Place the center of the resistance band under both feet and hold each end of the band with palms facing inward.
3. Breathe in slowly and relax shoulders and extend arms beside legs.
4. Breathe out slowly and pull both elbows back until hands are at hips.
5. Hold position for one second.
6. Breathe in and slowly return hands to the starting position.
7. Repeat 10-15 times.
8. Rest then repeat 10-15 more times.





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