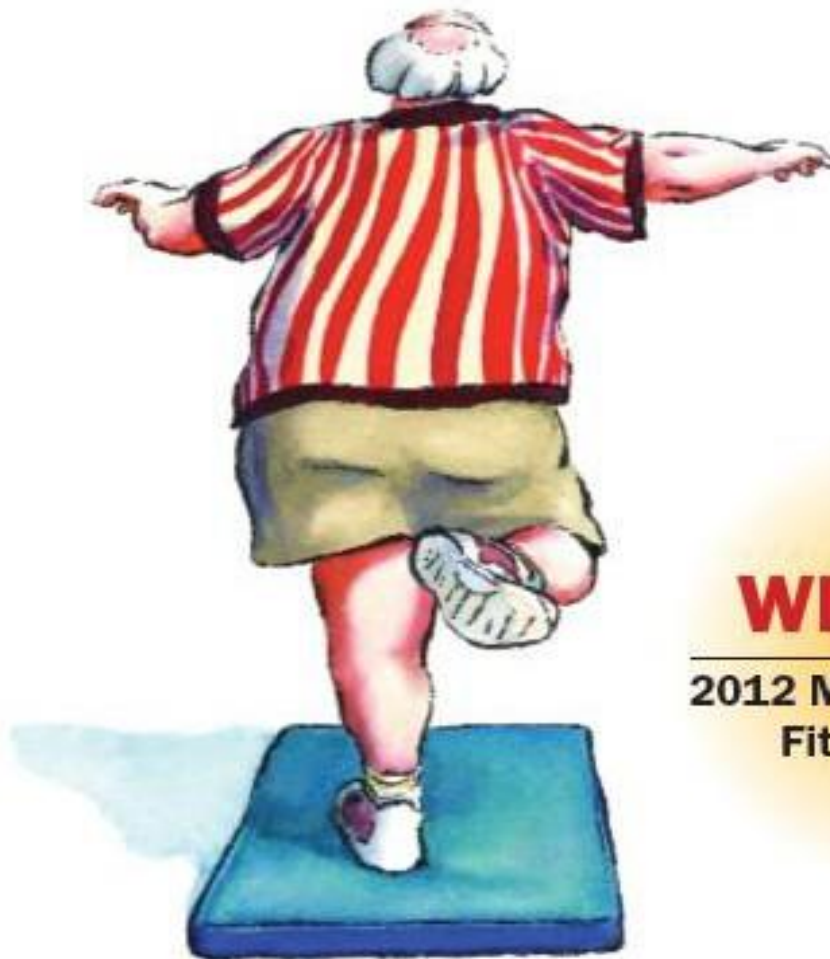


# U-ExCEL

# Balancing Act Manual

Fifth Edition



**WINNER!**

2012 Maine Governor's  
Fitness Award

**Authors**

Marilyn R. Gugliucci, PhD

Anne M. Cowles, BS, MPH candidate



UNIVERSITY OF  
NEW ENGLAND

College of Osteopathic Medicine  
Department of Geriatric Medicine

## Acquiring the U-ExCEL Balancing Act Manual

The U-ExCEL Balancing Act Manual can be purchased directly from the University of New England College of Osteopathic Medicine, Department of Geriatric Medicine:

**Address:** Division of Geriatrics, U-ExCEL Program University of New England College of Osteopathic Medicine 11 Hills Beach Road  
Biddeford, ME 04005

**Email:** [hleblanc2@une.edu](mailto:hleblanc2@une.edu)  
[please type "U-ExCEL Balancing Act Manual" in the subject line]

We encourage physicians, health practitioners, and service providers at agencies, community centers, hospitals, Emergency Medical Systems (state and local), churches, and others to have U-ExCEL Balancing Act Manuals on hand for use at their sites and/or to distribute.

## Preface

The U-ExCEL (Exercise and Conditioning for Easier Living) Balancing Act Manual provides proven (researched) effective balance training and is designed to be used by anyone who would like to maintain or improve *balance* and *stability* (see Glossary in **Appendix E**). This 5<sup>th</sup> Edition of the manual includes user friendly improvements to aid in balance training success.

## Acknowledgements

The University of New England College of Osteopathic Medicine, Department of Geriatric Medicine and its U-ExCEL Program staff are indebted to the older adults who assisted us with advancing the U-ExCEL Balancing Act program. Their engagement and feedback on the program and their participation in the U-ExCEL Balancing Act research on balance and stability provided the data and specific information we needed to fine tune the exercises and related instructions throughout the manual. We sincerely hope this U-ExCEL Balancing Act Manual is utilized by many older adults in a variety of settings. It is easy and fun to use; it only requires that you keep practicing!

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## Using This Manual

This manual is designed to be very straight forward and easy to use.

Review this manual before beginning the U-ExCEL Balancing Act program, it is important to be familiar with the various instructions. This manual is organized to: (1) introduce you to the U-ExCEL Balancing Act Program, (2) offer step by step instructions to perform and practice a variety of balance specific exercises in order to maintain or improve balance and stability, and (3) check performance at the end of the Beginner, Intermediate, and Advanced level exercises.

For those with visual impairments, The Iris Network, in Portland Maine and the State of Maine's Division for the Blind and Visually Impaired have assisted to create a large print and abridged version of this manual, which includes only the exercises. Contact us if you would like to order the abridged large print version of the U-ExCEL Balancing Act Manual.

### Individual Use

This manual is designed for individuals to take home and use independently. We recommend that you start with the beginner level exercises and progress as you feel comfortable.

### Health Providers and Group Use

If you are a part of a group and wish to use this program see **Appendix D: Key Points for Health Providers and Community Organizations.**

# U-ExCEL Balancing Act Participant Instructions

## a) Getting Started

You can begin the exercises within this manual at any time. Instructions for how to perform each exercise are listed in the U-ExCEL Balancing Act Exercises section (beginning on page 4). There are few general instructions:

- Balance exercises should be done in front of a stable surface you can hold on to if needed (i.e. hand rail, counter, heavy chair, or table)
- Start with the beginner exercises, regardless of balance ability
- Review the hand positions, and start with Hand Position #1. Reduce contact to Hand Position #3 as you feel more confident
- Hold each exercise for 5 seconds and build up to 30 seconds
- It is normal for your body to move (sway, or shake) when doing balance exercises – this is your body learning to balance
  - If you aren't comfortable with this movement bring hands to the stable surface to regain balance
- At first all exercises should be performed with eyes open, for 30 seconds and Hand Position #3. Too easy? Try closing your eyes during each exercise. When you close your eyes, start with Hand Position #1 or #2 before you progress to Hand Position #3
- Progressing through the exercises takes time and advancing to the next level of exercises should only be done when stability is attained for 30 seconds using Hand Position #3
  - Be sure you are able to complete the "STOP" Checklist before advancing to the next level of exercises. The "STOP" page is at the end of each exercise level
- The fastest way to improve balance is to do 5 U-ExCEL Balancing Act exercises **every day**, practicing each exercise 3 times. Too much? Do them at least 3 days a week.
- U-ExCEL Balancing Act exercises can be done any time during the day and need not be done all at once
  - They can be practiced during commercials while watching television or when near a table or stable surface. They can be done while waiting in the grocery line, or while doing chores such as cooking, ironing or getting dressed

### **NOTE: Know your own limitations!**

If at any time you feel dizzy or short of breath, stop exercising and contact your physician.

## b) Keeping Track of U-ExCEL Balancing Act Training

U-ExCEL Balancing Act works best when participants track their progress over time. Some helpful tips and tools for keeping track of your balance exercise program are provided in **Appendix A**.

## c) Importance of Having a Support System

U-ExCEL Balancing Act works best when you identify a person who will check in with you on a regular basis to ask if you are doing your exercises. Doing the exercises is the key to improving balance and being reminded helps! See **Appendix B** and fill in the **Social Support Identifier** to identify the best person to provide support.

## d) Hand Positions

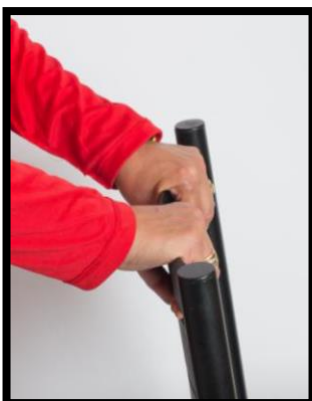
The hands are very useful in balance training, especially when first beginning to do U-ExCEL Balancing Act exercises or when trying a more difficult balance exercise.

**Hand Position #1:** Both hands hold onto a stable surface. Provides the most stability with the greatest point of contact (**Appendix E**) with the stable surface.

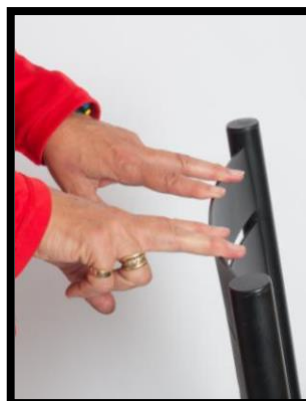
**Hand Position #2:** Finger tips of both hands rest on a stable surface. Provides some stability and has less point of contact with the stable surface while making it easy to hold on with both hands if there is too much *postural sway* (see Glossary in **Appendix E**).

**Hand Position #3:** Both hands hover a few inches above a stable surface. Provides no point of contact from hands, so the body works to stay balanced. This hand position still makes it easy to grab on to a stable surface if needed.

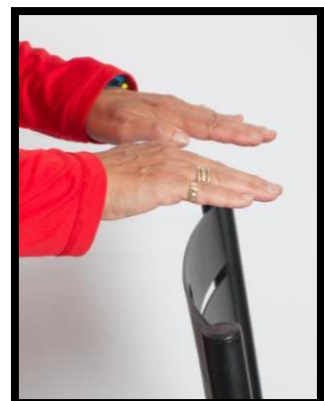
**#1**



**#2**



**#3**



**Instructions for all exercises:**

- Hold each position for 5 seconds, building up to 30 seconds
- Progress through hand positions (see page 3) with a goal of not holding on – Hand Position #3
- Do exercises #1-#5 and then repeat these two more times
- Too Easy? Perform with eyes closed (only if you feel comfortable)
- It is okay to rest

**Hand Positions reminder:**

- #1. Holding on with both hands
- #2. Fingers resting on stable surface
- #3. Hands hovering above stable surface

**Start Position for all exercises:**

- Stand facing the stable object
- Hands holding on – or ready to hold on
- Stand with back straight, in line with shoulders, knees relaxed
- Feet at comfortable stance
- Weight even on both feet



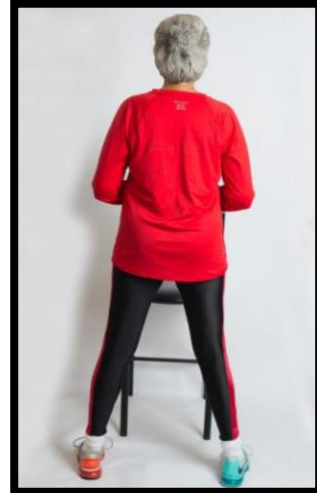


## 1. Feet Shoulder Width

- Stand in Start Position
- Bring feet shoulder width apart, about 12 inches
- Weight even on both feet
- Hold position

Too Easy?

- Don't hold on
- Close your eyes

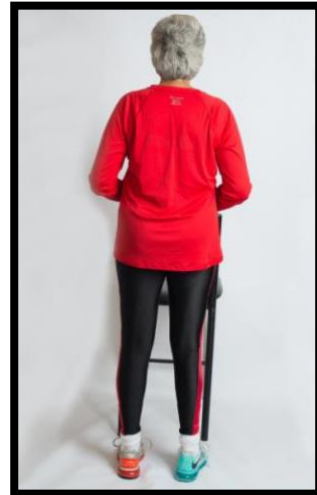


## 2. Feet Hip Width

- Stand in Start Position
- Bring feet hip width apart, about 6 inches
- Weight even on both feet
- Hold position

Too Easy?

- Don't hold on
- Close your eyes

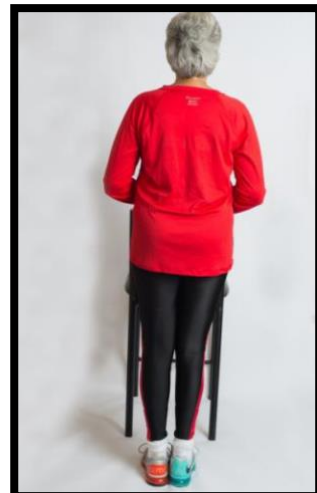


## 3. Feet Together

- Stand in Start Position
- Bring feet close together
- Weight even on both feet
- Hold position

Too Easy?

- Don't hold on
- Close your eyes

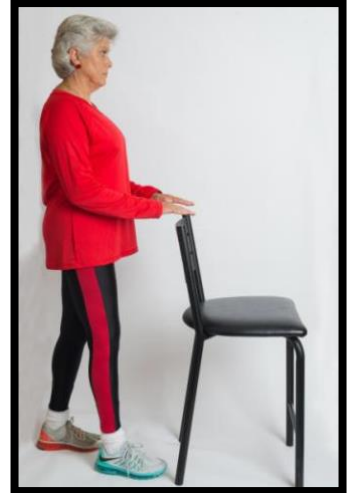


## 4. Foot Forward (feet flat)

- Stand in Start Position
- Step forward with right foot, keeping feet flat
- Weight even on both feet
- Hold position
- Switch and repeat with left foot

Too Easy?

- Don't hold on
- Close your eyes

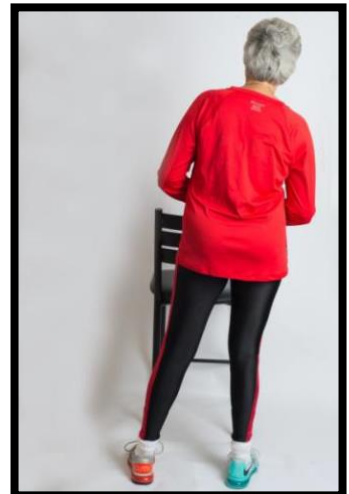


## 5. Weight Shift

- Stand in Start Position
- Bring feet shoulder width apart, about 12 inches
- Shift weight to right side, keep both feet flat
- Keep shoulders and hips in line
- Hold position
- Switch and repeat on the left side

Too Easy?

- Don't hold on
- Close your eyes



# **Stop!**

*Before moving on to the next level of balancing exercises, be sure you can answer yes to the following statements for all of the exercises in the beginner level:*

- I can confidently perform the beginner exercises**
  
- I can perform the beginner exercises for 30 seconds**
  
- I can perform the beginner exercises without holding on**

## U-ExCEL Balancing Act: Intermediate Exercises

### Instructions for all exercises:

- Hold each position for 5 seconds, building up to 30 seconds
- Progress through hand positions (see page 3) with a goal of not holding on – Hand Position #3
- Do exercises #6-#10 and then repeat these two more times
- Too Easy? Perform with eyes closed (only if you feel comfortable)
- It is okay to rest

### Hand Positions reminder:

- #1. Holding on with both hands
- #2. Fingers resting on stable surface
- #3. Hands hovering above stable surface

### Start Position for all exercises:

- Stand facing the stable object
- Hands holding on – or ready to hold on
- Stand with back straight, in line with shoulders, knees relaxed
- Feet at comfortable stance
- Weight even on both feet

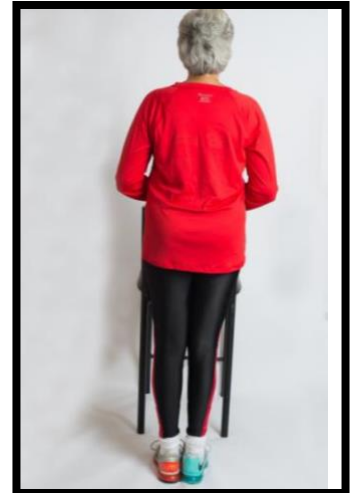


## 6. Feet Together

- Stand in Start Position
- Bring feet close together
- Weight even on both feet
- Hold position

Too Easy?

- Don't hold on
- Close your eyes

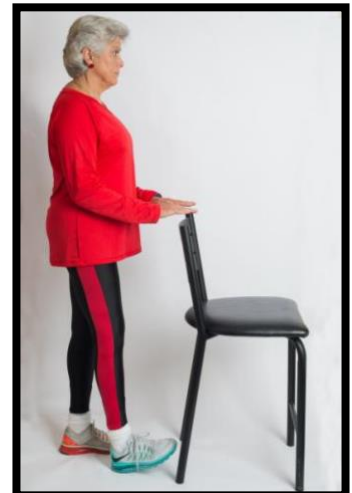


## 7. Heel Forward

- Stand in Start Position
- Step forward with right foot, heel on the ground and toes up
- Left foot remains flat
- Weight even on both feet
- Hold position
- Switch and repeat stepping forward with left foot

Too Easy?

- Don't hold on
- Close your eyes

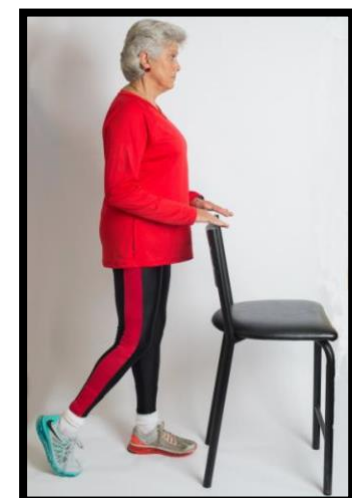


## 8. Toe Back

- Stand in Start Position
- Step back with right foot, toes on the ground and heel up
- Left foot remains flat
- Weight even on both feet
- Hold position
- Switch and repeat stepping back with left foot

Too Easy?

- Don't hold on
- Close your eyes

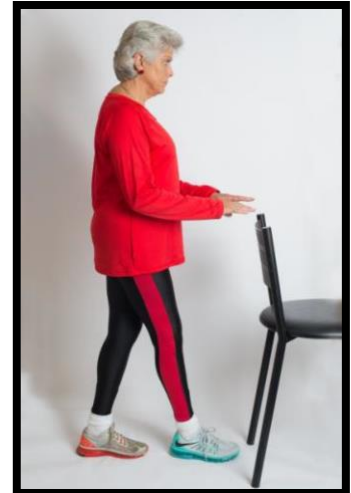


## 9. Heel to Toe (broad stance)

- Stand in Start Position
- Step forward with right foot, placing foot in front of left with 5 inches between heel and toe
- Weight even on both feet
- Hold position
- Switch and repeat with left foot in front

Too Easy?

- Don't hold on
- Close your eyes

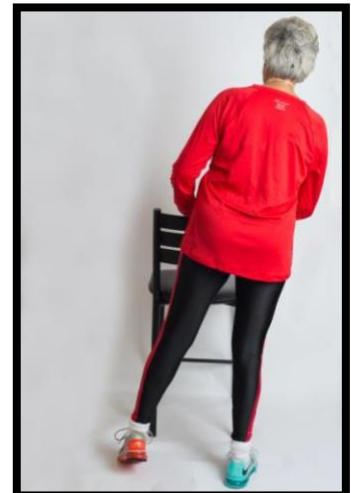


## 10. Toe to Side

- Stand in Start Position
- Bring feet shoulder width apart, about 12 inches
- Shift weight to right side, going onto left toe as more weight shifts to right side
- Keep shoulders and hips in line
- Hold position
- Switch and repeat on the left side

Too Easy?

- Shift more weight to right foot
- Go higher onto toe
- Don't hold on
- Close your eyes



# **Stop!**

*Before moving on to the next level of balancing exercises, be sure you can answer yes to the following statements for all of the exercises in the intermediate level:*

- I can confidently perform the intermediate exercises**
  
- I can perform the intermediate exercises for 30 seconds**
  
- I can perform the intermediate exercises without holding on**

## U-ExCEL Balancing Act: Advanced Exercises

### Instructions for all exercises:

- Hold each position for 5 seconds, building up to 30 seconds
- Progress through hand positions (see page 3) with a goal of not holding on – Hand Position #3
- Do exercises #11-#15 and then repeat these two more times
- Challenge: perform with eyes closed (only if you feel comfortable)
- It is okay to rest

### Hand Positions reminder:

- #1. Holding on with both hands
- #2. Fingers resting on stable surface
- #3. Hands hovering above stable surface

### Start Position for all exercises:

- Stand facing the stable object
- Hands holding on – or ready to hold on
- Stand with back straight, in line with shoulders, knees relaxed
- Feet at comfortable stance
- Weight even on both feet



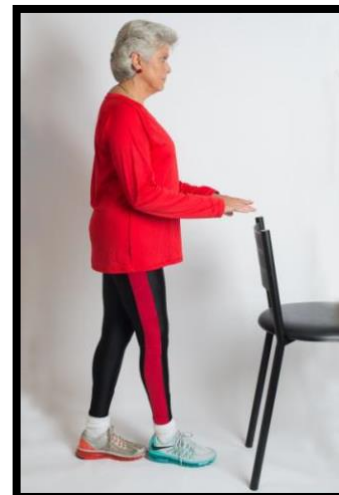


## 11. Heel to Toe (touching)

- Stand in Start Position
- Step forward with right foot, bringing the heel of right foot to the toes of left foot
- Toes of both feet pointing forward
- Weight even on both feet
- Hold position
- Switch and repeat with left foot in front

Too Easy?

- Don't hold on
- Close your eyes

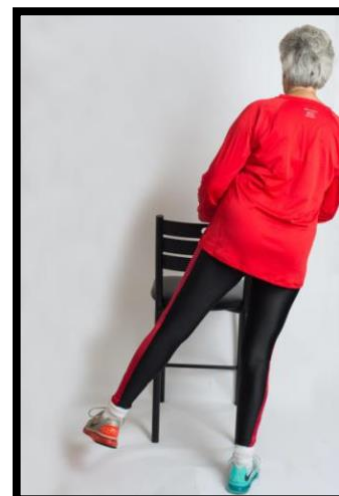


## 12. Weight Shift (foot up)

- Stand in Start Position
- Bring feet shoulder width apart, about 12 inches
- Shift all weight to right side, allowing left foot to come off the ground
- Keep shoulder and hip in line
- Hold position
- Switch and repeat on the left side

Too Easy?

- Lift foot higher off the ground to the side
- Don't hold on
- Close your eyes

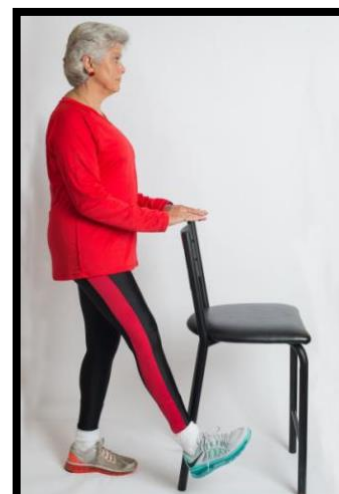


## 13. Foot Forward

- Stand in Start Position
- Step forward with right foot, heel on the ground, toes up
- Left foot remains flat
- Shift weight back to left foot, lift right foot off the ground in front of you
- Hold position
- Switch and repeat stepping forward with left foot

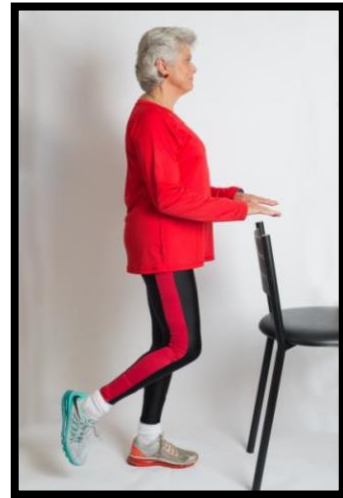
Too Easy?

- Lift foot higher off the ground in front of you
- Don't hold on
- Close your eyes



## 14. Foot Back

- Stand in Start Position
- Step back with right foot, toes on the ground and heel up
- Left foot remains flat
- Shift weight forward to left foot, lift right foot off the ground behind you
- Hold position
- Switch and repeat stepping back with left foot



### Too Easy?

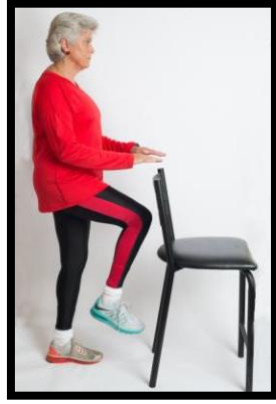
- Lift foot higher off the ground behind you
- Don't hold on
- Close your eyes

## 15. Knee Up

- Stand in Start Position
- Slowly lift right knee up, as if going into a march
  - Goal is to lift knee up to hip height  
(Keep knee lower to make easier)
- Hold position
- Switch and repeat bringing left knee up

### Too Easy?

- Lift knee up higher
- Don't hold on
- Close your eyes



# **Stop!**

*Before moving on to the next level of balancing exercises, be sure you can answer yes to the following statements for all of the exercises in the advanced level:*

- I can confidently perform the advanced exercises**
  
- I can perform the advanced exercises for 30 seconds**
  
- I can perform the advanced exercises without holding on**

## **U-ExCEL Balancing Act: Action Exercises**

*Action exercises should only be performed once all advanced exercises can be completed with confidence, without holding on, for 30 seconds.*

### **Instructions for Action Exercises:**

- These are movement based and should be done only after you have mastered the Advanced Exercises.
- Be sure a stable surface is within reach (i.e. hand rail, wall, chair, etc)
- Do these exercises slowly
  - The slower they are done, the more balance is challenged
- Progress through hand positions with a goal of not holding on – Hand Position #3
- Do each exercise #16-#20, and then repeat two more times

### **Hand Positions reminder:**

- #1. Holding on with one hand
- #2. Fingers resting on stable surface
- #3. Hand hovering above stable surface

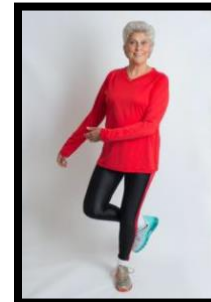
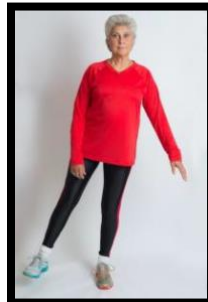
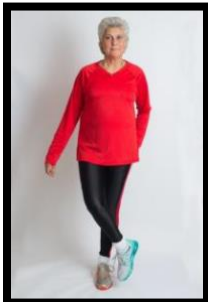
## 16. Sit to Stand

- Sit in a firm chair
- Slide forward as far as possible
- Slide heels back so they are lined up with the front edge of the chair seat
- Keep back straight, feet shoulder width apart and flat on the ground
- Place hands on knees and lean upper body forward (think nose over toes)
- Use buttock and leg muscles to stand up
  - If needed, use arms to assist
- Stand all the way up and hold for 5 seconds
- Slowly lower back down to chair seat – no plopping
- Repeat 10 times



## 17. Arm Swing with Opposite Leg Swing Movement

- Stand in Start Position
- Lift right leg and swing it in front of left leg, at the same time swing left arm behind torso
- Keeping the right foot elevated swing it behind left leg, and swing left arm in front of torso
- Repeat for 10-15 repetitions and then repeat with left leg and right arm



Too Hard?

- Make the arm and leg swing shorter
- Don't cross behind or in front as much

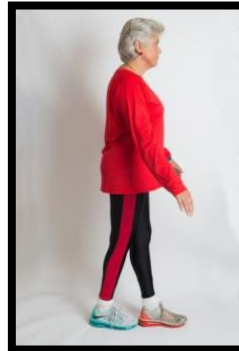
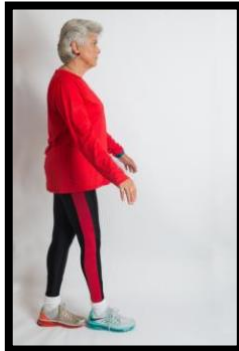
Too Easy?

- Lift leg higher off the ground

- Make swing longer and more exaggerated

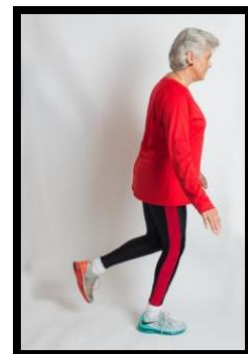
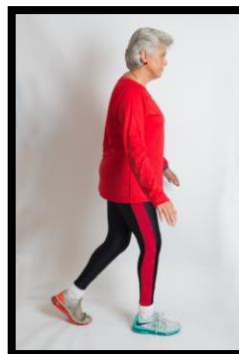
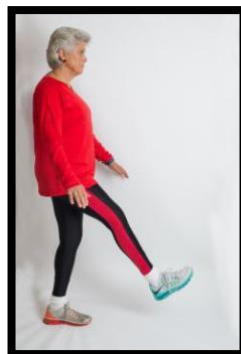
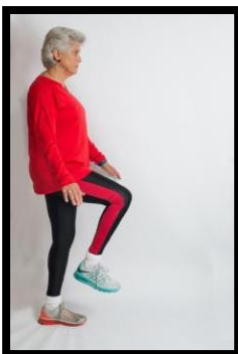
## 18. Heel to Toe Walk

- Stand with stable surface to right side, close enough to hold on if needed
- Stand tall, eyes focused in front of you (don't look at feet)
- Raise arms out to the side to aid balance
- Take small step with right foot and place it directly in front of left foot, so the right heel is touching the left toes
- Repeat with left foot
- Continue steps, turn around and return to starting place
- Repeat 3 times down and back



## 19. Exaggerated Walking Steps

- Stand with stable surface to right side, close enough to hold on if needed
- Stand tall, eyes focused in front of you (don't look at feet)
- Raise arms out to the side to aid balance
- Lift right foot off ground, slowly bring foot forward
- Touch right heel to ground, shift weight forward and step on right foot
- Lift left heel and repeat step with left foot
- Continue steps, turn around and return to starting place
- Repeat 3 times down and back



Too Easy?

- Exaggerate each step more by going slower and making the motions bigger – i.e. lift foot higher off the ground, strike with heel, push off with toe



## 20. Grapevine

- Stand facing stable surface, close enough to hold
- Stand tall, eyes focused in front of you (don't look at feet)
- Raise arms out to the side to aid balance
- Moving to the right first, step to side with right foot, and then cross left foot in front of right
- Take another step to side with right foot, and then cross left foot behind right
- Continue this pattern: cross in front, side step, cross behind, and then repeat to the left
- Continue steps, turn around and return to starting place
- Repeat 3 times down and back



Too Hard?

- Make steps smaller

Too Easy?

- Make bigger steps
- Make sure you're not holding on

# **APPENDIX**

**Appendix A: U-ExCEL Balancing Act: Exercise Diary**

**Appendix B: Social Support Identifier**

**Appendix C: U-ExCEL Balancing Act**

**Appendix D: Key Points for Health Providers and  
Community Organizations**

**Appendix E: Glossary**

**Appendix F: U-ExCEL Information**

## Appendix A

### U-ExCEL Balancing Act Exercise Diary

#### Instructions:

- Fill in the number of the exercise you are doing (1-20)
- Follow the instructions for each exercise
- Record in the Exercise Diary how many seconds you were able to hold the exercise (Time) and the hand position (HP) you used
- Track your progress over the days, trying to improve your time and difficulty
- You can keep additional notes as to whether your eyes were open or closed

*\*See Example of Exercise Diary on page 24*

## U-ExCEL Balancing Act Exercise Diary

NAME: \_\_\_\_\_

Fill in the Exercise # you are doing. Each time you do the exercise record how many seconds you held the exercise (Time) and the hand position (HP) you used.

Week 1	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										
Week 2	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										
Week 3	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										
Week 4	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										

## U-ExCEL Balancing Act Exercise Diary

NAME: \_\_\_\_\_

Fill in the Exercise # you are doing. Each time you do the exercise record how many seconds you held the exercise (Time) and the hand position (HP) you used.

Week 5	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										
Week 6	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										
Week 7	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										
Week 8	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										

# U-ExCEL Balancing Act Exercise Diary

NAME: Example-----

Fill in the Exercise # you are doing. Each time you do the exercise record how many seconds you held the exercise (Time) and the hand position (HP) you used.

Week 1	Exercise # 1		Exercise # 2		Exercise # 3		Exercise # 4		Exercise # 5	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1	20	3	20	3	15	2/3	15	1	20	2/3
Day 2	25	3	22	3	14	2/3	13	2	20	3
Day 3	30	3	27	3	18	3	20	2	23	3
Week 2	Exercise # 1		Exercise # 2		Exercise # 3		Exercise # 4		Exercise # 5	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1	30	2	30	3	18	3	26	2	27	3
Day 2	30	3	30	3	25	3	26	3	30	3
Day 3	30	3	30	3	30	3	30	3	30	3
Week 3	Exercise # 6		Exercise # 7		Exercise # 8		Exercise # 9		Exercise # 10	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1	30	3	15	1	17	1	30	1	19	2
Day 2	30	3	15	1	16	2	21	2	21	2
Day 3										
Week 4	Exercise #		Exercise #		Exercise #		Exercise #		Exercise #	
	Time	HP	Time	HP	Time	HP	Time	HP	Time	HP
Day1										
Day 2										
Day 3										

# Appendix B

## Social Support Identifier

### Instructions:

The questions on the next page ask about people in your life who provide you with help or support. For each question list all the people you know, excluding yourself, whom you can count on for help or support in the manner described. Write the person's initials (or name) and their relationship to you (see example). List only one person next to each number for every question.

### Example 1:

Who do you know you can trust with information that could get you in trouble?

- |                                 |                   |                    |    |
|---------------------------------|-------------------|--------------------|----|
| <input type="checkbox"/> No one | 1) T.N. (brother) | 4) Tony (neighbor) | 7) |
|                                 | 2) L.M. (friend)  | 5) L.M. (employer) | 8) |
|                                 | 3) R.S. (friend)  | 6)                 | 9) |

### Example 2:

Who do you know you can trust with information that could get you in trouble?

- |  |    |    |    |
|--|----|----|----|
| <input checked="" type="checkbox"/> No one | 1) | 4) | 7) |
|  | 2) | 5) | 8) |
|  | 3) | 6) | 9) |

Adapted from: Sarason, I.G., Sarason, B.R., Shearin, E.N., & Pierce, G.R. (1987).  
A brief measure of social support: Practical and theoretical implications.  
*Journal of Social and Personal Relationships*, 4, 497-510.  
(Adapted for U-ExCEL Balancing Act Use)

## Social Support Identifier

Please answer all questions as best you can.

### 1. Who can you really count on to be dependable when you need help?

- |    |    |    |                                 |
|----|----|----|---------------------------------|
| 1) | 4) | 7) | <input type="checkbox"/> No one |
| 2) | 5) | 8) |                                 |
| 3) | 6) | 9) |                                 |

### 2. Who can you really count on to help you feel more relaxed when you are under pressure or tense?

- |    |    |    |                                 |
|----|----|----|---------------------------------|
| 1) | 4) | 7) | <input type="checkbox"/> No one |
| 2) | 5) | 8) |                                 |
| 3) | 6) | 9) |                                 |

### 3. Who accepts you totally, including both your worst and your best points?

- |    |    |    |                                 |
|----|----|----|---------------------------------|
| 1) | 4) | 7) | <input type="checkbox"/> No one |
| 2) | 5) | 8) |                                 |
| 3) | 6) | 9) |                                 |

### 4. Who do you talk with most frequently either by phone or in person?

- |    |    |    |                                 |
|----|----|----|---------------------------------|
| 1) | 4) | 7) | <input type="checkbox"/> No one |
| 2) | 5) | 8) |                                 |
| 3) | 6) | 9) |                                 |

### 5. If you do not feel well, who can you really count on to check in on you and assist you if you need help?

- |    |    |    |                                 |
|----|----|----|---------------------------------|
| 1) | 4) | 7) | <input type="checkbox"/> No one |
| 2) | 5) | 8) |                                 |
| 3) | 6) | 9) |                                 |

### 6. If you travel or will be away from home, who can you count on to water your plants, check your mail, take care of your pet, or check on your home?

- |    |    |    |                                 |
|----|----|----|---------------------------------|
| 1) | 4) | 7) | <input type="checkbox"/> No one |
| 2) | 5) | 8) |                                 |
| 3) | 6) | 9) |                                 |

### Social Support Identifier Outcome:

1. Review answers above. Do any names appear multiple times?
2. For the name that appears frequently, please consider asking this person to support you by calling or stopping by a few times a week to ask how you are doing with your U-ExCEL Balancing Act exercises.
3. If you do not have one name that you wrote in repeatedly, then refer to your answers on Question 4 to identify a support person.



## Appendix C

### U-E xCEL Balancing Act

#### Description

U-ExCEL Balancing Act is an individual and/or group balance enhancement program designed for anyone who would like to improve his/her balance and reduce the threat of *falls* (see **Appendix E**). There are four levels of exercises: Beginner, Intermediate, Advanced and Action; each with a variety of exercises and additional challenges to master as balance improves. Aside from individual use this program can be prescribed by health care providers and offered by community agencies and organizations (see **Appendix D**).

#### Brief History

U-ExCEL Balancing Act was designed in 2010. Our program has been tested with older adults and studies are being expanded to measure more factors that are related to balance and stability when standing and walking. In 2012-13 U-ExCEL Balancing Act was awarded the Maine Governor's Award for Fitness Programs in the Special Populations Category.

In 2013 the National Institutes of Health awarded \$380,000 to researchers at the University of New England (UNE) College of Osteopathic Medicine (COM), University of Maine Center on Aging, and The Iris Network to study a falls prevention program for older citizens with vision impairment. The Balancing Act Manual was adapted into large print font, audio, and Braille for this study. The outcomes from this grant should be available during 2015-16.

#### Falls and How U-ExCEL Balancing Act Can Help

Fatal injuries related to falls are the fifth leading cause of death among older adults in the United States and the second leading cause of death due to associated injuries, and the rates of fall-related deaths are increasing. Each year, falls occur in over a third of persons over age 62, and in over half of persons over age 75. A substantial proportion of these falls are preventable, an important risk factor that can be changed is poor balance. Falling doesn't have to be a part of the aging process. Fear of falling can increase your fall risk, especially when it is combined with decreased activity levels.

The U-ExCEL Balancing Act exercise program provides you with an opportunity to practice and improve your balance in a safe and controlled environment. Setting aside time each day to practice these exercises will improve your overall balance ability during daily tasks.

#### Benefits of Balance Training

Performing balance exercises 3-5 days per week can provide tremendous benefits, such as:

- Increases joint stability, muscle strength, muscle mass, and flexibility
- Improves muscle endurance
- Increases performance for all physical activity
- Stimulates brain activity

- Reduces serious injury should a fall occur

## Appendix D

### Key Points for Health Providers and Community Organizations

#### Healthcare Providers

The U-ExCEL Balancing Act program can be prescribed for your patients to help improve balance, reduce the risk of falling, and the fear of falling. Once you have established that your patient is at risk for falls, there are two avenues you can take with this manual: (1) hand the patient the manual and ask her/him to start with beginner exercises; or (2) perform either the Tinetti Gait and Balance test OR the Timed Get up and Go test to determine the starting level for the U-ExCEL Balancing Act program.

- Beginner Level – **Tinetti Score**  $\leq 19$  – **Get up and Go time**  $\geq 20$  seconds
- Intermediate Level – **Tinetti Score** 19-23 – **Get up and Go time** 12-19 seconds
- Advanced Level – **Tinetti Score**  $\geq 24$  – **Get up and Go time**  $\leq 11$  seconds

The recommended prescription for this program is to exercise 3-4 days per week for a total of fifteen minutes per day, performing the 5 exercises in a given level (i.e. Beginner) Help set goals with your patients. For example, encourage your patients to keep track of their progress with the Exercise Diary in **Appendix A** and suggest they fill out the Social Support Identifier in **Appendix B** to help with reminders to do the exercises.

#### Community Agencies and Organizations

U-ExCEL Balancing Act is easily implemented in small groups either utilizing the lay leader model or staff leadership. For community agencies and organizations that want to offer Balancing Act, we can provide employees with U-ExCEL Balancing Act training to familiarize staff with the programs details. These trainings can be very useful to ensure that the program is maximizing it's full potential and can be a great gateway for future programs. During these trainings, U-ExCEL staff asks for feedback from community organizations so as to continue adapting the program for older adults.

If your community agency or organization is interested in having U-ExCEL staff come to your site for a hands on training please contact us (contact information can be found on page i).

Community agencies and organizations can use the U-ExCEL Balancing Act program in group classes or for individual use. Suggestions and tips for either use are listed next: 1. Group Classes & 2. Individual Users.

## 1. Group Classes

The U-ExCEL Balancing Act program can be used as the focus for small group sessions or can be included as a component of a group class. If you have a group of people interested in participating in the U-ExCEL Balancing Act exercises, this manual can be used as a guideline for those group sessions. When planning to start a U-ExCEL Balancing Act Group class the following considerations should be made:

- Provide a safe classroom environment (even floors, enough space, emergency procedures) with plenty of stable objects to provide hand support.
- Form groups of participants with similar balance abilities – this helps the instructor provide directions appropriate for all participants.
- Group class size depends on the room size and the ability of the instructor. Groups of 4-8 people are a very manageable size.

During the first group class it is important to make sure all instructors and participants are comfortable with the material and the goals of the program. We suggest groups start at the beginning of the manual, and to verbalize the following:

- Hand Positions
- Start Position
- How to make exercises more challenging (reducing contact with hands, closing eyes, etc)

Once the balance ability of all participants has been gauged class leaders can increase difficulty by progressing through the challenges and exercise levels based on participants' abilities. Increases in difficulty should be done on an individual basis, when participants feel comfortable doing the previous exercise without holding on. Encourage participants to challenge themselves, working through the stages of hand positions, proper body positions, and making each exercise a bit harder by adding the challenges listed under "Too Easy?" at the end of each exercise.

## 2. Individual Users

The U-ExCEL Balancing Act Manual can be handed out to members of community centers, senior centers, churches, Area Agencies on Aging, etc. If centers choose not to run group classes, individuals can use the manual independently (details provided on page 2 – Getting Started). Centers and organizations can register participants at their sites and provide extra support by calling the participants once a week to check on progress or have the participants submit their U-ExCEL Balancing Act Exercise Diary (see **Appendix A**) once a week or month, whichever works for the center.

Participants should progress on their own based on how balanced they feel. However, if it is noticed that a person continues to do beginner exercises and is not advancing this could be a sign that they may not be practicing enough or may not understand how to progress to the next exercise level. Review the Checklist at the end of each exercise level (Beginner, Intermediate, and Advanced) with the participant to determine his/her ability.

## Appendix E

### Glossary

**Balance:** even distribution of weight enabling someone to remain upright and steady.

**Base of Support:** the location on the body where most of the weight is supported; the legs and feet make up the body's base of support, acting as the base or foundation to standing erect so as to keep from falling, sinking, or slipping.

**Center of Gravity:** the point at which the entire weight of a body is concentrated so that at this point the body maintains its equilibrium (balance) in any position.

**Fall:** coming to rest inadvertently on the ground or at a lower level.

**Points of Contact:** the area in contact with the floor or another stable object (feet, hands holding on, touch with finger tips).

**Postural Sway:** the body sway induced by performing balance exercises. To sway is to move rhythmically back and forth or to influence body position.

**Proprioception:** the ability to sense the position, location, orientation, and movement of one's body.

**Stability:** the state or quality of being stable (firmness of position), especially being resistant to change.

**Social Support:** is the existence of people on whom we can rely and will provide assistance. They are the ones who let us know that they care about, value and respect us. Support can come from many sources, such as family, friends, coworkers, etc.

**Vestibular/Vestibular System:** the system in the human body that contributes to balance and to the sense of where the body is in relation to its surroundings. It is the sensory system that gives feedback about movement and sense of balance.

**Visual Point of Reference:** a constant visual cue or focal point that the eyes concentrate on to aid balance and stability; best visual points of reference are at eye level when standing tall.

## Appendix F

### U-ExCEL Information [UNE~ Exercise and Conditioning for Easier Living]

#### Description

U-ExCEL is a community-based comprehensive health promotion program created to serve older adults living independently or in long term care environments. U-ExCEL provides an array of programs focused on balance, falls prevention, physical activity and wellness. Programs are designed to be provided in a group or individual format.

#### Mission

U-ExCEL's mission is to optimize the health and well-being of older adults through fitness and wellness programming.

#### Program Offerings

U-ExCEL is constantly expanding its program offerings to meet the needs of older adults living in a variety of community environments. A sample of our programs include:

- **Balancing Act:** See [Appendix C](#).
- **Education Series:** This program series allows for U-ExCEL staff to provide an educational program to participants on a variety of health related topics. Examples include: "The Importance of Play"; "Beating the Winter Blues"; "Take 5 Minutes to Improve Your Health"; etc.
- **Movement to Music:** This movement based class is designed to keep you moving (exercising) to different music during the class whether you know how to dance or not. Anyone can join regardless of ability.
- **Range of Motion:** This slow paced class focuses on emphasizing and maximizing the movements in all joints; beginning with the head, working out to the fingers, and down to the toes. Individuals can sit or stand to participate in this class. There are no weights used and participants do not have to get down on the floor.
- **Sit and Fit:** This unique class includes chair exercises that promote flexibility, cardiovascular fitness, dexterity, and fun. It is amazing how much exercising can be done in a chair.
  - **Modified Sit and Fit:** Same as Sit and Fit but includes higher level exercises that are done while standing behind the chair.
- **Strength and Balance:** This class is designed to improve functional ability by strengthening the muscles and improving static and dynamic balance.
- **Water Aerobics:** Fun and energizing exercises done in the water that include a combination of cardiovascular, range of motion, flexibility, and muscular strength exercises.
- **Water Walking:** A half-hour of creative and dynamic ways to walk in the water, which is equivalent to one hour of walking on land.
- **Yog-Chi:** This unique slower-paced class will combine principles from yoga and Tai-Chi, be slow paced, and will continue to adapt, incorporating additional techniques, poses, and so on as the class and instruction evolves.