



# LEARN THE RIGHT MOVES

## FALL PREVENTION PROGRAM

Dr. Pablo Estrada, DPT, OCS  
EP Rehab Specialty Group

# About Me

- Dr. Pablo Estrada, DPT, OCS
  - Board Certified Orthopedic Specialist
  - Orthopedic Residency
    - Houston, Texas
    - Harris Health System
    - Quentin Mease Hospital
  - University of Texas at El Paso Graduate
    - Doctor of Physical Therapy c/o 2015
- El Paso Born and Raised
- EP Rehab Specialty Rehab Group
  - Sports & Orthopedic Physical Therapy Clinic
  - All ages wellbeing and fitness
  - **I'm Your Physical Therapist**



# Objectives

- **Recognize how and why falls happen.**
- **Identify the top 3 environments where falls occur**
- **Determine Your Fitness Level**
- **Identify possible injuries that can happen and risks of not getting help**
- **Comprehend when it is safe to try to get up on your own vs calling for help**
- **Establish a fall prevention program with emergency contacts established**
- **Perform and teach exercises to prevent falls**
- **Be able to get up from the ground using Turkish get-up skills**

# Why and How Falls Happen

- Fitness Level
  - Activity Level
    - Activity Out of the House
    - Use of Assistive Devices
  - Weakness and Balance Loss
    - Previous Injuries & Surgeries
    - Previous Falls = Fear of Falling
- Other Medical Conditions
  - Orthostatic hypotension, high blood pressure, diabetes, History of stroke, peripheral vascular disease, neuropathy, insomnia, etc.
  - Medications
    - Polypharmacy = 4 or more medications
    - If fall occurs right after medication change, ask PCP about the new Rx

# Why and How Falls Happen

- Change in environment
  - Move to new residence
  - Purchase new furniture
- Familiar environments
  - Not paying attention
- Falls Happen when you least expect it
  - One minute I was getting out of the shower, the next I was on the ground.
  - Frequent night bathroom use (nocturia)

# Where falls happen...

- Bathroom
- Parking lot
- Familiar environment



# Can I get back up?

- Lifting someone requires strength

- Listen to your

- “That Air

- **Error on the**

- Call EMS

- Fire Depo

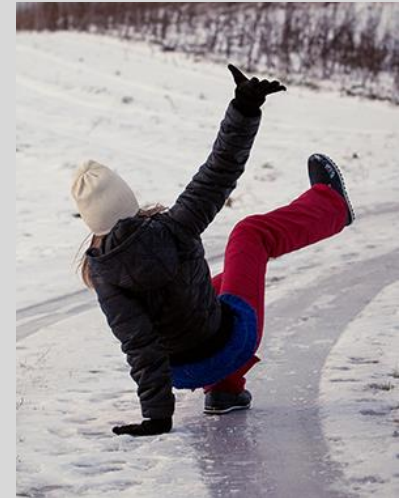


er to assist



# What Can Happen...

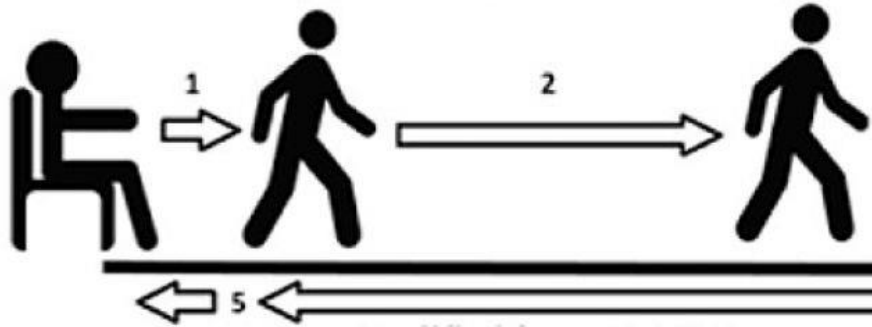
- Bruises & Ligament tears
  - Ligaments avascular and poor pain receptors
  - Won't know you've hurt them but swelling will occur
- Muscle Strain
  - Stretched beyond typical limit
  - Soreness
- Pressure Ulcers
  - Make sure to shift body every 30 minutes
- Fractures
  - Hip, Femur (leg bone), Ankle, Hand aka Scaphoid (FOOSH)
  - Don't want to make it worse. Can be sharp and damage surrounding nerves or blood supply
- Traumatic Brain Injuries aka Concussions = 25% of falls
  - Hit head on ground, whiplash effect for neck
  - Results in increase dizziness, loss of balance, loss of coordination, loss of focus
  - Effects can last for weeks to months





Y

## Timed Get Up and Go (TUG) Test



- 30 Second Sit to Stand Test

- Measures core and leg strength and static balance

- **Start:** Sitting in chair

- **Execution:** Stand all the way up and return to sitting as many times as you can, as fast as you can, but as safe as possible, in 30 seconds

- Goals

	Female	Male
60's	15 reps	17 reps
70's	14	15
80's	12	13
90's	9	9

# Fall Prevention Program

- Home Assessment
  - Clear the clutter
    - Rugs, doorways, bathmats, extension cords, uneven surfaces (especially outdoors)
  - Physical Therapist to perform fall/trip hazard analysis
- Medical Alert Systems
  - Life Alert
    - “Help! I’ve fallen and can’t get up”
  - iWatch
  - Cell phone pouch/carry case
- Emergency contact
  - 911 if in doubt or no response
  - Daily “Check-in” Routine

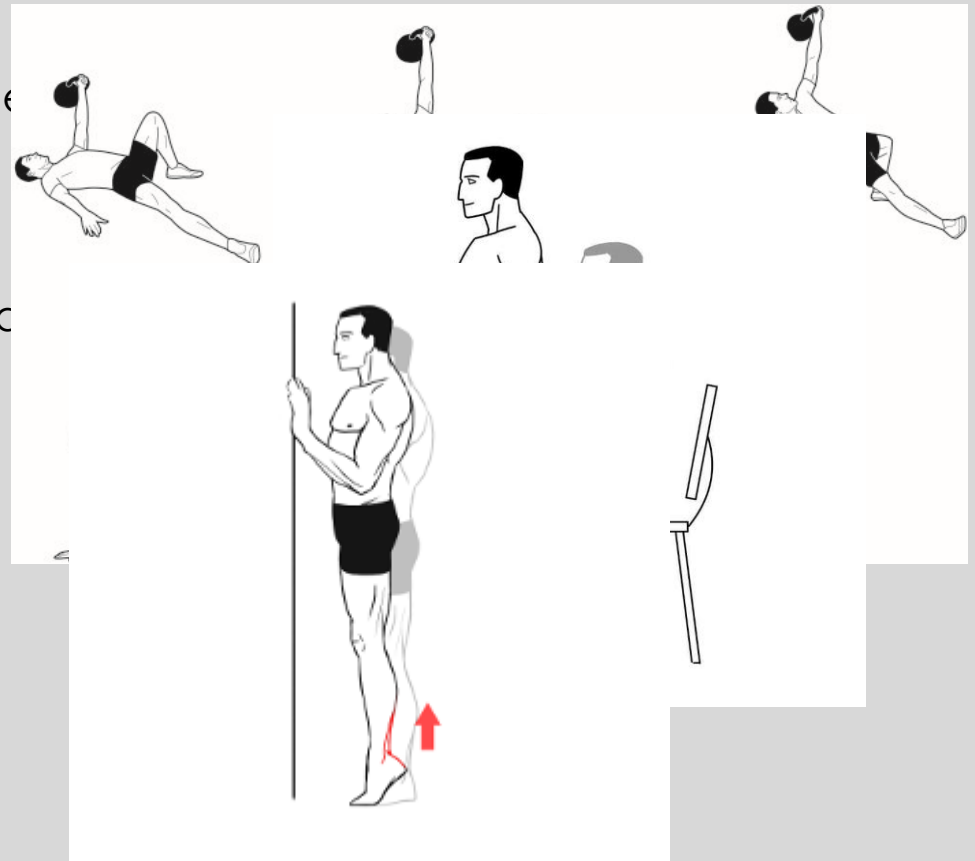


# Exercise and Conditioning

- Adding (group) physical therapy
  - 29% risk reduction in falls
- PT & Home assessment
  - Reduce fracture falls by 61%
- 30-90 minutes, 3x/wk = “Heavily Active”
  - Elevated Heart Rate
  - Elevated Breathing Rate
  - Not able to have a conversation when doing activity

# Perform and Teach Movements

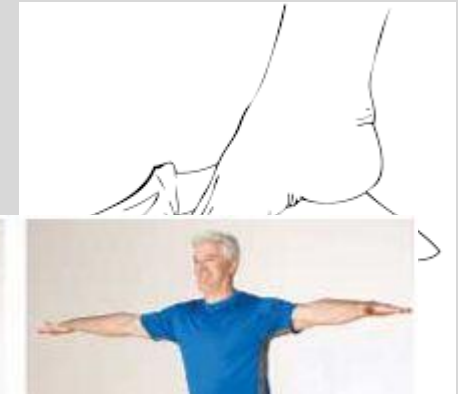
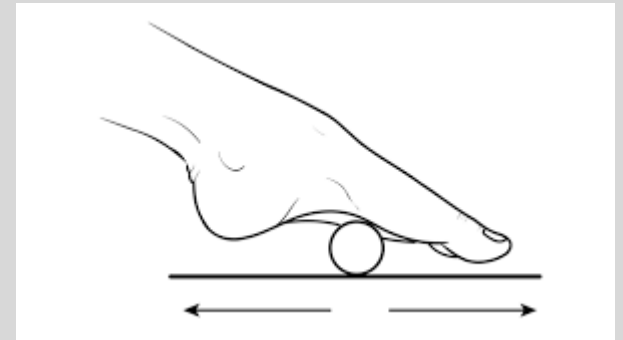
- **Getting up from the ground**
  - o Could you lay down on the
- **Turkish Get-up**
  - o Total body movement
  - o Unilateral challenge
  - o Modified with edge of bed
- **Sit<>stand**
  - o Concentric vs eccentric
  - o Use of hands vs no use
  - o Arm rest vs no arm rest
- **Calf Raises**
  - o Concentric vs eccentric
  - o Double vs single
  - o Wide vs narrow



# Foot Work

## - Toe Yoga

- o Tennis ball, soft pillow, feet wide vs narrow



# Are you ready...

- Dress ready to move
  - Lose fitting clothing and/or workout gear
- Grab a chair
  - No wheels
  - Sturdy
  - Preferably without arm rests
- Grab a blanket or mat you can place on ground
- Get your emergency contact to join you if possible
  - Family member
  - Neighbor
  - Friend

# Questions?







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# Share Your Thoughts

- How did your home assessment go?
- Did you find the task difficult? Why or why not?
- What fall/trip hazards did you find?
- Where do you think a fall would be most likely to happen in your home?
- Who did you establish as your emergency contact?
- Were you able to establish a routine?

Uh ohh!



# What Were Your Results?

Timed Up and Go (TUG) Test

LET'S DO IT!

Measures your strength,  
dynamic balance,  
walking mechanics, and  
movement

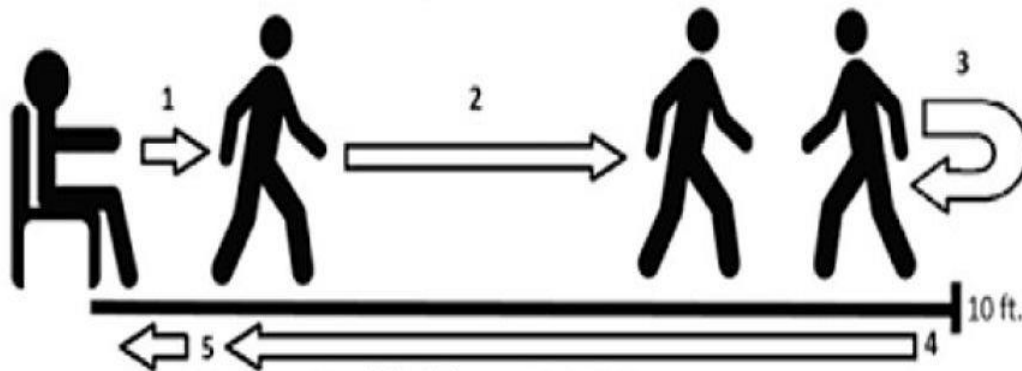
**Start:** Sitting in a  
Chair

**Execution:** Stand  
up, walk 10 feet,  
turn around, walk  
back to chair, and  
sit in chair.

**Goal:**

**< 14 Seconds**

## Timed Get Up and Go (TUG) Test:

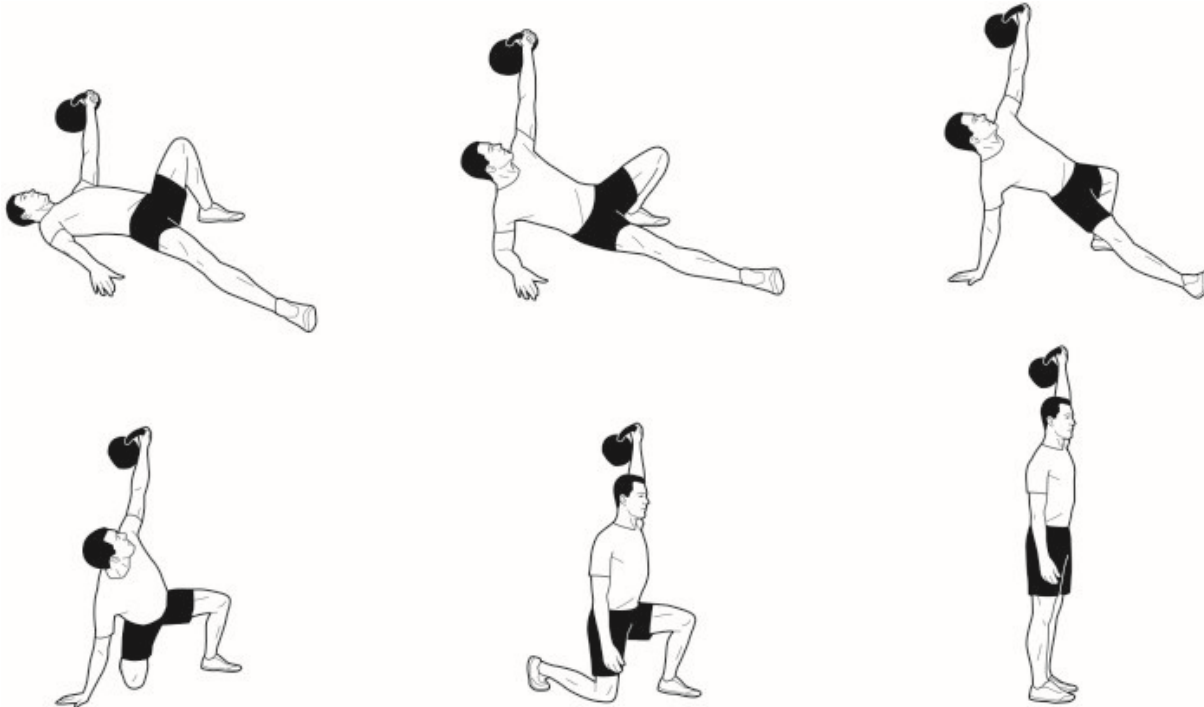


- 30 Second Sit to Stand Test
  - Measures core and leg strength and static balance
  - **Start:** Sitting in chair
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# Turkish Get-Up



- **Turkish Get-up**
  - Total body movement
  - Unilateral challenge
  - Modified with edge of bed

# Coming soon...

**We'll be trying to get up from the ground and doing more exercises!**

- Dress ready to move
  - Lose fitting clothing and/or workout gear
- Grab a blanket or mat you can place on ground
- Get your emergency contact to join you if possible
  - Family member
  - Neighbor
  - Friend



# Questions?

