



# TheraPilates® for the Fit Older Adult


---

## with Osteoporosis

Sherri Betz, PT, DPT, GCS, CEEAA, PMA-CPT


[www.therapilates.com](http://www.therapilates.com)



Pilates Mat: Getting started... 

Upon *mandatory* completion of the pre-requisite **6-Class Introductory Series**, students may begin the **Intermediate Level Mat for Fit Older Adults**.


TheraPilates® Physical Therapy © Copyright 2019 2

Pilates Mat: Getting started... 

**Fit or Frail?**  
**1 QUESTION**

*“Can you get down to and up from the floor without assistance?”*

TheraPilates® Physical Therapy © Copyright 2019 3

Pilates Mat: Getting started... 


First, they watch an online lecture:  
<https://www.youtube.com/watch?v=anCK11Vk9P0>

TheraPilates® Physical Therapy © Copyright 2019 4


Intro Class – 6 Week Series 

1. Neutral Spine, Standing Posture & Fletcher Pilates 7 Standing & Centering
2. Balance, Leg Strength-Squats & Lunges, Hip Hinge
3. Core Control Work on the Mat
4. **Cervical** & Shoulder Girdle Alignment/ Stability in NWB and in Weightbearing (WB)
5. Thoracic Extension & Safe Spine Mobility
6. Movement Integration & Transitions (emphasis on transitions between exercises)

Copyright © 2012 TheraPilates®  
TheraPilates® Physical Therapy © Copyright 2019 5

Pilates Mat: What's safe and effective? 


70% (24/34) of the Mat Exercises from *Return to Life* are **contraindicated** for osteoporosis...



TheraPilates® Physical Therapy © Copyright 2019 6

### Contraindicated Pilates Mat


- Roll Up
- Rollover
- Rolling Like A Ball
- Spine Stretch
- Open Leg Rocker
- Cork-screw
- Saw
- Neck Pull
- Scissors
- Bicycle
- Spine Twist
- Jack-Knife
- Teaser
- Boomerang
- Seal
- Crab
- Rocking
- Control Balance



7

### Pilates Mat Exercises-MODIFIED


- Hundred-with head down
- Single Leg Circles
- Single Leg Stretch-Head Down
- Double Leg Stretch-Head Down
- Single Leg Stretch With Straight Legs-Head Down
- Double Leg Stretch With Straight Legs/Lower Lift-Head Down
- Criss-cross-Head Down
- Swan-Dive (1 only)
- Single Leg Kick



8

### Modified Pilates Mat Exercises



- Double Leg Kick
- Shoulder Bridge-Not too high
- Side Kick
- Hip Circle/Hip Twist w Stretched Arms-Maintain Neutral Spine
- Swimming
- Leg-Pull - Front
- Leg-Pull
- Side Kick Kneeling-Maintain Neutral Spine
- Side Support-Neutral Spine
- Push Up




9

### General Contra-indications

- All Rollups
- All forms of Crunches
- Abdominal work with Oblique Rotation
- Pressures on the ribcage
- Forced external rotation of the hip in standing or in floor exercises





Pigeon Pose  
Copyright© 2010 TheraPilates®



10

### Chapter 2: Begin the Exercise Class



11

### TheraPilates® Intermediate Mat Class for Bone Building



Pilates for Bone Building at Capitola Recreation Center



12

**FIT: Older Adult Pilates Mat**

- 1) **Tennis Ball Massage** and **Parakeet** MTP Flexion Stretch
- 2) **Fletcher™ Standing and Centering** Cues
- 3) **Fletcher Towelwork™** Taut Towel Pulls and Variations
- 4) **Heel Raises** with Heels/Ankles together (or tennis ball with knee valgus)
- 5) **Single Leg Stance**-Heel raise with proper ankle tracking
- 6) **3-Way Hip**; hip flex, abd, ext with or without resistance band

Copyright© 2012 TheraPilates®

**3 Way Hip**  
Tubing: Flexion, Abduction, Extension

TheraPilates® Physical Therapy © Copyright 2019

**Hip Abduction**

**Hip Abduction without Resistance:**

TheraPilates® Physical Therapy © Copyright 2019

**FIT: Older Adult Pilates Mat**

- 7) **Chair Pose** with Hip Hinge and Neutral Spine
- 8) **Lunges** (Marriage Proposal Position)

Chair Pose      Long Stride Lunge Prep      Marriage Proposal Lunge

Copyright© 2012 TheraPilates®

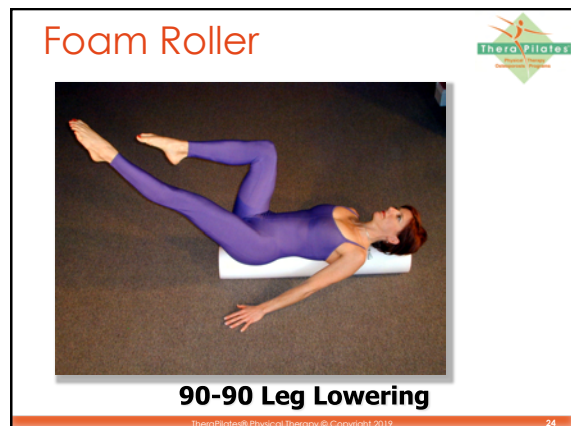
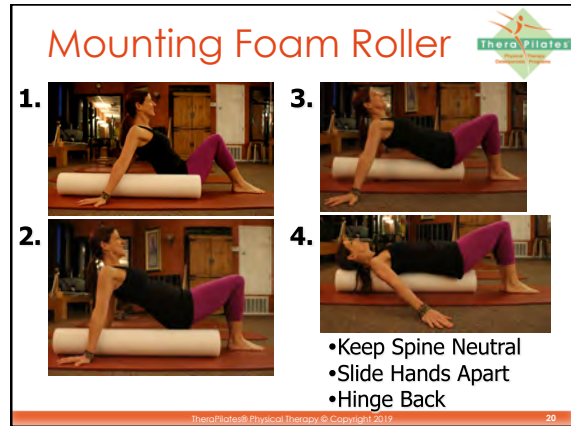
**Chapter 3:  
Down to the Mat**

Copyright© 2012 TheraPilates®

**FIT: Older Adult Pilates Mat**

- 9) **Thigh Stretch**
- 10) **Quadruped**-Neutral Spine, Pregnant Cat Breathing, Contralateral Shoulder Flexion/Hip Extension
- 11) **Push Up Hold Plank/ Leg Pull**
- 12) **Prayer Stretch**
- 13) **Chest Stretch**
- 14) **Modified Teaser**
- 15) **Mount Foam Roller**

Copyright© 2012 TheraPilates®



**FIT: Older Adult Pilates Mat**

- 22) **Bridging & Pelvic Clocks:** Feet Apart, Articulate Up and Down, Feet Together Shoulder Bridge Marching, Pulses, then Knee straight leg lowering
- 23) Roll to side: **Side Lift** bottom knee straight/bent
- 24) **Side Kick with Pelvis Lifted**
- 25) **Side Kick with Thoracic Rotation**
- 26) On forearms for **Single Leg Kick**, prep with hip lift first, pubic bone remains 1" off the mat
- 27) Opp Side **Sidekick Series**




Copyright © 2012 TheraPilates®

**FIT: Older Adult Pilates Mat**

- 28) **Mermaid-Modified**
- 29) **Foam Roller Perpendicular-Mounting** Instruction
- 29a) Or Use 8" Massage Ball
- 30) **Rolling:** back and forth over thoracic spine only in neutral spine
- 31) **Thoracic Extension-** Arching Back over the roller or 8" Massage Ball (avoid lumbar spine)
- 32) **Prone:** Breathing and low belly lift
- 33) **Prone Hip Extension**
- 34) **3-Part Swan** (see handout)

TheraPilates® Physical Therapy © Copyright 2019

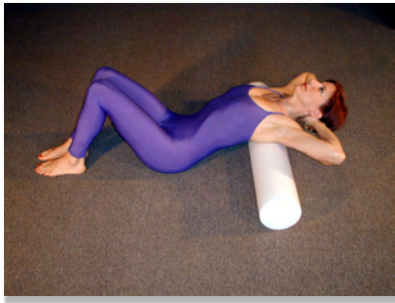
**Foam Roller**



**Thoracic Spine P-A Glides and Massage**

TheraPilates® Physical Therapy © Copyright 2019

**Foam Roller**




**Thoracic Spine Extension**

TheraPilates® Physical Therapy © Copyright 2019

**Massage Ball**

- Thick air-filled massage balls can be used to provide direct pressure to the spinous process without excessive pressures on the ribcage
- Targets thoracic extension with self-PA glide technique
- Targets abdominal strength simultaneously



Copyright © 2015 TheraPilates®

TheraPilates® Physical Therapy © Copyright 2019

**FIT: Older Adult Pilates Mat**

- 35) **Double Leg Kick** w/ alternate hand position
- 36) **Pre-Swimming** with or without Foam Roller
- 37) **Child's Pose** with Arms Extended Rest
- 38) **Eve's Lunge** (Psoas Stretch in Kneeling)
- 39) Finish by working on **kneeling to half-kneeling** with control and pads under knees.
- 40) **Seated meditation**



TheraPilates® Physical Therapy © Copyright 2019

**FIT: Older Adult Pilates Mat**

Finish by working on meaningful vertical core control.


Seated Meditation

Practice mindful transfer from floor to stand. Remind class about standing postures, transitions, alignment and awareness!

*"Adjust your rear-view mirror to your taller sitting posture with an elongated spine!"*

TheraPilates® Physical Therapy © Copyright 2019 31

**The Fountain of Youth**



"Hip Extension , Thoracic Spine Extension Leg Strength, & Balance!"

Copyright© 2008 TheraPilates®

TheraPilates® Physical Therapy © Copyright 2019 32

**Pilates Exercise Resources**



Copyright© 2008-12 TheraPilates®

TheraPilates® Physical Therapy © Copyright 2019 33

**Where to teach?**

- Community Centers
- Recreation Centers
- Senior Centers
- YMCA
- Churches
- Yoga Centers



TheraPilates® Physical Therapy © Copyright 2019 34

**Get the Word Out!**

- Often, recreation centers produce a catalog that they send out to the local area.
- Even at \$5 per class, 30 people per class can be worth your time
- Build a good website and mailing list
- Start a support group that meets for 1-2 hours 1x per month or every other month
- Participate in local Senior Health Fairs
- STICK with it! It takes at least ONE YEAR to build a consistent following in a MAT Class!

TheraPilates® Physical Therapy © Copyright 2019 35

**International Osteoporosis Foundation**

- For more information and continued updates on research and developments for the treatment and prevention of osteoporosis go to the internet:
- To search for the Osteoporosis Societies in ANY country go to:

[www.osteofound.org](http://www.osteofound.org)

TheraPilates® Physical Therapy © Copyright 2019 36




## Osteoporosis Australia

Osteoporosis Australia aims to improve awareness about the disease in the Australian community and reduce bone fractures.

<https://www.osteoporosis.org.au/>

TheraPilates® Physical Therapy © Copyright 2019 37




## ONERO Academy

An Evidence-based exercise program developed by Professor Belinda Beck, based on findings from the LIFTMOR Trials at Griffith University.

<https://onero.academy/osteoporosis-exercises/>

TheraPilates® Physical Therapy © Copyright 2019 38



## ESSA Position Statement

- Beck, B. R., et al. (2016). "Exercise and Sports Science Australia (ESSA) position statement on exercise prescription for the prevention and management of osteoporosis." *J Sci Med Sport*.

<https://onero.academy/wp-content/uploads/2019/02/Essa-Positional-Statement.pdf>

TheraPilates® Physical Therapy © Copyright 2019 39




## Australia & New Zealand Bone & Mineral Society

ANZBMS is a professional medical / scientific society established in 1988 to bring together clinical and experimental scientists and physicians actively involved in the study of bone and mineral metabolism in Australia and New Zealand.

<https://www.anzbms.org.au/>

TheraPilates® Physical Therapy © Copyright 2019 40



## Australian Physiotherapy Association

(APA) is the peak body representing the interests of Australian physiotherapists and their patients.

<https://australian.physio/>

Special webpage devoted to consumer education about osteoporosis

<https://choose.physio/your-condition/osteoporosis>

TheraPilates® Physical Therapy © Copyright 2019 41



## National Osteoporosis Foundation (USA)

For more information and continued updates on research and developments for the treatment and prevention of osteoporosis go to the internet:



[www.nof.org](http://www.nof.org)

1-202-231-4222

TheraPilates® Physical Therapy © Copyright 2019 42




**FORE:**  
Foundation for Osteoporosis Research & Education (USA)

FORE has a public outreach program called American Bone Health.

American Bone Health was developed as a community outreach and awareness program  
[www.americanbonehealth.org](http://www.americanbonehealth.org)



**AMERICAN BONE HEALTH**

[www.FORE.org](http://www.FORE.org)  
888-266-3015

TheraPilates® Physical Therapy © Copyright 2019 43

**American Bone Health Speaker's Bureau! (USA)**






**AMERICAN BONE HEALTH**


Become an American Bone Health Peer Educator. Contact Kathleen Cody, Executive Director, or Shelley Powers if you are interested in the training program to become a speaker.  
888-266-3015  
[kathleen@americanbonehealth.org](mailto:kathleen@americanbonehealth.org)

TheraPilates® Physical Therapy © Copyright 2019 44

**Pilates Method Alliance**


- The Pilates community at large has joined together in an effort to identify and preserve the comprehensive work of Joseph and Clara Pilates.
- The PMA believes that Pilates should evolve along with the advances in movement research and modern science.
- The PMA developed a 3<sup>rd</sup> party accredited certification program in 2005 to establish national entry-level standards in an effort to protect the public and ensure quality of instruction.





[www.pilatesmethodalliance.org](http://www.pilatesmethodalliance.org)

TheraPilates® Physical Therapy © Copyright 2019 45

**American Physical Therapy Association**




The Bone Health Special Interest Group is a group of "boneheads" with with a passion for bone health!

Join us at: [www.geriatricspt.org](http://www.geriatricspt.org)  
or email [sherri@therapilates.com](mailto:sherri@therapilates.com)


TheraPilates® Physical Therapy © Copyright 2019 46

**Academy of Geriatric Physical Therapy**





**Clinical Practice Guidelines for the Management of Osteoporosis**

Under the direction of Greg Hartley and Keith Avin, Bone Health SIG members, Sherri Betz and Carleen Lindsey are participating in the CPG Workgroup to publish a Clinical Guidance Statement with a special focus on exercise and manual therapy intervention recommendations.



TheraPilates® Physical Therapy © Copyright 2019 47

**The Fountain of Youth!**

"Hip Extension , Thoracic Spine Extension Leg Strength, & Balance!"

Copyright© 2008 TheraPilates®

TheraPilates® Physical Therapy © Copyright 2019 48

TheraPilates® Mat for FIT Older Adult with Osteoporosis

Sherri R. Betz, PT, DPT, GCS, CEEAA, PMA®-CPT

Thank you!



Sherri Betz, PT, DPT, GCS, PMA®-CPT  
TheraPilates® Physical Therapy Clinics  
Santa Cruz, CA & Monroe, LA  
[www.therapilates.com](http://www.therapilates.com) 831-359-5184 [sherri@therapilates.com](mailto:sherri@therapilates.com)  
Glenwood Medical Center Physical Therapy, West Monroe, LA

# Ron Fletcher's 7 Standing and Centering Cues



## Foot Centers Encourage



Avoid



Avoid



1. Tripod Foot Centers, find subtalar neutral, pronate and supinate, avoid collapsing of arch. 40/60% weightbearing.

40% of weight inside foot.  
60% of weight outside foot.

## Magnets Encourage



Avoid



2. "Magnets" image between heels, shins and thighs (great for ankle control)

Stand more often with feet together to activate postural muscles.

When performing heel raises draw heels together.

## Bolts

Encourage



Encourage



Avoid



Avoid



3. Pelvic Bolts:

Pubis to mid-sacrum

Greater Trochanters

Avoid tucking pelvis and tailbone under  
Avoid arching pelvis and lifting tailbone up

Avoid squeezing buttocks.  
Keep pubis and tailbone level with back muscles relaxed.

# Ron Fletcher's 7 Standing and Centering Cues



## Girdle of Strength

Encourage



Avoid



Avoid



4. Girdle of Strength:  
Lift ribcage off pelvis especially from the sides.

Keep ribcage centered over pelvis

Keep lumbar muscles relaxed

## Shoulder Girdle Placement

Encourage



Avoid



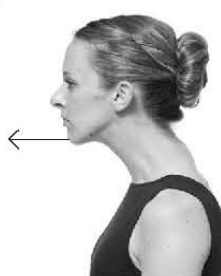
5. "Placement" of the shoulder blades and collarbones resting on the ribcage.

## Head and Neck Placement

Encourage



Avoid



Avoid



6. Draw the throat back and lift the ears up towards the ceiling. Lengthen the back of the neck.

## Fletcher Percussive Breath™

Encourage



Encourage



7. Percussive Breathing:  
Lateral Costal: supports core control  
Diaphragmatic: relaxing  
Accessory: (upper lung): stressful



## INTRO to TheraPilates® for Bone Building Manual

### MAT WORK Fletcher® Towelwork

#### Shoulder Setting: Preparation for all upper body work:



Seated



Supine

Hold Towel about 20" apart palms up. Imagine that you are holding a serving tray. Sit tall in optimal postural alignment. Inhale to widen collarbones and roll humeral heads back and down in the sockets. Exhale and pull Towel until it is gently taut while maintaining the humeral head and scapular position. Open collarbones. Avoid "squeezing" or adducting scapula. Repeat 5-10x.

#### Taut Towel Pulls:

Hold towel at double the distance of your shoulder girdle with palms down and back of the wrists flat. Elbows are slightly bent with arms in a parenthesis shape. Keep shoulders down and inhale to lengthen the spine then exhale and pull the towel from your back. Keep your neck relaxed and wrists firm. Repeat 5x with the towel in front of your hips, 5x with the towel at your collarbone height and 5x with the towel overhead. Now raise your arms to the overhead position, by initiating the lift of your arm from your back. Draw your armpit down and forward to lift. Hold the towel over the crown of your head, turn your armpits to face forward and imagine opening your armpits and pressing the deepest part of your armpit forward. Keep the shoulders down away from your ears and your upper trapezius (on top of your shoulders) muscles relaxed. Then, slide the shoulder blades up and down on your back 5x.



At Hips



At Collarbones



Overhead

**Quadruped or Plank:** Place the heels of your hands on the towel just under your shoulders, press the palm where your fingers attach to the floor so that your hand slopes down towards the fingers. Hold the shoulder blades wide on your back and arms in a parenthesis shape with elbows slightly bent and creases of the elbow facing each other. Pull gently apart and feel the outside of your armpits working to hold your shoulders wide on your back.



Quadruped or Plank



## INTRO to TheraPilates® for Bone Building & Injuries Manual

### MAT WORK Swan Preparation



Upper Thoracic Extension



Mid-Thoracic Extension



Lower Thoracic Extension

#### BODY POSITION

Begin with head resting on back of hands in elongated spine position scapulae away from ears. Follow progression below moving from one position to the next.

#### Upper Thoracic:

Lift head off of mat without changing cervical curve or scapular position  
*For Strength: Lift hands/forearms off the mat bringing back of hands to touch forehead for strengthening back extensors*

#### Mid-Thoracic:

While lifted, open arms to goal post position with 90° abduction and 90° elbow flexion and continue to extend thoracic spine without changing cervical, lumbar or pelvic position.

*For Strength: Lift forearms off the mat in goal post position without scapular elevation for strengthening back extensors.*

Lower Thoracic: While lifted, move hands so that fingers are aligned under clavicles, keeping elbows aimed toward feet

Extend thoracic spine as far as possible, keeping lowest ribs on the mat without changing cervical, scapular, lumbar or pelvic position

*For Strength: Lift hands off the mat at least 1" with no change in torso position to strengthen back extensors*

#### MOVEMENT/BREATHING

Inhale to lengthen the spine  
Exhale and move into thoracic extension.

#### WATCH FOR

Watch for head lifting, shoulder elevation, lumbar extension and/or anterior pelvic tilt



## INTRO to TheraPilates® & Yoga for Bone Building & Injuries Manual

### MAT

### 8" Ball Thoracic Extension



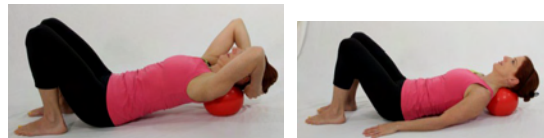
Lower Thoracic Extension



Middle Thoracic Extension



Upper Thoracic Extension



Cervical: Suboccipital Release



Thoracic Extension Seated in Chair

#### SETUP

Sit with buttocks centered in front of 8" Air-Filled Ball  
Lean back on your hands

Keep chest lifted and spine in neutral and carefully slide hands directly apart

When your mid-thoracic spine contacts the foam ball, immediately place your hands behind your head to support your neck and keep your buttocks resting on the floor

#### Body Position

Start in a neutral spine with midback resting on the ball and hands behind the suboccipital region to support and lengthen the neck

Keep elbows wide and ribs engaged with pelvis

#### EXERCISE

##### Movement

Begin rolling back and forth over the thoracic spine only. Do not roll into the lumbar spine-this is usually painful and can be damaging!

Maintain neutral spine and mild abdominal contraction throughout rolling movement.

As you roll over the thoracic spine, notice where you have tension or "sore spots"

When you find one, stop at that segment and place your buttocks on the floor

Inhale and extend your thoracic spine over the ball without losing the engagement of the ribs with the pelvis.

Exhale and return to the neutral position. Repeat 5-6 times and roll up to the next segment. Or just work your way slowly up the spine at each segment.

##### Breathing

Inhale to melt back over the ball as if you are wrapping your spine around the ball

Exhale, allowing the ribs to descend to return

Imagine that your sternum is like a see-saw on top of the ball

##### Cueing

Press up on sternum and down on facets

Ribs, suboccipital region lengthening cervical spine

Ease in neck and shoulders

#### WATCH FOR

Pulling head forward

Rounding the upper back like a "crunch"

Scapular elevation

Cervical or lumbar extension

Ribs flaring

Chin jutting towards the ceiling

Buttocks lifting off the floor