



Play your Cards Right: Working with Osteoporosis

Nancy Gwinnell Hurd

Austin Pilates Barn

nancy.hurd3@gmail.com

<https://www.facebook.com/nancy.g.hurd>

<https://www.instagram.com/austinpilates1/>

Osteoporosis Packet

Please print this entire packet and bring it to the Session

You will be using it in our interactive portion

FB-friend Nancy Gwinnell Hurd to be put in our alumni group

Note: this presentation was co- created
With Kristy Demers PT, DPT

Osteoporosis Review

Goals

- Focus on axial elongation and body awareness
- Improve spinal alignment and ability to align the spine with the pelvis, hips, legs, feet, shoulders and head
- Teach proper breath and concentration
- Safe Thoracic extension
- Chest and Rib Expansion
- Cervical Retraction
- Hip Extension and Flexion without spinal movement
- Encourage flexibility of the upper and lower extremities without spinal compensation

- Teach proper body mechanics-see HO for functional movements
- Hip Hinge
- Strengthen and improve control of the deep spinal stabilizing muscles.
- Avoid crunches and flexion
- Improve balance, proprioception and control
- Reduce risk of falling

Typically, they have

- Tight hip flexors
- Weak hip extensors (gluts)
- Tight scapular protractors (pecs)
- Weak scapulothoracic muscles
- Tight extrinsic neck muscles (SCM)
- Weak deep cervical neck flexors

Positions

- Supine:** Keep head on ground (possibly a small towel roll under head or neck) – avoid spinal flexion.
- Prone:** Place pillow under stomach if have large thoracic kyphosis.
- Hands and Knees:** Good position, care with wrists.
- Sitting and standing:** Avoid excessive thoracic kyphosis

Avoid flexion biased exercises, combined flexion with side bending or rotation exercises, and rolling exercises.

Osteoporosis

Sample Mat with Power Circle

Opening-Standing, can be used for endings as well

Axial Elongation

-Sternum Press-Pad on the sternum/Circle Vertical

Gently press-Focus on breath and axial elongation

-Pelvis Stabilizer-Pad on Pelvis/Circle Horizontal

Gently pull elbows to the back close to your sides-Bring awareness to your pelvis

-Hip Hinge-Same as above

Move into a hip hinge, Circle should touch thighs if you are not involving your spine.

This is an important functional movement for those with Osteoporosis

-Head-Head inside circle with back pad on the hair line (not the neck!)/hands inside circle

at the pad

Press forward into your hands resisting with your head 4X

Look slightly to the right and repeat, then to the left

Scapular Stability and Stretch

-Bow and Arrow-Hold the circle like a bow and arrow, sternum height and pull

Transition to Floor-stand at end of mat facing mar

-one leg lunge

-lower down back knee placing hands on front knee

-hands down to go to "all fours"

-lower to side onto hip, legs bent, all the way down

-roll to back, legs bent

-pillow or rolled up towel under neck to align your head, ears shoulder

Height

-pick up circle

Fundamentals-note pillow remains when lying Supine unless noted

Thigh Activation Exercises

- Circle between ankles-pull in and out
- Circle between thighs-pull in and out
- Circle around thighs -press out and in

Note you can move this bridge into the Mat Order if not doing here

Bridge-Circle around thighs -remove pillow

-bridge up and down- no articulation (Lunar Land)-focus on the gluts, quicker pace

Ab Activators -Pillow is back, feet down, legs bent

- press into thighs, thighs into circle
- can repeat in "tabletop" (Note pelvis stays neutral, spine is still)

Obliques- Circle one on one leg, both hands on circle

- push and release
- switch sides, place opposite hand on top
- can repeat in "tabletop" (Note: pelvis stays neutral, spine is still)

Knee Folds-arms directly to ceiling, legs float off mat

-lower one leg down towards mat, not all the way down -pelvis and spine still

Ribcage Arms - arms directly to ceiling, legs bent on mat

-shoulder elevation and depression, find the 'nestle'
-ribcage arms-reach arms over head and then back to ceiling maintain spine/pelvis

- repeat with legs off the mat
- repeat adding knee folds on one side, OS
- repeat alternating
- open to side-(fire hydrant)

Mat Class

Hundred-Head must be on the pillow! Choose your legs as you would any other client

-pump arms with your breath

Single Leg Circle-as normal

Single Leg Stretch-Head down

- execute as normal
- add circle to thigh and hands on bent leg, pressing into leg, alternating the circle as you switch legs

Double Leg Stretch-Circle in hands

-arms go over head as legs go out and then return

Scissors-Circle up to ceiling, pad facing ceiling, hands holding the lower pad
-reach your top leg to inside circle top pad and bend your elbows to pull pull.
Flexed ankle

Double lower leg lift-Circle between ankles

A little order change here for less up and down

Corkscrew-Continue into corkscrew from DLLL

Transition to sitting up- roll to side and use hands

Spine Stretch Forward- sit up on a small barrel, rolled up mat, etc. etc.
-teach how to sit tall--power circle can be used to press down into to grow tall
-add the hinge--power circle can be added between hands as hinging forward
Can remove barrel – circle vertical with one pad on the ground and hands on top
-hinge forward pressing the circle forward

Saw- circle vertical with one pad on the ground and hands on top
-Lift one arm to ceiling up and over to back wall with extension

Transition to Prone slide down using arms to side, flip over

Swan-towel is gone-set up as normal, lots of options
-float hand up off mat, elbows reaching toward ceiling
-hold the float, and lift head in line with spine (no extension) lower the head,
lower the hands (repeat) (retracting chin)
-last one head stays up; hands go down and go into swan
-can also do flight
-can also add power circle

Single leg Kick-set up as normal, put the power circle between your hands on the floor
-retract/protract scapula
-add kicks

Double leg kick-variations
-set up like beats on belly with head turned one ear on hands, kick kick, hold lift
spine, lower down ear on the other side
-normal DLK
-hold circle behind back

Transition-go onto” all fours” and then shift hips back and forth

Can go to Spine Stretch Forward and Saw here instead of above for less transitions

Can also add the power circle variation of bridge here if you did not do it in fundamentals

Side Kick Series-head is down, pillow it to keep spine aligned and not in flexion -circle is vertical with one pad on the ground and top arm pressing into top circle

- Front and back

- Up and Down

- Circles

- inner thigh work-put circle between ankles and press circle in (AD uction)

- lift legs and then pull circle together and open

- add the other traditional exercises as desired

Transition Use arms to sit upon side and then face front

Teaser- do Open leg Rocker Prep staying lifted in spine the entire time, can add circle between arms for more of a lift

Swimming-No circle just go through the levels

Transition-go onto "all fours" and then shift hips back and forth

Leg Pull Front Support-Go through normal building blocks, no circle at this time

Transition to Standing- go back onto all fours, step one leg forward, hands on thigh and stand up

Osteoporosis Sample Reformer Class

Getting On- Sit down, go onto your side and roll to your back

Foot Work-doing various positions brings actions to areas that are different which helps to strengthen the bones

- Traditional: Toes, Arches, Heels
- One Legged Heels-bring leg up to ceiling with carriage closed, as your straighten your footbar leg bend the other knee
- Rockette (high heel with kicks)
- Pigeon Toed
- Windshield-turn out to go out, Pigeon toed to come in
- Feet to the Side, hips stay square
- back to center
- "Sleeper"-2 springs-bottom, can lay on your arm, or arm overhead, top arm comfortable
 - ll legs, heel lifted on the in, down on the out (like a grand plie
 - repeat in a V

Hundred-Headrest up, head stays down, hands in straps, pressed to mat-to advance you float head off mat, without flexion

- single leg stretch
- scissors- bottom legs touched the foot bar
- Double lower leg lift

Arm Series-Traditional, if weak put feet on footbar

Coordination-Same set-up as The Hundred

Rowing from the Back

- tail "tuck"-think gluts
- Flat back
- Diagonal Open-straps in hands, palms facing each other -open arms on the diagonal one side, back to center, OS

Rowing from the Front

- Rowing from the chest
- Shave the Head
- Tree-Need to adjust set up so they can sit up tall-focus on axial elongation
- One arm hug a tree-staying square-Obliques

Long Box Series-Note: teach how to pick up and put down box. Squat, hinge

- Hamstring Curls/Swan if ready
- Pulling Straps 1 and 2- can always add tricep presses
- Teaser Prep-sit on long box facing footbar- feet on the front frame, "tuck" just the lean back and then come forward a few times

- stay back lift one leg and hold underneath thing
- lift the other leg and balance
- do knee folds
- come back to balance and lengthen legs a bit balance
- lean back further and use your hands behind you to support you
- straighten out both knees
- then one knee at a time-switching
- sit back up, feet down and hinge at the hips

Short Box Series

- Flatback
- Side to Side-Let's discuss ...FLAT
- Twist-a slight rotation and then reach bar with one hand like a "fairy god mother" of spear the fish- adding a little extension
- Tree-sit-up tall-do the hamstring stretches, flat back stretch
- Side sit-ups- Let's discuss- the hold with arm on shoulder rest and elongated spine

Long Stretch Series

- Long Stretch
- Down Stretch
- Up Stretch-can do this as a plank and a "pike"
- Flatback Elephant aka hinge
- Flatback Arabesque 2

Stomach Massage Series-Needs to be able to sit up tall. Adjust set-up. Can use a physio ball behind you or even the shortbox

- Hands back
- Reaching-can add a sternum lift on the out if against something
- MAYBE-hands behind head, lift into a sternum lift (think about our mat saw)
- If using the ball can go from reaching to one arm goes up and over to rotate and extend

Chest Expansion

Thigh Stretch

Corkscrew-Just the circles

Leg Series-Push leg out to get in straps so you don't flex your spine

Variations

- Arcs
- Arcs with open close
- Fishtail-II straight down, bend the knees in, back to ceiling, play with pacing
- Frogs and Circles
- Peter Pan

Knee Stretches

-Reversed (Brownie)-1 spring, kneel facing back of reformer, shoulders lined up over wrists. Set-up (different the traditional) Move knees a little back from shoulder rest so your thighs can lean against the SR

Lat Pulls- Pull yourself forward, hands do not move, chest is lifted head is on spine aka not dangling

Pelvis Pull-Pelvis tucks to pull carriage-JUST pelvis
Flat

Running

Pelvic Lift-as with bridge in the mat- flat no articulation

Side Splits-Careful with balance issues-use the split board if you have one, smaller ROM

Front Splits-Scooter aka Eves lunge with vertical spine

The Exercises on the next 3 pages are for discussion on what exercises will meet the goals and what are contraindicated

Tower/Cadillac Exercise List

Level 1

Roll Back Bar:

Roll Back

Breathing

Chest Expansion

Long Back Stretch Arms

Leg Springs:

Frog

Circles

Scissors

Walking

Beats

Arm Springs:

Reach and Pull

Circles

Triceps Press

Push Through Bar:

Monkey

Level 2

Roll Back Bar:

Roll Back One Arm

Sitting Rolling In and Out

Rolling Stomach Massage (Ferris Wheel)

Thigh Stretch

Standing Arm Springs

Side Pull

Push-up

Raise

Salute

Leg Springs

Bicycle

Airplane

Push Through Bar

Swan

Teaser

Revere Push Through

Push Through Long

Push Through Short

Mermaid

Shoulder Roll Down (Parakeet)

Tower

Level 3

Roll Back Bar:

Kneeling Rolling IN and Out

Push Down and Squat

Standing Arm Springs:

Butterfly

Fencing

Boxing

Arm Springs:

Flying Eagle

Leg Springs: Side Kick Series:

Front & Back

Up & Down

Passé'

Bicycle

Push Through Bar:

Saw Hip Opener

HIGH CHAIR	SEMI CIRCLE BARREL	CHAIR	HIGH CHAIR
Achilles Stretch	Arm Stretch.	Arm Frog Front- Standing	Press Up-Bottom
	Arm Circles	Arm Frog Back- Standing	Press Up-Front
Pumping		Spine Stretch Forward	
Pumping One Leg	Leg Series:	Stretch	LOW CHAIR
Pumping Parallel	Leg Circles	Teaser Stretch Pumping Arms	Pumping One Arm
Pumping One-Leg Standing Front	Walking	Low Frog-Supine	Swan Dive
Pumping One-Leg Standing Side	Beats	Kneeling Mermaid	Reverse Swan/Teaser I
Pumping One-Leg Crossover	Scissors	Flying Eagle	Reverse Swan Teaser II
	Bicycle	Pumping Two Arms	Teaser Twist I
Going Up Front	Rolling in and out	Table	Twist II
Going Up Side	Rest Position	Basic Mountain Climb	Seated Twist
		Basic Front Balance Control	Sitting Mermaid
	LADDER BARREL	Basic Side Balance Control	Horseback
	Short Box Series:		Push Up Sideways I
LOW CHAIR	Round	SPINE CORRECTOR	Push Up Sideways II
Achilles Stretch	Flat	Straight Arm Stretch	Tendon Stretch
	Side	Arm Circles	Pull Up-One Arm
Footwork: Toes, Arches, Heels;	Twist		Side Pull Up
	Basic Tree	Leg Series: Circles	Advanced Front Balance Control
Pumping One Leg-Sitting	Tree	Walking	Advanced Side Balance Control
Pumping One-Leg Front, Side and Crossover	Side Sit Up	Scissors	Full Mountain Climb
Basic Tendon Stretch		Beats	Side Mountain Climb
	Swan Dive	Bicycle	Mountain Climb Down
Push Down (washer woman)	Horseback	Shoulder Bridge	Frog Facing In-feet on pedal
Kneeling Push Down (cat)	Side Stretch	Roll In and Out	Frog Facing Out-feet on pedal
Standing Push Down-behind chair		Rest Position	Jack Knife
Push Down-One Arm side	Ballet Stretch Series: Front		Backward Arms
	Front with Bent Leg		Straight Leg Press Rounded
Pull Up	Side		Leg Push Down Series: Front Side, Back
	Side with Bent Leg		
	Back		Push Up Combination
	Backward Stretch		Push Up Progression

Endings

Wall Series
Power Circle Standing Arms
Power Circle Seated
Power Circle Standing Legs
Arm Weight Series
Lunges
Ped-O-Pull
Foot Corrector
Sand Bag
Towel
Jump Board
Toe Corrector
Neck Stretcher
Stand and Twist
Jumps
Full Cadillac -AKA things you cannot do on the Tower

Fundamentals -Add the Focus

Imprinting
Breathing
Iso-Abs
Clock Work
Rib Cage Arms
Head Nods
Neck Curls
Knee Folds
Flight
Seated Tracking
Knee Spreads
Knee Sways
Goal Post Arms
Leg Slides

Functional Guidelines from The National Osteoporosis Foundation
to teach to clients as endings

1. Proper posture and alignment when standing, sitting, or walking—**lift breastbone, keep head erect, look forward, keep shoulders back, gently tighten abdominal muscles, maintain small hollow in the lower back.**
2. Standing for a long time—point feet straight ahead, do not lock knees, rest one foot on a stool or in an open cabinet, periodically switch to the other foot.
3. **Sitting use rolled towel or pillow at the small of the back, maintain upright alignment,** rest feet flat on the floor or on a small footstool.
4. Standing from a chair—move hips forward to front of chair, shift weight over the feet leading with a lifted chest, **stand by pushing down into the floor using leg muscles, the arm muscles can assist by pushing down on arm rests of chair.**
5. Walking—hold chin in and head upright, point feet straight ahead, do not lock knees.
6. Bending—keep feet shoulder width apart, **maintain straight back, bend at the hips and knees (not the waist), avoid twisting and bending together,** use one hand on a stable support device, use long "grabber" tool.
7. **Lifting—keep object close to the body, first kneel on one knee and stand with object close to the waist,** use lightly packed plastic grocery packages with handles and carry one in each hand (following acute vertebral fracture, limit weight to 10 pounds).
8. **Tying shoes—first sit in a chair, cross one foot over the opposite knee or rest one foot on a stool.**
9. **General pushing or pulling—maintain upright, aligned posture, avoid twisting, use legs to do the work, not the back.**
10. **Getting in and out of bed—sit on the side edge of the bed, lean trunk toward head of bed and lower body down with help of the arm closest to the bed; while lowering trunk to the bed, bring legs and feet onto bed, roll onto the back with knees bent; reverse for getting out of bed.**
11. Reaching—**only reach to a shelf that can be touched with both hands together,** use only sturdy safety step stools with handrails.
12. **Coughing and sneezing—gently tighten abdominal muscles to support back, and... place one hand on the back, or ...gently bend knees and place one hand on the knees, or ...press back into chair or wall for support.**

