



FITNESS FOR LIFE BUILDING BONES NOT BULKING UP

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BEAVER DAM WOMEN'S HEALTH

Objectives

- Identify stages of bone health across the lifespan
- Discuss strategies to improve/maintain bone health
- Review dietary sources of calcium
- Describe lifestyle modifications that can impact bone health
- Outline exercise recommendations for adults
- Identify menopausal changes that impact bone health
- Discuss osteoporosis screening recommendations
- Participate in a total body resistance band work out

Building Bones

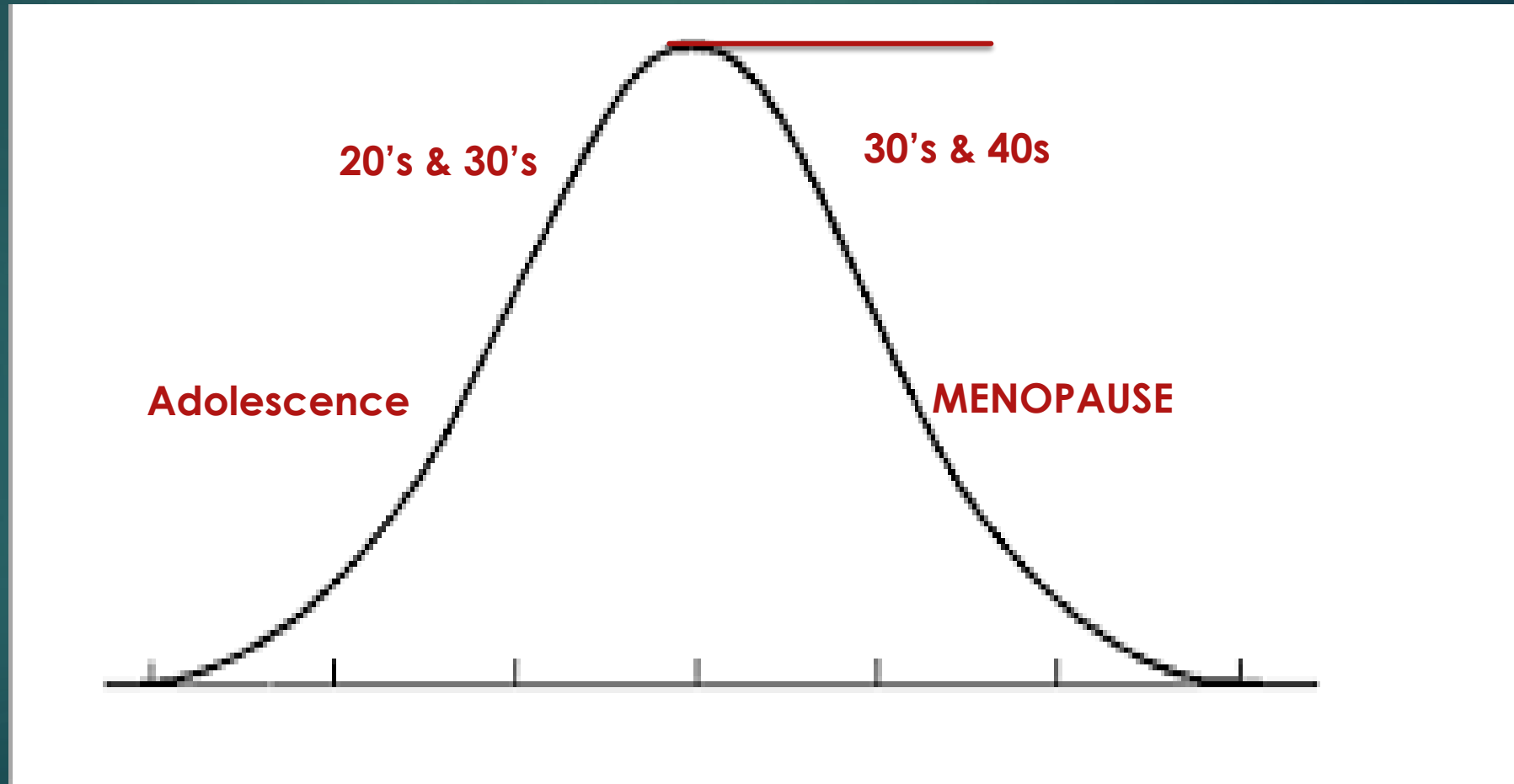
▶ **When do we do it?**

- ▶ BUILDING-best time is during adolescence
- ▶ PEAK-20's and 30's
- ▶ MAINTAIN-30's & 40's
- ▶ DECLINE-POST MENOPAUSE

▶ **How do we do it?**

- ▶ Nutrition
- ▶ Lifestyle
- ▶ Exercise

Building Bones – Sustaining the peak



So What Happens Around Menopause?

- Amount of estrogen produced drops off SIGNIFICANTLY
- Bone loss is highest in the year prior to menopause and for two years after final period
- Many other changes are associated with shifting hormone levels including
 - Sleep disturbances
 - Vaginal symptoms (dryness, infections)
 - Hot flashes
 - Weight gain
 - Increased risk for chronic disease (heart disease, DM)

Nutrition

▶ General Principles:

- ▶ Eat a variety of foods rich in calcium and vitamin D-fortified foods
- ▶ Routine supplementation is NOT NECESSARY for healthy children with a varied diet
- ▶ Adults should discuss supplementation with health care provider
- ▶ Adequate vitamin D intake promotes calcium absorption

Ages	Calcium Recommendations	Vitamin D Recommendations
Children (9-18)	1300mg/day	600 IU
Premenopausal Women	1000mg/day	600 IU
Postmenopausal Women	1200mg/day	800 IU

Rank the amount of calcium in common foods from highest to lowest



240mg



160-200mg



130-270mg



120mg



75mg



445mg

Lifestyle Recommendations



Stop
smoking



Limit alcohol
consumption



Fall
prevention



Talk with your
provider about any
medications & how
they may impact
your bone health

Exercise

► Types of Exercise:

■ Cardiovascular

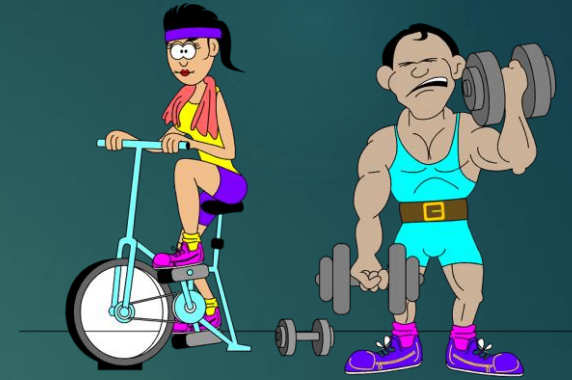
- Examples: brisk walking, jogging, stair climbing (all considered weight bearing)
- Recommendations: Adults - High intensity (1 hour 15 min/week) vs. moderate intensity (2 hours 30 min/week)

■ **Resistance Training**

- Examples: strength training
- Recommendations: exercise all major muscle groups minimum of 2 times per week

■ Flexibility/Stretching/Balance

- Examples: yoga



Benefits of Resistance Training

- Associated with small but significant improvement or maintenance in bone mineral density
- Improve muscle tone
 - Muscle burns more calories than fat
- Reduction in fall risk



Screening for Osteoporosis

- Gold standard is the DEXA scan – Dual-energy x-ray absorptiometry
 - Evaluates BMD at spine & hip
- Reported as a score that based on age-matched population
 - Normal
 - Osteopenia (-1.0 to -2.5)
 - Osteoporosis (-2.5 or greater)
- Screening recommendations
 - National Osteoporosis Foundation – all women > 65 years of age; women at increased risk > 60 years of age
 - TALK WITH YOUR HEALTH CARE PROVIDER ABOUT YOUR RISK

Let's Get To Work!!



General Principles

- Consult with your health care provider prior to beginning any exercise regimen
- Breathe - Do not hold your breath
 - Exhale during the “work phase”
 - Inhale during the “rest phase”
- Good form
 - Slow, controlled movements
- Aim to do 2-3 sets of 10-15 repetitions for each exercise
- Increase resistance as you get stronger
 - Shorten the band to increase resistance
 - Lengthen the band to decrease resistance

Basic Squat



- Stand with feet shoulder width apart
- Place band under heel of both feet
- Grab ends of band in each hand
- Bend knees & shift weight into heels (like you are sitting in a chair) until your upper thighs are parallel with the floor
- To modify:
 - Easier: Do not go as low
 - Harder: Wrap band around hands to increase resistance
- Form tips:
 - Keep your head up
 - Tighten your abs

AEROBIC ADD-ON: 30 – 60 seconds of MARCH IN PLACE OR HIGH KNEES

Chest Press



- Place loop of band around upper back at chest level
- Grasp ends of band with each hand
- Raise elbows to chest level – palms face downward
- Extend arms straight in front of body & squeeze chest muscles
- To modify:
 - Easier: One arm at a time
 - Harder: Wrap band around hands to increase resistance
- Form tips:
 - Keep elbows parallel to ground
 - Do not lock out your elbows when extending your arms

AEROBIC ADD-ON: 30 – 60 seconds of CHAIR SQUATS

Leg Abduction



- Tie band together to create a loop
- Stand tall behind a chair - place hand(s) on chair for support
- Step both feet inside loop & place just above ankles
- Shift body weight on leg closest to chair
- Flex foot and lift outer leg/foot as far as possible. Lower slowly & return to starting position
- To modify:
 - Easier: Do not lift leg as high
 - Harder: Challenge your balance – hold onto chair with fingertips
- Form tips:
 - Keep your hips and shoulders aligned

AEROBIC ADD-ON: 30 – 60 seconds of JUMPING JACKS OR FLOOR JACKS

Leg Adduction



- Tie band together to create a loop
- Stand tall behind a chair - place hand(s) on chair for support
- Step both feet inside loop & place just above ankles
- Shift body weight on leg farthest from chair
- Flex foot and lift inner leg/foot bringing it in front of the body.
- To modify:
 - Easier: Do not use the resistance band
 - Harder: Challenge your balance – hold onto chair with fingertips
- Form tips:
 - Keep your hips and shoulders aligned
 - IF YOU HAVE HAD A HIP REPLACEMENT DO NOT DO THIS EXERCISE

AEROBIC ADD-ON: 30 – 60 seconds of SIDE STEPS OR SIDE HOPS

Hamstring Curl



- Stand tall behind the chair. Grasp the chair with both hands for support
- Step both feet inside loop & position loop around ankles
- Shift weight to standing leg
- Bend other leg and flex foot lifting it towards buttocks – Raising it to 90 degrees. Lower slowly & repeat.
- Switch legs after 10-15 reps
- To modify:
 - Easier: Perform exercise sitting without band – Heel drags
- Form tips:
 - Keep your abs tight through entire exercise
 - Keep head and torso tall

AEROBIC ADD-ON: 30 – 60 seconds of CHAIR SQUATS

Upper Back Reverse Fly



- Stand tall with feet shoulder width apart
- Grasp band so hands are slightly wider than shoulder width apart & palms are facing the floor
- Raise arms to chest height – keep elbows slightly bent
- Expand chest and squeeze shoulder blades together
- Hold “squeeze” for a count of 1- 2 seconds then return to starting position
- To modify:
 - Easier: Perform exercise sitting; alternate one arm at a time
 - Harder: Wrap band around hands to increase resistance; pulse at the top of each movement
- Form tips:
 - Keep your abs tight through entire exercise

AEROBIC ADD-ON: 30 – 60 seconds of STAIRS or MARCH IN PLACE

Lat Pull Down



- Sit/Stand with feet shoulder width apart
- Grasp the ends of the band slightly wider than shoulder width apart & palms facing outward
- Raise arms over head – in front of face
- With arms extended pull band down in front of face to chest while squeezing shoulder blades together. Pause at the bottom of the exercise for a count of 1-2 seconds
- Slowly return arms to overhead position – keeping tension on the band
- To modify:
 - Increase or decrease resistance by adjusting tension on the band
- Form tips:
 - Keep your abs tight through entire exercise
 - Do not lock out elbows

AEROBIC ADD-ON: 30 – 60 seconds of JUMPING JACKS OR FLOOR JACKS

Lateral Raise



- Stand with feet shoulder width apart
- Step on end of band
- Grasp the other end of the band – palm facing inward towards thigh
- Raise arm to shoulder height – do not go above the shoulder. Slowly return to starting position
- Complete 10-15 reps and repeat on other side
- To modify:
 - Increase or decrease resistance by adjusting tension on the band
- Form tips:
 - Do not lock out elbows

AEROBIC ADD-ON: 30 – 60 seconds of SIDE STEPS or SIDE HOPS

Biceps Curl



- Sit/Stand with feet shoulder width apart
- Step on end of band with one foot
- Grasp band with the same hand – palm facing outward
- Bend elbow bringing palm towards shoulder. Slowly lower to starting position
- Complete 10-15 reps and repeat on other side
- To modify:
 - Increase or decrease resistance by adjusting tension on the band
 - Harder: Do both arms at the same time
- Form tips:
 - Do not lock out or hyperextend elbows

BALANCE CHALLENGE: 30 – 60 seconds of 1 LEG BALANCE

Triceps Extension



- Sit/Stand with feet shoulder width apart
- Grasp one end of band and place it behind your head. Grasp the other end of the band and place it behind your lower back
- Pull band tight so there is no slack
- Keep hand on lower back stationary. Extend other arm overhead with palm facing outward
- Slowly lower and repeat
- Complete 10-15 reps and repeat on other side
- To modify:
 - Increase or decrease resistance by adjusting tension on the band
- Form tips:
 - Do not lock out or hyperextend elbows

ABS ADD-ON: 30 – 60 seconds of STANDING CRUNCHES

Triceps Kickback (modification of triceps extension)



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