Vanderbilt University Aerobics Staff

Class Guidelines

Pre-cardio heart rate

Warm-up

Pre-aerobic stretch and balance

Cardiovascular segment
- mid-cardio heart rate
- post-cardio heart rate

Cooldown

Pre-floor heart rate

Post-aerobic stretch

Strengthening work

Cool-down stretch

Heart rate

Class Guidelines

What to say to your class:

Your name
The class format
Safety tips (i.e., how to step, any tricky moves you have)
Explain how to reduce/increase intensity
Get water whenever you need it
If ever anything hurts--- STOP!!!
Keep moving- choose your own pace, but keep moving
It's your class- take advantage of it, and get your workout!

Pre-Cardio Heart Rate

This heart rate makes sure that the participants are ready to warm-up slowly; avoiding participants who come from another cardiovascular exercise and who won't warm-up or stretch properly. It also gives them a heart rate measure for them to return to after the class.

- Take before music begins
- Collect class together
- Should be below 120 beats/minute (12 beats/6 sec)

Warm-up: 3-5 minutes

It is important to warm up the body before stretching. This type of warm-up stimulates blood flow to working muscles, raising the core body temperature. A warmer body temperature will allow the muscles greater elasticity and range of motion, and decrease the potential of injury associated with pulling a cold muscle.

- Gradual increase of the body temperature
- Low impact, no lateral moves
- Start with legs, then add arms
- Music 125-135 beats per minute
- Stretch the lower back before you cross the sagittal plane
- Emphasize breathing

Pre-aerobic stretch: 3-5 minutes

The purpose is to increase muscle length and elasticity, and to allow for full range of motion during the activity.

- Use static stretches, no ballistic (bouncing) or pulsing stretches
- In order for stretches to be effective, the stretch should be rhythmic limbering, and static, held for 10-20 sec
- Always support a stretch so that the muscle group remains isolated, and there is no strain on any other muscle group. Keep your head up, bending at the waist on straddle/floor stretches. Never place your hands on your knees
- Demonstrate the beginning of a stretch, through a full stretch; this will ensure correct alignment no matter what the flexibility level of your participants. Remind that it is only to the point of tension
- Always instruct the proper alignment. Support any forward flexion. Avoid hyperextension of the hyperflexion
- An appropriate stretch for the muscle group follows the longitudinal line of the muscle
- Emphasize proper posture:
  - Feet shoulders width apart
  - Knees soft
  - Pelvis neutral/ Abs in
  - Shoulders relaxed and back
  - Head a natural extension of the spine
- Stretch from head to toe. Including: neck, shoulders and arms, lower back, side stretches, gluts, quadriceps, hamstrings, hip flexors, calves, shins, top of the foot, Achilles tendon, knee warm up, and ankles. Write in by the middle muscle group the specific cautions

Stretches

Neck

Shoulders

Arms: Triceps/ Deltoids

Lower Back

External Obliques

Knees

Ankles

Quadriceps/Balance Component

Adductors

Calves

Achilles Tendon

Hamstrings (try using the step for your more advanced participants)

Hip Flexors

Shins

Top of Foot

Cardiovascular Segment (20-30 minutes)

This segment is to provide stimulus to the cardiovascular system, that can lead to an increased cardiovascular capacity and cardiovascular fitness. This segment will be where most of the calories are burned, and if the cardio segment is longer than 20 minutes, will also burn fat. This cardiovascular segment is why most people come to aerobics, and can be a fun, social environment for them.

- Tell the class for the first time participants:
- Begin the first three minutes with low impact and no lateral movements
- Music for high/low is 133-160bpm,
- Music for step is 118-128 bpm

Cardiovascular exercise must involve the large muscle groups, and must be continuous. The intensity of the cardiovascular segment should be a bell curve.

- Build combinations
- Start with legs, add arms
- Peak Aerobics—maintain target heart rates (steady state)
    a. Fatigue indicators are extreme redness of face, loss of coordination, or dizziness.
    b. Proper target heart rate range indicators:
      *Able to breathe in through the nose, out through the mouth
      *Able to talk back to the instructor
      *Displays none of the indications above
- Adding arms (especially above the head) increases intensity; show the varying degrees of arm intensity for one move
- Walk through the class
- Always show low impact or lower intensity alternate move
- Tell class how to increase the intensity
- Alternate the type of steps used to avoid repeated stress on one area
- Work right and left equally
- Don't work excessively on one limb without a switch
- Remind them to breathe
- Remind them it's their workout and they need to work at their own pace, and adapt movements that hurt or are uncomfortable
- Give on-going postural, safety, and movement instructions so that they get the most out of the move, efficiently and effectively with a minimum injury risk
- Use on-going motivational "peps", shouts, countdowns, etc.
- Use the floor
- Use the room
- Use eye contact; face the class as often as possible
- Involve the class
- Build "fun" into the routine
- Show them your personality!!

Heart Rate: Mid-Aerobics

This heart rate evaluates for the participant if they need to increase or decrease their intensity to stay within their range.

- Turn down the music
- Tell them to keep moving
- Take heart rate within 4 seconds of turning down the music
- Announce this is the time to get a drink
- Should be within their training heart rate range: for a college age population (130-170)

Second half of the cardio segment

Final heart rate should be taken after the last medium to high intensity song. This can be done either by decreasing the intensity in the last three minutes, or by having a separate cool-down song.

Heart Rate: Post-Aerobics

This heart rate re-evaluates for the participant if they maintained their training heart rate range, or if they made the necessary adjustments to increase or decrease their training heart rate range.

- Turn down the music
- Tell them to keep moving
- Take heart rate within 4 seconds of turning down the music
- Announce this is the time to get a drink
- Should be within their training heart rate range: for a college age population (130-170)

Cool-Down

- 2-3 minutes
- Remember this should be at a low intensity to aid in returning blood to the heart without blood "pooling" and allow the heart rate to decrease to toning levels
- Blood "pooling" may cause blood pressure to dramatically drop and lead to fainting
- Arms should not go above shoulder level

Heart Rate: After cardio (120 or less)

- Take before beginning stretching
- 120 bpm is necessary so that the participants won't experience blood pooling
- Inform them that if they are not 120 or below they must continue to walk around or they may faint

Flexibility increasing stretch

- Should be done no longer than 5-7 minutes after cool-down
- Hamstring stretches are very important
- Stretch for 40 seconds (hold 20 seconds, then go deeper into the stretch and hold for 20 seconds more)

Strengthening Work: Standing and/or on the floor

There is no such thing as spot reducing! Strengthening and toning will help develop the muscles, tighten the area around the muscle, and provide definition.

In all strengthening work, isolation of the muscle or muscle group is very important. It will not only help develop that muscle more effectively, but will also reduce unnecessary stress on other muscle groups, joints, and tendons. Relax all other muscle groups except the one being worked and the assisting and complimentary muscles. Strive for exercises that most optimally isolate the muscle.

We use bands, tubing, and free weights to overload the muscles and build strength or tone. Strength increases as the amount of weight lifted increases. Strength often results in increased muscle mass. Toning is increasing the number of times a weight can be lifted. Toning usually results in tightening of the muscle and surrounding area. Toning also increases muscular endurance. Most people who have never used weights before will notice initial strength gains.

Introduction: It is their workout-go at their pace

I. Progression

It is vital that you remind your participants that muscular endurance will develop over a period of time. They should make a semester commitment to toning, and develop a progressive attitude towards improvements through weights, and their ability to keep up with the instructor.

II. Safety

A. How to pick up/put down the weights
- Look at the instructor

B. What to do if the weights become heavy
1. Do one repetition for every 2 of the instructors
2. Use a lighter weight, or the resistance of the body
3. Put tubing down and pick up a weight

C. Smooth Movement
1. Don't bounce/rebound off the joints
2. Exhale on contraction, inhale on relaxation
3. Stand erect, shoulders down, stomach in (stabilizer), knees soft (lightly bent)
4. Don't sway or use your back as an assistor muscle

5. Don't lock the joint at the stopping point

D. STOP!

If at any time, the move becomes painful....STOP!!!

1. Read your class; are they fatiguing? Losing form?
2. Can they talk back to you indicating they are still breathing?

III. Technique

Ask yourself the five AFAA questions:

- What muscle(s) are you trying to stretch, limber or strengthen?
- Are you doing that?
- Is the pack protested? Are there any other stress points?
- Can you isolate the muscle(s) and stay in alignment?
- Who is it appropriate or inappropriate for?

A. See II. C

- Motion Warm-Up/Stretch
- Weights with Oxygen breaks
- Cool-Down Stretching

B. Muscle balance

- If possible, work opposing muscle groups, e.g.: if you work the hamstrings, also work the quadriceps, to avoid muscle imbalance.
- Strengthening work can include unilateral and bilateral movements.
    - Biceps/Triceps
    - Quadriceps/Hamstrings
    - Pectorals/ back muscle (trapezius & latissimus dorsi)
    - Gluteus maximus
    - Deltoids
    - Abductors/ Adductors

- Stretch the muscle after each exercise
    - If you work you biceps, work your triceps
    - If you work your pecs, work your lats
    - If you work your quads, work your hamstrings

C. Sets

- Think of moves as sets. Do sets of 8 or 16, then switch to the opposing muscle group. Try for 2-3 sets on each muscle group.

D. Do major muscle groups first: quads, back, gluts, chest group.

E. "Mini-routines" decrease the awareness of pain.

F. Always include: Abdominals

G. Specificity and Isolation

H. Balance component and proper stance:
- Feet shoulder width apart
- Knees slightly bent
- Pelvis neutral
- Abs tucked in
- Shoulders relaxed, shoulder blades "together"
- Head a natural extension of the spine

I. Oxygen break: stretch after each muscle group being worked to avoid sore muscles.

J. The difference between tubing and weights

K. Music
- Use a strong beat that the participants go work to. This will make it easier for them to execute the repetition. Step speed music is OK.

L. Upper and Lower Body Exercises
- Can be done standing, before abs, or on the floor, after abs, or a combination of the above
- Use proper breathing and smooth movement
- Relax the whole body except for the muscle group being worked.
- The floor is a great opportunity to isolate muscle groups. Being down on the ground is difficult to monitor the class- continually get up and check their form.

M. Resistance work with bands/tubing
- Every class period take the time to explain the basic concepts of effective band work:
  a) Hold it at the height of the contraction
  b) Bring the band back slowly, so as not to allow any slack when starting the next repetition.
  c) Never hesitate to take the band off and continue the repetitions without it.
  d) Relax all muscles except those being worked
  e) Position band/tube above the joint closer to the muscle group being worked.

N. Hand Weights

- Hand weights are considered the most effective method for toning and strength. Strength is increasing the amount of weight that can be lifted for short periods of time, toning is increasing the number of times a weight can be lifted. Strength often results in increased muscle mass, and toning usually results in tightening around the area around the muscle and increased muscular endurance. For those who have never used weights before, initially there will be strength gains.

IV. Important exercises to include:

BICEPS

TRICEPS

CHEST

LATISSIMUS

TRAPEZIUS

QUADRICEPS

GLUTEUS MAXIMUS

AB/ADDUCTORS

ABDOMINALS

- Strong abdominals are important to reduce the stress on the lower back, and to provide good posture and stature.
- If abdominals are done incorrectly, not only won't the exercise be effective, but also the abdominal muscles will form outward. At every class, turn down the music and go over these basic concepts:
    1. Every class do abdominal work
    2. Abs should be done in rotating fatigue sets
    3. Show the varying intensity levels for ab exercises
    4. Use the two methods to engage your iliopsoas maximize rectus abdominus workout.

- Abs Script
    - Eyes (chin) on the ceiling; this avoids participant from

jerking their head, and from looking into their stomach (causes muscles to form outward)
- Head resting in lightly laced (or not at all) fingers
- Elbows at the ears
- Exhale on the exertion, inhale on the relaxation
- Pause for a moment at the top of the contraction
- Keep lower back pressed to the floor
- The lift is from the abs, not the head
- Doing abs right is important, doing them wrong will form ab muscles outward. To avoid this, when fatigue hits, NEVER sacrifice form for repetitions: do 1 rep for every 2 of the instructors.

ABDOMINAL EXERCISES

- EXTERNAL OBLIQUES
- LOWER PORTION ABDOMINALS
- RECTUS ABDOMINUS

Cool-down Stretch

- Same concept as pre-aerobic stretch, however should be held longer (20-45 seconds). The body will never be more prepared to gain flexibility, really emphasize the importance of staying to stretch (participants will try to duck out early). Stretching will also allow oxygen to the muscles, reducing the lactic acid build-up, thereby preventing soreness.
- Keep the stretches as simple and as specific as possible. Avoid complex stretches.
- SAMPLE STIRETCHES DIFFERENT FROM PRE-CARDIO
  - HAMSTRINGS
  - ABDUCTORS
  - ADDUCTORS
  - GLUTEALS

HEART-RATE COOL-DOWN –120 BEATS OR LOWER

- Cardiac Incidences are likely to happen when cooling down. It's very important they cool-down in class and not on their way to the locker room. It it's a high/low, finish class with them standing, to make sure their heart rate returns to a normal level.
- Turn the music down
- The class should be standing
- They should be 120 beats/min or less

Contraindications

Aerobic exercise is always advancing, and new moves and techniques are continually being developed. As you develop new moves and routines, it is very important to make sure that you don't do anything that is potentially injurious, or puts unnecessary stress on joints, tendons, or muscles. Most aerobics injuries do not happen that day in class, but progressively over years of misuse. Follow the guidelines below to help keep your class safe. Remember the cardinal rule: If IT HURTS- DON'T DO IT!

Use the five AFAA questions to determine if the move is safe or not:

- What muscle(s) are you trying to stretch, limber, or strengthen?
- Are you doing that?
- Is the back protested? Are there any other stress points?
- Can you isolate the muscle(s) and stay in alignment?
- Who is it appropriate or inappropriate for?

1. Never drop your head below your heart unless you are doing floorwork, and have assessed that the heart rate is below 120 beats/minute.
2. Avoid hyperextension of joints, keep knees and elbows slightly bent.
3. Avoid using arms consistently above the shoulders for more than 16 counts.
4. Avoid under eight repetitions on one limb, especially with movements that stress the knee, shoulder, and lower leg.
5. Make sure all movements are controlled- no flinging limbs.
6. Avoid movements with forward trunk flexion; especially those that combine forward trunk flexion and rotation.
7. Keep knees soft, never "lock" them.
8. Avoid hyperextension and hyperflexion.
9. Avoid deep knee bends.

Motion Warm-Up

1. Warm-up low back before you cross the sagittal plane.
2. No lateral moves before forward and back moves.
3. No high impact or high intensity moves.

Pre-cardio stretch

1. Only go the point of tension, don't force a stretch.
2. Never bounce
3. Don't hold for more than 20 seconds.
4. Don't press the knee during stretch.

5. On bends, the knee should not pass the ankle.
6. Never hyperextend the back during a stretch; it should remain in a straight line; the head a natural extension of the spine.
7. Don't pull on ankles or feet to facilitate a stretch.
8. No head circles, or neck back.
9. Avoid unsupported forward flexion.
10. No hurdler's stretch.

Cardiovascular Segment

1. Lunges: focus stays above the step, it's just a tap to the floor. Keep to a minimum.
2. Avoid quick directional changes. Make transitions smooth and gradual—cueing helps!
3. Avoid continuous movement that requires participants to be on the balls of their feet. Always land; toe, ball of the foot, heel.
4. Faster music—shorter, concise movements. Slower music—greater range of motion.
5. Avoid multiple repetitions on one leg.
6. Always show the alternate move to lower the intensity, or if the move hurts a participant.
7. Turning steps should be done gradually.
8. No hand weights or ankle weights during the cardio portion.
9. On a ¼ turn, always give a little air or lift (not a jump) so the ball of the foot is not anchored into the step.
10. When kicking, don't "snap" the knee. Try cuing it as a leg lift.

Strengthening

Abdominals

1. No two leg lifts.
2. No straight leg lefts.

Floor

1. Instead of "doggie-style" for leg work, reduce the angle by lowering to your elbows.
2. Ab/Adduction work when on your side, should have the bottom leg at 45 degrees, not 90.

Cool-down

1. Don't keep the arms raised, the heart rate will not lower.
2. Don't immediately stop - gradually reduce the intensity.

Aerobics Instructor Audition

Name: _____ Date: _____

Introduction
_____ Gives name
_____ "It's your workout"
_____ " If it hurts, don't do it, just keep moving"
_____ " Get a drink whenever you need it"

Pre-Cardio heart rate
_____ Was the music turned low or off?
_____ Count first beat as zero

Motion Warm-up
_____ No spinal rotation or side flexion before lower back stretch
_____ No lateral moves in initial segment
_____ Maintained low impact
_____ Showed good progression with movement

Stretch
_____ Held stretched statically
_____ Held major muscle groups for at least 10 seconds
_____ Neck (side, front, but not back)
_____ Stopped center, without swinging side to side
_____ Shoulders
_____ Low Back _____ Gave side view
_____ Quads/Balance _____ Gave side view
_____ What if you can't grab ankle
_____ Used proper foot hold
_____ Hamstrings
_____ Ankles
_____ Calves
_____ Tibialis Anterior
_____ Inner thigh
_____ Achilles Tendon
_____ Points to where Achilles is (required if does abductor moves)
_____ Supported forward flexion
_____ Used smooth movement
_____ Explains that bend knees should stay over ankle, and not go past the toes.

Cardiovascular
_____ Started with low intensity, preferably low impact
_____ No high impact, low intensity lateral movements
_____ Showed appropriate progression in movement (legs and arms)
_____ Kept a good flow to the class and movement

_____ Performs transitions well
_____ Cues appropriately
_____ Monitors class; walks thru at least once
_____ Explains knee repeaters
_____ Were beats per minute appropriate

Cardio-Cautions: Did NOT do any of these….
_____ Side lunges
_____ Goes across the long side of the step
_____ Squats off the step

Make sure to:
_____ Pivots turning in toward knee, and no more than ¼ turn
_____ Tells participants to "lift" of "add air" on pivot

Combination notes:

Halfway heart rate
_____ Music is low or off
_____ Count first beat as zero
_____ College age pop 130-170 b/min
_____ What to do if the HR is either too low or too high

Final Heart rate
_____ Taken after the last cardio-intensity song
_____ Count first beat as zero
_____ Music is low or off
_____ College age pop. 130-170 b/min

Cool-Down
_____ Keeps arms shoulder-level of lower
_____ Is at least 3 minutes (if only 3 minutes, then was there a water break?)

Pre-Floor Heart rate
_____ Taken before head goes parallel/below heart
_____ Count first beat as zero
_____ Music is low or off
_____ Must be below 120b/min

Stretch for flexibility
_____ Performed no more than 7 minutes after cool-down
_____ Held stretch for at least 40 seconds (mostly hamstrings)

_____ If doing floor stretches, and head goes below heart, took a pre-floor heart rate

Abdominals
_____ Does abs talk standing, facing class
_____ Music off or low during abs talk
Does abs talk:
_____ Exhale on contraction, inhale on relaxation
_____ Chin/Eyes on ceiling
_____ Back placement
_____ Elbow placement
_____ Pause for a moment at the top of your contraction
_____ If you're tired….
_____ Walks thru class
_____ Does abs in sets

Toning Standing Postural Alignment Cues
_____ Feet shoulder width apart
_____ Knees slightly bent
_____ Abs in
_____ Back neutral
_____ Shoulders down
_____ Head a natural extension of the spine

Handweights
_____ Covers how to pick up/put down
_____ Smooth movement
_____ Appropriate beat
_____ Does muscle groups in sets
_____ If you're tired….

Floor & Toning

Dyna & Regular bands
_____ Shows how not to snap joints
_____ Smooth movement
_____ Appropriate beat
_____ Does muscle groups in sets
_____ Doesn't have an articulating joint between band and the muscle group being worked
_____ If you're tired….

Ending Heart rate
_____ Taken at the end of class
_____ Count first beat as zero
_____ Music is low or off
_____ Must be below 120b/min