# UNIVERSITY HONORS PROGRAM

## SENIOR PROJECT - APPROVAL

Name: Tiffany Johnson

College: Arts + Sciences Department: Language

Faculty Mentor: Laura Gagnon

PROJECT TITLE: The Dancer's Workout

I have reviewed this completed senior honors thesis with this student and certify that it is a project commensurate with honors level undergraduate research in this field.

Signed: Laura Gagnon, Faculty Mentor

Date: 8/15/02

Comments (Optional):

# UNIVERSITY HONORS PROGRAM

## SENIOR PROJECT - PROSPECTUS

Name: Tiffany Johnson

College: Arts + Sciences Department: Language

Faculty Mentor: Laura Gagnon

PROJECT TITLE: The Dancer's Workout

PROJECT DESCRIPTION (Attach not more than one additional page, if necessary):

This project discusses the benefits of a workout regimen for dancers and various exercises that are useful for their workouts.

Projected completion date: Aug. 13th, 2002

Signed: Tiffany Johnson

I have discussed this research proposal with this student and agree to serve in an advisory role, as faculty mentor, and to certify the acceptability of the completed project.

Signed: Laura Gagnon, MSPT, Faculty Mentor
Dance instructor & PhD student

Date: 8/1/02

**Return this completed form to The University Honors Program, F101 Melrose Hall, following your first presentation in the Senior Project Seminar.**

The Dancer's Workout
Tiffany Johnson
Mentor - Laura Gagnon

A dancer has to be strong and flexible, as well as talented to be a great dancer. Dance conditioning is something that is good for a dancer's health and technique. Therefore, I have decided to document the benefits of working out and present exercises that can be useful for a dancer's training. The dancer should do exercises that enable muscles to fire faster and more efficiently. But most important of all, these exercises should build strength in order to control during movement of the arms and legs.

First we will start with the warm-up. The warm-up is essential to workouts. One might ask, "why is it so important?" The answer is prevention of injury. A warm muscle can respond faster, and stretch further than a cold one. If you lift heavy weights using muscles that aren't warm, the work can cause them to strain, tear, and then cause serious injury. A form of warm up can be a series of active stretches done in sequence. One example is Yoga. These stretches increase flexibility and are useful in warming up the body. These stretches and other common stretches are on the stretches list (Appendix D). Another type of warm up is cardiovascular work.

Cardiovascular work includes biking, running, aerobics, stair-master, or any activity that increases the heart and respiratory rate. These activities get the muscles warmed up to prevent injury and prepare the body for lifting weights. The benefits of cardiovascular exercise are numerous, one being decreased risk of heart disease. Additional benefits are the decrease in fatigue, cancer, hypertension, osteoporosis, anxiety, and depression. For every person's cardiovascular regimen, they should do a workout that is specially made for their fitness level, stamina, strength, and time limits.

The elements of exercise are frequency, time, type and environment. A typical work out should be three to five days a week for about 40 minutes, doing an activity that is enjoyable. The idea is to do something that you enjoy so that exercise can be fun, yet challenging at the same time. One can be modified to achieve the desired exercise effect. A person can increase the intensity of the workout in order to cut down the duration of the exercise. Also, a person can increase the frequency of the exercise in order to cut down intensity and duration. The main goal is to create a workout pattern that is beneficial to the exerciser.

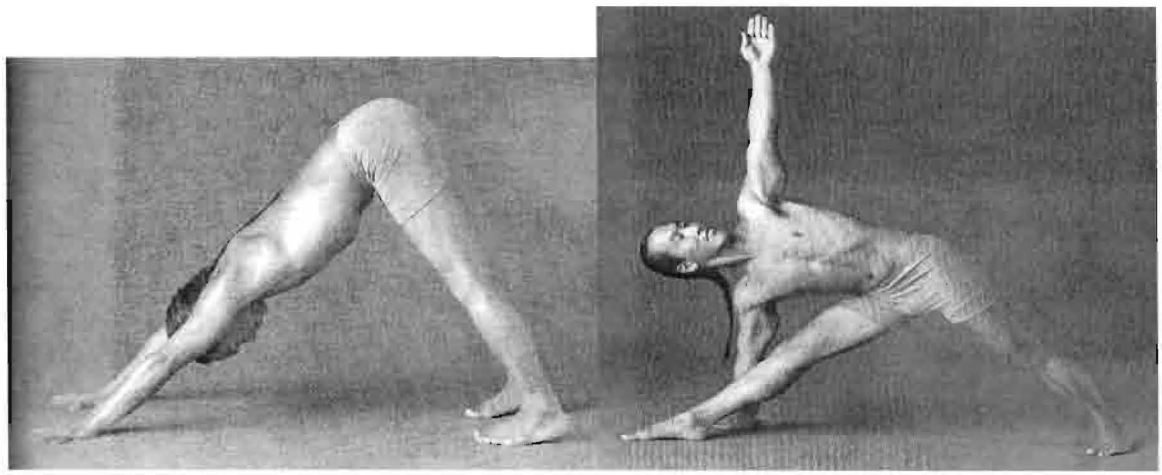
One factor used in assessing a cardiovascular workout is the heart rate. There is a target heart rate to achieve when working out, so that the exerciser knows the ideal intensity for their workout has been reached. The target heart rate falls between the two following equations:

$$HR\ lower = HR\ rest + 0.60(HR\ max - HR\ rest)$$

$$HR\ higher = HR\ rest + 0.80(HR\ max - HR\ rest)$$

Upon achievement of this heart range, the exerciser can know that their work has been beneficial.

Yoga is another warm-up alternative that has many uses. Yoga is a series of positions that stretch the muscles of the body and prepare muscles for exertion. Yoga is also a practice to center the mind. In this case, Yoga is used to prepare the body for the exertion of the workout. Benefits of yoga include increased flexibility and strength. The poses included in this paper are Downward Facing Dog and Triangle Pose. These two are great for building strength and flexibility. Downward facing Dog builds flexibility in the hamstrings and strength in the arms. Both which are important for dancers. Triangle pose increases flexibility in the legs and torso, while also building strength for the legs. These are good preparations for the forthcoming workout.



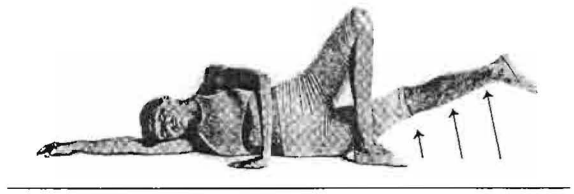
The workout is the main element of dance conditioning. The workout is beneficial to the dancer because it does two things. It builds cardiovascular capacity in order to have stamina. It builds strength during long performances, difficult choreography, leaps, and lifts. The key to improved fitness is finding the exercise plan that is right for you. The fitness program depends on the type of dance that you plan to do. Both aspects of the work out are needed, but each can be modified to fit the needs of the dancer.

The next elements of the workout are exercises that strengthen. The dancer has certain exercises that increase strength in the muscles needed for dancing. The main areas would be the legs, torso, shoulders and arms. The main muscle areas targeted in the legs are the hamstrings, quads, gastrocnemius, adductor, abductor, and soleus. The main areas in the torso are the gluteus maximus, abdominals, piriformis, pectoralis, obliques, latismus dorsi, and others. The shoulder and arm muscles are the deltoids, biceps, triceps, trapezoid, and many more. The strength in the legs is used for running, leaps, and overall movement. The strength in the torso is for balance and overall stability for

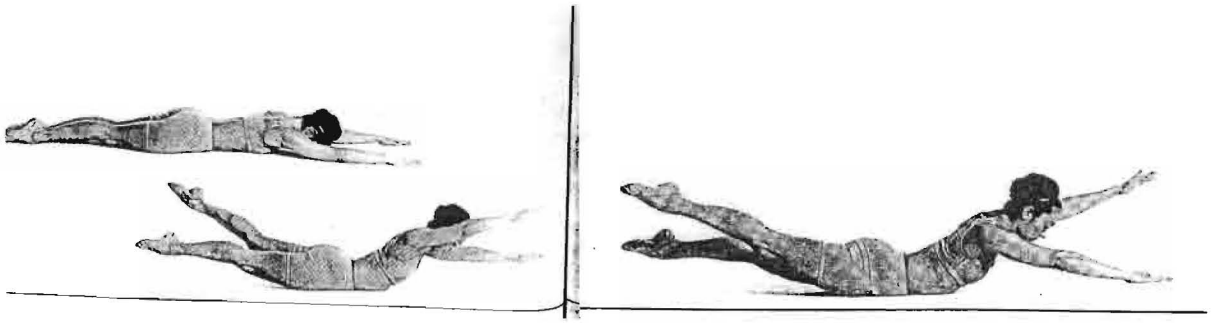
holding positions and movement. The shoulder and arm work is needed for correct position of arms, strength for falls, and floor work using the hands. Overall body strength is needed for the dancer to be at the top of their game. In this paper, I will discuss 3 types of workouts that can be used to strengthen the body: Pilates, Floor Bar, Yoga, and Swiss Ball exercises.

Pilates is very similar to yoga but involves more strength training. The exercises listed in this project are used for the legs and torso. Pilates is a conditioning method that consists of stretching and strengthening exercises created by a man names Joseph Pilates. These exercises increase muscle tone, improve posture, provide flexibility and balance, and unite the body and mind. It is similar to Yoga, but this provides more strength training. The three photos that I am including in this paper are only a glimpse at the wide world of Pilates. Each exercise is designed to strengthen a particular muscle.

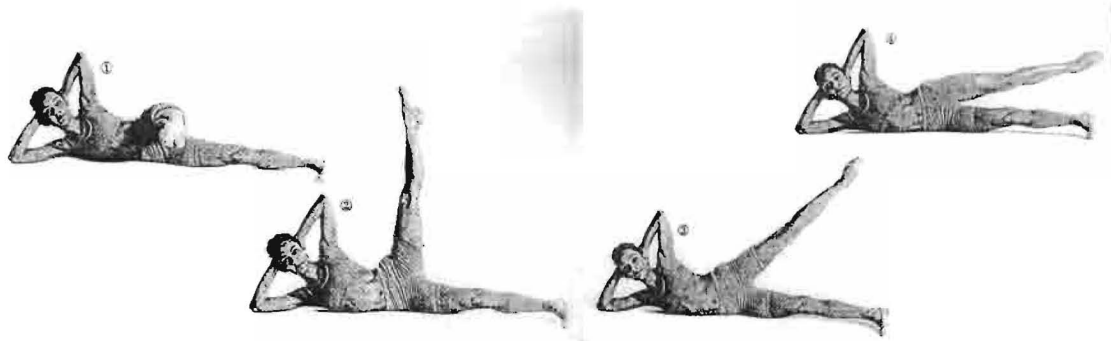
We will start with Inner Thigh lifts.



Next is swimming. This exercise strengthens the back and the extremities.



Finally, we have the rand de jambe exercise.

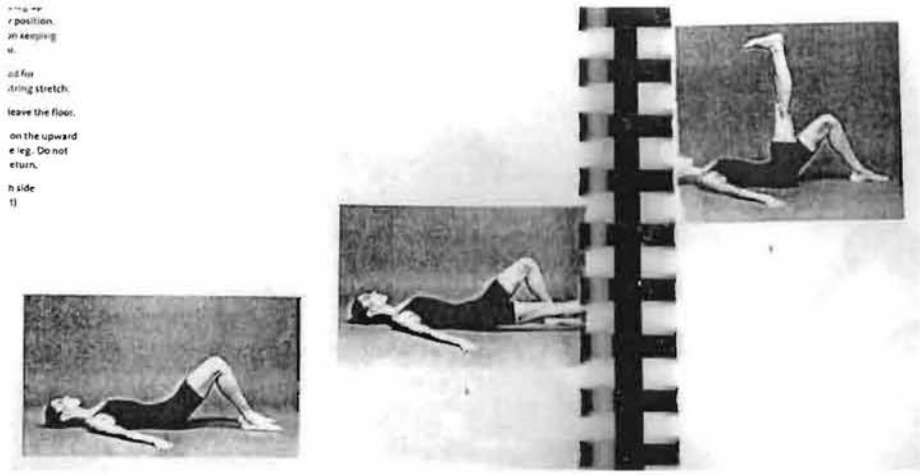


Pilates is a great way to center the mind and strengthen the body and is a nice deviation from any other conditioning program.

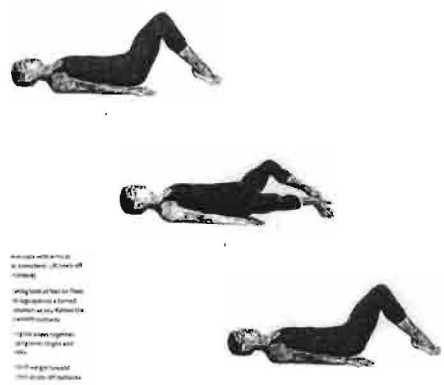
Floor barre is something that was developed by ballet dancers who wanted an option to standing up and doing bar work. Floor barre is the same series of bar work but done on the floor with

the back on the ground. The target muscles worked are those in the legs: hamstrings and quadriceps. If done in turnout, the exercises work the piriformis deep in the pelvis, which controls turnout. This technique was utilized by the New York City ballet to provide an alternative to constant standing bar work. This is a very helpful tool for ballet dancers looking to train and for any dancer wanting to improve on technique. The program simply consists of bar exercises done on the floor. The next three exercises are small part of the huge options of floor bar available. First is the Floor Bar passé. This helps the dancer strengthen the leg in passé.

The next exercise is called Grand Battement. This helps work the legs to achieve those high kicks that we long for.

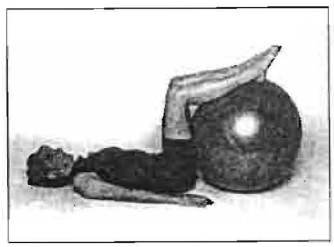



The next exercise is simply called Turnout. This is a basic element of dance technique that all dancers recognize.

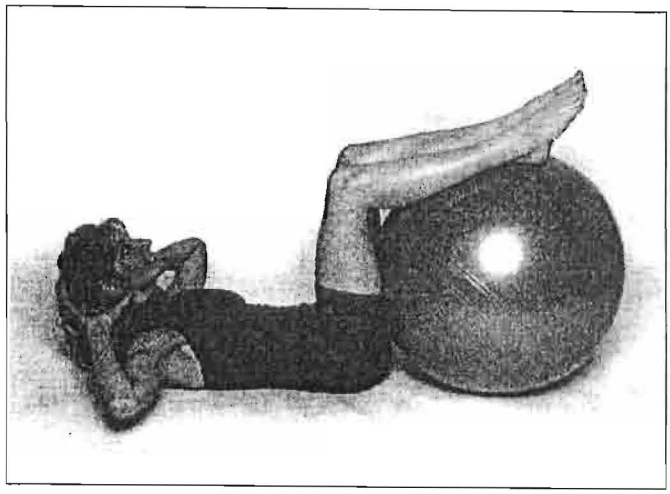


Yoga is good for regulation of breathing, concentration, increasing flexibility, and increasing strength. Breath is regulated and focused on in order to encourage the participants to look inside themselves. Then the participant is guided into different poses, which increase flexibility and allow for blood and oxygen to flow to different parts of the body and become rejuvenated. The stretches are also strength builders. An example is Downward-facing dog. This exercise builds strength in the arms while stretching the hamstrings. (Photos in Appendix A)

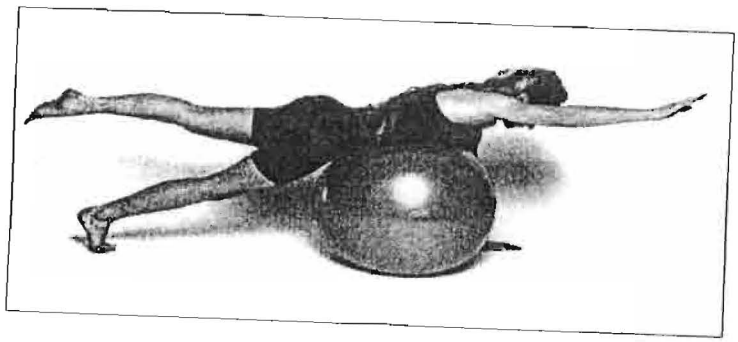
Finally, the Swiss Ball is a good complement to any conditioning program. This inflatable ball provides an added challenge to exercise and can be used as an aide to help in doing certain exercises. The Swiss Ball can be used in various exercises to strengthen each area of the body. Here are a few examples.



Lower Abdominal INSTRUCTION.



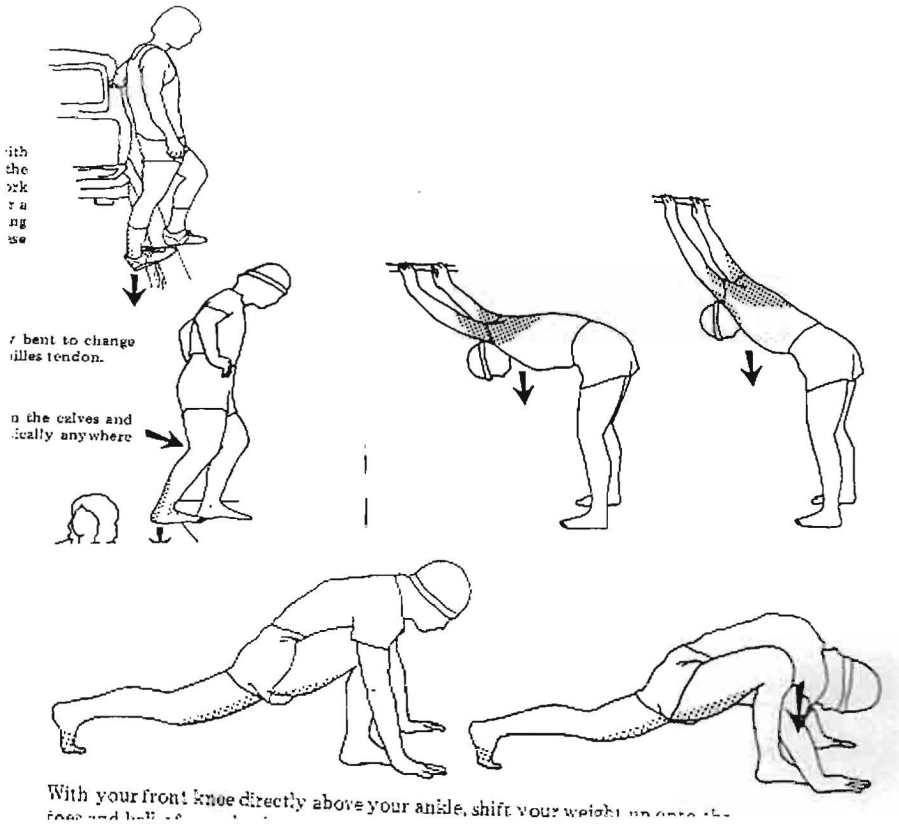
Upper Abdominal



Back strengthener

Each exercise is fun and beneficial to strengthening the body. Cardiovascular work, as mentioned before, is also an acceptable workout. Overall, the workout section of conditioning should strengthen the part of the body that the dancer needs and should be fun. Conditioning is something healthy and beneficial to the body. Choose the one that is right for you. (More exercise options listed in appendices A, B, C)

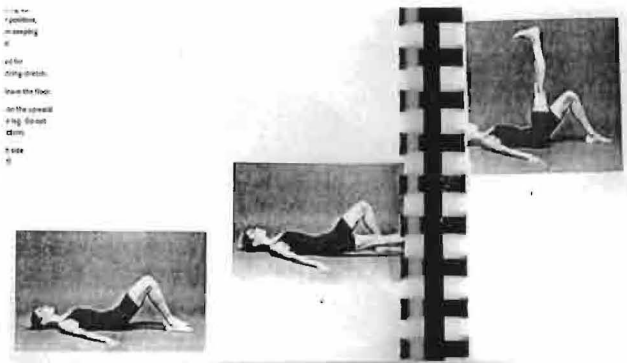
Stretches are then done to relax the muscles after workout and to prevent injury. Each section of the body should be stretched for at least 40 seconds in order to obtain optimum flexibility and relaxation. We will start with the leg stretches. The Calf muscle can be stretched by standing on the edge of a step and having the heel hang off the edge. Lunges are a good way to stretch the quadriceps of one leg while stretching the hamstring of the other. Laying on the stomach and then pushing up with the arms can stretch Abdominals. Bending at the waist until a stretch is heard can stretch the hamstrings. Stretching the muscles in the shoulders can be done by placing the hands on a bar and then falling forward. More stretches are listed in Appendix D. Overall, the idea of stretches is to cool the body in order to prevent injury and to relax the body.




Cool-down is essential to return the heart to a normal rate and cool down the body so that the body doesn't overheat and injure the participant. Cool-down consists of many things. Yoga is re-introduced during cool down, as well as stretching. The same stretches done at the beginning of the project are done but much slower and they are held for a longer amount of time to provide adequate cool-down time. Also, breathing exercises are good here to get a normal heart rate and relax the body after exercise. One example is breathing in and then exhaling slowly and/or inhaling slowly and exhaling normally. Taking time to stretch and slow the heart rate after exercise increases relaxation and stress relief. Overall, cool down is the time to relax and let the body adjust from the exercises.

Overall, the exercises are orchestrated so that they stabilize and protect the back, while working out to condition the body for dancing. Warm up is essential to the fitness program so that injury to the muscles can be prevented. The workout increases fitness and strength needed to be a well-rounded dancer. Cool down is needed to prevent injury from over-exertion of the muscles and for relaxation. All these aspects of fitness are complementary to helping a dancer achieve their best. I hope to present some options to dancers who want to build strength and stamina for dancing. Hopefully this will go on to help others to train, prepare, and then achieve their dreams of dancing perfectly.

## *Floor Barre*



Floor Barre Passé Extensions—*feel this in your lower abs*, *t of your thighs, see it in toned calves*

1

2

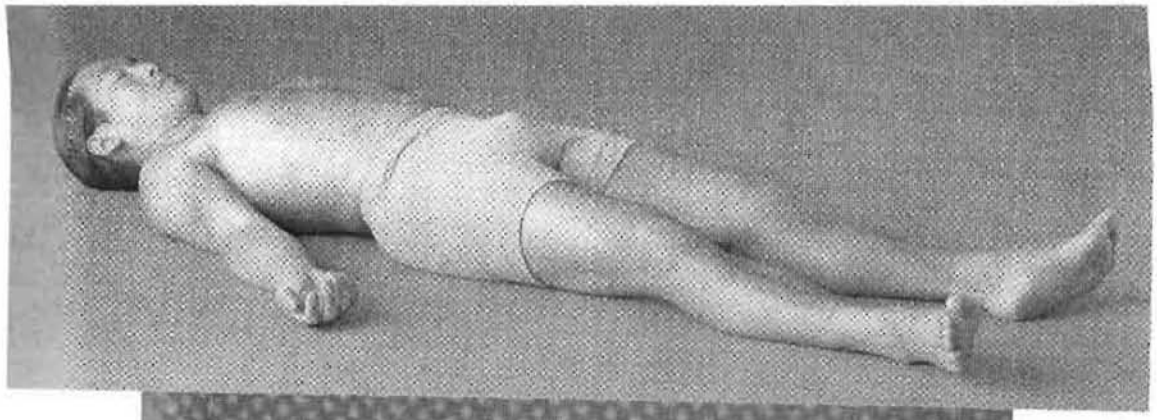
ıe on back with arms at
es, knees bent. Lift heels off
ɔr (relevé).

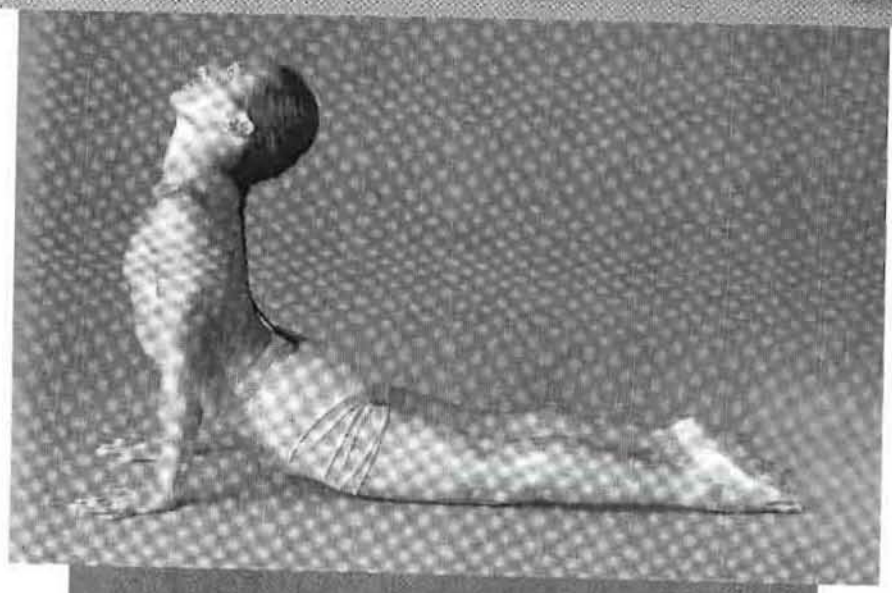
:aving balls of feet on floor,
ıte legs open to a turned
position, as you flatten the
k and lift buttocks.

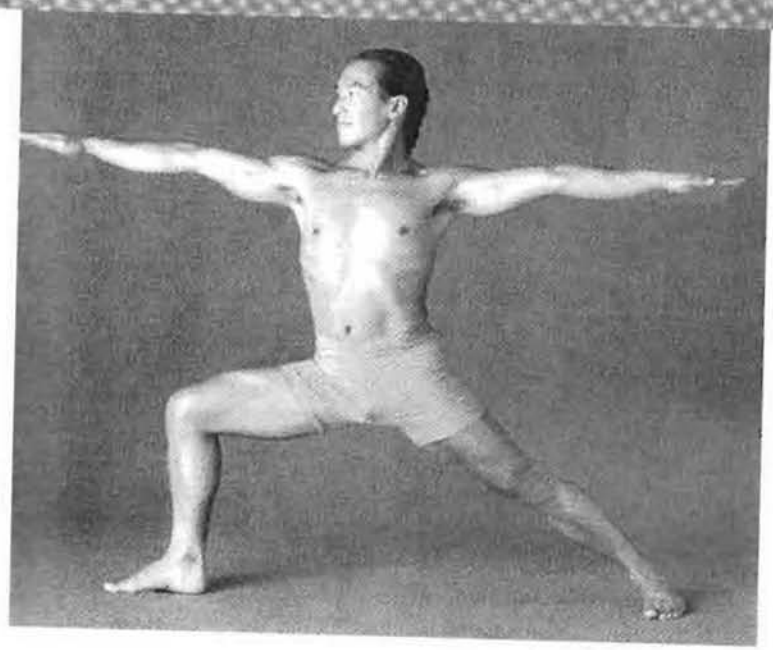
ıng the knees together,
ıging inner thighs and
'ocks.

: Shift weight toward
ılders as you lift buttocks.

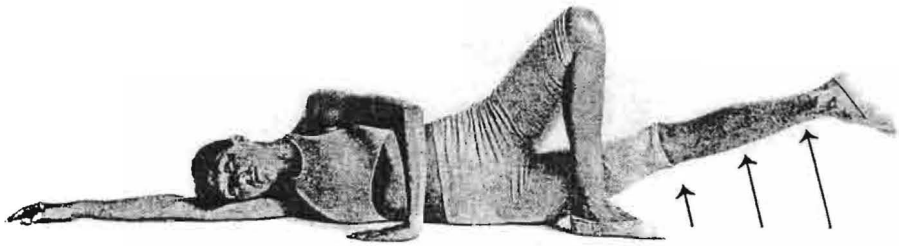
*Yoga*

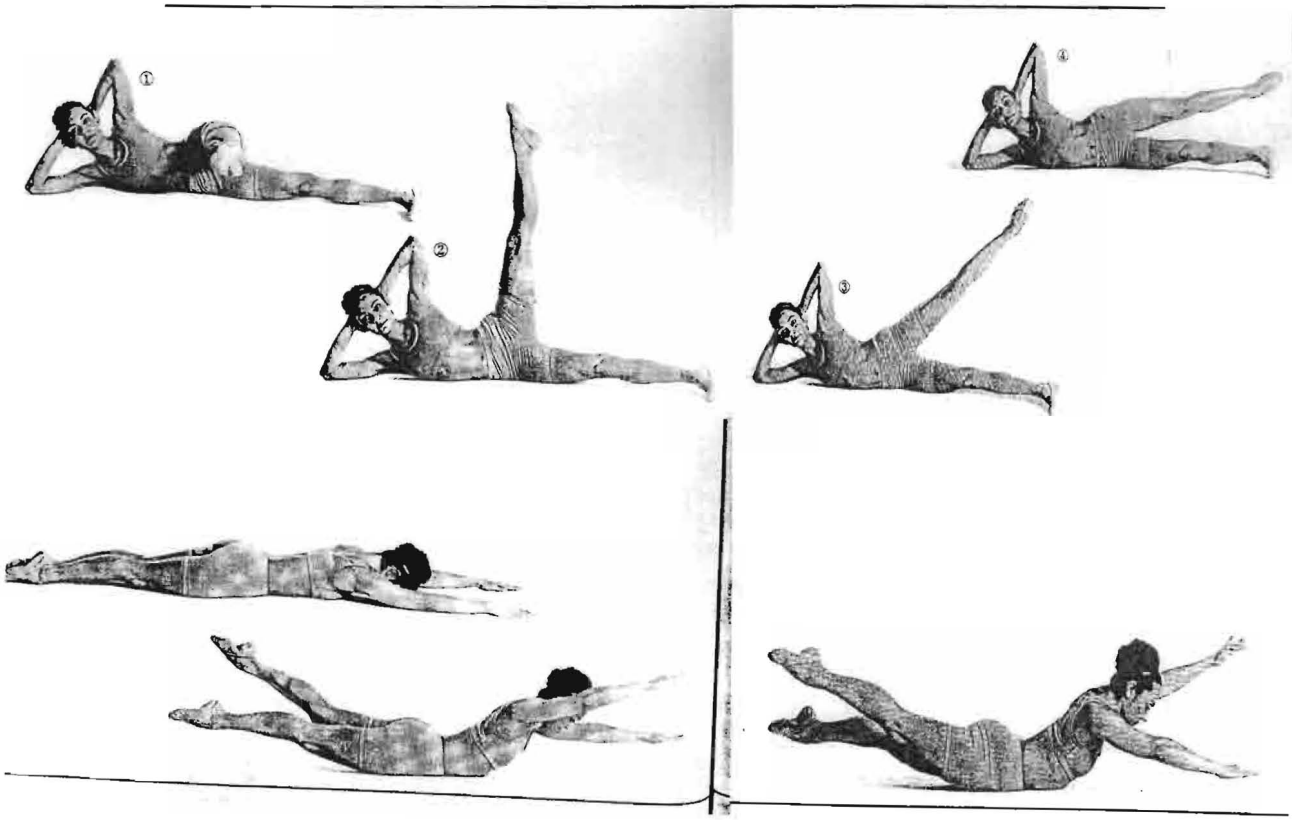




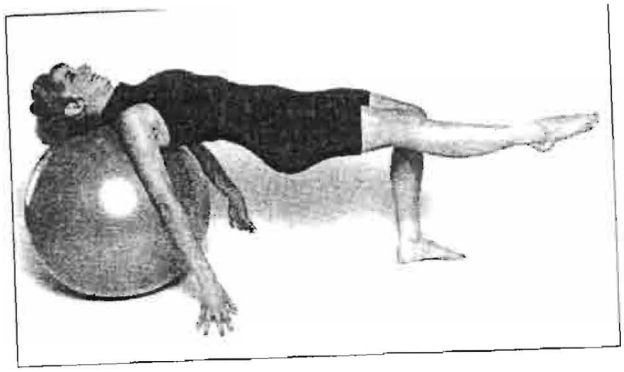


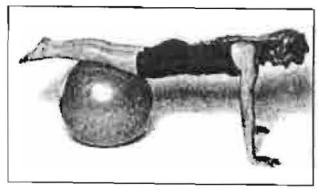
*Pilates*

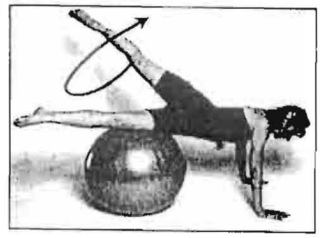


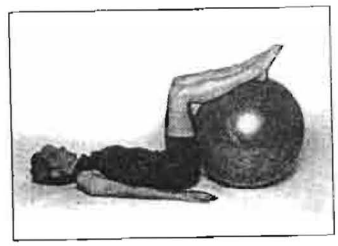


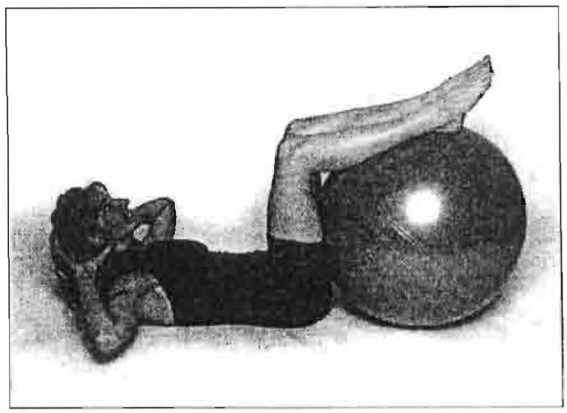
*Swiss Ball Exercises*

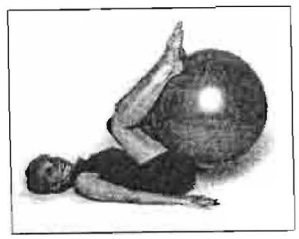


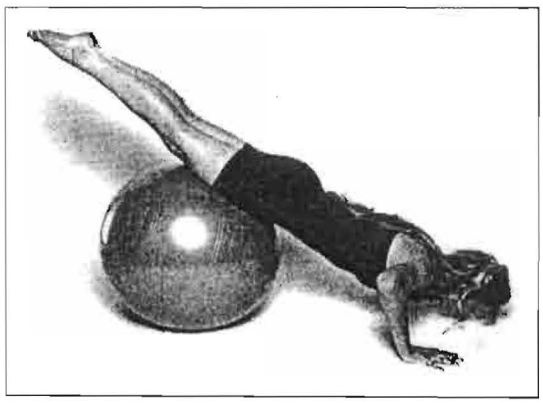


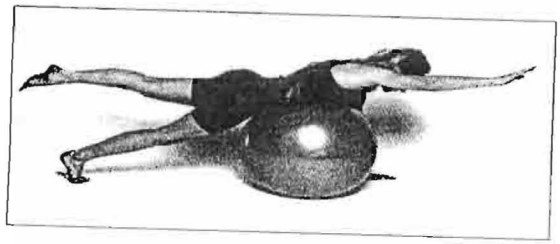












## *Stretches*

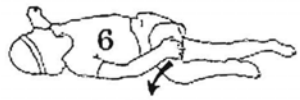
20 times
each direction
*(page 21)*

40 seconds
each foot
*(page 31)*

5 times
each direction
*(page 89)*

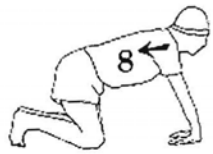
3 times
8 seconds each
*(page 25)*

30 seconds
*(page 34)*




25 seconds
each side
*(page 29)*

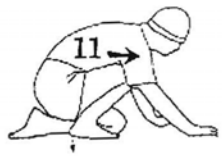
3 times
8 seconds each
*(page 28)*




20 seconds

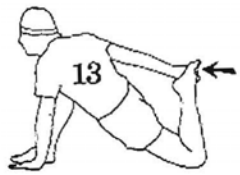
15 seconds
each arm
*(page 40)*

30 seconds
*(page 46)*




15 seconds
*(page 47)*

10 seconds
*(page 48)*




25 seconds
*(page 50)*

15
Repeat
11, 12, 13, 14,
other side

## Exercise Programs

**Tiffany Johnson**

Warm-up

- Stretch
- Yoga (downward facing dog, triangle pose)

Workout

- Bike (25 minutes) Target Heart Rate 125-135
- Swiss Ball Exercises
  - Upper and Lower Abs
  - Push Ups
  - Back Strengthener

Cool down

- All listed stretches
- Breathing exercises

**Annette Turner (co-worker/ballet dancer)**

Warm up

- Stretch
- Yoga (downward facing dog, triangle pose, cobra)

Workout

- Run (30 minutes) Target Heart Rate 130 – 140
- Swiss Ball Exercises
  - Upper and Lower Abs
  - Upper Body Strengthener
  - The Bridge: Knee Lift
- Floor Bar
  - All exercises

Cool Down

- Stretches
- Breathing exercises/Relaxation Pose

**Dawne Derry (hip hop dancer)**

Warm up

- Stretch
- Yoga (downward facing dog, triangle pose, warrior pose 1&2)

Workout

- Run (35 minutes) Target hear rate 130-140
- Pilates
  - Leg lift/Swimmer
- Swiss Ball Exercises
  - Push up
  - The Bridge: Knee lift
  - Scissor twist

Cool down

- Stretches/Relaxation pose

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- Yoga and Relaxation (physical education 254) Instructor: Ellen Stinnett
- Theory and Practice in Dance Conditioning (Dance 380) Instructor: Laura Horvath Gagnon