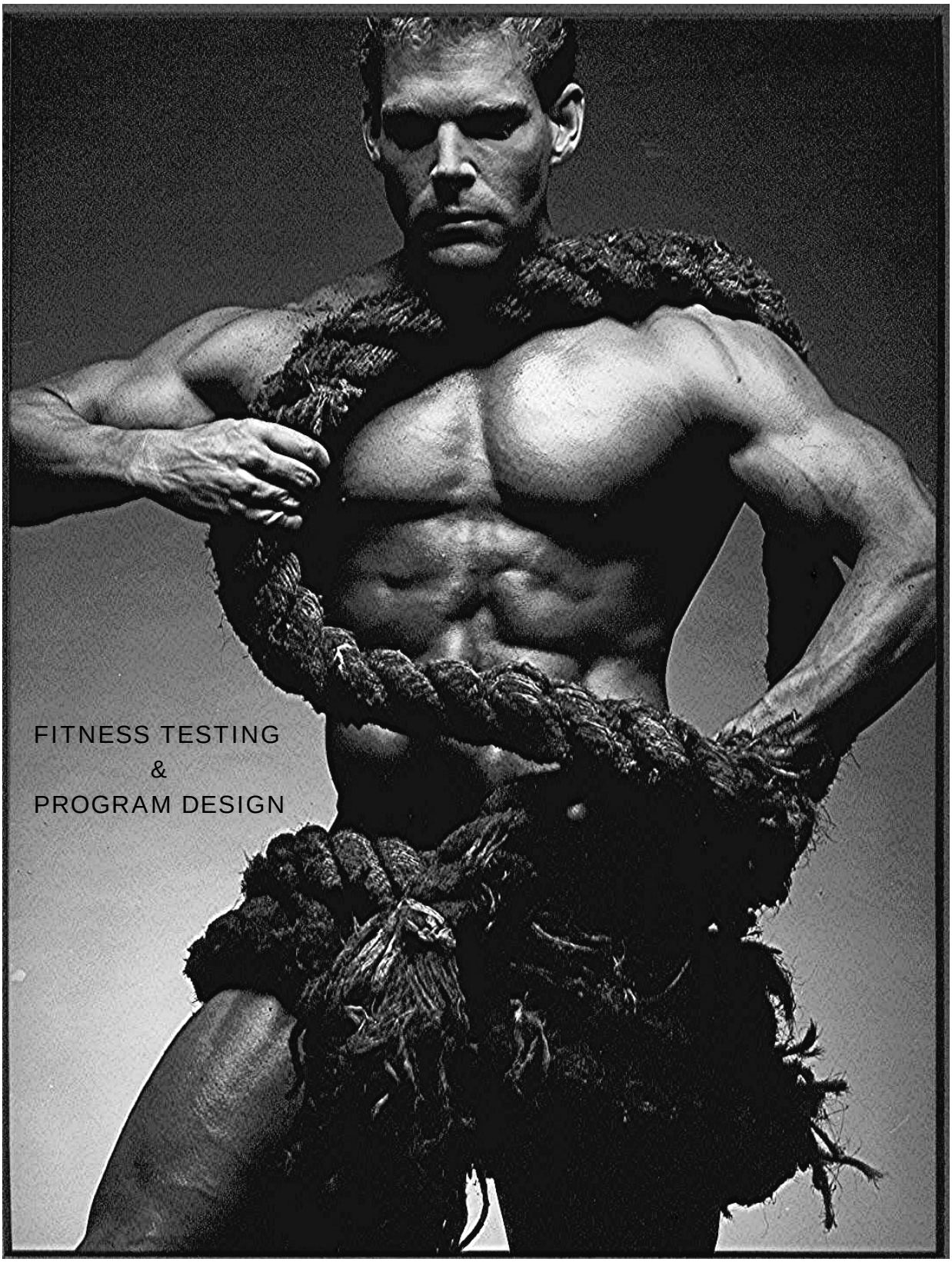


Fitness Trainers' Responsibilities

Pilates Instructors are legally classified as 'fitness trainers'.
We distinguish ourselves first and foremost as EDUCATORS in the physical arts.

Pilates Fitness Training Program Development
General Guidelines

Make an Accurate Assessment, based on: the client's intuition, medical history, postural assessment and fitness evaluation of flexibility, strength, endurance and body fat composition.

Design a Program, based on: the client's goals, doctor recommendations and your assessment.

There are five components to every workout program:

1. Warm-up
2. Strength-training exercises
3. Endurance-training exercises
4. Flexibility exercises
5. Cool-down

Identify the client's immediate needs:

Post-rehabilitation* post-Physical Therapy
Awareness; neuromuscular control or coordination problems
Stress reduction; excessive muscular tension or a lack of flexibility
Build strength of mind, body or spirit
Energy enhancement due to low muscular endurance

Choosing the appropriate Pilates exercise: is determined through your assessment of the client and the purpose of the exercise.

Basic movement postures: lying, sitting, recumbent, kneeling, standing, bending; forward, side or back Basic movement kinetics: core stability with distal mobility, distal stability with core mobility, isolated mobility or integrated mobility.

Elite instructors are creative:

The number of Pilates exercises is limited only by the trainers imagination. Inventing new movement is rare. However; discovering new combinations or applications of the equipment is your legacy from Joseph Pilates.

As long as the Principles and Concepts are adhered to, you may barrow movement vocabulary from other physical disciplines. In Sports fitness this is known as Specificity Training. We see this in the marketing of; Pi-yoga, Yo-lates, Dance-a-lates, Golf-Pilates, Piloxing, Core-weight-training & Zen-Pilates and more, yet to come.

*In 'The Pilates Bible' protocols, you are provided with general guidelines in developing a post-rehabilitation program. Every situation, including pregnancy, has the possibility of being different. If you determine the client's need is significant, strongly suggest that your client consult a medical professional. Direct contact with a client's doctor will be your wisest course of action. Contact the client's doctor to understand the diagnosis and the contraindicative exercises [the do's and don'ts for this client's fitness program]. Always follow the doctor's recommendations, document the doctor's advise, send a copy of the program recommendations, as you understand them to the doctor for confirmation, and keep it in the client's file. **You are not a doctor. Do not make medical diagnoses!** You must be willing to say, "I don't know, but I will ask a medical professional for advice." **Do not perform Chiropractic adjustments!** This may prove to be hazardous to the client and a liability to you. However, skeletal adjustments may occur naturally with movement and stretching exercises.

POSTURE ASSESSMENT

Assess the posture standing and sitting, from the back and the side.
Look for symmetry and asymmetry in all regions.
Where is their center of gravity?
Where do they hold stress and tension?
What is the tone of the spine and muscles when touched slightly?
What is different between standing and sitting postures?
Watch them walk to and from you, notice the gate – length of stride, sway, tempo, twist, distribution of body weight -more on one leg, favoring one side, or use of heel vs. toe?

From the back look and feel for

Look for any differences or deviations between right and left sides.
Notice any swelling, redness or inflammation.
Position of head – Straight or tilted higher or lower? Jutting forward or pulled back?
Position of neck – Straight or tilted to one side?
Position of shoulders – level or uneven?
Position of shoulders – One side twisted forward?
Position of hips – level or uneven?
Position of hips – One side twisted forward?
Is there a scoliosis -side curvature of the spine, "C" or "S" shape?
Is there a twist or spiral of the spine?
Is there Kyphosis - shoulders dropping forward or a hump on the upper back?
Is there Lordosis – an excessive lower back curvature?

Feel the vertebrae for tension, alignment and mobility

Cervical – 7 bones of the neck.
Thoracic – 12 bones of the middle back.
Lumbar – 5 bones of the lower back.
Sacrum and coccyx.

Feel any differences of the left and right side

Muscle tone of the cervical region – tight, hard, soft or thick?
Muscle tone of the traps – top of the shoulder – tight, hard, soft or thick?
Muscle tone of the thoracic spine – tight, hard, soft or thick?
Muscle tone of the lumbar spine – tight, hard, soft or thick?
Legs – knock-kneed, bow legged, turned out equally or turned inward?

From the side look and feel for 3 Spine Curves

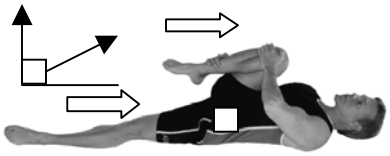
Cervical – A backward "c" shape is normal when the head sits level on the neck. If the chin tips upward, a shortening of the back of the neck becomes noticeable. When a chin is held low the back of the neck is elongated or considered to be a Military Neck.
Thoracic – Slightly rounded is considered normal. Kyphosis is an increased rounded curve of the upper back. A flattened curve or concave upper back or pinching together of the shoulder blades is also abnormal.
Lumbar – A slightly backward "c" shape is normal. An increased curve is a sway back. A flattened curve of the lower back is often a sign of over stretched lumbar muscle or Military Back.

Refer to a Health Professional for evaluation / treatment, when

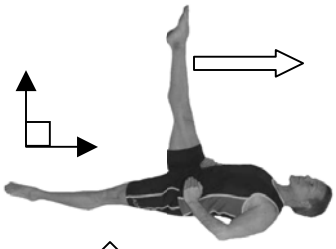
The client complains of chronic pain that does not respond to Pilates exercise, Acute pain, inflammation, bi-lateral tingling, numbness or decreased mobility.

Pilates Fitness Testing

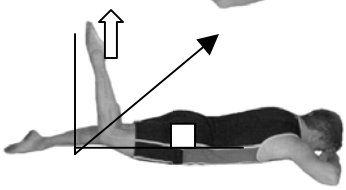
The criteria for fitness is; 1) Flexibility 2) Strength 3) Endurance 4) Body Composition



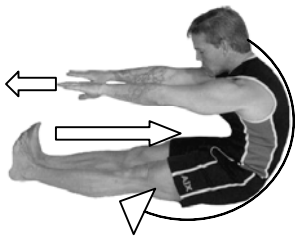
Flexibility - Hip Flexors: Keep extended leg on the floor; bend the other leg 80° toward the torso to lengthen the rectus femoris & tensor fasciae latae muscles, keep pelvis from hiking. Measure the degree of pelvic posterior tilt. Flexibility of the extended leg's hip flexors; 0 > 4% posterior pelvic tilt = normal, 45° tilt = poor.



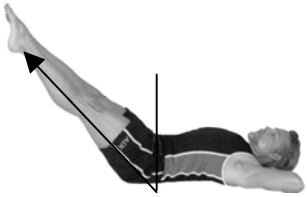
Flexibility - Hamstring: Keep extended leg's hamstring on the floor, pelvis from hiking and in neutral while lifting the thigh toward the torso. Measure the degree of hamstring flexibility; 90° angle of femur to torso = normal, 0 > 35° = poor [close to the floor].



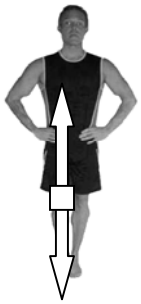
Flexibility - Psoas: Keep lumbar spine from hyper-extending and pelvis in neutral while lifting the thigh. Measure hip flexors flexibility; 45° angle of femur = normal, 0 > 35° off the floor = poor.



Flexibility - Back: Extend legs & arms, posteriorly tilt the pelvis, retract the abdominals for lumbar flexion. Typically the thoracic is better suited for flexion and the lumbar is better suited for rotation. Look for a gentle equal 'C' curve of the spine as well as any deviation such as spinal twists, lateral curvature or inconsistencies of spinal flexion to diagnose spine flexibility, also any excessive spinal protrusions or twists, resulting in an imbalance of the erector spinae muscles; a consistent curvature of the spine = normal.



Strength – Core Stability: Lying supine, extend legs at 90º above the hips with a posterior pelvic tilt and lower back in contact with the floor, slowly lower the legs with control. Stop before alignment changes resulting in a lordotic curvature or abdominal distention. Diagnostic; the ability to maintain the spine/pelvic alignment; 45º = normal, lowering legs to the floor = excellent.

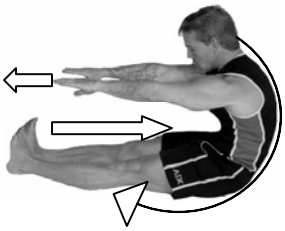


Endurance - Squats: Stand with parallel [or turned out] leg/hip alignment, bend at the ankle, knee & hip joints while keeping the pelvis in neutral and torso erect. Count the number of deep squats [or Grand Pile's] one can perform in 60 seconds to determine muscle-cardio-vascular endurance; 30x = normal, 60x = excellent.

Body Composition: Use; infra-red, electro-impedance or calipers to measure fat %; 40% body fat = obesity, heart conditions, diabetes & joint compression, 21% is considered normal for women, 17% is considered normal for men, 9% women loose their menstrual cycle, 7% is considered excellent for men, 4% > 0% a woman will die, 1% > -% some elite male athletes have been measured.

FLEXIBILITY TESTING

Out dated flexibility testing, used one activity to test back and hamstring muscle length (the Traditional Spine Stretch Forward variation; a ballistic torso flexion in an attempt to touch the toes while sitting in a Pilates 'L' position and later, the Classic version of resting the torso on the thighs). Since these activities are still commonly used as a Pilates exercise, their faults will be discussed, with emphasis on alternative ways of performing this exercise more effectively and measuring flexibility more accurately. First, ballistic techniques must not be used in Pilates or flexibility testing. Secondly, anyone who is hyper-flexible in their lower back, upper back or hamstrings can bend forward and rest their torso on their thighs even if one of those areas is chronically tight. Thirdly, disproportionate length between arms, trunk, and legs can make toe touching easier for some and more difficult for others. Finally, there is a tendency to hyper-flex the thoracic spine if the client does touch the toes while long-sitting. If Pilates instructors continue to use hyper flexion exercises, the danger is that the over flexible areas will remain hyper mobile and become weaker (hyper tonic), while the tight areas get tighter. The only way to determine the tight region is to scrutinize the contour of the back and position of the pelvis. In today's flexibility testing, the criteria is how evenly the back is curved. NOTE: 1) Other tests of flexibility should also be done, particularly to regions that tend to become tight from faulty postures or muscle imbalances. 2) There is a belief that young people lose their flexibility because of a soft life style and are no longer able touch their toes. This problem is discussed by Kendall in a classic article, who states: "There is a period between the years of ten and fourteen when a majority of children may not be able to touch the toes with knees straight. The inability to successfully perform this feat apparently results from a discrepancy between leg and trunk length during this growth period. To encourage or force children to accomplish this feat may be harmful in the sense that undue flexibility of the back may result. The long bones grow rapidly during puberty; the flexibility of muscles lags behind. To excessively stretch the muscles when they are already undergoing lengthening because of the rapid growth of the bones may also lead to weakness in the overstretched muscles. Or possibly, the tendon may elongate and the muscle tissue may not adapt, resulting in a weakened muscle."

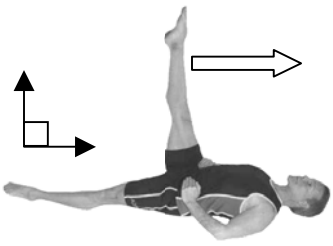


Back Flexibility: Sit in a Pilates 'L' position. Extend both legs & arms. Posteriorly tilt the pelvis, and retract the abdominals for lumbar flexion. Look for continuity of the evenness of the spinal 'C' curve to diagnose equality of spinal flexibility.
NOTE; 1) A consistent curvature of the spine = normal. 2) Look for any deviation such as spinal twists, lateral curvature, and inconsistencies of spinal flexion, also any excessive spinal protrusions or twists, resulting in an imbalance of the erector spinae muscles. 3) Typically, the thoracic is better suited for flexion as the lumbar is better suited for rotation.

Lower Back Flexibility:
The client stabilizes a neutral pelvis by sitting upright, with his legs crossed. He stabilizes the upper back in extension by placing both hands behind his head and bringing the elbows out to the side. He then bends forward, flexing only the low back, and does not allow his thorax to curl.

Flexibility Testing continued

Hamstrings Flexibility, the client should lie supine, and lift one straight leg toward the torso, while keeping the other extended leg's hamstring on the floor, with the pelvis stabilized in neutral.
NOTE: 1) Do not allow the pelvis to tilt obliquely. 2) The ankle is allowed to point in order to minimize the gastrocnemius muscle pull. 3) To measure the degree of hamstring flexibility; 90° angle of femur to torso = normal, 0 > 35° = poor [close to the floor].

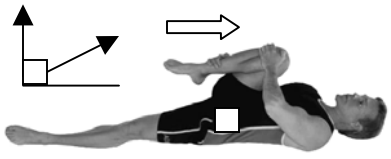


Scapular Protractor Flexibility,
Test to determine whether or not the person can lie supine with hands behind his neck and then lower his elbows to the exercise mat.
NOTE; this s a pass or fail test.

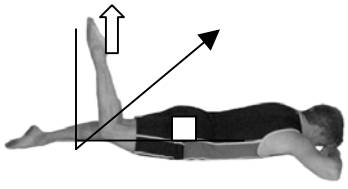
Upper Neck Extensor Flexibility,
Lie supine in a Corrective Rest Position to determine whether or not the person can almost flatten the cervical spine against the mat.
NOTE; this s a pass or fail test.

Anterior Thorax and Abdominal Wall Muscle Flexibility, Test to determine whether or not the person can lie prone, then extend the thorax upward (as in a Swan). The hands should be placed near the shoulders, not out to the side or forward. NOTE; 1) A consistent curvature of the spine = normal. 2) Note any points of spinal hyperextension.

Plantar Flexor Flexibility,
Test to determine how far the person can dorsiflex his ankles while sitting with the knees extended or lying supine. NOTE; 90° flexion = normal.



Hip Flexor Flexibility, Keep the extended leg on the floor; bend the other leg 80° toward the torso to lengthen the rectus femoris & tensor fasciae latae muscles, keep the pelvis from hiking (the Thomas Test is also used).
NOTE; discern the flexibility of the extended leg's hip flexor, by measuring the degree of the posterior pelvic tilt; 0 > 4% posterior pelvic tilt = normal, 45° tilt = poor.



Psoas Major Flexibility, Keep the lumbar spine from hyper-extending and pelvis in neutral while lifting the thigh.
NOTE; measure hip flexors' flexibility by the angle of the femur off the floor; 45° = excellent, 30° = normal, 0 > 15° = poor.

Program Implementation

Preparation: Prepare the clients' minds & emotions for concentration & focusing toward their workouts. Most people demonstrate a healthy balance of self-concern with a concern for others. Occasionally they are self-absorbed with daily concerns; pull their attention outward, directing focus toward their body. Periodically, people are preoccupied with the outside world and need to be directed inward, to concentrate on their body. Some will perform better if you allow them a few minutes of conversation before the workout. Others need constant cueing or conversation to over-ride their beta levels of thought during the workout. Cueing distracts the mind from mental chatter and demands conscious attention. A good instructor is always looking for a balance.

Guard your clients from production modes: Performing pre-scripted routines should be discouraged. Teach clients a variety of exercises for different purposes. Allow clients to be interactive and help choose appropriate workout for their immediate needs. Sequence exercises in an Archi-kinetic fashion.

Energy Dynamics: Concentrate on the quality of the movement not the quantity, i.e. "ten" reps. Practice does not make perfect if they perform the exercise poorly; "Practice makes permanent". Use creative visualization to inspire others to better their best efforts. "Beautiful movements make beautiful muscles".

Watch for failure signs: When a person cannot perform an exercise properly, find another way to teach, make modifications or choose an alternate exercise to accomplish the same purpose. If they still perform the exercise inadequately, it is recommended not to do the exercise at all. Perhaps their body is not ready to accept the change, if you force it the body will rebel!

Educate the client: Use the touch system of training; to help the client identify muscles. Show the locations of the origin & insertion of muscles. Naming muscles helps educate the client, so that they can more effectively communicate with you about their progress or problems. Help them understand the purpose or use of the muscle that they're working, so they can employ it in their daily activities.

Client Feedback: If you listen and watch, the client will tell you everything you need to know to teach a safe and effective program; alignment changes, employing unnecessary muscle groups, facial expressions or breathing irregularities as a result of excessive tension.

Daily Homework: Provide the client with homework; Body alignment or postural changes of daily activities; sitting, standing, sleeping, walking, bending. Stretch programs; Pilate's mat-work for; post-rehabilitation, concentration, focus, awareness or stress reduction. Cardio programs; Teaching the Borg technique of breath monitoring for the cardio workout; to enhance fat burning or heart conditioning.

Nutrition Guidance: Use a Food diary to make an assessment of the clients' eating habits and then educating them toward better food choices and moderation. Refer to a Registered Dietitian.

Client Reassessment: The over-achiever may take your direction to an extreme. Help them to understand that a balance or middle way is the goal.

The Pilates Instructors' responsibilities are:

1. To protect the client from injury
2. To provide tools the client can use daily
3. To guide them toward their fitness goals
4. Inspire the client to do their best
5. Develop your knowledge of the Pilates Method to a higher level

Considerations in application of the workout program

1. Alignment of the body and in relation to the equipment, making modifications to accommodate proper alignment to perform the exercise safely & effectively.

2. Muscle recruitment specific to the purpose of the exercise, including variations to affect the muscle from different angles. When the client uses an auxiliary muscle to accomplish a movement the exercise is no longer effective.

3. Mental imaging or how the client thinks of an exercise can dramatically affect the results of the exercise. [1st class lever systems can easily be change to 2nd class lever systems by the way one thinks. "Psycho blasting" or consciously flexing a muscle adds density to the recruited muscle without adding strain to the tendons or joints.]

4. Quality of movement will affect muscle on a cellular level; explosive movement changes an S.O.G. muscle to a F.O.G. muscle. Slow controlled movement stimulates the systemic system and gives more definition to the muscle group.

5. Frequency or how often the client is scheduled to workout will be determined by the goals they set. One visit a week is often suggested for post-rehabilitations, twice a week for toning, three times for changing the shape of the body and energizing the system, four times a week for those deadline events [weddings, summer time], five or more times a week for the dancers and elite athletes. The frequency of exercising should be augmented with homework programs.

6. Duration of the session is traditionally one hour however; this can and often should be adjusted to fit the client's ability and goals. A client may need to come earlier if an hour isn't enough, to do a warm-up [stretch or cardio] or stay and do endurance training [on cardio equipment] or a cool down. Relaxation exercises may be necessary if an hour is too much.

7. Intensity is determined by the resistance level, amount of repetitions, and the rest time between sets or reps. The client's perceived exertion rate [I.E.] will set the levels at which to work, this will change within a workout as well as from session to session.

8. Recuperation Time is essential for the body to heal, learn & grow. The length of time needed for the client to recuperate before the next session will help you understand at what level of intensity, duration, frequency to work.

9. Training Effect of Repetitions Joseph Pilates used the method to build strength with flexibility using low reps. full range of motion (ROM) and high intensity. The method has expanded to include toning, endurance, and muscle mass; **Strength; 1-5 reps. Mass; 6-12 reps. Endurance; 13-20 reps. Tone; 20 or more reps**. Intensity must be at a level that the client cannot perform more than the recommended repetitions with perfect form. Often the client performs an exercise repeatedly until the trainer recognizes that the client did 3 perfect repetitions, expounding the training effects of repetitions.