MAT 1

A DETAILED GUIDE FOR TEACHING PILATES

By Nora St. John

2019 Edition

Balanced Body Inc, Sacramento California

CREDITS AND GRATITUDE

This manual would not have been possible without the support of the following people and places:

- The Pilates elders, Eve Gentry, Kathy Grant, Carola Trier, Romana Kryzanowska, Ron Fletcher, Lolita San Miguel and Mary Bowen all of whom I have had the pleasure to know and work with.
- My teachers and mentors, Diana Herold, Michele Larsson, Elizabeth Larkam, Alan Herdman, Marie Jose Blom and all of my colleagues at St. Francis Hospital and Turning Point Studios.
- The teachers of all of the Balanced Body Master Instructors who so generously shared their knowledge and wisdom.
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IMPORTANT INFORMATION

This Manual is intended to be used as part of a Pilates teacher training program or for clients who are working under the supervision of a trained Pilates teacher. If you are using this manual to learn these Pilates exercises and you are not under the supervision of a trained Pilates teacher please keep in mind that the material presented is physically challenging and Balanced Body is not liable for any injuries caused by attempting these exercises without proper supervision. Balanced Body highly recommends that you get a thorough evaluation from a qualified health or fitness professional and work with a trained Pilates teacher in order to receive the maximum benefit from these exercises.

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Welcome to the Balanced Body Pilates Instructor Training Program!

Balanced Body is your partner in mind body fitness. We work with the best educators in Pilates and related disciplines to provide learning opportunities that are stimulating, personal and deeply rooted in the art and science of movement. We look forward to working with you to develop your Pilates career and to bringing the benefits of Pilates to clients at fitness centers, studios and rehabilitation clinics around the world.

Balanced Body offers a full range of Pilates instructor training programs for Mat, Reformer, Trapeze Table, Chair and Barrels as well as continuing education through Pilates on Tour, Balanced Body workshops, Balanced Body education partners and Passing the Torch. We are committed to supporting your personal and professional growth now and in the future.

The Balanced Body Pilates program combines the traditional repertoire with contemporary exercises based on the latest advances in movement science and related disciplines. Our curriculum meets national guidelines and is designed to prepare you for the Pilates Method Alliance, national Pilates certification exam which can be taken upon completion of the full program.

Our teacher training program is one of the best in the world. Our Master Instructors are experienced, caring and passionate teachers committed to providing you with the best possible Pilates training.

REQUIREMENTS OVERVIEW

Balanced Body recognizes four levels of achievement within the Balanced Body curriculum:

- Balanced Body Pilates Mat Instructor
- Balanced Body Mat and Reformer Instructor
- Balanced Body Reformer Instructor
- Balanced Body Comprehensive Pilates Instructor

Each individual module (Mat 1, Reformer 1, etc.) includes a written and practical test. Certificates of completion will be issued after each module. After completion of additional personal practice, observation and teaching hours you will be recognized as a fully qualified Balanced Body Pilates Mat, Mat and Reformer, Reformer or Comprehensive Instructor and a certificate of completion will be awarded.

Balanced Body Instructor Training

PROGRAM STRUCTURE

Classroom Hours

Every course includes lectures, workouts, exercise demonstrations and practice teaching. Students are expected to learn and practice the exercises, practice teaching the exercises and understand the principles and history of the Pilates method.

ADDITIONAL REQUIREMENTS

In addition to the classroom hours, students are required to do additional personal practice sessions, observation hours and student teaching hours. To receive a certificate of completion, students must complete all of the requirements for their chosen program and pass a final written and practical exam. For the Reformer and Comprehensive programs, completion of a basic anatomy course is also required.

Personal Sessions

Students can count any classes or Pilates personal training sessions they have already taken. Developing and committing to a personal Pilates practice is an essential part of becoming an effective and inspiring instructor.

Observation Hours

Observation hours include watching experienced instructors, live or on video, teach group classes or private sessions. Observation is a great way to understand verbal and manual cueing, program sequencing and to hone your teaching skills.

Student Teaching Hours

Teaching hours include any Pilates teaching: either as an employee at a fitness center or studio, or for family and friends.

Anatomy

A basic understanding of anatomy provides a strong foundation for an effective Pilates instructor. Anatomy is required for the Reformer and Comprehensive programs and is highly recommended for the Pilates Mat program. This requirement can be fulfilled through Balanced Body's Anatomy in Three Dimensions or other musculoskeletal anatomy courses. Contact the Balanced Body office for more information. Students who have already taken a college level anatomy course or are a licensed health professional (MD, PT, AT, OT, etc.) can waive this requirement.

Balanced Body Pilates Mat Instructor

Prerequisites: 10 Pilates Mat Classes
Recommended: Anatomy and 6 months work experience in a related field.

REQUIREMENTS FOR COMPLETION

To become a fully qualified Balanced Body Pilates Mat Instructor, students must complete the following:

- Anatomy (strongly recommended)
- Balanced Body Movement Principles
  Course work, written & practical test (16 hours)
- Balanced Body Mat 1
  Course work, written & practical test (16 hours)
- Balanced Body Mat 2
  Course work, written & practical test (16 hours)
- Balanced Body Mat 3
  Course work, written & practical test (16 hours)
- Mat practical hours (70 hours total):
  - 20 Mat personal sessions
  - 15 observation hours
  - 35 student teaching hours
- Final written and practical exam

Total hours for completion of Pilates Mat program:
134 hours (not including anatomy)

Upon completion of all of the requirements, a certificate of completion as a Balanced Body Pilates Mat Instructor will be issued.

Balanced Body Pilates Mat and Reformer Instructor

Prerequisites: 10 Pilates Mat and 20 Pilates Reformer Classes
Recommended: 1 year work experience in related field

REQUIREMENTS FOR COMPLETION

To become a fully qualified Balanced Body Pilates Mat and Reformer Instructor, students must complete the following:

- Anatomy (must be completed prior to final test out)
- Balanced Body Movement Principles (if not included in their Pilates Mat course)
- Balanced Body Mat Instructor training or equivalent
- Balanced Body Reformer 1
  Course work, written & practical test (16 hours)
- Balanced Body Reformer 2
  Course work, written & practical test (16 hours)
- Balanced Body Reformer 3
  Course work, written & practical test (16 hours)
- Mat practical hours (70 hours total)
- Reformer practical hours (150 hours total):
  - 30 Reformer personal sessions
  - 30 observation hours
  - 90 student teaching hours
- Final written and practical exam

Total hours for completion of Mat and Reformer program:
332 hours (not including anatomy)

Upon completion of all of the requirements, a certificate of completion as a Balanced Body Pilates Mat and Reformer Instructor will be issued.

Balanced Body Pilates Reformer Instructor

Prerequisites: 20 Reformer Classes
Recommended: 1 year work experience in related field

REQUIREMENTS FOR COMPLETION

To become a fully qualified Balanced Body Pilates Reformer Instructor, students must complete the following:

- Anatomy (must be completed prior to final test out)
- Balanced Body Movement Principles (16 hours)
- Balanced Body Reformer 1
  Course work, written & practical test (16 hours)
- Balanced Body Reformer 2
  Course work, written & practical test (16 hours)
- Balanced Body Reformer 3
  Course work, written & practical test (16 hours)
- Reformer practical hours (150 hours total):
  - 30 Reformer personal sessions
  - 30 observation hours
  - 90 student teaching hours
- Final written and practical exam

Total hours for completion of Reformer program:
214 hours (not including anatomy)

Upon completion of all of the requirements, a certificate of completion as a Balanced Body Pilates Reformer Instructor will be issued.

Balanced Body Comprehensive Pilates Instructor

Prerequisites: 20 Pilates studio sessions
Recommended: 1 year work experience in related field

REQUIREMENTS FOR COMPLETION

To become a fully qualified Balanced Body Comprehensive Pilates Instructor, students must complete the following:

- Anatomy (must be completed prior to final test out)
- Balanced Body Mat Instructor training or equivalent
- Balanced Body Reformer Instructor training
- Balanced Body Trapeze Table/Cadillac or Tower (18 hours) or Apparatus 1 (14 hours) - Course work, written and practical test
- Balanced Body Chair (14 hours) or Apparatus 2 (12 hours) Course work, written and practical test
- Balanced Body Barrels (6 hours) or Apparatus 3 (12 hours) Course work, written and practical test
- Mat practical hours (70 hours total)
- Reformer practical hours (150 hours total):
- Apparatus practical hours (150 hours total)
  - 35 Apparatus personal sessions
  - 20 observation hours
  - 95 student teaching hours
- Final written and practical exam

Total hours for completion of Apparatus program:
188 hours (not including anatomy)

Total hours for completion of Comprehensive Pilates Instructor program:
520 hours (not including anatomy)

Upon completion of all of the requirements, a Certificate of Completion as a Balanced Body Comprehensive Pilates Instructor will be issued.

Balanced Body Bridge Program

Students who have completed a Pilates Instructor Training program through other organizations and are interested in obtaining a Balanced Body certificate of completion should contact the Balanced Body office to inquire about the Balanced Body Bridge program.

Final Exam

Once a student has completed all required Mat, Reformer and/or Apparatus course work and hours, they must pass a written and practical exam demonstrating their teaching ability before receiving their final certificate of completion. Exams will be regularly scheduled at Balanced Body host sites and at trade shows and conferences in the US and abroad.

If instructors are not able to attend a practical exam because it is too far to travel, testing out by video may be arranged.

Students do not need to test out individually for Mat, Reformer, and Apparatus. Students only need to test out when they have reached the highest level they intend to complete. For example, students completing only the Mat will test out after Mat, students completing Mat and Reformer will test out after Reformer and students finishing the comprehensive program will test out after they have completed all of the requirements.

THE PRACTICAL EXAM

The final test consists of a written exam and the observation of a session with a client or class. Once a student has completed all of their hours and is ready to test out, they send in an application (available at www.pilates.com) to the Balanced Body office. Balanced Body verifies the coursework and hours and provides the student with test outs available in their area.

During the practical exam the student will be assessed on the following skills:

- Correct set up and execution of the exercises
- Client safety
- Appropriate sequencing
- Appropriateness of the exercises to the client or class
- Understanding and application of the principles
- Cueing and the ability to communicate with the client or class

If the student does not pass on the first try, they will be informed of what they need to focus on in order to pass and a time line will be set up for completion.

The cost for completing the final certification exam will vary depend on the location and specific circumstances. The cost ranges between $150 and $350.

ADDITIONAL COSTS OF THE PROGRAM

All published prices for Balanced Body courses include the course and materials fee only. The cost of personal sessions and any costs associated with completing observation and student teaching hours are not included in the cost of the training program and are the responsibility of the student. Successful completion of the program does not guarantee employment.

NEED MORE INFORMATION?

If you need information regarding additional training, certificates of completion, continuing education or anything else, please contact Balanced Body at:

Contact Information
Balanced Body Education

Toll free: (800) PILATES (745-2837)
International: +1 (916) 386-6234
Fax: (916) 388-0609
E-mail: education@pilates.com
www.pilates.com

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al.harrison@pilates.com

Nora St. John, Director of Educational Programming
nora.stjohn@pilates.com

Thanks for joining us!

Pilates Mat Instructor Requirement Records

Mat Personal Sessions

20 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	

Mat Observation Hours

15 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	

Mat Student Teaching Hours

35 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	
26		27		28		29		30	
31		32		33		34		35	

Pilates Reformer Instructor Requirement Records

Reformer Personal Sessions

30 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	
26		27		28		29		30	

Reformer Observation Hours

30 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	
26		27		28		29		30	

Pilates Reformer Instructor Requirement Records (cont.)

Reformer Student Teaching Hours

90 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	
26		27		28		29		30	
31		32		33		34		35	
36		37		38		39		40	
41		42		43		44		45	
46		47		48		49		50	
51		52		53		54		55	
56		57		58		59		60	
61		62		63		64		65	
66		67		68		69		70	
71		72		73		74		75	
76		77		78		79		80	
81		82		83		84		85	
86		87		88		89		90	

Pilates Apparatus Instructor Requirement Records

Apparatus Personal Sessions

35 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	
26		27		28		29		30	
31		32		33		34		35	

Apparatus Observation Hours

20 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	

Pilates Apparatus Instructor Requirement Records, cont.

Apparatus Student Teaching Hours

95 hours required. Date and initial each session taken.

1		2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	
26		27		28		29		30	
31		32		33		34		35	
36		37		38		39		40	
41		42		43		44		45	
46		47		48		49		50	
51		52		53		54		55	
56		57		58		59		60	
61		62		63		64		65	
66		67		68		69		70	
71		72		73		74		75	
76		77		78		79		80	
81		82		83		84		85	
86		87		88		89		90	
91		92		93		94		95	

APPLYING TO TEST OUT

Upon completion of all of the coursework and hours, go to www.pilates.com to download the application to test out. Copy these hours records and send them in with your application. Once Balanced Body has verified the information in your application, you will receive a list of test outs at locations near you. Contact the office for further information.

BALANCED BODY EDUCATION CONTACTS

Phone: (800) PILATES, (800) 745-2837, **Fax:** (916) 388-0609, **E-mail:** education@pilates.com

WHAT IS PILATES?

Pilates is an exercise system developed by Joseph Pilates to strengthen muscles, increase flexibility and improve overall health. Exercises are performed on a mat and on specially designed equipment. The Pilates system includes exercises for every part of the body and applications for every kind of activity. Created in the early part of the 20th century, Pilates was so far ahead of its time that it did not begin to achieve popular recognition until the first few years of the 21st century. Over 10 million people are now practicing Pilates in the United States and the numbers are growing every year.

WHY IS PILATES SO POPULAR?

Pilates focuses on engaging the mind and body together to create exercises that involve the whole person. Every exercise is performed with attention to the breath, proper form and efficient movement patterns. Pilates strengthens the core, improves balance, increases coordination and decreases stress. The exercises are relatively safe, low impact and appropriate for anyone from 10 to 100. Pilates focuses on learning to move better so the benefits are felt in everyday life.

Pilates is used in fitness centers, private studios, rehabilitation clinics and hospitals to improve the health and well being of clients from the recently injured to the super fit. As more and more people participate, Pilates continues to grow and evolve to meet the needs of anyone wanting to improve their ability to move with strength, ease and grace.

A BRIEF HISTORY OF JOSEPH H. PILATES AND THE DEVELOPMENT OF CONTROLOGY

Joseph Hubertus Pilates was born in Germany around 1883. He had rheumatic fever, asthma and rickets as a child and was plagued by a weak respiratory system. In order to improve his own health he began exploring ways to strengthen his body and his mind. Early on, Joe became intrigued by the classical notion of the ideal man who combined a well trained body with an equally well trained intellect. In pursuit of this goal he participated in boxing, fencing, wrestling and gymnastics with his father and brother. Germany was a fertile ground for these explorations at the turn of the 20th century with many ground breaking leaders in movement science, dance and psychology working there.

Joe was in England touring with a boxer when World War I broke out. He was held as a resident alien in an internment camp on the Isle of Man for the duration of the war. While in the camp he took it upon himself to lead his fellow detainees in a daily exercise program. According to Joe, when the influenza epidemic of 1918–1919 broke out, none of the inmates who followed his regimen got sick.

Joe's success with his group of inmates brought him to the attention of the camp leaders and he was given the job of an orderly at a hospital for wounded soldiers. He was put in charge of 30 patients and worked with them every day to exercise whatever they could move. This was in the days when western medicine was in its infancy and there were few treatments to offer patients other than surgery and morphine. Nursing during this time usually meant extended bed rest which lead to muscular atrophy, loss of aerobic capacity and a weakened immune system. Joe's exercises helped his patients to get better faster and helped them to fend off the secondary infections that killed so many people in similar circumstances.

Working as an orderly also led to the development of Joe's first piece of exercise equipment. Manually working out 30 patients every day was exhausting so Joe came up with the idea of attaching springs to the patient's bed frames and thus the first Cadillac was born! Now the patients could exercise themselves under Joe's supervision.

After Joe was released from the camps and returned to Germany, he was approached by the "brown shirts" (who were to become the Nazi party) to train their police force. Joe didn't want to have anything to do with them, so he left Germany on a boat for America and met his soon-to-be-wife Clara on the passage over. Clara was a nurse who became a true partner for Joe, working beside him in the studio everyday and taking care of any clients Joe didn't want to work with.

When Joe and Clara arrived in New York in 1926, they rented a small studio in the same building as the New York City Ballet on 8th Ave. and started teaching what Joe named "Contrology." Joe worked with clients from all walks of life but he made an especially strong impression on the dance community working with Ted Shawn, Ruth St. Denis, George Balanchine and many others who sent their dancers to Joe's for rehabilitation following injuries.

Joe was an inventor who was always working on developing new exercise equipment. He designed the Universal Reformer, the Wunda Chair, the Cadillac, the Ladder Barrel, the Spine Corrector and many other wonderful inventions during his lifetime. He made many of the machines himself and often designed them to fit a particular client. Many of Joe's original machines are still working today.

Joe had a dream of introducing his vision of mind-body fitness into every aspect of life, from elementary schools to military training, and, had he not been so far ahead of his time, it might have happened. Instead, he taught a small group of devoted teachers and students, a few of whom went on to continue the work and keep it alive until the rest of the world caught up with his revolutionary thinking. Joe spent many years talking to anyone who would listen about his work, but did not receive much recognition during his lifetime.

Joe's studio was destroyed by fire in 1967 and he died soon after that from complications of smoke inhalation. His wife Clara carried on the work until her death in 1977.

Among the primary teachers who carried on Joe's work after his death was **Romana Kryzanowska**, a ballet dancer who worked very closely with Joe and taught at his studio for many years. She started one of the first teacher training programs in the country and has trained hundreds of instructors to teach the work as Joe taught it to her. She was associated with the Pilates Guild for many years and currently teaches through Romana's Pilates.

Eve Gentry was a well known modern dancer who worked with Joe and Clara as a student and teacher for over 20 years before moving to Santa Fe, New Mexico and opening a studio there. Joe helped to rehabilitate Eve after a radical mastectomy and helped her to regain the full use of her arm and torso. Eve died in the late 1990's. Her work is carried on by Michele Larsson through Core Dynamics.

Ron Fletcher was a Martha Graham dancer who worked with Joe and Clara very late in their lives. Ron credits Clara with inspiring him to develop his unique work on the Step Barrel/Spine Corrector and to open a studio in Los Angeles on Rodeo Drive. Ron was the first teacher to bring Pilates to the West Coast and to introduce it to many famous actors and actresses. His work incorporated a more "dancerly" style and more complicated choreography into the original exercises. His work is carried on by the Ron Fletcher Program of Study and is known as Ron Fletcher Work. Ron died in 2012.

Carola Trier trained with Joe and opened her own studio in New York where she taught until her death in the late 1990's. Her work is carried on by several senior students including Jillian Hessel in Los Angeles and Deborah Lessen in New York.

Kathleen Stanford Grant originally came to Joe with a knee injury she sustained as a dancer. She was one of only two students to be certified by Joe to teach Pilates. After dancing and choreographing for many years she started teaching at New York University where she taught a Mat class to the students and ran a small studio until her death in 2010.

Lolita San Miguel is a well known dancer and choreographer who was certified by Joe while she was dancing in New York. She moved to Puerto Rico and founded the Ballet Concierto de Puerto Rico, one of the island's premier dance companies where she incorporated Pilates into the training program for her dancers. Ms. San Miguel teaches Pilates workshops nationally and internationally and has produced several DVDs.

Mary Bowen was a comedian performing in New York when she first started working with Joe. She now combines Psyche and Pilates in her current life as a Jungian psychoanalyst and Pilates instructor at her studio in Northampton, MA and her office in Killingworth, CT. She has taken at least one Pilates session a week for over 50 years and continues to deepen her own understanding of the balance between mind and body.

Pilates has now become a household word thanks to the work of all of these first generation teachers and many others who kept the method alive after the death of Mr. Pilates. Without them, we would not have the wonderful exercise system we have today. We are grateful to all of them.

THE DEVELOPMENT OF BALANCED BODY EDUCATION

The Balanced Body Pilates instructor training was developed by Nora St. John, MS. who has been practicing Pilates since 1981 and teaching since 1989. She originally trained at St. Francis Memorial Hospital with Patrice Whiteside and Elizabeth Larkam and has studied the work with Alan Herdman, Eve Gentry, Michele Larsson, Romana Kryzanowska, Carola Trier, Kathy Grant, Lolita San Miguel and Karen Clippinger.. Nora has degrees in Biology, Dance and Traditional Chinese Medicine as well as certifications in Pilates, Oriental Bodywork and the Franklin Method.

The Balanced Body program combines the full bodied, athletic aspects of the original work with the refinement and anatomical understanding of the more contemporary schools of Pilates. Nora's background in movement science provides a strong foundation for the ongoing development of the Balanced Body Pilates instructor training program.

PILATES PRINCIPLES

"Physical fitness is the first requisite of happiness. Our interpretation of physical fitness is the attainment and maintenance of a uniformly developed body with a sound mind fully capable of naturally, easily, and satisfactorily performing our many and varied daily tasks with spontaneous zest and pleasure. To achieve the highest accomplishments within the scope of our capabilities in all walks of life, we must constantly strive to acquire strong, healthy bodies and develop our minds to the limit of our ability".
— Joseph Hubertus Pilates

1) BREATHING

"Breathing is the first act of life, and the last. Our very life depends on it."

The breath is the essential link between the mind and the body. It draws our wandering mind back into our bodies and back to the task at hand. It is the foundation of our existence and the rhythm that accompanies us from birth to death. In Pilates the breath is integrated into every movement in order to focus our awareness on what we are doing, to improve the flow of oxygen through our bodies and to improve the capacity of our lungs.

2) CONCENTRATION

"... and always keep your mind wholly concentrated on the purpose of the exercises as you perform them."

To concentrate is to pay attention to what you are doing. To be present with and in control of the task at hand. Without concentration the exercises lose their form and their purpose. When teaching it is important to have a client do only as many repetitions as they can without losing their concentration. As Joe often said, "It is better to do five repetitions perfectly than 20 without paying attention."

3) CONTROL

To be in control is to understand and maintain the proper form, alignment and effort during an entire exercise. Pilates exercises are never done without engaging the mind to control the movements and the efforts that the body is making.

4) CENTERING

In Pilates all movement radiates outward from the center. Developing a strong, stable and flexible center is one of the defining features of this form of exercise.

5) PRECISION

Precision is the ability to perform exercises with optimum alignment, unconscious control and just the right amount of effort. Precision is the end product of concentration, control, centering and practice.

6) BALANCED MUSCLE DEVELOPMENT

"However, there is another important reason for consistently exercising all our muscles; namely, that each muscle may cooperatively and loyally aid in the uniform development of all our muscles."

Understanding, developing and maintaining correct alignment and form is essential to Pilates and over time will lead to balanced muscle development. With practice these principles become second nature and lead to improved posture, increased comfort and enhanced physical abilities.

7) RHYTHM/FLOW

All movements in Pilates are done with a sense of rhythm and flow. Flow creates smooth, graceful and functional movements. It decreases the amount of stress placed on our joints and develops movement patterns that integrate our body into a smoothly flowing whole.

8) WHOLE BODY MOVEMENT

Pilates is fundamentally about integration: integrating movement into a flowing whole body experience, integrating the mind and body to create clarity and purpose, integrating mind, body and spirit to create a life of balance.

9) RELAXATION

To be healthy in body and mind it is important to understand the balance between effort and relaxation. In Pilates we learn to use just the amount of effort needed to complete the exercise correctly, no more, no less. Learning to release unnecessary tension in our bodies helps us to find ease and flow in movement and in the rest of our lives.

PILATES INSTRUCTOR RESOURCE LIST

PILATES

Pilates' Return to Life Through Contrology
Joseph H. Pilates &
William John Miller
Originally published in 1945, republished in 1998 by Presentation Dynamics

The Pilates Body
Brooke Siler
Broadway Books, 2000

Pilates' Body Conditioning: A Program Based on the Techniques of Joseph Pilates
Anna Selby and Alan Herdman
Barron's Educational Series, Inc., 2000

Pilates
Rael Isacowitz
Human Kinetics, 2006

Movement Analysis Workbooks
Rael Isacowitz
BASI Books

Ellie Herman's Pilates Manuals
Ellie Herman
Ellie Herman Books, 2005

NATIONAL PILATES ORGANIZATION

Pilates Method Alliance,
pilatesmethodalliance.org

EQUIPMENT AND VIDEOS

Balanced Body
800-PILATES (745-2837)
pilates.com

MOVEMENT, ANATOMY AND IMAGERY

Anatomy of Movement
Blandine Calais-Germain
Eastland Press, 1985

Dance Anatomy and Kinesiology
Karen Sue Clippinger
Human Kinetics, 2006

Trail Guide to the Body, 4th edition
Andrew R. Biel
Books of Discovery, 2010

Manual of Structural Kinesiology, 15th edition
R. T. Floyd, Ed. D, A.T.C., C.S.C.S., and Clem W. Thompson Ph.D., F.A.C.S.M.
WCB, McGraw-Hill, 1998

Dance Kinesiology
Sally Sevey Fitt,
Schirmer Books, 1988

Anatomy Coloring Book
Wynn Kapit and Lawrence W. Elson,
Harper and Row, 1977

Muscle Testing and Function
Florence Peterson Kendall, P.T., F.A.P.T.A, Elizabeth Kendall McCreary and Patricia Geise Provance, P.T.
Williams and Wilkins, 1993

Atlas of Human Anatomy, 3rd Edition
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THE HUNDRED PREPARATION

BEGINNING | 10 SETS

STARTING POSITION

Lie on your back (supine) with your arms at your sides, your knees bent, your feet flat on the floor and your heels in line with your sit bones (ischial tuberosities).

MOVEMENT SEQUENCE

Inhale: Reach the arms toward the ceiling.

Exhale: Lower the arms and roll the head and upper body off the mat. Roll up only as far as the bottom tip of the shoulder blades.

Inhale: Pulse the arms for 5 counts keeping the torso quiet and the arms straight.

Exhale: Pulse the arms for 5 counts.

Continue to inhale and exhale as you pulse the arms for up to 10 sets (100 pulses).

1. Starting position. Lie supine with the knees bent, feet on the floor and the hands reaching toward the ceiling.

2. Lower the arms toward the hips and lift the head and torso off the mat.

TRANSITION

Reach the hands overhead and straighten the legs to start the Roll Up.

CUEING AND IMAGERY

- Lift the head from the rib cage not from the neck.
  - To lift the head, press the lower ribs into the mat and let them lift the head up.
- Keep the head tucked in to the chest, but not too far.
  - Imagine you are holding an orange between your chin and your chest as you roll up.
  - Imagine your head is a wheel and roll it forward on the neck to start the lift of the head.
- Keep the torso steady as the arms pulse.
  - Imagine you have a cup of hot coffee on your abdomen. Don't spill it!
- Keep the elbows and wrists straight as you pulse.
  - Imagine you are slapping water.
  - Imagine your arms are hinged only at your shoulder.
- Breathe smoothly and steadily to maximize lung capacity.

PURPOSE

- Warm up the body.
- Breathe deeply and fully into the lungs and torso.
- Increase abdominal strength.
- Teach how to lift the head from the torso in abdominal exercises.

PRECAUTIONS

For neck and shoulder injuries: Support the head, neck and upper body with a wedge pillow or towels, and work the lower body only.

Avoid with osteoporosis.

THE HUNDRED

ALL LEVELS | 10 SETS

STARTING POSITION

Lie on your back with your arms at your sides, your knees bent, your feet flat on the floor and your heels in line with your ischial tuberosities. This exercise can be done in an imprinted, neutral or supported neutral position as long as the pelvis and low back stay completely stable throughout the exercise.

MOVEMENT SEQUENCE

Inhale: To prepare.

Exhale: Engage the abdominals and lift the feet off the floor, until the knees and hips are at 90 degree angles and the low back is supported (chair position). For a beginner, lift one foot off the floor at a time.

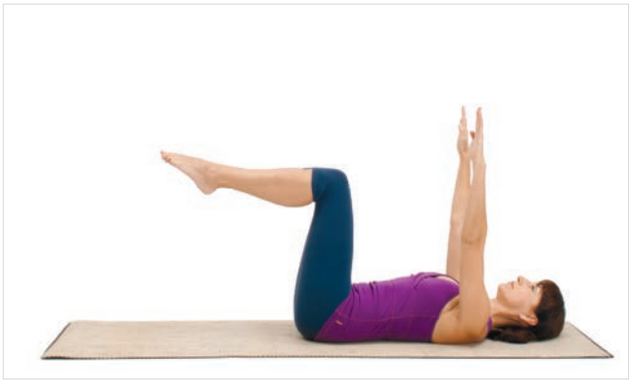
Inhale: Reach the arms toward the ceiling.

Exhale: Lower the arms and roll the head and upper body off the mat. Roll up only as far as the bottom tip of the shoulder blades. Straighten the legs and lower them toward the mat as far as you can without changing the position of the lower back.

Inhale: Pulse the arms for 5 counts keeping the torso quiet and the arms straight.

Exhale: Pulse the arms for 5 counts.

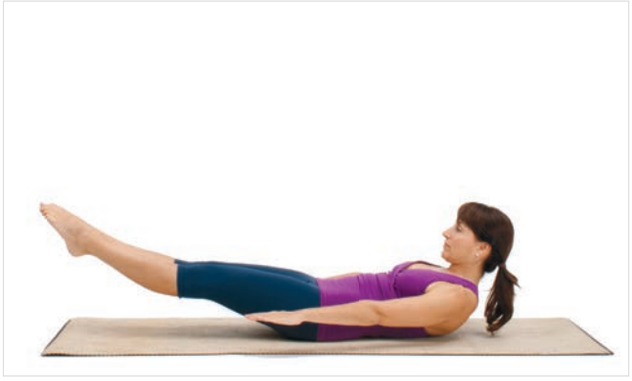
Continue to inhale and exhale as you pulse the arms for up to 10 sets (100 pulses).



1. Starting position. Legs in Tabletop, arms reach toward the ceiling.

2. Modification. Legs in Tabletop. Lower the arms and lift the upper body off the mat while keeping the legs in tabletop position.

2. Standard exercise. Straighten the legs toward the ceiling and lower them toward the mat while lifting the upper body up.



2. Challenge Joe's version. Start with the legs on the floor and lift them up to eye height as the upper body lifts and the arms reach.

MODIFICATIONS

Tabletop position

Keep the knees and hips bent at a 90 degree angle as the head and upper body roll off the mat and the arms pulse.

1. Starting position modification. Legs stay in tabletop position.

Legs over hips

Straighten the legs toward the ceiling as the head and upper body roll off the mat and the arms pulse.

1. Starting position modification. Legs straight to ceiling.

CHALLENGE

Joe's version

To make the Hundred more challenging, begin with the legs flat on the floor and the arms at the sides. Inhale deeply.

Exhale and roll the head and upper body off the mat as the legs lift a few inches off the floor. Pulse the arms with the breath.

OPTIMUM FORM

Lower the legs as close to the floor as possible without disturbing the lower back.

TRANSITION

Bend the knees into the chest, roll the head and upper body down to the floor, straighten the legs and reach the hands overhead to start the Roll Up.

PURPOSE

- Warm up the body.
- Breathe deeply and fully into the lungs and torso.
- Increase abdominal strength.
- Teach stability of the torso and lower back.
- Teach how to lift the head from the torso in abdominal exercises.

PRECAUTIONS

For neck and shoulder injuries: Support the head, neck and upper body with a wedge pillow or towels, and work the lower body only. Or make a neck hammock by placing a towel under the base of the skull and holding the head up with your hands.

For low back injuries: Work with an imprinted spine or use a supported neutral position of the low back. Use one of the leg position modifications to keep the stress out of the back.

Avoid with osteoporosis.

CUEING AND IMAGERY

- Lower the legs only as far as the torso can support them.
  - Place your hands behind your waist and see how far you can lower the legs before your waist lifts off your hands.
  - Place a cushion under the back and lower the legs only as far as the back can stay on the cushion.
- Lift the head from the rib cage, not from the neck.
  - To lift the head, press the lower ribs into the mat and let them lift the head up.
- Keep the head tucked in to the chest, but not too far.
  - Imagine you are holding an orange between your chin and your chest as you roll up.
- Keep the torso steady as the arms pulse.
  - Imagine you have a cup of hot coffee on your abdomen. Don't spill it!
- Keep the elbows and wrists straight as you pulse.
  - Imagine you are slapping water.
  - Imagine your arms are hinged only at your shoulder.
- Breathe smoothly and steadily to maximize lung capacity.

THE ROLL UP

BEGINNING | 3 - 6 REPS

STARTING POSITION

Lie on your back with your hands at your sides and reach your arms up overhead only as far as you can while keeping the back of the lowest ribs on the mat. The arms may not make it all the way to the floor.

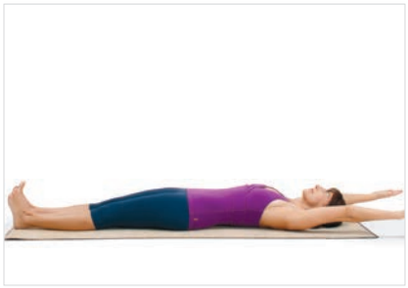
MOVEMENT SEQUENCE

Inhale: Squeeze your upper inner thighs together, flex your feet and engage the abdominals as you reach the arms up toward the ceiling and roll the head and upper body up off the mat.

Exhale: Continue peeling the torso off the mat, maintaining the curve of the spine and the lift of the abdominals until you are sitting up on your ischial tuberosities. The upper body is curved over and reaching toward the feet as if you are wrapping your body around a giant beach ball.

Inhale: Engage the abdominals, gently squeeze the buttocks and tuck the tailbone under to begin rolling back down. Maintain the curve of the spine.

Exhale: Complete the roll down and reach the arms up overhead to return to the starting position.

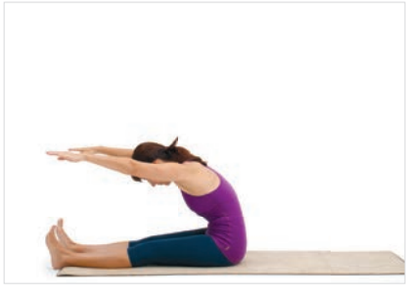


1. Starting position. Lie supine with the arms overhead and the feet flexed.

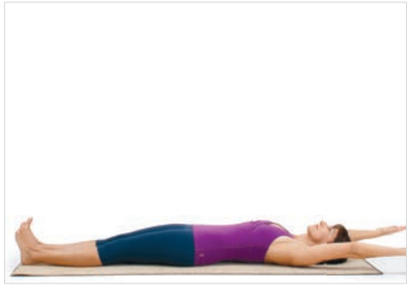
2. Reach the arms toward the ceiling.

3. Lift the head in line with the arms.

4. Continue to roll up.



5. Roll all the way forward keeping the sit bones anchored.



6. Roll back down to the starting position.

MODIFICATIONS

Roll down

Begin sitting up on the sit bones with the knees bent and the feet on the floor. Reach the arms forward and roll down. For more assistance, place the hands on the sides of the thighs and use the hands to control the roll down. Curl up, using the hands to help you curl through the challenge point is needed. If rolling up is too difficult, roll to one side and sit up to start the roll down again.

1. Roll Down starting position. Sit up with the knees bent and the hands reaching forward.

2. Roll down by flexing the spine. Place the hands on the legs if needed.

3. Roll all the way down to the mat with the arms overhead.

4. Roll to the side to return to the starting position.

Bent knees (no photos)

Bend the knees and place the feet on the floor to begin. Gradually straighten the legs as the torso rolls up to keep the movement smooth. Bend the knees as you roll back down.

Partial Roll Up

Roll up only until you get to the challenge point then roll back down.

1. Partial Roll Up starting position. Supine with the knees bent, feet on floor and hands overhead.

2. Roll up as far as possible.

Low back support

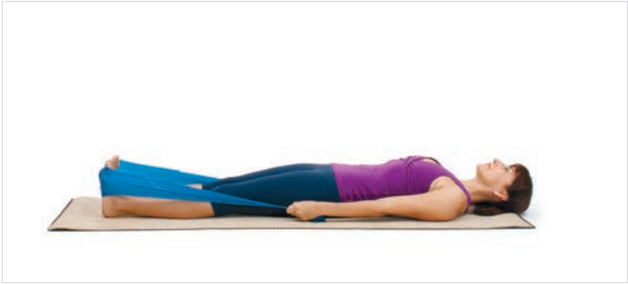
To make this exercise easier for tight lower backs, roll up a towel, sweatshirt or sticky pad and place it under the lumbar curve. Press into the roll as you roll up. Decrease the size of the roll as you get stronger and more flexible.

1. Low back support starting position. Place a support under the lumbar curve.

2. Roll up keeping the low back in contact with the support.

Resistance band

Place a resistance band or elastic tubing around the feet and hold the ends in the hands. Use the band to assist the roll up.



1. Resistance band starting position. Lie on your back, place a resistance band around the arches of the feet and hold the band.

2. Roll upper body off mat using the band to assist.

3. Continue to roll up with the assistance of the band.

4. Roll up to seated upright position.

CHALLENGES

Kathy Grant's version

To make the Roll Up more challenging, roll up just to the challenge point and hold the position for 2 to 10 full breath cycles while trying to deepen the curve. Repeat the same process on the way down.

Picture frame

Keep the head between the arms as you roll up and down. Imagine your face is a picture and your arms are the picture frame. Don't break the frame!

OPTIMUM FORM

Keep the legs and hips rooted into the mat as you articulate the torso vertebra by vertebra.

TRANSITION

Bring the arms back down to the sides to prepare for Single Leg Circles (beginning and intermediate) or Roll Over (advanced).

CUEING AND IMAGERY

- Roll up one vertebra at a time.
  - Deeply engage the abdominals in order to peel the back off the mat.
  - Imagine you are wearing a striped shirt. Peel one stripe at a time off the mat.
- Keep the hip flexors as soft as possible.
  - Imagine your lower body is strapped down to the floor.
- Keep the shoulders away from the ears.
  - Anchor the shoulders into the back pockets throughout the exercise.
  - Don't wear your shoulders as earrings.
- Lift the head from the rib cage not from the neck.
  - To lift the head, press the lower ribs into the mat and let them lift the head up.
- Keep the head tucked in to the chest, but not too far.
  - Imagine you are holding an orange between your chin and your chest as you roll up.
- Move smoothly throughout the exercise.

PURPOSE

- Increase abdominal strength.
- Increase the flexibility and articulation of the spine.

PRECAUTIONS

For low back injuries: Use modification 1 and 2 to keep the stress out of the back or avoid if the Roll Up increases symptoms.

For neck and shoulder injuries: Avoid if symptoms increase.

Avoid with osteoporosis.

SINGLE LEG CIRCLES

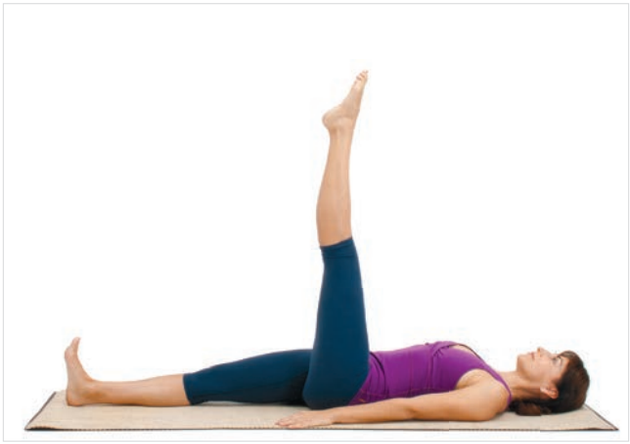
BEGINNING | 4 - 8 CIRCLES EACH WAY

STARTING POSITION

Lie on your back with your hands at your sides and your legs together with your ankles dorsiflexed.

PREPARATION

Bend one leg into the chest and place both hands behind the knee. Stretch the leg toward the ceiling, flexing the foot until you feel a stretch in the hamstrings. Bend and stretch the leg 3 times with the breath. Take the hands off the leg and place them at your side. Straighten the leg up toward the ceiling and point the foot to begin. Straighten the leg only as far as you can while maintaining the stability of the pelvis and keeping the front of the hip joint soft.



1. Starting position. Straighten the top leg above the hip.

MOVEMENT SEQUENCE

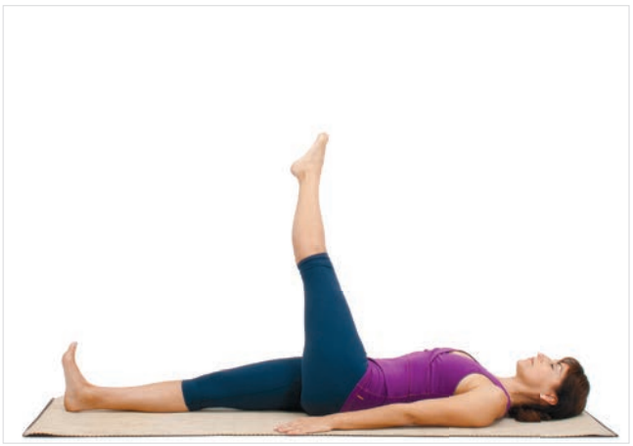
Small circles

Inhale: Circle the leg across the body and down toward the opposite leg.

Exhale: Sweep the leg away from the body and back to the starting position. Keep the back of the standing hip rooted into the mat without rocking or shifting the weight throughout the exercise.

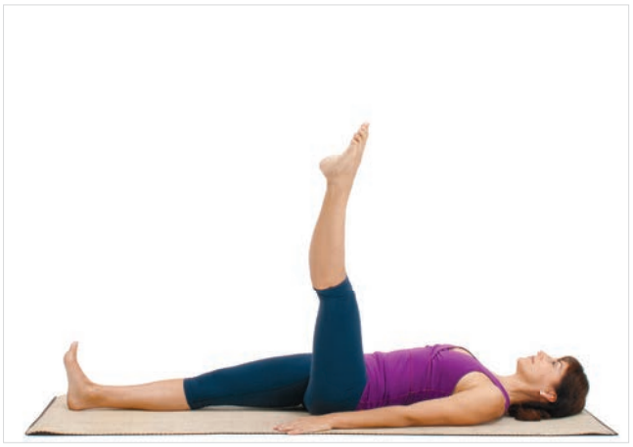
Repeat the circle 4 to 8 times in each direction, inhaling to begin and exhaling to finish.

Finish by lowering the working leg back down to the mat and flexing the foot. Lift the standing leg up toward the ceiling, stretch the hamstring and repeat on the second leg.

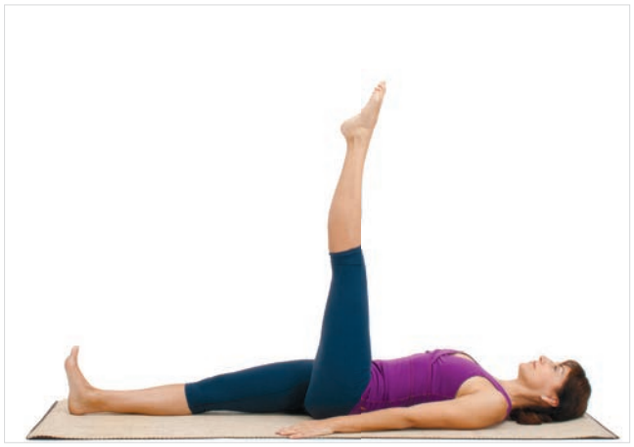


2. Circle the leg across the body.

3. Continue to circle the leg down toward the opposite leg.



4. Circle the leg out and away from the body.



5. Return the leg above the hip to the starting position.

MOVEMENT SEQUENCE

Joe's version Large circles

Inhale: Reach the leg across the body allowing the hip to lift off the mat but keeping both shoulders anchored.

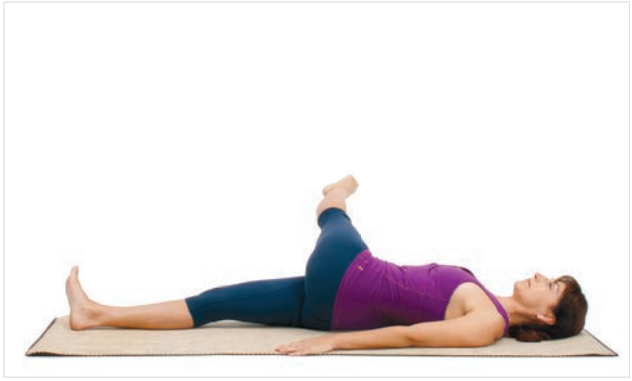
Exhale: Anchor the hip and sweep the leg away from the body and back to the starting position. Keep the back of the standing hip rooted into the mat for the second half of the exercise.

Repeat the circle 4 times starting across the body then change directions.

Inhale: Keep both hips stable as the working leg circles out away from the body and down toward the standing leg.

Exhale: The leg reaches across the body allowing the working hip to lift off the mat. Keep both shoulders anchored as the leg circles back to the starting position.

1. Large Circles starting position.



2. Reach the leg across the body keeping the shoulders anchored.

3. Circle the leg down anchoring the hip.

4. Circle the leg to the side, keeping both hips anchored.

5. Return the leg to the starting position.

MODIFICATIONS

Knee stirs

Warm up the hip sockets by bending the knees, holding both knees with the hands and circling the legs.

Resistance band support

Support the leg by placing a resistance band around the arch of the foot and holding one end with each hand. Anchor the upper arms into the mat. Circle the leg keeping the hips stable, and imagine softening the front of the hip joint and sinking the femur into the socket.

Tight hamstrings

For tight hamstrings, bend the knees slightly throughout the exercise.

OPTIMUM FORM

Make the Leg Circles as big as possible while stabilizing the hips and shoulders.

TRANSITION

Draw both knees into the chest and roll up to start Rolling like a Ball.

CUEING AND IMAGERY

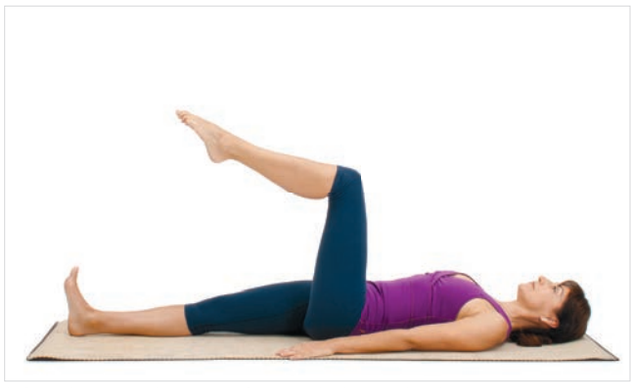
- Keep the front of the hips as soft as possible throughout the exercise.
  - Place your hand on the hip crease and bend the knee as much as you need to in order to keep the tendons under your fingers soft.
- Keep the spine and pelvis in a neutral position.
- Keep the leg and hip of the standing leg anchored to the mat.
  - Imagine the hip on the standing leg has grown roots.
  - Place your hand under the standing hip and keep it on the mat throughout the exercise.
- Relax the neck and shoulders.

PURPOSE

- Develop pelvic stability and core control.
- Increase the flexibility and mobility of the hips.
- Improve scapular stability.

PRECAUTIONS

For hip and low back injuries: Limit range of motion and use the modifications to keep symptoms to a minimum.



1. Bent knee modification. Start with the top leg bent.

ROLLING LIKE A BALL

BEGINNING | 6 - 10 REPS

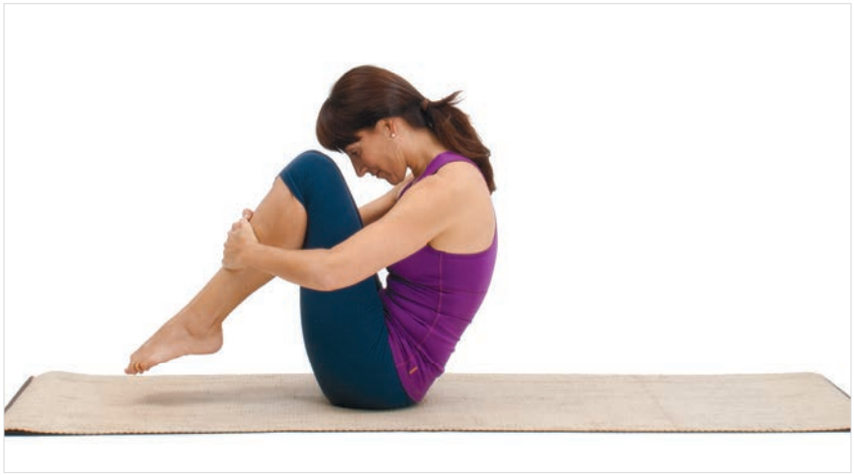
STARTING POSITION

Sit up with the knees bent, the feet off the floor and the arms around the shins. Balance between the sit bones and the tailbone. Keep the abdominals engaged, the shoulders away from the ears and the elbows wide. Focus the eyes on the top of the thighs to keep the upper body rounded.

MOVEMENT SEQUENCE

Inhale: Pull the abdominals back toward the spine to roll backwards. Don't throw your head back to start and don't roll up on to your neck. Stop at the top of the shoulder blades.

Exhale: Pull the abdominals in to roll back up to the starting position. Balance in the starting position for a moment before starting again.



1. Starting position. Seated with feet lifted and arms around shins.

2. Roll back to the top of the shoulder blades with control.

3. Roll up to the starting position.

MODIFICATIONS

Preparation

From the starting position gently engage the abdominals and curve the lower back without losing your balance. Return the back to a neutral position without tipping forward or arching the back.

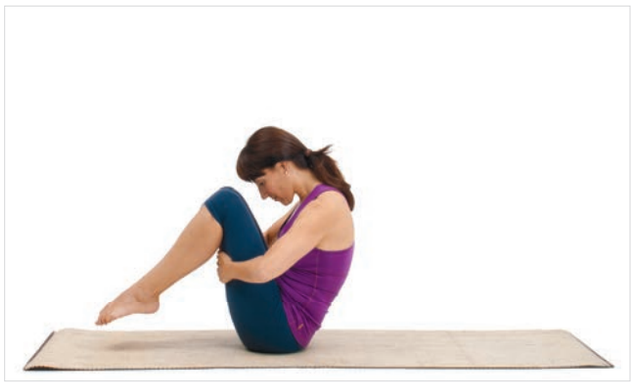
Beginning version

Place the hands on the back of the thighs rather than on the shins and keep the elbows wide to create a larger ball.

For a bony sacrum or protruding tailbone

Place thin pads or folded towels along each side of the sacrum to create a space for the sacrum or tailbone to roll in.

1. Starting position challenge. Make as small a ball as possible.



1. Starting position modification. Hold the back of the thighs.

CHALLENGE

Make the ball as small as possible by hugging the knees into the chest and keeping the eyes focused on the navel.

OPTIMUM FORM

Make the ball as small as possible and control the movement perfectly. Keep the backs of the calves glued to the thighs throughout the exercise.

TRANSITION

Place the right hand on the right ankle and the left hand on the right knee. Roll back, keeping the head and upper back off the mat and straighten the left leg to start Single Leg Stretch.

CUEING AND IMAGERY

- Keep the shoulders down and the elbows wide.
- Keep your eyes on your upper thighs to keep the head in position.
- Don't kick your legs to control the roll.
- Stop the roll at the top of the shoulder blades.
  - Don't roll up onto the neck.

PURPOSE

- Develop pelvic stability and core control.
- Increase the flexibility and articulation of the spine.
- Develop coordination and balance.
- Improve scapular stability.

PRECAUTIONS

For hip and low back injuries: Do the preparation only or avoid.

Avoid with osteoporosis.

SINGLE LEG STRETCH

BEGINNING | 8 - 12 SETS

STARTING POSITION

Sit on the mat with both legs pulled into the chest as if you have just finished Rolling Like a Ball. Place the inside hand on the knee and the outside hand on the ankle and roll down with control as the free leg straightens. Keep the leg at a height that allows the low back to remain stable. Keep the head up.

MOVEMENT SEQUENCE

Exhale: Release the leg held into the chest, straighten it out below you and pull the other leg in. Sink the abdominals as you bring the leg in, keep the elbows wide and the back steady.

Inhale: Switch legs.

MODIFICATIONS

Lower body only

Support the head, neck and upper body with a wedge pillow or towels and work the lower body only.

CHALLENGES

To challenge the abdominals, draw the leg in only until it forms a right angle with the hip and place the hands lightly on the leg rather then pulling it in toward the body.

OPTIMUM FORM

Keep the torso as still as possible, the head supported with minimal strain and the legs level with the eyes.

1. Starting position. Roll the upper body off the mat to place the left hand on the left ankle and the right hand on the inside of the right knee.

TRANSITION

Bring both legs into the chest with the hands on the ankles for Double Leg Stretch.

CUEING AND IMAGERY

- Keep the shoulders down and the elbows wide.
  - Keep your torso still.
- Move the legs and the arms only.
- Pull the abdominals deeper in with every repetition.
  - Don't let the abdominals rise!

PURPOSE

- Develop pelvic stability and core control.
- Strengthen the abdominals.

PRECAUTIONS

For neck and shoulder injuries: Use the modifications listed above.

For low back injuries: Work with an imprinted spine or use a supported neutral position of the low back.

Avoid with osteoporosis.

2. Switch the leg and hand positions while keeping the upper body lifted and steady.

DOUBLE LEG STRETCH

INTERMEDIATE | 3 - 6 REPS

STARTING POSITION

Lie on the back with the head and upper body rounded off the mat, both knees in to the chest and the hands on the ankles. If you are starting from the Single Leg Stretch simply pull both legs in toward the chest. If you are starting from a supine position, engage the abdominals pull both legs in to the chest with the hands on the ankles and lift the head and upper body up to the starting position. The back is in imprint or supported neutral until you can keep the back absolutely still as the legs lower.

MOVEMENT SEQUENCE

Inhale: Reach the legs out straight and the arms up overhead without changing the curve of the upper body or the position of the lower back. Lower the legs only as far as you can before the back arches off the mat and keep the arms in line with the ears.

Exhale: Draw the legs into the chest and sweep the arms around to hold the ankles

1. Starting position. Knees drawn into the chest with the upper body lifted and the hands on the ankles.

2. Reach the arms overhead and the legs out straight while maintaining the low back position.

MODIFICATION

Beginning version

Support the head with the hands and reach the elbows toward the knees to begin. Open the elbows out to the side as the legs reach up toward the ceiling.

1. Beginner modification starting position. Knees bent in towards the chest, elbows bent and pointed toward the knees with the fingertips by the ears.

2. Open the elbows and straighten the legs.

CHALLENGES

Joe's starting position

Begin lying on your back with your hands at your sides and the legs flat on the floor. Inhale as you lift the feet off the floor and reach the hands toward the feet. Exhale and draw the knees into the chest with the hands on the shins.

Advanced version

To challenge the abdominals draw the legs in only until they form a right angle with the hips and place the hands lightly on the lower leg rather then pulling the legs in toward the body.

OPTIMUM FORM

Keep the torso still as the legs and arms move away from the center. Support the torso and head with minimal tension.

TRANSITION

Pull both legs into the chest and roll up to a sitting position for Spine Stretch Forward or for Open Leg Rocker.

Or reach one leg straight toward the ceiling and clasp both hands behind it for Single Straight Leg Stretch.

CUEING AND IMAGERY

- Keep your torso still.
- Pull the abdominals in more deeply with every repetition. Don't let the abdominals pooch!
- Keep the head and upper body in the same position throughout the exercise.
- Maintain the position of the low back as the legs move.

PURPOSE

- Develop pelvic stability and core control.
- Strengthen the abdominals.

PRECAUTIONS

For neck and shoulder injuries: Support the head, neck and upper body with a wedge pillow or towels and work the lower body only.

For low back injuries: Work with an imprinted spine, use a supported neutral position of the low back and don't lower the legs too far.

Avoid with osteoporosis.

SINGLE STRAIGHT LEG STRETCH

INTERMEDIATE | 8 - 12 SETS

STARTING POSITION

Lie on the back with the head and upper body rounded off the mat with one leg reaching toward the ceiling and the other leg reaching toward the wall. Lower the leg only as far as you can without disturbing the stability of the low back and pelvis. Place the hands as far up the leg as they can easily reach but not directly behind the knee.

MOVEMENT SEQUENCE

Inhale: Engage the abdominals and draw the leg closer to you. Pulse the leg two times with a short inhale on each one. This is called a sniffing breath.

Exhale: Switch the legs. Keep the torso still, the low back in place and the shoulders down with the elbows wide.

MODIFICATIONS

Beginning version

Support the head with the hands as you scissor the legs.

Lower body only

Support the head, neck and upper body with a wedge pillow or towels and work the lower body only.

CHALLENGES

Hands off the leg

Reach the arms along the torso as the legs move.

OPTIMUM FORM

Keep the torso still as the legs and arms move. Lower the leg as close to the floor as possible without disturbing the back or touching the ground. Support the torso and head with minimal tension.

1. Starting position. Upper body lifted with the hands on the shins of the upper leg. Pulse the upper leg two times.

2. Switch the legs pulsing the lifted leg two times toward chest.

TRANSITION

Reach both legs straight toward the ceiling and place the hands behind the head with the elbows wide for Double Straight Leg Stretch.

CUEING AND IMAGERY

- Keep your torso still.
  - Imagine you are holding a glass of your favorite drink on your abdomen and don't spill it.
- Pull the abdominals in more deeply with every repetition.
  - Use the exhale to deepen the abdominal contraction.
- Keep the head and upper body in the same position throughout the exercise.
  - Imagine you are holding an orange between your chin and your chest.
- Keep the shoulders down and the chest open.

PURPOSE

- Develop pelvic stability and core control.
- Strengthen the abdominals.
- Increase the flexibility of the hamstrings.

PRECAUTIONS

For neck and shoulder injuries: Use the lower body only modification listed above.

For low back injuries: Work with an imprinted spine or use a supported neutral position of the low back.

Avoid with osteoporosis.

1. Hands off starting position. Reach the hands along the side of the body rather than holding the leg.

2. Switch legs pulsing the lifted leg toward the chest while keeping the arms at the sides.

DOUBLE STRAIGHT LEG STRETCH

INTERMEDIATE | 2 - 4 REPS

STARTING POSITION

Lie on the back with the hands behind the head, the head and upper body lifted off the mat and both legs reaching toward the ceiling. The back is in imprint or supported neutral until you can keep the back absolutely still as the legs lower.

MOVEMENT SEQUENCE

Exhale: Engage the abdominals and lower the legs toward the floor only as far as you can without arching the back off the mat.

Inhale: Keeping the abdominals engaged, return the legs to the starting position.

MODIFICATIONS

Tight hamstrings

Bend the knees as needed and keep them in the same position throughout the exercise.

OPTIMUM FORM

Lower the legs as close to the floor as possible without changing the position of the back. Support the torso and head with minimal tension.

TRANSITION

Bend one knee into the chest, reach the other leg out long and rotate the torso toward the bent leg for Criss Cross.

CUEING AND IMAGERY

- Keep the abdominals deeply engaged throughout.
  - Watch that the abdominals don't pop up as the legs lower.
- Keep your pelvis and low back absolutely still as the legs lower.
  - Pull the abdominals in more deeply with every repetition.
- Keep the elbows open throughout the exercise.
  - Hold them out so that you can just see them at the edge of your peripheral vision.

PURPOSE

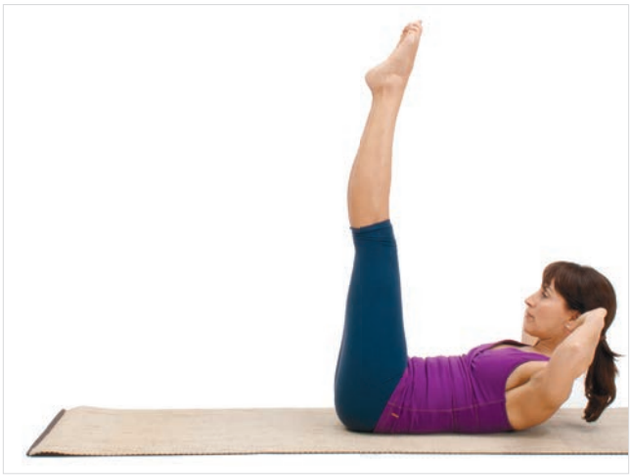
- Develop pelvic stability and core control.
- Strengthen the abdominals.
- Strengthen the hip flexors.

PRECAUTIONS

For neck and shoulder injuries: Support the head, neck and upper body with a wedge pillow or towels and work the lower body only.

For low back injuries: Lower the legs only as far as the back can stay stable or avoid. Use an imprinted spine or a supported neutral position of the low back if tolerated.

Avoid with osteoporosis.



1. Starting position. Legs straight and lifted over the hips, hands behind the head with the upper body lifted.

2. Lower the legs toward the floor without moving the lower back.

CRISS CROSS/BICYCLE

INTERMEDIATE | 8 - 12 SETS

STARTING POSITION

Lie on the back with the hands behind the head, the head and upper body lifted off the mat, one leg bent in towards the chest and the other leg reaching out away from the body. The back is in imprint or supported neutral until you can keep the back absolutely still as the legs lower.

MOVEMENT SEQUENCE

Exhale: Rotate the torso and reach the rib cage toward the opposite knee while keeping the elbows wide and the abdominals engaged. The lower abdomen stays still and both hips stay on the mat. No rock and roll!

Inhale: As you switch sides.

OPTIMUM FORM

Keep the lower abdomen and hips still while rotating the upper body as far as possible in each direction. Lower the straight leg so it is on the same level as your eyes.

TRANSITION

Bend both knees in toward the chest, wrap the arms around the legs and roll up to begin Spine Stretch Forward.

CUEING AND IMAGERY

- Keep the shoulders down and the elbows wide.
- Keep your torso still.
  - Imagine you are holding a glass of your favorite beverage on your abdomen and don't spill it.
- Pull the abdominals deeper in with every repetition.
  - Sink the navel toward the spine.

PURPOSE

- Strengthen all of the abdominals.
- Strengthen the torso in rotation.
- Develop pelvic stability and core control.

PRECAUTIONS

For neck and shoulder injuries: Support the head, neck and upper body with a wedge pillow or towels and work the lower body only.

For low back injuries: Work with an imprinted spine, use a supported neutral position of the low back or avoid.

Avoid with osteoporosis.

1. Starting position. Rotate the torso toward the bent knee.

2. Switch the legs and rotate to the other side.

SPINE STRETCH FORWARD

BEGINNING | 4 - 8 REPS

STARTING POSITION

Sit up with the legs straight and open, shoulder-width apart. Reach the arms out in front of the torso level with the bottom of the sternum. Sit up on the center of the sit bones. If the hamstrings are too tight to sit up straight, roll the mat up and sit on it or bend the knees.

MOVEMENT SEQUENCE

Inhale: Engage the abdominals, reach the arms forward and round the back until you are looking at the mat. Slide the shoulder blades up and over the rib cage as the arms reach forward without letting them come all the way up to the ears. Stay on top of your sit bones without tipping the pelvis forward throughout the exercise.

Exhale: Draw the shoulder blades down the back as you line the spine back up over the hips.

Reverse the breathing on this exercise by exhaling to roll forward and inhaling to roll back up. Notice how it changes the stretch in the back.

MODIFICATIONS

Tight hamstrings

Bend the knees slightly or sit up on a rolled up mat, towel or small pad.

OPTIMUM FORM

Keep both sit bones anchored and the pelvis neutral as you roll forward in order to stretch the mid and upper back. Keep the arms reaching forward without raising the shoulders.

TRANSITION

Beginning: Stay in the same starting position to start the Spine Stretch Side.

Intermediate: Bend the knees and draw the legs into the chest with the hands behind the knees. Lift the feet off the floor and balance between the tail bone and the sit bones to begin Open Leg Rocker.

1. Starting position. Sitting upright with the legs straight and hip distance apart. Reach the arms in front of the shoulders.

2. Reach forward, round the upper back and keep the sit bones on the mat.

CUEING AND IMAGERY

- Sit up on the very top of the sit bones.
  - Your sit bones are a mountain top, don't slide down either side.
- Engage the abdominals to lift the pelvis off the legs.
  - Imagine someone is holding your hips and lifting them up.
  - Imagine someone is pressing down on the top of your head and reach up to press their hand away.
- Keep the shoulder blades wide as you slide them up and over the rib cage.
  - Imagine your shoulder blades are like two curtains that are opening up to reveal the back of your rib cage.

PURPOSE

- Teach axial elongation.
- Learn how to sit up tall with support.
- Stretch the mid and upper back.
- Increase the mobility of the shoulder blades.
- Improve pelvic stability.

PRECAUTIONS

For low back and hip injuries: Use the tight hamstring modification to take stress out of the low back and hips.

For shoulder problems: If the arms are uncomfortable at shoulder height, slide them along the floor as you round forward.

SPINE STRETCH SIDE

BEGINNING | 4 - 6 SETS

STARTING POSITION

Sit up with the legs straight and open, shoulder-width apart. Reach the arms out to the sides level with the shoulders. Sit up on the center of the sit bones. If the hamstrings are too tight to sit up straight, roll the mat up and sit on it or bend the knees.

MOVEMENT SEQUENCE

Inhale: Engage the abdominals, reach the arms out and lean over to one side placing one hand on the floor. Keep the torso facing front as you lean over.

Exhale: Engage the abdominals and line the spine back up over the pelvis.

Inhale: Engage the abdominals, reach the arms out and lean over to the other side placing one hand on the floor.

Exhale: Return to the starting position.

Try reversing the breathing on this exercise by exhaling to lean over and inhaling to sit back up. Notice how it changes the stretch.

MODIFICATIONS

Tight hamstrings

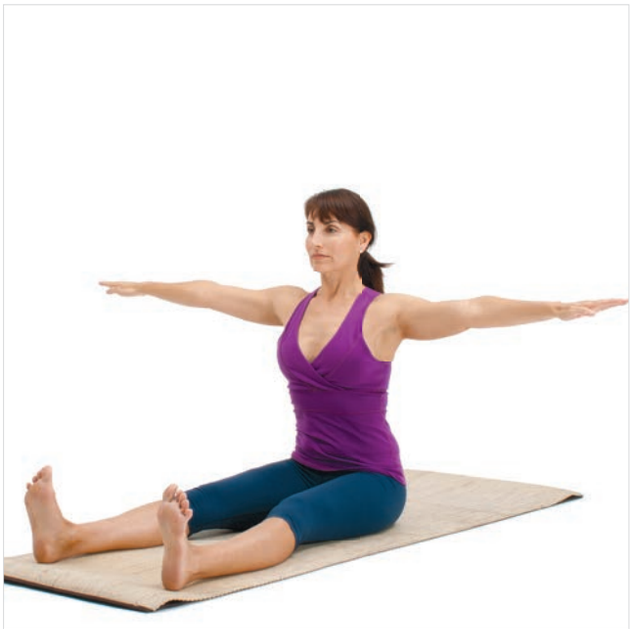
Bend the knees slightly or sit up on a rolled up mat, towel or small pad.

OPTIMUM FORM

Keep both sit bones anchored as you lean over in order to stretch the sides of the torso. Reach the arm to the ceiling and make the torso as long as possible before stretching to the side.

TRANSITION

Stay in the same starting position to start the Saw.



1. Starting position. Sitting upright with the legs straight and hip distance apart. Reach the arms out to the sides at shoulder height.

2. Reach up and lean to the side placing the hand on the floor while anchoring the opposite sit bone to the mat.

CUEING AND IMAGERY

- Sit up on the very top of the sit bones.
  - Your sit bones are a mountain top, don't slide down either side.
- Keep both sit bones on the mat.
  - Imagine your hips are anchored in concrete.
  - Imagine your sit bones have grown roots down into the earth. Don't uproot them.
- Engage the abdominals to lift the ribs away from the pelvis.
  - Imagine someone is holding your ribs and lifting them up.
- Reach the torso up before leaning over.
  - Imagine you are arching over a large beach ball as you go to the side.

3. Reach up and lean to the other side.

PURPOSE

- Learn how to sit with core support.
- Stretch the sides of the torso.
- Improve pelvic stability.

PRECAUTIONS

For low back and hip injuries: Use the tight hamstring modification to take stress of the low back and hips.

For shoulder problems: If the arms are uncomfortable at shoulder height, slide the lower one along the floor as you lean over and hold the other one at the waist.

SAW

BEGINNING | 4 - 6 SETS

STARTING POSITION

Sit up with the legs straight and open, hip width apart. Reach the arms out to the side level with the bottom of the sternum. Sit up tall on the center of the sit bones.

MOVEMENT SEQUENCE

Inhale: Rotate the torso to the left and reach the right arm toward the left foot.

Exhale: Engage the abdominals and round the head and torso forward reaching the right arm toward the little toe on the left foot. Reach the left arm back while medially rotating the shoulder so the palm faces the ceiling.

Inhale: Return to the starting position with the weight centered on the sit bones and the arms out to the sides. Rotate the torso to the right and reach the left arm toward the right foot.

Try reversing the breathing on this exercise by exhaling to roll forward and inhaling to sit back up. Notice how it changes the rotation of the torso.

1. Starting position. Sitting upright with the legs straight and hip distance apart. Reach the arms out to the sides at shoulder height.

2. Rotate to one side.

3. Reach the forward arm toward the little toe.

6. Rotate to the other side.

7. Reach the forward arm toward the little toe.

MODIFICATIONS

Tight hamstrings
Bend the knees slightly or sit up on a rolled up mat, towel or small pad.

OPTIMUM FORM

Keep the pelvis in position as you stretch forward in order to stretch the mid and upper back.

TRANSITION

Bend the knees and draw the legs into the chest with the hands behind the knees. Lift the feet off the floor and balance between the tail bone and the sit bones to begin Open Leg Rocker.

CUEING AND IMAGERY

- Sit up on top of the sit bones.
  - Your sit bones are a mountain top, don't slide down either side.
- Engage the abdominals to lift the pelvis off the legs.
  - Imagine someone is holding your hips and lifting them up.
  - Imagine someone is pressing down on the top of your head and reach up to press their hand away.
- Keep shoulder blades wide as you slide them up and over the rib cage.
  - Imagine your shoulder blades are two curtains opening up to reveal the back of your rib cage.

PURPOSE

- Learn how to sit with support.
- Increase the rotation of the spine.
- Stretch the mid and upper back.
- Increase the mobility of the shoulder girdle.
- Improve pelvic stability.

PRECAUTIONS

For low back and hip injuries: Use the tight hamstring modification to take stress out of the low back and hips.

For shoulder problems: If the arms are uncomfortable at shoulder height, bend the elbows and place the palms on the top of the shoulders.

Avoid with osteoporosis.

4. Roll up to a seated position maintaining rotation.

5. Return to the starting position.

8. Roll up to a seated position maintaining rotation.

9. Return to the starting position.

OPEN LEG ROCKER

INTERMEDIATE | 4 - 8 REPS

STARTING POSITION

Sit up and balance between the sit bones and the tailbone with the knees bent, the feet off the floor and the hands on the ankles. Open the legs so the knees are pointing out and the feet are together.

MOVEMENT SEQUENCE

Inhale: Straighten one leg and balance.

Exhale: Bend the knee to return to the starting position.

Inhale: Straighten the other leg and balance.

Exhale: Bend the knee to return to the starting position.

Inhale: Straighten one leg then the other and balance with both legs open in a V position.

Exhale: Engage the abdominals and roll back keeping the arms straight and the legs in a V. Don't roll past your shoulder blades.

Inhale: Take a sip of air at the end of the roll.

Exhale: Pull the abdominals in and roll back up to the V position. Lengthen the spine in the V without arching the back.

1. Starting position Top of Ankle. Grasp the top of the ankles with both hands while seated.

2. Straighten the legs holding as far up the leg as flexibility will allow.

3. Roll back with control without going onto the neck.

MODIFICATIONS

Tight hamstrings

Hold the legs behind the knees if the hamstrings are too tight to hold the ankles. Keep the knees bent at the same angle as you roll back and forth to keep the work in the torso.

Balance version

If you can't roll, use this position as an opportunity to work on balancing and on working equally through the abdominals and the back muscles. Gently flex and extend the spine, feeling the effort move from the abdominals as you round to the back muscles as you arch. Find the middle position and imagine the core is squeezing your spine up towards the top of your head making you as tall as possible.

OPTIMUM FORM

Keep the arms and legs straight and in position throughout the exercise. Find your balance point at both ends of the exercise immediately without wiggling or losing your balance.

TRANSITION

Lower your legs to the mat and roll over into prone to begin Swan.

Advanced: Keeping your legs together and pointed toward the ceiling, take your hands off the legs and lower the torso down to the mat with control for the Corkscrew.

Or bring the legs together, take the hands off the ankles and begin Teaser.

CUEING AND IMAGERY

- Once you have a good balance point, picture it before you roll up each time. Have confidence that you will arrive just at the perfect spot.
- Maintain the shape throughout the roll. Don't collapse as the legs go over the torso.
- Keep the shoulders down.
- Don't roll up on to the neck.

PURPOSE

- Develop pelvic stability and core control.
- Develop coordination and balance.
- Improve scapular stability.

PRECAUTIONS

For hip and low back injuries: Use tight hamstring modification or avoid.

Avoid with osteoporosis.

1. Bent knees starting position. Sit balanced between sit bones and tailbone with hands holding behind thighs and knees bent.

2. Roll back to the shoulders with the head lifted.

SWAN

BEGINNING | 3 - 6 REPS

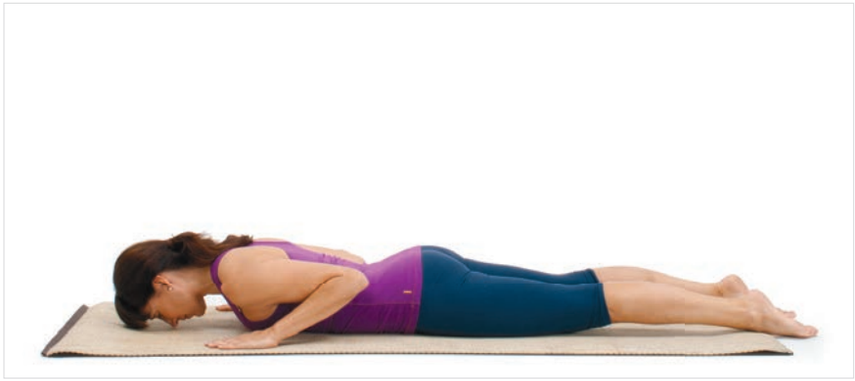
STARTING POSITION

Lie prone with the palms of the hands on the mat, the palms level with the shoulders and the elbows bent. Legs are as close together as is comfortable for the lower back.

MOVEMENT SEQUENCE

Inhale: Engage the abdominals, slide the shoulder blades down the back and lift the upper body into extension as you press the hands into the mat. Press the hips into the mat at the beginning of the exercise to take pressure off the low back if needed. Keep the shoulders away from the ears and rise up only as far as the low back is comfortable. Keep the head in line with the spine.

Exhale: Lower the torso back down to the mat with control.



1. Starting position. Place the hands under the shoulders with the elbows bent.

2. Lift the upper body while pressing the hips and feet into the mat.

3. Straighten the arms to press up into extension.

MODIFICATIONS

Low Swan

Rise up only as far as the forearms rather than straightening the elbows.

1. Low Swan modification. Press up to the elbows only.

OPTIMUM FORM

Extend the back as evenly as possible without putting pressure on the low back or neck.

TRANSITION

From the highest point, prepare for Swan Dive or Swan Rocking or lower down to the elbows for Single Leg Kicks.

CUEING AND IMAGERY

- Lift up into the back extension from the torso, not the arms.
  - Start lifting up with very little weight in the hands.
- Keep the abdominals engaged throughout.
  - No sagging stomachs.
- Keep the spine as elongated as possible.
  - Imagine you are a baby pushing yourself up off the floor for the first time.
  - Imagine you are a turtle reaching its head out from inside its shell.
- Keep the shoulders down and wide.
  - Press into the mat with the whole hand to widen the space between the shoulder blades.

PURPOSE

- Improve back extension.
- Strengthen back extensors, hamstrings and gluteals.
- Improve scapular stability.

PRECAUTIONS

For low back injuries: Cue abdominal work and pressing the pubic bone into the mat to take pressure off the back. Use the Low Swan modification or limit the range of motion in back extension. Avoid if back extension is not tolerable.

For shoulder, wrist and elbow injuries: Use the Low Swan modification or avoid.

SINGLE LEG KICKS

INTERMEDIATE | 6 - 10 SETS

STARTING POSITION

Lie prone and press the forearms into the mat to lift the torso up. Slide the shoulders around the ribs and lift the thoracic spine toward the ceiling. The legs are straight and as close together as possible.

MOVEMENT SEQUENCE

Inhale: Bend one knee and pulse the heel toward the buttocks two times with a sniffing breath. Keep the heel in line with the sit bones and the hips in place. Don't point the toes out to the side as the leg comes in or let the front of the hips lift off the mat.

Exhale: Extend the leg back to the floor reaching the leg out long.

Repeat to the other side.

1. Starting position. Press the forearms into the mat and lift the torso.

2. Bend the left knee and bring the heel toward the buttocks twice.

3. Bend the right knee and bring the heel toward the buttocks twice.

MODIFICATIONS

Prone version
Lie prone with the head on the hands to decrease low back, neck and shoulder stress.

CHALLENGES

Add pointing and flexing to the foot work to challenge coordination and memory.

OPTIMUM FORM

Shoulders are away from the ears, forearms are pressed into the mat with the shoulders wide. The abdominals are lifted up, low back curve is gentle and the heels kick straight into the buttocks without the toes turning out. The hips are perfectly still as the legs kick.

TRANSITION

Lower the torso down to the mat with the head to one side and the hands behind the back to start the Double Leg Kicks.

CUEING AND IMAGERY

- Keep the shoulders down and wide and the neck long throughout the exercise.
  - Press the forearms into the mat and the upper spine to the ceiling.
- Keep the head in line with the spine.
  - Focus the eyes a few inches in front of the hands.
- Keep the abdominals engaged throughout.
  - No sagging stomachs.
- Keep the spine as elongated as possible.
- As the knee bends, keep the front of the hips in contact with the mat.
- Keep the lower leg in line with the thigh.
  - Imagine you have a spring attached from your buttock to your heel.
  - Don't laterally rotate the lower leg as the knee flexes.

PURPOSE

- Strengthen serratus anterior.
- Strengthen the hamstrings.
- Stretch the quadriceps.
- Strengthen back extensors, hamstrings and gluteals.
- Improve scapular stability.
- Teach axial elongation in extension.
- Teach abdominal support in extension.

PRECAUTIONS

Low back injuries: Engage the abdominals and press the pubic bone into the mat to decrease the pressure on the lower back. If the client still gets a punching sensation in the lower back, lower the torso or avoid.

Knee problems: Limit the range of motion in knee flexion. Stretching the quadriceps before this exercise can be helpful at decreasing knee discomfort.

DOUBLE LEG KICKS

INTERMEDIATE | 3 - 6 SETS

STARTING POSITION

Lie prone with both hands clasped behind the low back and the head turned to one side.

MOVEMENT SEQUENCE

Inhale: Bend both knees and kick the heels toward the buttocks 3 times using a sniffing breath. Keep the front of the hips on the mat and the low back stable.

Exhale: Engage the abdominals, straighten the legs, reach the hands toward the feet with the hands clasped and lift the torso into back extension. Keep the head in line with the spine. Lower the torso back to the mat with the head turned to the other side and the hands clasped behind the back.

MODIFICATIONS

Tight shoulders

For clients with limited anterior shoulder flexibility, reach both hands toward the feet without clasping them together.

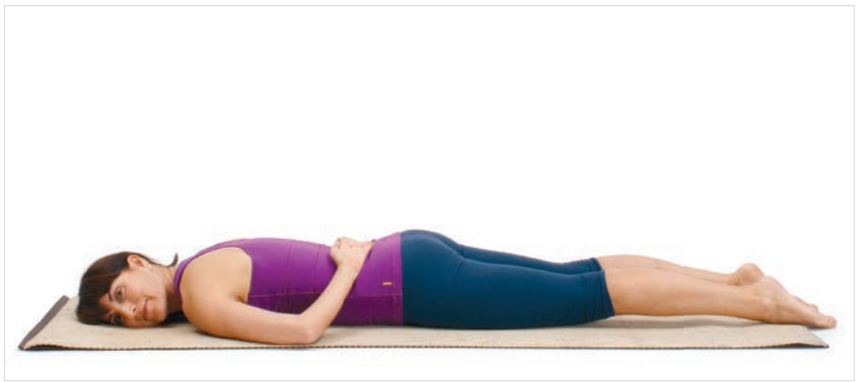
OPTIMUM FORM

The hips stay steady on the mat, the back extension is smooth and continuous and the head is in line with the spine.

TRANSITION

Roll to the side for the Side Leg Series or circle the arms around and overhead to start Swimming.

Advanced: Roll over onto the back with the legs straight and mat width apart for the Neck Pull.



1. Starting position. Lie prone with both hands behind the back and the head turned to one side.

2. Kick both heels toward the buttocks three times.

3. Reach the legs out and the arms back to extend the back.

CUEING AND IMAGERY

- Keep the front of the hips on the mat.
  - Press the hip bones into the mat as the legs kick.
- Keep the head in line with the spine.
  - As the body lifts up into extension, allow the eyes to focus a few inches in front of the head. It is as if you are watching a marble roll away from you.
- Keep the abdominals engaged throughout.
  - No sagging stomachs.
- Reach the arms back toward the feet to open the front of the chest.
  - Imagine you have a light on the front of your sternum and shine it straight ahead as you reach back.
- Engage the back, gluteals and hamstring while keeping the torso long and without compressing the lower back.
- Reach the legs and arms out from the center of the body before going up into back extension.
  - Imagine you are suspended in a cargo net with a rope on each limb.
- Keep the lower legs in line with the thighs.
  - Imagine you have a spring attached from your sit bones to your heels.

PURPOSE

- Strengthen back extensors, hamstrings and gluteals.
- Stretch the quadriceps.
- Stretch the chest and anterior shoulder.

PRECAUTIONS

Low back injuries: Engage the abdominals and press the pubic bone into the mat to decrease the pressure on the lower back. If the client still gets a punching sensation in the lower back, limit range of motion in extension, place a pillow under the hips or avoid.

Knee problems: Limit the range of motion in knee flexion. Stretching the quadriceps before this exercise can also be helpful at decreasing knee discomfort.

SWIMMING

INTERMEDIATE | 15 - 25 SETS

STARTING POSITION

Lie prone on the mat with the arms reaching overhead and the legs straight.

MOVEMENT SEQUENCE

- Reach one leg and the opposite arm out and up toward the ceiling. Switch the arm and leg quickly without losing the balance on the center of the torso.
- The breath can follow the tempo of the swimming for example inhale for two "strokes", exhale for two "strokes" or inhale for 4 "strokes" and exhale for 4 "strokes".

MODIFICATIONS

Arms only or legs only
Move just the arms or just the legs.

CHALLENGES

Move as quickly as possible without losing the balance between the two sides.

OPTIMUM FORM

Even rhythm through all four limbs and a still center while moving quickly.

1. Lift right arm and left leg.

2. Switch arms and legs quickly while maintaining balance.

CUEING AND IMAGERY

- Keep the center still as the limbs move.
  - Imagine you have a water glass on the small of your back. Don't spill it.
- Don't rock the hips from side to side.
- Reach the legs out first, then up.
  - Imagine your legs are reaching to the walls before lifting up.
- Keep the shoulders anchored into the back as the arms move.
  - Keep the neck long. Don't wear your shoulders like earrings.
- Keep the rhythm even through all four limbs.

PURPOSE

- Strengthen the back and hip extensors including the erector spinae, hamstrings and gluteus maximus.
- Improve pelvic stability.

PRECAUTIONS

Low back injuries: Client must tolerate back extension or avoid.

Shoulder injuries: Lift the legs only.

SIDE LEG LIFTS

BEGINNING | 6 - 10 REPS

STARTING POSITION

Beginner starting position

Place the head on the lower arm or on a pillow rather than supporting the head on the hand.

Standard starting position

Lie on your side with the torso and head along the back edge of the mat. Flex the hips to bring the feet in line with the front of the mat. Support the head on the hand with the elbow on the mat and place the other hand on the mat for balance. Stack the shoulders and hips on top of each other and keep the spine straight. The bottom leg can be parallel or turned out with the bottom foot flexed and the toes tucked under.

Advanced starting position

Place the lower hand under the head and take the top hand off the floor and put it behind the head so you are balancing on the bottom elbow.

Forearm starting position

Place the forearm of the supporting arm on the mat. The torso will be higher off the mat.

MOVEMENT SEQUENCE

Inhale: Lift the top leg up toward the ceiling, creasing at the top of the femur without moving the top hip or shortening the waist. Keep the shoulders and hips stacked.

Exhale: Lower the top leg back to the bottom leg.

VARIATIONS

Top leg parallel

Keep the top leg in parallel position as the leg lifts. The range of motion will be limited.

Top leg turned out

Turn the top leg out and lift it in line with the hip joint. It will move in front of the torso as it lifts.

MODIFICATIONS

For discomfort when lying on the greater trochanter

Try bending the bottom leg slightly, supporting the waist with a small towel or padding around the hips to float the trochanter. One can also cut a hole in the mat on each side for the greater trochanter to fit in.

1. Starting position. Lie on side, place the lower hand under the head and the top hand in front of the chest.

2. Side Leg Lifts Parallel. Lift top leg up to hip height.

1. Beginner starting position. Lie on the side with the head resting on the lower arm.

1. Advanced starting position. Place the lower hand under the head and the top arm behind the head and balance on the bottom elbow.

1. Forearm starting position. Place the forearm on the mat and lift the torso off the mat.

CHALLENGES

Use the advanced starting position and change the tempo of the lift from even in both directions to slow up and fast down or fast up and slow down.

OPTIMUM FORM

The torso, hips and shoulder do not change as the leg moves.

TRANSITION

Bring the top leg back to the starting position to go on to the next Side Leg exercise.

If you are changing sides, roll into the prone position with the arms overhead and slightly wider than the shoulders. Roll smoothly into position. Clap the inner thighs together quickly 20 - 50 times (heel beats) and roll onto the other side with control.

CUEING AND IMAGERY

- Keep the shoulders and the hips lined up throughout the exercise.
  - Imagine you have a cup of coffee balanced on your shoulder. Don't spill it!
  - Imagine you have a stake through the hips and you can't break it.
- Keep the abdominals engaged.
  - Scoop the navel toward the spine as the leg goes up.
- Press the arm into the mat to keep the underside of the body engaged.
- Reach the leg away from the hip as it goes up.
  - Imagine you are painting a line on the wall.
  - Instructor cue, press into the client's heel.
  - Keep the waist long on the top side of the torso as the leg goes up.
- Lift the leg, not the hip.
  - Crease at the top of the femur not at the waist.

PURPOSE

- Strengthen the hip abductors including the gluteus maximus, gluteus medius, gluteus minimus and tensor fascia lata.
- Strengthen the hip external rotators including the gluteus maximus, piriformis and deep hip rotators.
- Strengthen the lateral torso including the latissimus dorsi, internal and external obliques and quadratus lumborum.
- Develop stability of the torso and pelvis in side lying.

PRECAUTIONS

Neck, shoulder, elbow and wrist injuries: Place the head on a pillow to decrease stress on the neck and upper limb.

Hip injuries: Limit the range of motion and the number of repetitions or avoid if it is too uncomfortable.

Lateral hip and greater trochanter pain or discomfort: Bend the bottom leg or create a hole for the greater trochanter to sit in by padding around it or cutting a hole in the mat.

SIDE LEG CIRCLES BIG & SMALL

BEGINNING | 4 - 10 REPS

STARTING POSITION

Same as Side Leg Lifts.

For the Small Circles, the top leg can be parallel or turned out. For Large Circles, the top leg must be turned out.

SMALL CIRCLES

MOVEMENT SEQUENCE

Inhale: Circle the top leg forward and up to the high point without lifting the top hip up and shortening the waist. Keep the shoulders, torso and hips still as the leg moves.

Exhale: Circle the top leg from the midpoint back and around to the starting position.

Circle in both directions.

1. Starting position. Bottom hand under head, balanced on hip with top leg lifted hip height.

2. Circle top leg forward and up.

3. Continue to circle top leg back and around without moving the hips.

4. Return to the starting position.

LARGE CIRCLES

MOVEMENT SEQUENCE

Inhale: Turn the top leg out and circle it forward and up as high to the side as it will go without lifting the top hip up and shortening the waist. Keep the shoulders, torso and hips still as the leg moves.

Exhale: Circle the top leg back and around to the starting position.

Circle in both directions.

MODIFICATIONS

Circle size

Increase the size of the circle to increase the challenge of the exercise. Start with a circle about as big around as a dinner plate and increase the size until the circle is as big as the range of motion in the hip will allow.
The circle will be smaller if the legs are parallel.

1. Starting position. Turn out top leg.

2. Circle the top leg forward.

3. Circle the leg to the ceiling.

4. Circle the leg to the back.

5. Return the leg to the starting position.

CHALLENGES

Use the advanced arm position or move the top arm forward and back as the leg circles.

OPTIMUM FORM

The hips are perfectly still and the circle is as big as possible.

TRANSITION

Bring the top leg back to the starting position to go on to the next Side Leg exercise.

If you are changing sides, roll into the prone position and do heel beats or perform a set of Swimming before rolling to the other side.

CUEING AND IMAGERY

- Keep the shoulders and the hips lined up throughout the exercise.
  - Imagine you have a bowl of hot chocolate on your hip. Don't spill it!
- Keep the abdominals engaged.
- Press the arm into the mat to keep the underside of the body engaged.
- Keep the leg long and the top of the pelvis perpendicular to the ground.
  - Imagine you are painting a line on the wall.
  - Instructor cue, press into the client's heel.
  - Keep the waist long on the top side of the torso as the leg goes up.
- Lift the leg, not the hip.
  - Crease at the top of the femur not at the waist.

PURPOSE

- Strengthen the hip abductors.
- Strengthen the hip external rotators.
- Strengthen the lateral torso.
- Strengthen the hip extensors.
- Strengthen the hip flexors and knee extensors.
- Develop stability of the torso and pelvis in side lying.

PRECAUTIONS

Neck, shoulder, elbow and wrist injuries: Place the head on a pillow to decrease stress on the neck and upper limb.

Hip injuries: Limit the range of motion and the number of repetitions or avoid if it is too uncomfortable.

Lateral hip and greater trochanter pain or discomfort: Bend the bottom leg or create a hole for the greater trochanter to sit in by padding around it or cutting a hole in the mat.

SIDE LEG KICKS

INTERMEDIATE | 4 - 8 SETS

STARTING POSITION

Same as Side Leg Lifts.

MOVEMENT SEQUENCE

Inhale: Kick the top leg forward with a flexed foot and pulse it two times. Use a sniffing breath for the pulses. Keep the hips and shoulders stacked and the leg straight.

Exhale: Kick the top leg to the back with a pointed foot. Don't disturb the torso.

MODIFICATIONS

Leg and foot positions

The upper leg can be parallel or turned out and the feet can be flexed or pointed.

CHALLENGES

Use the advanced arm position or move the top arm forward and back in opposition to the leg kicks.

OPTIMUM FORM

The hips are perfectly still and the kick is as big as possible in both directions.

TRANSITION

Bring the top leg back to the starting position to go on to the next Side Leg exercise.

If you are changing sides, roll into the prone position and do heel beats or perform a set of Swimming before rolling to the other side.

1. Kick the top leg forward with a flexed foot without disturbing the pelvis or torso.

2. Kick the top leg back with a pointed foot.

CUEING AND IMAGERY

- Keep the shoulders and the hips lined up throughout the exercise.
- Keep the abdominals engaged.
- Press the bottom arm into the mat to keep the underside of the body engaged.
- Keep the waist long on the top side of the torso as the leg goes forward and back.
- Keep the top leg at the same height throughout the exercise.
  - Imagine you have a pencil attached to your top foot. Draw a line parallel to the floor.

PURPOSE

- Strengthen the hip abductors.
- Strengthen the hip external rotators.
- Strengthen the lateral torso.
- Strengthen the hip extensors.
- Strengthen the hip flexors and knee extensors.
- Develop stability of the torso and pelvis in side lying.

PRECAUTIONS

Neck, shoulder, elbow and wrist injuries: Place the head on a pillow to decrease stress on the neck and upper limb.

Hip injuries: Limit the range of motion and the number of repetitions or avoid if it is too uncomfortable.

Lateral hip and greater trochanter pain or discomfort: Bend the bottom leg or create a hole for the greater trochanter to sit in by padding around it or cutting a hole in the mat.

SIDE LEG BICYCLE

INTERMEDIATE | 4 - 6 SETS

STARTING POSITION

Same as Side Leg Lifts with the top leg parallel.

MOVEMENT SEQUENCE

Inhale: Bend the knee and extend the top leg forward with a pointed foot. Keep the leg parallel to the floor and in line with the hip.

Exhale: Reach the top leg to the back without disturbing the torso. Bend the knee to kick the foot toward the buttock. Keeping the knee bent, flex the hip to bring the leg back to the front.

Repeat 4 to 6 times.

To change directions

Inhale: Bend the knee and extend the top leg to the back with a pointed foot. Keep the leg parallel to the floor and in line with the hip.

Exhale: Swing the top leg forward without disturbing the torso.

Repeat 4 to 6 times.

1. Bend the top knee.

2. Extend the top leg to the front.

3. Swing the top leg to the back.

4. Bend the knee of the top leg to kick the heel toward the buttocks.

5. Continue to keep the knee bent while bringing the top leg back to the front.

MODIFICATIONS

Foot positions

The feet can be flexed or pointed for each cycle or they can alternate during each cycle.

CHALLENGES

Use the advanced arm position or move the top arm forward and back in opposition to the leg swings.

OPTIMUM FORM

The hips are perfectly still and the Side Leg Bicycle is as large as possible in both directions.

TRANSITION

Bring the top leg back to the starting position to go on to the next Side Leg exercise.

If you are changing sides, roll into the prone position and do heel beats or perform a set of Swimming before rolling to the other side.

CUEING AND IMAGERY

- Keep the shoulders and the hips lined up throughout the exercise.
  - Imagine you have a cup of coffee balanced on your shoulder. Don't spill it!
  - Imagine you have a stake through the hips.
- Keep the abdominals engaged.
- Press the arm into the mat to keep the underside of the body engaged.
- Reach the leg away from the hip as it goes up.
  - Imagine you are painting a line on the wall.
  - Instructor cue, press into the client's heel.
- Keep the waist long on the top side of the torso as the leg goes up.
- Lift the leg, not the hip.
  - Crease at the top of the femur, not at the waist.

PURPOSE

- Strengthen the hip abductors.
- Strengthen the hip external rotators.
- Strengthen the lateral torso.
- Strengthen the hip extensors (hamstrings).
- Strengthen the hip flexors and knee extensors.
- Develop stability of the torso and pelvis in side lying.

PRECAUTIONS

Neck, shoulder, elbow and wrist injuries: Place the head on a pillow to decrease stress on the neck and upper limb.

Hip injuries: Limit the range of motion and the number of repetitions or avoid if it is too uncomfortable.

Lateral hip and greater trochanter pain or discomfort: Bend the bottom leg or create a hole for the greater trochanter to sit in by padding around it or cutting a hole in the mat.

SIDE LEG BANANAS

INTERMEDIATE | 3 - 6 REPS

STARTING POSITION

Standard position

Lie on your side with the bottom arm under the head, the elbow straight and the palm facing up. Place the other hand on the mat in front of the torso for balance. The legs are straight and in line with the torso rather than being forward as they are for the other Side Leg exercises.

Beginning position

The palm of the bottom arm is facing the floor.

Advanced position

The top arm is off the floor and reaching along the side of the body toward the feet.

MOVEMENT SEQUENCE

Inhale: Lift the arm, head, torso and legs to the ceiling so you make a crescent or Banana shape.

Exhale: Lower the arm, head, torso and legs to the mat.

1. Starting position. Side lying with hips, knees and toes stacked.

2. Beginning modification. Lift the body off the mat into the shape of a Banana keeping the bottom hand on the floor.

2. Standard exercise. Lift both arms and legs off the mat into the shape of a Banana.

2. Advanced version. Reach the top arm towards the feet and lift the body up into a Banana shape.

3. Top/Bottom Leg Lift. Lift the top leg off the bottom leg or the bottom leg to the top leg. Keep the torso lifted throughout.

MODIFICATIONS

Beginning version

Use the beginning starting position and use the bottom arm to help lift the torso up into the Banana position.

Top leg lift

With the torso up in any of the positions or with the head down as in the starting position, lift both legs then lift the top leg off the bottom leg 10 or 20 times.

Bottom leg lift

With the torso up in any of the positions or with the head down as in the starting position, lift both legs then lift the top leg up a short distance and bring the bottom leg up to it for 20 or 30 beats to strengthen the adductors.

CHALLENGES

Use the advanced starting position and try to stay balanced on the side of the hip as the torso lifts up.

OPTIMUM FORM

The torso in one long line with no break at the hips. Transitions are smooth in both directions and the balance is perfect.

TRANSITION

Bring the top leg back to the starting position to go on to the next Side Leg exercise.

If you are changing sides, roll into the prone position and do heel beats or perform a set of Swimming before rolling to the other side.

CUEING AND IMAGERY

- Move smoothly up and down.
  - Imagine your legs and torso are as light as a feather as you float up and float down.
- Keep the shoulders and the hips lined up throughout the exercise.
  - Imagine you have a cup of coffee balanced on your shoulder. Don't spill it!
  - Imagine you have a stake through the hips.

PURPOSE

- Strengthen the hip abductors.
- Strengthen the hip adductors.
- Strengthen the hip external rotators.
- Strengthen the lateral torso.
- Develop stability of the torso and pelvis in side lying.

PRECAUTIONS

Neck, shoulder, elbow and wrist injuries: Place the head on a pillow to decrease stress on the neck and upper limb.

Hip injuries: Limit the range of motion and the number of repetitions or avoid if it is too uncomfortable.

Lateral hip and greater trochanter pain or discomfort: Bend the bottom leg or create a hole for the greater trochanter to sit in by padding around it or cutting a hole in the mat.

SEAL

BEGINNING | 4 - 8 REPS

STARTING POSITION

Sit on the mat balancing between the sit bones and the tailbone with the feet off the ground. Turn the legs out and place the souls of the feet together.

Hands on top of the ankles

Place the hands on top of the ankles, open the chest and slide the shoulders away from the ears.

Hands on the bottom of the ankles

Reach the hands under the calves and hold the ankles from the bottom, press the arms into the legs, open the chest and slide the shoulders away from the ears.

MOVEMENT SEQUENCE

Inhale: Clap the feet together three times.

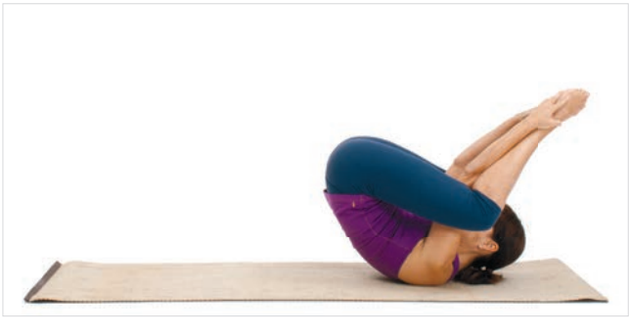
Exhale: Hold the feet together and roll back just to the tops of the shoulder blades.

Inhale: Hold the balance point and clap the feet together three times.

Exhale: Keep the feet together and roll up to the starting position.

1. Starting position Top of Ankle. Grasp the top of the ankles with both hands while seated.

1. Starting position Bottom of Ankle. Grasp the underside of the ankles with the hands.



2. Roll back and balance as you clap the feet 3 times.

3. Roll up to the starting position.

OPTIMUM FORM

Move smoothly and with control throughout the movement.

TRANSITION

This is usually the last exercise before standing up for the Push Ups. To get up from this position from the last Seal, roll forward, place both feet on the floor in a deep squat and rise up to standing or cross one leg behind the other as you roll forward and step up onto the front foot as the back leg pushes off.

CUEING AND IMAGERY

- Keep the soles of the feet together as you roll back and forward.
  - Glue the feet together.
- Find your balance point at each end of the roll.
  - Picture where you are going before you get there.
- Don't roll up onto the neck.
  - Stop at the top of the shoulder blades.
  - Don't let your head touch the mat.

PURPOSE

- To develop pelvic stability and core control.
- To increase the flexibility and articulation of the spine.
- To develop coordination and balance.
- To learn to stabilize the shoulders.

PRECAUTIONS

For hip and low back injuries: Hold the balance point in sitting and clap the feet. Don't roll back. Avoid if client can't tolerate sitting or lumbar flexion.

Avoid with osteoporosis.

PUSH UPS

INTERMEDIATE | 1 - 3 SETS

STARTING POSITION

Stand at one end of your mat with the arms reaching up to the ceiling.

MOVEMENT SEQUENCE

Inhale: Roll down from the top of the spine, as if you are diving over a beach ball, until the hands are on the mat.

Exhale: Walk the hands out along the mat until the wrists are under the shoulders and the body is straight from the head to the feet. This is also known as Plank position.

Inhale: Bend the elbows as far as you can keeping the torso straight.

Exhale: Straighten the elbows.

Repeat 4 to 10 times.

Walk the hands back toward the feet and roll up.

MODIFICATIONS

Preparation

Hold the plank position for 3 breaths.

Wrist discomfort

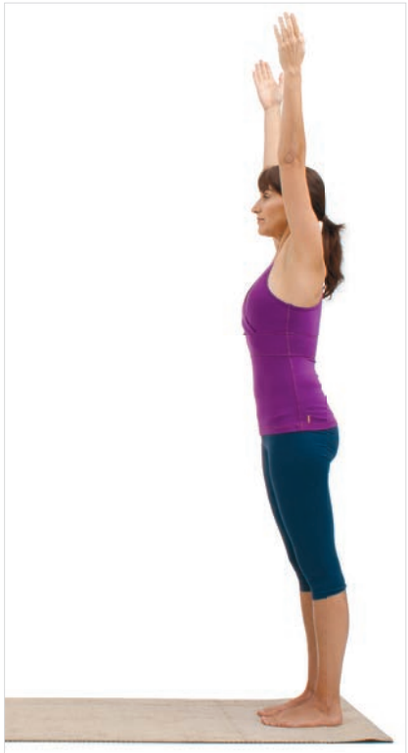
In order to accommodate clients with wrist injuries or discomfort, use push up handles or hexagonal metal hand weights for them to grip or place the forearms on a sitting box or yoga blocks so no weight is on the wrists.

Beginning version

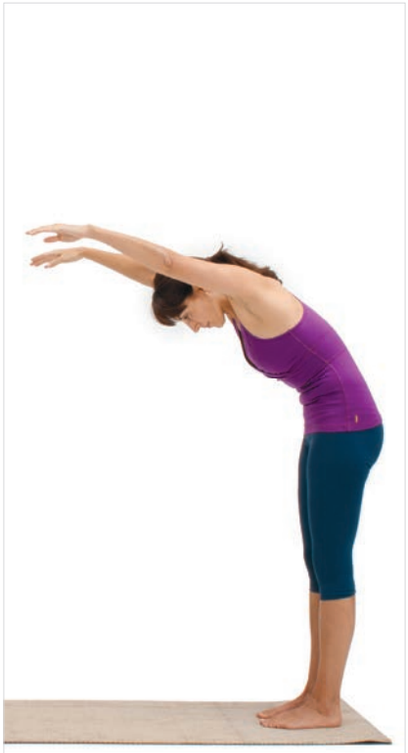
Place the knees on the ground with the torso straight for the Push Up position.

OPTIMUM FORM

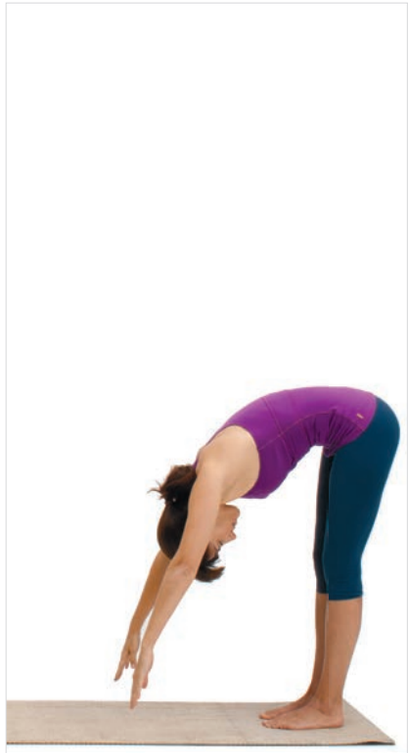
Bend the elbows as far as possible while keeping the torso straight.



1. Starting position. Standing with the hands reaching toward the ceiling.



2. Roll down one vertebra at a time.



3. Roll all the way down until the hands are on the mat.

CUEING AND IMAGERY

- Keep the torso in one line from head to feet.
  - Imagine you have a bar on the back of your body and it is touching your head, upper back, hips and heels.
- Don't stick your butt out.
  - Don't drop the hips or the head as the elbows bend.
  - No sagging bellies and no butts in the air.
- Keep your shoulders over your wrists.
- Keep your eyes looking directly in front of the hands.

PURPOSE

- Strengthen the entire body including the core, scapular stabilizers and lumbopelvic stabilizers.
- Strengthen the chest, anterior shoulder and triceps.

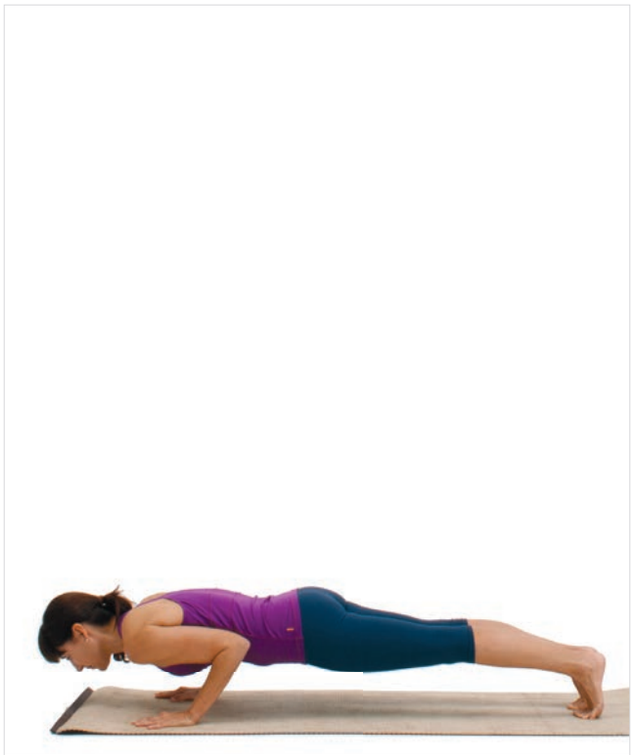
PRECAUTIONS

Wrist injuries: Use the modifications above or avoid.

Elbow and shoulder injuries: Use the modifications above or avoid.

Foot injuries: Place the ankles on a roller if the toes are uncomfortable.

4. Walk the hands out until the body is in a long plank position from head to feet.



5. Bend the elbows to lower the body down toward the mat.

MAT SEQUENCES

Beginning Mat 1: Introductory Session

The purpose of the introductory session or sessions is to introduce a new student to the principles of Pilates and to the basic elements of a Pilates workout. This session should include:

- An introduction to the principles including: Breathing, Pelvic and Scapular Stability and Abdominal work
- An introduction to all the body positions: supine, sitting, side lying, all fours, standing
- Exercises to correct common issues: low back, hamstring, hip flexor tightness, abdominal weakness, shoulder weakness and lack of stability
- An emphasis on safety and form

The sequence outlined here includes Pre-Pilates, standing and stretching exercises in addition to the standard Mat exercises in order to provide a full bodied workout for a typical beginning client.

STANDING

- Feel weight on feet
- Introduce standing posture basics—leg alignment, torso upright
- Knee bends, squats, rotations, side bends, roll downs from standing
- Finish with a roll down into supine
- Feel the position of the back in supine, neutral/imprint/supported neutral

SUPINE

- Pelvic Clock—6x each direction
- Breathing
  - Hands on abdomen—5x
  - Flex band or towel around ribs -5x
- Fingertip Abdominals—10x

ALL FOURS

- All fours Abdominals (Pregnant Cat)—8x
- Cat/Cow (fast or slow)—8x
- Hip Circles or Tail Wag—4x

SUPINE

- Abdominal Curls—10x
- Toe Taps—8x
- 100 Prep—10x
- Roll Up prep (Roll Down from sitting or partial Roll Up or bent knee version)—10x
- Hamstring Stretch—hold 45 seconds, 2x each leg
- Small Leg Circles (modified as necessary)—8x each
- Rolling Like a Ball—8x
- Single Leg Stretch—10 sets
- Roll up to sitting

SITTING

- Adductor Stretch
- Spine Stretch Forward—6x
- Spine Stretch Side—6x
- Saw—6x

PRONE

- Baby Swan—6x
- Quadriceps Stretch—hold 45 seconds, 2x each leg
- Single Leg Kicks—8x
- Rest Position

ALL FOURS

- Sternum Drops—8x
- Opposite Arm and Leg Lift—8 sets
- Plank Position—3 breaths

SIDE LEG SERIES

- Side Leg Lifts—8x each leg
- Side Leg Circles—8x each leg
- Side Leg Kicks—8x each leg

SUPINE

- Piriformis Stretch—hold 45 seconds, 2x each leg
- Seal—8x
- Finish with a roll up to standing
- Wall Push Ups or Mat Push Ups—4 to 10x

Beginning Mat 2: Full program

With the addition of some pre Pilates warm up and preparatory exercises this program includes the classical beginning exercises. It builds on the introductory session with more exercises, more sequences and smoother transitions between exercises. This is appropriate for a beginning client who does not have significant neck or back issues and who does not have osteoporosis.

STANDING

- Feel weight on feet
- Review standing posture basics
- Knee bends, squats, rotations, side bends, roll downs
- Finish with roll down into all fours position

ALL FOURS

- All Fours Abdominals (Pregnant Cat)—8x
- Cat/Cow (fast or slow)—8x
- Hip Circles or Tail Wag—4x

SUPINE

- Pelvic Clock—6x each direction
- Breathing
  - Hands on abdomen—5x
  - Flex band or towel around ribs -5x
- Fingertip Abdominals w/ small ball—10x
- Abdominal Curls—10x
- Toe Taps—10 sets
- 100—Begin with 4 preps then do 2 sets of 50
- Roll Up—4 roll downs with bent knees, 4 full
- Hamstring Stretch- 45 seconds each side with contract release
- Small Leg Circles—8x each way each leg
- Large Leg Circles—4x each leg each way
- Rolling Like a Ball—8x

SUPINE (CONTINUED)

- Single Leg Stretch—10 sets
- Double Leg Stretch preps—4x
- Double Leg Stretch—4x
- Roll up to sitting

SITTING

- Adductor Stretch—45 seconds each side
- Spine Stretch Forward—6x
- Spine Stretch Side—6x each side
- Saw—6x each side

PRONE

- Baby Swan—6x
- Quadriceps Stretch—45 seconds each side with contract release
- Single Leg Kicks—8 sets
- Double Leg Kicks—6x
- Rest Position
- Come out of rest position into all fours

ALL FOURS

- Sternum Drops—8x
- Opposite Arm and Leg Lift—6 sets
- Plank Position hold 3 breaths or 30 seconds

SUPINE

- Single Straight Leg Stretch—8 sets
- Criss Cross—8 sets
- Pelvic Press Marching—3x marching 6 sets

SIDE LEG SERIES

- Side Leg Lifts—8x each leg
- Side Leg Circles—8x each leg
- Side Leg Kicks—8x each leg
- Bananas—8x each leg

SUPINE

- Piriformis Stretch—45 seconds each side
- Seal—8x
- Finish with a roll up to standing

STANDING

- Wall Push Ups or Mat Push Ups—4 to 10x
- Knee bends
- Arm reaches

Intermediate Mat 3

This intermediate workout adds more abdominals and more back extension into the program. In teaching this you will keep the class moving and work on making the transitions as smooth as possible. The goal is a safe workout that warms up the entire body while teaching essential movement principles.

STANDING

- Feel weight on feet
- Review standing posture basics
- Knee bends, squats, rotations, side bends,
- Finish with roll down onto all fours

ALL FOURS

- All Fours Abdominals (Pregnant Cat)—8x
- Cat/Cow (fast or slow)—8x
- Hip Circles or Tail Wag—4x
- Roll over onto the back for supine

SUPINE

- Pelvic Clock—6x each direction
- Breathing—choose a version
- Fingertip Abdominals w/ small ball—10x
- 100—full set
- Roll Up—6x modified as needed
- Hamstring Stretch- 45 seconds each side
- Small Leg Circles—8x each way each leg
- Large Leg Circles—4x each leg each way
- Roll up to sitting
- Rolling Like a Ball—8x
- Roll down to supine
- Single Leg Stretch—10 sets
- Double Leg Stretch preps—4x
- Double Leg Stretch—4x
- Roll up to sitting

SITTING

- Adductor Stretch—45 seconds each side
- Spine Stretch Forward—6x
- Spine Stretch Side—6x each side
- Saw—6x each side
- Open Leg Rocker—6x
- Balance at the end and roll over to prone

PRONE

- Baby Swan—6x
- Quadriceps Stretch—45 seconds each side
- Single Leg Kicks—8 sets
- Double Leg Kicks—6x
- Swan or Swan Dive—6x
- Rest Position
- Come out of Rest Position onto all fours

ALL FOURS

- Sternum Drops—8x
- Opposite Arm and Leg Lift—6 sets
- Plank Position hold 3 breaths or 30 seconds
- Lower the body down to the mat and roll to the side

SIDE LEG SERIES

- Side Leg Lifts—8x each leg
- Side Leg Circles—8x each leg
- Side Leg Kicks—8x each leg
- Bananas—8x each leg

SUPINE

- Single Straight Leg Stretch—8 sets
- Double Straight Leg Stretch—3x
- Criss Cross—8 sets
- Pelvic Press—6x
- Pelvic Press Marching—3x marching 6 sets
- Teaser 1—6x
- Piriformis Stretch—45 seconds each side
- Seal—8x
- Roll up to standing

STANDING

- Mat Push Ups
- Knee bends
- Arm reaches

Beginning Mat 4: Heating it up

This workout is designed to be a relatively safe, full body workout with a rapid tempo and several abdominal and plank combinations to warm up the class and create a feeling of effort without adding intermediate moves. Good for more fitness oriented environments.

STANDING

- Feel weight on feet
- Review standing posture basics
- Knee bends, squats, rotations, side bends, roll downs
- Roll down into all fours position

ALL FOURS

- All Fours Abdominals (Pregnant Cat)—8x
- Cat/Cow (fast or slow)—8x
- Hip Circles or Tail Wag—4x
- Plank Position—hold for 4 breaths
- Lower the torso to the mat and roll over to supine

SUPINE

- Fingertip Abdominals w/ small ball—6x
- Abdominal Curls with feet on floor—6x
- Abdominal Curls with legs in chair position—6x
- 100—2 sets of 50
- Roll Up—4 roll downs with bent knees, 4 full with 3 breaths at the hardest part
- Hamstring Stretch- 45 seconds each side with contract release
- Small Leg Circles—8x each way each leg
- Large Leg Circles—4x each leg each way
- Rolling Like a Ball—8x
- Single Leg Stretch—10 sets
- Double Leg Stretch preps—4x
- Double Leg Stretch—4x
- Roll up to sitting

SITTING

- Adductor Stretch—45 seconds each side
- Spine Stretch Forward—6x
- Spine Stretch Side—6x each side
- Saw—6x each side
- Bend the knees, come into a squat and walk out to a plank to lower the body into a prone position

PRONE

- Baby Swan—6x
- Quadriceps Stretch—45 seconds each side with contract release
- Single Leg Kicks—8 sets
- Double Leg Kicks—6x stay up on last one to go into
- Swimming
- Rest Position
- Come up from Rest Position into all fours

ALL FOURS

- Sternum Drops—8x
- Opposite Arm and Leg Lift—6 sets
- Plank Position—hold 3 breaths or 30 seconds
- Lift One leg up and then the other in the Plank position
- Roll over for supine

SUPINE

- Single Straight Leg Stretch—4 sets
- Criss Cross—4 sets
- Repeat 3 times

SIDE LEG SERIES

- Side Leg Lifts—8x each leg
- Side Leg Circles—8x each leg
- Side Leg Kicks—8x each leg
- Bananas—8x each leg

SUPINE

- Piriformis stretch—45 seconds each side
- Seal—8x

ROLL UP TO STANDING

- Mat push ups
- Squats
- Arm reaches
- Balances

What Makes a Teacher?

Teaching is an opportunity to pass on your skills, your knowledge and your inspiration to the next generation. Whether you think of yourself as a teacher or not, one of the key features of being human is your ability to teach those around you what they need to know to be part of the human community. Teaching Pilates is one kind of teaching that may be new to you, but all your skills as a communicator, performer, parent, sibling or adviser can come into play as you develop your unique teaching style.

TEACHING LEVELS

In observing the development of many Pilates teachers over the last several years, I have noted distinct stages students pass through on their way to becoming truly skilled professionals. All of the stages represent the process of acquiring skills that are necessary for progressing to the next level.

LEVEL 1: THE EXERCISE LEADER

The exercise leader is a teacher who can successfully get their students to perform the exercise. If an exercise leader is teaching a group class, they can successfully demonstrate the exercises in an appropriate sequence and the students can follow along without too much confusion. If the exercise leader is teaching a private or semi-private session, they can set up the equipment, make appropriate adjustments and get the students to perform the exercises successfully and efficiently.

The exercise leader understands the exercises they are teaching in order to successfully communicate:

- **Correct equipment set up (if required):** # of springs, position of footbar
- **Proper body position:** supine with feet on footbar
- **Movement sequence:** press the carriage back and return
- Number of repetitions
- Transition to next exercise
- Basic safety instructions for clients without physical limitations
- Program sequencing and flow to fulfill the objectives of the class

This is the basic level of skill required to teach and it takes practice to achieve all of these things. The goal of the personal sessions and student teaching hours are to develop this level of ability. Until you can successfully teach an exercise safely and efficiently to a student or client you have not reached the basic level required of a Pilates teacher.

LEVEL 2: THE PILATES TEACHER

The Pilates teacher can take a student or a class and teach them not just how to perform the exercise but how to perform it better. The Pilates teacher's goal is to help his or her students achieve optimum function and performance in whatever they do. Whether the student is a mother, a computer programmer, a casual runner or a professional athlete, the Pilates teacher works with the individual student's goals to design a program to address postural, functional and performance goals.

The Pilates teacher can take a student without substantial physical limitations and design a specific program to help them to:

- Improve overall strength and flexibility
- Correct common muscular imbalances
- Improve posture
- Improve physical function in daily activities
- Achieve their fitness goals
- Improve their performance in the athletic activities of their choice

Becoming a Pilates teacher takes many years. It requires practice on a wide variety of body types over a long period of time before the common problems become clear and the solutions, straightforward. Every student provides an opportunity to learn something new about what a particular body or personality needs to succeed.

Pilates Teachers add the following skills to those of the Exercise Leader:

- Coaching and motivation for clients of all personality types
- An ability to understand and analyze common postural, movement and muscular imbalances and address them effectively
- A commitment to work with each student at their level and support their process
- An interest and ability in creative problem solving
- A thorough understanding of the mechanics of the Pilates equipment and the effect of each adjustment on each exercise
- A thorough understanding of the Pilates repertoire and how to modify or challenge as needed
- An ongoing commitment to continuing education

The goal of the Balanced Body Pilates Instructor Training program is to create masterful, inspiring and compassionate Pilates Teachers.

LEVEL 3: THE PILATES MASTER INSTRUCTOR

The Pilates Master Instructor can possess a variety of skills depending on what they are most passionate about. Master instructors can excel in teaching a specific kind of student, for example dancers or golfers, they can excel in teaching clients with injuries, or they can excel in their creativity and ability to stretch the boundaries of Pilates. Many master instructors become teachers of Pilates teachers and choose to pass on their experience to the next generation. Master Instructors are recognized by the Pilates community as having unique skills that are of value to our profession.

TEACHING, CUEING AND COACHING TOOLS

As a Pilates teacher you will work with students of all kinds. Most instructors discover, once they start teaching, that mastering the Pilates equipment and exercises is a lot easier than learning how to communicate with the wide range of students that show up at classes. Cueing that works beautifully for one person often makes no sense to someone else. A skilled teacher learns to communicate in a variety of ways in order to address the many learning styles of their students. Here are a variety of options for you to consider when you get stuck or can't think of another way to express something.

VERBAL, VISUAL, MANUAL OR KINESTHETIC TEACHING STYLES

People take in information in a variety of ways. One way to categorize this is through what senses we are using to receive and process the information. In your teaching, the more categories you can combine in your instructions, the more effective you will be in your teaching.

VERBAL

Verbal instruction is the words that you say and the order you say them in as well as the qualities of the voice and the body language that accompanies them. Being able to articulate what you want your class or client to do is an essential first step in teaching. Verbal communication includes many aspects of the voice beyond just the words that are being spoken. Aspects of this non-verbal communication that are important to consider include:

Quality of the voice

- Is your voice pleasant or irritating to listen to?
- Does your voice convey the quality of the movement it is asking for?
- Do you speak at an appropriate volume for your client?

Rhythm of the voice

- Do you vary the rhythm of your voice when you are speaking?
- Do you speak in a monotone?
- Do you use your voice to convey the rhythm of the exercise?

Emotional content of the voice

- Is your voice expressive or dull?
- How does your voice make people feel?
- Can you give corrections and take control of a class without getting angry or causing pain or embarrassment to your students?
- Does your voice create a calm, energetic, manic or boring atmosphere?

VISUAL

Visual cues can be the physical movements that a person sees, or they can be cues that create a mental picture that the client can use.

Actual visual cues include:

- Performing the movements exactly as the client will be doing them as in demonstrating for a Mat class
- Indicating the motion desired with a smaller body motion as in rotating the torso to indicate rotation to a client or using the arms to indicate movement of the legs.

Visual imagery cues can include:

- Reach your arms out to the sides as if you are making the shape of a 'T'.
- Imagine your spine is like the trunk of a young tree, bending gently in the wind.

MANUAL

Manual cueing uses the sense of touch to instruct the student and is used in addition to auditory instructions to facilitate movement, muscle engagement or muscle tone.

Examples of manual cueing include:

- **Facilitating movement:** When teaching a student how to rotate the torso, manual cueing can help the student to feel the movement clearly and to understand what the instructor is looking for.
- **Encouraging muscle engagement:** Placing a hand on the muscle to be used can help the student to identify what they are trying to use.
- **Moderating muscle tone:** A hand on an area can help bring the students awareness to that area and to decrease or increase the amount of tension in the area.

PRECAUTIONS REGARDING MANUAL CUEING

Not every client is comfortable with manual cueing. Make sure you ask permission before you touch them and let them know what you will be doing and why. If you are a hands on teacher, let them know that in the first session and if they are comfortable with it then you don't have to ask each session.

Move your client into position only as a last resort. In order to facilitate the learning process for the client, it is more effective for them to find the placement themselves then for you to put them there. Resist the impulse to pick up their foot and move it two inches to the right on the footbar. Have them do it themselves unless they just aren't getting it.

Cue bilaterally if possible. The nervous system does not get a balanced signal if you only touch one side of the body in a bilateral movement. For example, if you are placing your hands on a client's shoulders to encourage them to relax, place your hands on both shoulders. Otherwise their nervous system gets a very mixed message.

KINESTHETIC

Kinesthetic learners learn by feeling and doing. This is a fairly rare learning style that is most common among dancers and others athletes who have spent many years training their kinesthetic sense. When you are teaching a Mat class, be sure to use your verbal cues in addition to demonstrating the exercises so your students are getting two different kinds of learning input at the same time.

If you are teaching a private client, try to use your verbal cueing first. For most students watching a demonstration rather than doing the exercise with you is not the most effective way to learn and it is quite time consuming so use demonstrating as a secondary skill. Kinesthetic learning is exactly what you are teaching your client to be better at. Through experience, they will understand the exercise better and be able to refine it more effectively.

REFINING YOUR VERBAL CUEING

Since verbal cueing is most of what you will be doing in your teaching, it is worth exploring how you use language and how you can expand your cueing repertoire. The key things that need to be communicated about an exercise include:

- What is the starting position?
  - **Equipment set up:** 2 springs, footbar
  - **Body position:** prone, supine, sitting
- What is the movement sequence?
- What is the breathing pattern?
- How many repetitions?

When giving a cue, know that it is much easier for a client to do something good than to stop doing something bad. For example, if someone's shoulders always rise. Try active cues such as "Slide the shoulder blades down your back", "Lower your shoulders" or "Melt your shoulders down" rather than "Don't raise your shoulders".

Once you have covered the basics and the student understands essentially what they are doing, cueing moves to the next level and can include a tremendous amount of creativity. Once the mechanics of the exercise are understood, a variety of images and explanations can improve the student's understanding and refine their experience of the exercise. Imagery categories include:

- **Anatomical cueing and explanations:** Engage your abdominals to bring your ribs toward your pelvis.
  - Tighten the quadriceps to pull the patella up.
- **Kinesthetic cueing:** Feel your ribs slide down the front of your torso.
  - Imagine someone is lifting your upper body up as the abdominals engage.
  - Imagine you have wheels on your ears and they are rolling towards your torso to lift the head off the mat.
- **Visual cueing:** Picture your ribs melting toward your pelvis as the torso rises off the mat.
  - Imagine a pebble sinking from your navel to your spine as the abdominals engage.
  - To feel the transversus working, imagine you have plastic wrap across your hip bones and it pulls tighter as you engage the muscles.
- **Movement oriented cueing:** Imagine energy is shooting out the top of your head as you stand.
  - Reach the arms toward the ceiling as if you are reaching for something you want more than anything
- And lots more...

As a teacher you get to experiment with and develop your individual style and you will attract students who need your particular skills. If you are working in a studio with other instructors, keep your ears open for new ways of saying things and borrow what you feel drawn to. Find cues that feel true to you and that you can vividly imagine as you are using them. Your student's response is directly proportional to your connection to the image. If you are very clear about what you are asking, they will follow along. If you are fuzzy, they will be too.

LEARNING SPEED

As an instructor it is extremely important to be patient and to remember how long it takes to learn a new physical skill. If you are an accomplished athlete or dancer it may be difficult to remember how many years it took you to learn the skills you currently possess. For many of your clients without much of an athletic background it can take quite a while for the basic principles of Pilates to start to take root. Be patient. The mind is fast, the body is slow. Allow your client time to get used to all the new ideas you are throwing at them and to begin to digest the new vocabulary and experiences you are leading them through.

Take your time; enjoy the process of becoming a teacher. If you enjoy people and movement and the miracles the body contains you will have a very rewarding and successful career in Pilates.

Teaching Group Classes

Teaching great group classes takes more than just knowing the exercises. It takes inspirational leadership, personality, community and commitment, as well as the right environment. Students look to you to motivate and inspire them to do their best. You help them to achieve their goals, learn new skills and feel better about themselves.

Factors that contribute to your success include external factors such as class size and environment that you may or may not have much control over, as well as qualities specific to you such as skill level, personality, planning, communication style and follow through. As you review this list, identify the areas you feel very successful in and the areas you need work on and make a plan to address your weak spots and magnify your special talents. Teaching group classes is a skill that may take some time to develop. Be patient, keep practicing, take classes with teachers you admire and you will improve.

GENERAL GUIDELINES TEACHING YOUR FIRST GROUP CLASSES

When you first start teaching, it is important that you understand your material and the sequence you will be teaching it in. Write out the program, practice it out loud to hear and refine your verbal cues and practice it on your friends and colleagues to see how long it takes. The first few times you may discover that you have enough material for 2 hours or for 20 minutes. Be well prepared and be prepared to change course if the level you have prepared is inappropriate or if you have misjudged how long it will take to teach the material.

Consider how you will address different levels in the class. If you are teaching a lower level class, demonstrate just the beginning level of the exercise. The class will follow whatever you are doing, so if it is not appropriate for them to be doing the advanced version, don't show it.

Come early to your first class, or any new classes you are teaching, to get a feel for the students and to have the opportunity to ask them if they have any problems or physical limitations you should know about. If you are starting a new class, take the opportunity to create a connection by introducing yourself to each of the students. If you are taking over an existing class, observe it a few times to get a sense of what the previous teacher did and what the level of the class is. Unless you have a class that has the same students each time, introduce yourself and the name of the class at the beginning so that everyone knows your name and a little bit about what to expect. For example:

"Hi my name is Elizabeth and this is Pilates for Everyone. This class is an introductory level course so we will be going over the principles of Pilates and the beginning level exercises. If any of the exercises are uncomfortable or cause discomfort please stop immediately and let me know and if you have any questions, please feel free to ask me either during or after the class."

You may also want to take this opportunity to ask if anyone has back, neck, elbow or wrist issues and to identify who you might need to give modifications to.

If possible, new teachers should spend as much time as possible taking classes from experienced instructors or watching videos of master teachers. Do not be afraid to copy someone you admire. There are only so many ways to say things and do exercises and if you hear great cues or take a class you love, try to replicate it. Pay attention to the voice quality, sequencing, energy level and group feeling in the room and see if you can create a similar experience.

A great way to practice your teaching is to get a small group of friends together and make them commit to 8 or 10 classes. Use the classes to refine your verbal cueing and to get a good feeling for the amount of time each exercise takes and how to create smooth transitions. Another approach is to start out teaching introduction to Pilates classes at a local gym or community center where the students commit to a 4 or 6 week class. This allows you to grow with the class and gives you the chance to see the progress your students make.

SPECIFIC ELEMENTS OF GROUP CLASS SUCCESS

External Factors – things you can't always control

Class size: Class size can play a big part in how successful you are as a teacher. If a class is too small, it can feel intimate and personal or low energy and unsuccessful for the instructor. If a class is big, it can feel exhilarating and full of energy or it can feel impersonal and unsafe. How you set the mood and the feel of the class can make any size class feel just right but you need to know how to moderate your energy to give what's needed.

As a new teacher, try to keep your class size at the level you can manage safely. This is virtually impossible in many settings where the classes are taught on a drop in basis, but if you have any say, limit your class size to no more than 12 to start. If you are teaching at a facility where large classes are the norm, see if you can recruit local student teachers to assist either as demonstrators or as people who walk around and keep students from getting into trouble. It can be a great learning opportunity for everyone.

Class level: If you are teaching beginning level classes, keep them beginning. Resist the temptation to teach advanced level exercises because you want to challenge your students, or because you are bored. Don't teach any inversions, such as Roll Over or Jackknife, limit the number of straight leg lowers, such as the full Hundred and Double Straight Leg Stretch and don't do single arm or single leg plank exercises. And regardless of the advertised level of the class, do not teach exercises that are clearly beyond the level of the group to perform safely.

Classroom environment: The room you teach Pilates in should have an appropriate floor, (wood, laminate or carpet, no concrete under linoleum), appropriate mats for padding the spine, be a comfortable temperature and be separated from the rest of the studio or fitness center. Classes taught in the middle of the weight floor while other things are going on will not be successful. It is ideal to be able to control the lighting and sound to maintain a pleasant atmosphere. If your classroom is sandwiched between a group exercise studio and a spinning studio with loud music going that your students can hear, they will be distracted and you will be distracted. This is not always something you can control, but asking for a classroom space that is conducive to concentration and awareness will support you and your students.

Class time: This is often the most important element of class success. Prime class hours vary depending on the city and the general demographics but the best morning hours are usually 7:00AM to 10:00AM and the best evening hours are from 4:00PM to 7:00PM. Classes scheduled during the middle of the day are rarely successful. It is also important to have a variety of classes offered in each time slot two or three times a week so clients can commit to a regular workout.

Student expectations: If you are starting a new class, you can set the expectations of the class in your introduction and as you teach. If you are taking over a class from a teacher with a very different style than you, you may want to let them know that you like to move a little faster or slower or whatever. If you are teaching in a gym environment, be prepared to give them a safe but challenging workout. If you are working in a studio, you may be able to start more slowly and thoughtfully.

Personal Factors – what you bring to the class

Skill and understanding: As was discussed earlier in the Becoming a Teacher section, the first requirement of success is a thorough understanding of the exercises and the ability to demonstrate and verbally cue them. This takes time and when you first start you will do a lot of learning on the job. If you are like most beginning group instructors, you will make plenty of mistakes and as long as you learn from them, you will keep getting better. If you are unclear on an exercise or want to add one in that you haven't done for a while, review the notes in the manual and practice demonstrating and teaching the exercise out loud until you feel comfortable with it. Taking sessions yourself can be a big help while you are starting the learning process. Use your personal sessions to ask questions and clarify anything you don't understand.

Leadership: As the instructor of the class, it is your responsibility to create an inspiring, comfortable and safe environment for all of your students. Depending on your style, you may also create a demanding, humorous, entertaining, thoughtful or playful environment. Different classes have different qualities and your job is to uncover and develop your unique characteristics as a teacher. As the leader you are in charge of the flow of the class from the beginning until the last exercise. Plan the class well, guide your students successfully from one exercise to the next, start and end on time and keep everyone focused on the task at hand. As the leader, it is also your responsibility to keep your students progressing and improving in their skills and their physical awareness. You create the goals for the class and you help your students to achieve theirs. Setting specific goals for the class or for a series of classes can reinvigorate a group of regulars and motivate your new comers. You can even create a series of classes which focus on a specific area, for example: Pilates Mat for the Core, Pilates for Great Legs, etc. Through simple changes in sequence and cueing you can focus on any one of the many principles in Pilates.

Inspiration: A key part of leadership is being an inspiration and a motivator for your students. You are a role model and how you hold yourself, how you teach and how you communicate with your students are all opportunities for expressing what you want them to learn. A great group teacher draws students in because they know they will have a great experience in the class. You can be inspirational by pushing your students to do more than they thought they were capable of, by teaching them something about their bodies that helps them or by providing the opportunity for them to explore new experiences. The body is often an avenue for profound personal change and creating an atmosphere that encourages your students to discover new abilities can lead to growth and transformation.

When you take on the role of an inspirational leader to your students, you also take on a commitment to your own continued growth and development. In order to be inspirational, you need to be inspired and whether your inspiration comes from running marathons, gardening or teaching, you need to keep yourself fed. It is easy as a teacher to forget that you are an important part of the equation and if you get burned out, nobody benefits. Find the passions in your own life and nurture them.

Personality: Teaching a great group class is like giving a performance and many of the same skills apply. A good teacher knows how to use their voice, body language and appearance to create a certain mood and feeling in the room. A really good teacher learns to read the energy of the room and provide just the right word, exercise or experience to keep the energy moving in a specific direction. As a teacher, your students take an interest in you and your personal life and without making the class all about you, letting them see some of your struggles and triumphs can make you human and help them to see that if you can do it, so can they.

Many of the best class teachers create a lively, entertaining and open feeling where the students are drawn in because the instructor is having so much fun. The more present and comfortable the teacher is, the more likely it is the students will enjoy the class and come back for more. As a new teacher it is often very hard to be present and comfortable in front of a large group of strangers. If you find yourself very uncomfortable when you are teaching, breathe and let your students breathe and see if the atmosphere doesn't lighten up a little. With time and practice you will relax and enjoy your new role.

Creativity: Creativity is an essential element in teaching. Being able to create new cues, new sequences and new experiences is extremely important to keeping your class dynamic and the learning process fresh.

Many things you will teach in class are repetitive and the more ways you can find to say "engage your core" and "lower your shoulders" the better. Creativity is also important to keep the nervous system alert and responsive. If you've heard the same cue for 3 years, you no longer respond to it. Your brain checks it off and moves on without necessarily checking to see if the body has responded.

As important as creativity is, effective teaching is a balance between creativity and repetition. Learning new physical skills requires repetition but too much repetition decreases the body's ability to respond and can lead to boredom. When putting together programs it's important to balance both elements. One way to accomplish this is to have a set beginning and ending to the class so the students can see and feel their progress over time. Keeping the first 10 to 20 minutes of the class consistent creates a smooth transition from "ordinary life" with all of its dramas to the internal focus and attention of a Pilates class. It also makes it easy to accommodate the chronic latecomer who can join in without disrupting the flow. Creating a standard ending for the class helps students to reflect on what they've accomplished and reinforces the satisfaction of completing another great class.

Community: One of the unspoken benefits of being in a class is being part of a community. How you welcome new students into the group will often determine whether or not they come back. As the leader it is your job to make them feel at home. Make an effort to go up to each new student and introduce yourself and anyone else who is around. At the beginning of each class, ask if anyone is new and introduce them to the group. If you know two students have something in common, mention that to them. People come to class for you but they also come to see their friends and to hear the latest about their lives. Classes can be a great support system when a member is ill or having other difficulties. One simple way to do this is to have the students introduce themselves to everyone around them at the beginning of each class. That way they get to know each other, and if there is a partner exercise or other challenges they'll be more comfortable.

Commitment: An often overlooked element in creating successful classes is your commitment level. If you are dragging yourself there every time or cancel twice a month, your students will feel your lack of commitment and they will stop showing up. Students expect regularity and if you want your class to go, you need to be reliable. Very few classes will keep going if the instructor misses more than a few classes a year. When starting a new class, ask yourself if you are willing to commit to the class time for at least a year before signing on.

Progression of Class Elements

WARMING UP THE BODY

Successful exercise needs to have the body awake, and the circulation flowing. This is why Joe started his mat classes with the Hundred. Warming up can be done in standing, on all fours or supine but it is important to get the blood flowing and the big muscles working in a safe way before going on to the rest of the exercises. This is also a great time to start the awareness of the breath and to integrating the breath with movement.

For example:

- Standing
  - Squats
  - Plies
  - Arm motions (Arm lifts, arm circles, shoulder circles)
- Supine
  - Hundred
- All Fours
  - Cat/Cow
  - Opposite Arm and Leg Lift
  - Tail Wag or Hip Circles
- Cardio

TUNING UP THE CORE

The core is the foundation of all of the exercises in Pilates. Establishing the engagement of the core, the position of the low back, the pelvic stabilizers, the mobility of the spine and the awareness of body position are what the first piece of class needs to focus on.

For example:

- Supine
  - Pelvic Clock
  - Marching
  - Bridging
  - Hundred
  - Roll Up
  - Leg Circles
- All Fours
  - Cat/Cow
  - Opposite Arm and Leg Lift

CHALLENGING THE CORE

Once the placement and muscle engagement of the core are established, it is important to challenge the foundation with a variety of exercises. One of the hallmarks of Pilates is that it takes one functional movement concept and challenges it in a number of different ways so the body learns how to activate support system regardless of what position it is in.

For example:

- Supine
  - Hundred
  - Roll Up
  - Leg Circles
  - Rolling like a Ball
  - Single Leg Stretch
  - Double Leg Stretch
  - Single Straight Leg Stretch
  - Double Straight Leg Stretch
  - Crisscross
  - Teaser (advanced)
  - Neck Pull (advanced)
  - Roll Over (advanced)
  - Jackknife (advanced)
  - Corkscrew (advanced
  - Hip Circles (advanced)
  - Boomerang (advanced)
- Seated
  - Spine Twist (advanced)
  - Twist (advanced)
- Side Plank
  - Side Bend Twist (advanced)
  - Side Bend (advanced)

INCREASING SPINAL MOBILITY

A mobile spine is a healthy spine and Pilates always focuses on spinal mobility at several points in the program.

For example:

- All Fours
  - Cat/Cow
- Supine
  - Bridging
  - Roll Up
  - Rolling like Ball
- Seated
  - Open Leg Rocker
  - Seal
  - Spine Stretch
  - Saw
- Supine
  - Roll Over (advanced)
  - Jackknife (advanced)
  - Corkscrew (advanced
  - Hip Circles (advanced)
- Seated
  - Spine Twist (advanced)
  - Twist (advanced)
- Side Plank
  - Side Bend Twist (advanced)
  - Side Bend (advanced)

STRENGTHENING SPINAL EXTENSION

Pilates programs focus on strengthening the abdominals in a wide variety of exercises. For good balance around the muscles of the torso it is also important to strengthen the spinal extensors as well.

For example:

- All Fours
  - Cat/Cow
- Supine
  - Bridging
- Prone
  - Swan
  - Swimming
  - Single Leg Kicks
  - Double Leg Kicks
  - Swan Dive and Swan Rocking (advanced)
  - Rocking (advanced)

DEVELOPING SCAPULAR MOBILITY AND STRENGTH

Developing a strong and flexible upper body is a key ingredient in balanced physical development and for progressing into the more advanced work. The Balanced Body Pre-Pilates exercises add an element of scapular mobility to balance out the scapular stability of many of the Mat exercises.

For example:

- Supine
  - Pinwheel/Telescope
  - Angels in the Snow
- All Fours
  - Sternum Drop
- Standing
  - Wall Push Ups
- Prone
  - Single Leg Kicks
  - Plank
  - Push Ups
  - Leg Pull Down (advanced)
- Back Plank
  - Leg Pull Up (advanced)
- Seated
  - Twist (advanced)
- Side Plank
  - Side Bend Twist (advanced)
  - Side Bend (advanced)

LEG STRENGTHENING AND FLEXIBILITY

The Pilates mat work includes exercises for strengthening and stretching the hip extensors/hamstrings, hip flexors/quadriceps, adductors and abductors in a variety of positions. In addition to the traditional exercises, adding additional positions of the legs, for example internal and external rotation and standing, can increase the variety of targeted muscle groups.

For example:

Strengthening quadriceps and hip flexors:

- Supine
  - Hundred
  - Leg Circles
  - Single Leg Stretch
  - Double Leg Stretch
  - Single Straight Leg Stretch
  - Double Straight Leg Stretch
  - Crisscross
  - Teaser (advanced)
- Seated
  - Open Leg Rocker

Stretching quadriceps and hip flexors:

- Supine
  - Bridging
- Prone
  - Swan
  - Single Leg Kicks
  - Double Leg Kicks

Strengthening hamstrings and hip extensors:

- Supine
  - Bridging
- Prone
  - Swan
  - Single Leg Kicks
  - Double Leg Kicks
  - Swimming

Stretching hamstrings and hip extensors:

- Supine
  - Roll Up
  - Leg Circles
  - Single Straight Leg Stretch
- Seated
  - Spine Stretch
  - Saw
  - Open Leg Rocker

Strengthening adductors: Keep the legs together or add a ball or ring to strengthen the adductors. .

- Supine
  - Hundred
  - Roll Up
- Side Lying
  - Side Leg Lifts using the bottom leg

Stretching adductors:

- Seated
  - Spine Stretch (with the legs wide)
- Kneeling
  - Side Kicks (Advanced)

Strengthening abductors:

- Side Lying
  - Side Leg Series

Stretching abductors:

- Supine
  - Leg Circles

USING A VARIETY OF POSITIONS

One of the strengths of Pilates is the opportunity to train the core in a variety of functional positions including supine, prone, side lying, sitting, all fours and standing. When teaching a class it is important to incorporate each of these positions into the class.

For example:

- **Supine**
  - Single Leg Stretch
- **Prone**
  - Swan
- **Side Lying**
  - Slide Leg series
- **Seated**
  - Spine Stretch
- **All Fours:**
  - Cat/Camel
- **Standing Balance**

As you look over this list notice how many of the exercises are in multiple categories. Most of how we move in life involves a variety of different movement principles and Pilates has that complexity built into it. When putting together a class, start with some of the sample programs we have included and then experiment with your own personal preferences. Strive to become a great class instructor and you will teach your students how to move better, feel better and look better.

PILATES AND OSTEOPOROSIS

Osteoporosis Information for Pilates Instructors

The following information is from National Osteoporosis Foundation www.NOF.org

DEFINITION

Osteoporosis, or porous bone, is a disease characterized by low bone mass and structural deterioration of bone tissue, leading to bone fragility and an increased susceptibility to fractures, especially of the hip, spine and wrist, although any bone can be affected.

DETECTION

Specialized tests called bone density tests (BMD) can measure bone density in various sites of the body. A bone density test can:

- Detect osteoporosis before a fracture occurs.
- Predict your chances of fracturing in the future.
- DXA BMD can determine your rate of bone loss and/or monitor the effects of treatment.

CATEGORIES OF BONE LOSS

The screening technique most commonly used is dual energy x-ray absorptiometry or DEXA for short. Bone loss is measured in relationship to the normal bone mass of a young adult and is called the T-score.

- **Low bone mass or osteopenia is indicated by a T-score of -1 to -2.5** which is equivalent to 1 to 2.5 standard deviations below young adult bone mass and indicates a bone loss of 10% to 25% of normal. Fractures are more common in people with osteopenia than in those with osteoporosis.
- **Osteoporosis is indicated by a T-score of >-2.5** indicating bone loss of more than 25% to 30%.

PREVALENCE

An estimated 44 million Americans, or 55 percent of the people 50 years of age and older have osteoporosis or osteopenia. In the U.S. today, 10 million individuals are estimated to already have osteoporosis and almost 34 million more are estimated to have low bone mass or osteopenia, placing them at increased risk for osteoporosis.

- Of the 10 million Americans estimated to have osteoporosis, 8 million are women and 2 million are men.
- One in two women and one in five men over age 50 will have an osteoporosis-related fracture in her/his remaining lifetime.
- Significant risk has been reported in people of all ethnic backgrounds.
- While osteoporosis is often thought of as an older person's disease, it can strike at any age.

WOMEN

- 80% of those affected by osteoporosis are women.
- Osteoporosis is more common in Caucasian and Asian women and less common in Hispanic and African American women.

MEN

- 20% of those affected by osteoporosis are men.
- Osteoporosis is more common in Caucasian and Asian men and less common in Hispanic and African American men.

SYMPTOMS

Osteoporosis is often called the "silent disease" because bone loss occurs without symptoms. People may not know that they have osteoporosis until their bones become so weak that a sudden strain, bump or fall causes a fracture or a vertebra to collapse. Collapsed vertebrae may initially be felt or seen in the form of severe back pain, loss of height, or spinal deformities such as kyphosis or stooped posture.

PREVENTION

By about age 20, the average woman has acquired 98 percent of her skeletal mass. Building strong bones during childhood and adolescence can be the best defense against developing osteoporosis later. There are four steps, which together, can optimize bone health and help prevent osteoporosis. They are:

- A balanced diet rich in calcium and vitamin D;
- Weight-bearing exercise;
- A healthy lifestyle with no smoking or excessive alcohol intake; and
- Bone density testing and medication when appropriate.

NUTRITIONAL CONSIDERATIONS

Encourage client to increase calcium and Vitamin D intake or to consult with a nutritionist to help them modify their diet.

MEDICAL CONSIDERATIONS

Make sure that your students with osteoporosis are under the care of an appropriate medical practitioner who can oversee their care and any needs for testing, medication or other treatment.

EXERCISE CONSIDERATIONS

Exercise is one of the best ways to build bone mass, improve posture and balance, and decrease a person's likelihood of getting osteoporosis or falling and causing a fracture. The only types of exercise that have been studied in relationship to osteoporosis prevention are weight bearing exercise and weight training. Studies show that both of these can be helpful if the person is persistent and keeps progressing or changing their program to keep their bones responding. Pilates has not been directly shown to help and in fact many traditional Pilates exercises are contraindicated for clients with osteoporosis.

Wolff's Law: Bones become stronger in response to increased stress. In order to continue to build bone the stress placed on it must be greater than the stress to which it has become accustomed. So in order to build bone you need to challenge the client to keep working harder or to place different kinds of stress on the bones in order to make them respond.

A Pilates program that is specifically designed for clients with osteoporosis or osteopenia should include:

Spinal extension exercises

Including Swan, Swimming and prone work in any position including:

- Mat: Swan, Swimming
- Reformer: Swan on the box, Pulling Straps, Breast Stroke

Weight bearing exercises

These can include standing, kneeling, all fours and plank position exercises for example:

- Mat: Leg Pull, Push Ups,
- Reformer: Sitting Arm Work, All Fours Abdominals, Long Stretch series

Moderate impact loading

In order to increase bone mass, exercise needs to be moderately strenuous. Keep progressing the resistance you use with each exercise to maintain a moderate level of effort with your client.

Muscle group specific strength training

Target spinal extensors, pelvic and scapular stabilizers, upper and lower limbs in all muscle groups while keeping the spine neutral.

Aerobic activity

Encourage your clients to walk, use low impact aerobic machines, swim or other activities that encourage increased aerobic capacity and overall physical fitness.

Balance and coordination training

Add balance challenges such as standing on one leg or moving on unstable surfaces in order to train the nervous system and the muscular system to react appropriately to balance challenges. Very important to prevent falling and fractures.

Flexibility exercises

Maintain flexibility in the torso, shoulder girdle and hips in order to help the client to maintain good posture.

Examples of safe Pilates exercises include:

MAT

- **Pre-Pilates**
  - Fingertip Abdominals, All Fours Abdominals, Sternum Drops, Opposite Arm/Leg Lift, Mini Swan
- **Extension exercises**
  - Swan, Single Leg Kick, Double Leg Kick,
- **Plank exercises**
  - Leg Pull Down, Push Ups (modify as needed),
- **Leg exercises**
  - Side Leg series

REFORMER

- Any exercises that focus on strength, stability and posture without flexion, rotation or lateral flexion
  - Footwork, Kneeling Abdominals, Supine Arms, Feet in Straps, Long Box Pulling Straps, Overhead Press, Swan, Arm Work in any direction, Standing,

CONTRAINDICATED MOVEMENTS

Several studies have been done relating specific movements to increased risk of fracture, particularly in the spine.

A Pilates program that is specifically designed for clients with osteoporosis or osteopenia should NOT include:

- **Loaded Spinal Flexion:** Especially with resistance as in Hundreds and abdominal curls.
- **Loaded Spinal Rotation:** Especially when combined with spinal flexion as in oblique abdominal exercises.

This means that many of the traditional Pilates core strengthening exercises are unsafe for clients with osteoporosis or osteopenia for example:

MAT

- **Abdominals:**
  - Hundreds, Roll Up, Neck Pull, Single Leg Stretch, Double Leg Stretch, Single Straight Leg Stretch, Double Straight Leg Stretch, Criss Cross, Teaser
- **Rolling exercises:**
  - Rolling Like a Ball, Open Leg Rocker, Seal
- **Spinal exercises:**
  - Spine Stretch Forward or Side or Saw, Roll over, Jackknife, Corkscrew (full version), Hip Circles

REFORMER

- **Abdominals:**
  - Hundred, Coordination, Roll Downs, Short Box Abdominals, Teaser, Back Stroke
- **Spinal Exercises**
  - Short Spine Stretch, Long Spine Stretch, Jackknife, Corkscrew

RESOURCES FOR FURTHER INFORMATION

Books and videos

Osteoporosis Exercise Protocols by Physicalmind Institute
Available through www.themethodpilates.com or www.pilates.com

The Osteoporosis Exercise Book by Sherri Betz, PT
Available through www.pilates.com or www.therapilates.com.

The Osteoporosis Exercise Book by Sherri Betz, PT
Available through www.pilates.com or www.therapilates.com.

Pilates for Buff Bones by Rebekah Rotstein,
A wide array of videos are available on her website, www.incorporatingmovement.com.

Courses

Pilates for Buff Bones
Rebekah Rotstein
Incorporating Movement
rebekah@incorporatingmovement.com
917.334.1252

Therapilates for Osteoporosis
Sherri Betz, PT
TheraPilates Physical Therapy & Gyrotonic Clinic
920-A 41st Avenue Santa Cruz, California 95062
www.therapilates.com
831-476-3100

Websites

NIH website – www.osteo.org

National Osteoporosis Foundation – www.nof.org

Foundation for Osteoporosis Research – www.fore.org

ADDITIONAL OSTEOPOROSIS FACTS

Fractures

One in two women and one in four men over age 50 will have an osteoporosis-related fracture in their remaining lifetime. Osteoporosis is responsible for more than 1.5 million fractures annually.

The primary fracture sites are:

- Vertebra (45%)
- Hip (20%)
- Wrist (15%)

Risk Factors

Certain people are more likely to develop osteoporosis than others. Factors that increase the likelihood of developing osteoporosis are called "risk factors."These risk factors include:

- Personal history of fracture after age 50
- Current low bone mass
- History of fracture in a 1° relative
- Being female
- Being thin and/or having a small frame
- Advanced age
- A family history of osteoporosis
- Estrogen deficiency as a result of menopause, especially early or surgically induced
- Abnormal absence of menstrual periods (amenorrhea)
- Anorexia nervosa
- Low lifetime calcium intake
- Vitamin D deficiency
- Use of certain medications, such as corticosteroids and anticonvulsants
- Presence of certain chronic medical conditions
- Low testosterone levels in men
- An inactive lifestyle
- Current cigarette smoking
- Excessive use of alcohol
- Women can lose up to 20 percent of their bone mass in the five to seven years following menopause, making them more susceptible to osteoporosis.

PILATES AND PREGNANCY

Exercise during pregnancy is an important part of maintaining a healthy lifestyle. However, the physical changes that accompany pregnancy may require your clients to modify their exercise routines during their pregnancy and immediately after delivery. The general guidelines and precautions for the various stages of pregnancy are as follows:

FIRST TRIMESTER, UP TO 12 WEEKS

During the first trimester there are no specific contraindications as far as body positions or specific exercises. Exercise should be based on the energy level of the mother and geared to minimize fatigue. Some women continue on with all of their normal routines while others experience fatigue, nausea and disturbed sleep that limits their ability to perform at their previous level. Be sensitive to the individual's needs for rest or taking it easy during this period.

The primary exception to this rule is in high risk pregnancies for example:

- 1st pregnancies in women over 35
- Women with a history of miscarriages
- Women who are undergoing in vitro fertilization
- Women who tell you they are high risk for some other reason (high blood pressure, gestational diabetes, cervical incompetence etc.)

In this case you may suggest that they stop exercising or minimize their routine until they are past the 12 week mark. It is also important to make sure these women are being seen be a doctor and that they have been cleared to exercise before they resume their Pilates program.

EXERCISES TO FOCUS ON DURING THE FIRST 3 MONTHS

Early in pregnancy is a great time to develop a program that will address the key needs of the pregnant woman. These exercises include:

- Pelvic floor exercises
- Strengthening the adductors and abductors to improve pelvic stability
- Abdominal strengthening
- Core stabilization
- Arm and upper back strengthening
- Low back and chest flexibility
- Decrease inversion exercises such as short spine stretch and rolling exercises

MONTH 3 TO 4

Sometime around the end of the third month or during the fourth month, it will become uncomfortable to lie on the stomach and prone work should be discontinued. Your client will usually indicate when they start to feel like they don't want to lie prone. The abdominals also begin to feel a bit out of touch around this time as the abdomen stretches and the pregnancy starts to show. If your client was having issues with morning sickness and fatigue, they will usually ease up about this time and they will have more energy to work with.

PROGRAM MODIFICATIONS DURING MONTHS 3 AND 4

- Discontinue prone work
- Discontinue inversion exercises (Short Spine Stretch, Roll Over, Rolling)
- Develop stretches for the low back
- Find abdominals that are comfortable
- Maintain the flexibility of the abdominals by doing Cat/Cow or supine stretches over a fit ball
- If the client has issues with low blood pressure, teach them to change positions slowly

PROGRAM MODIFICATIONS DURING MONTH 4 - 5

During the fifth month the uterus is large enough to start putting pressure on the arteries that run along the inside of the spine when the client is supine.

- Discontinue supine work or limit it to no more than 5 minutes at a stretch. If your client starts feeling light headed or her legs feel weak or tingly, bring her out of supine immediately.
- Discontinue exercises that deeply work the psoas and the hip flexors as in Teaser
- Limit spinal rotation
- Discontinue adductor exercises with resistance

MONTH 6 – 9

At this point in the pregnancy the size of the mother's abdomen will start to affect her ability to flex her spine and to deeply flex her hips. The hormone relaxin is starting to circulate in the body at higher levels leading to a loosening of the ligaments around the joints. This can lead to a lack of stability around the pelvis and cause low back, sacroiliac joint and hip problems to flare up. If your client is having problems with instability, be careful of adductor and abductor exercises that stress the pubic symphysis and the sacroiliac joints as they may be especially vulnerable to displacement. Edema can also start to settle in the ankles and lower legs so keep the feet up as much as you can.

PROGRAM MODIFICATIONS DURING MONTHS 6 – 9

Modify abdominals to suit the growing abdomen by using a wedge pillow or back support and by choosing exercises that do not involve deep hip or lumbar flexion. Roll back with straight legs works better than Teaser at this point.

- Use a wider leg position on leg and foot work
- Emphasis the limbs rather than the core
- Increase stability of the pelvis and hips
  - Abductor exercises (lightly)
  - Light abdominal work with the upper body supported at a 30 degree angle
  - Gluteal strengthening
  - Quad strengthening
- Discontinue adductor exercises with resistance
- Work arm and upper torso strength for holding the baby
- Keep the feet up when possible to decrease swelling

As with any program, each individual will be different, particularly if there are any rehabilitative issues involved or if the mother is already 'super-fit' (dancer, yogi, Pilates goddess).

POST-NATAL

Once the baby is born the mother can start doing simple core activation, pelvic floor and pelvic stability work as soon as she feels like moving. If the delivery was vaginal, she will be able to return to a beginning level routine as soon as she has stopped bleeding and feels up to it. If she had any episiotomy repairs she may want to minimize hip adduction and anything uncomfortable for 4 to 6 weeks until the area begins to heal.

If the baby was delivered by caesarian section, strenuous exercise is usually not suggested for 6 to 8 weeks following delivery. Gentle core work is very helpful but it is not wise to put stress on the sutures that are healing. Once they are cleared by their doctor for exercise, it is wise for them to start off slowly until they feel they have their full energy back.

RESOURCES FOR FURTHER INFORMATION

Books and videos

Balanced Body's website, Pilates.com, has several books and videos available for working with pre and post natal clients.

Courses

Fusion Pilates for Pregnancy and Post Pregnancy
Jennifer Gianni
Fusion Pilates
fusionteachertraining.com
Phone 828.333.4611

Pre/Post Natal Pilates Specialist Course
Carolyn Anthony
4 South Orange Ave. #260 South Orange, NJ 07079
info@thecenterforwomensfitness.com
Phone 800.701.0937.

BALANCED BODY® MOVEMENT PRINCIPLES™

OVERVIEW

The Balanced Body® Movement Principles™ teach Pilates and fitness professionals how the body moves so they can help students, clients and patients move better. The Movement Principles provide practical tools for observing, analyzing and improving movement by gaining a deeper understanding of anatomy, kinesiology, biomechanics and optimum movement patterns.

Balanced Body® Movement Principles™

MODULE 1: WHOLE BODY MOVEMENT

Whole Body Movement

Learning to see, evaluate and influence whole body movement patterns is the ultimate goal of any trainer. This section includes information on observing the body from three different levels:

- Global movement - observing the whole body.
- Planar movement - looking at the body from the sagittal, frontal and transverse planes.
- Local movement - seeing local and regional movement patterns.

Posture and Alignment

Good posture and proper alignment of the joints allow the force of gravity to move through the body in an optimal way. This section includes:

- Postural observations..
- Common misalignments and dysfunctional patterns.

MODULE 2: TRUNK INTEGRATION

Trunk Integration includes the core and the muscle systems that integrate movement between the trunk and the limbs. Trunk Integration includes information on:

- Breathing.
- Inner unit and core activation.
- Outer unit and lumbopelvic stability.
- Spinal mobility and strength.

MODULE 3: LOWER BODY TRAINING

The lower body carries us everywhere we go and teaching good alignment, balanced strength and optimum range of motion are vital for training agility, endurance and power in movement. This section includes information on:

Lower Body Training Principles

- Alignment.
- Balanced muscle development and range of motion.
- Functional movement skills.

MODULE 4: UPPER BODY TRAINING

Training the upper body prepares us for everyday activities and creates power and speed for athletic pursuits. This section includes:

Upper Body Training Principles

- Movements of the upper body.
- Glenohumeral stability, scapular stability and mobility.
- Functional movement patterns.
- Integrating the upper body into whole body movement.

MODULE 5: MOBILITY AND RESTORATION

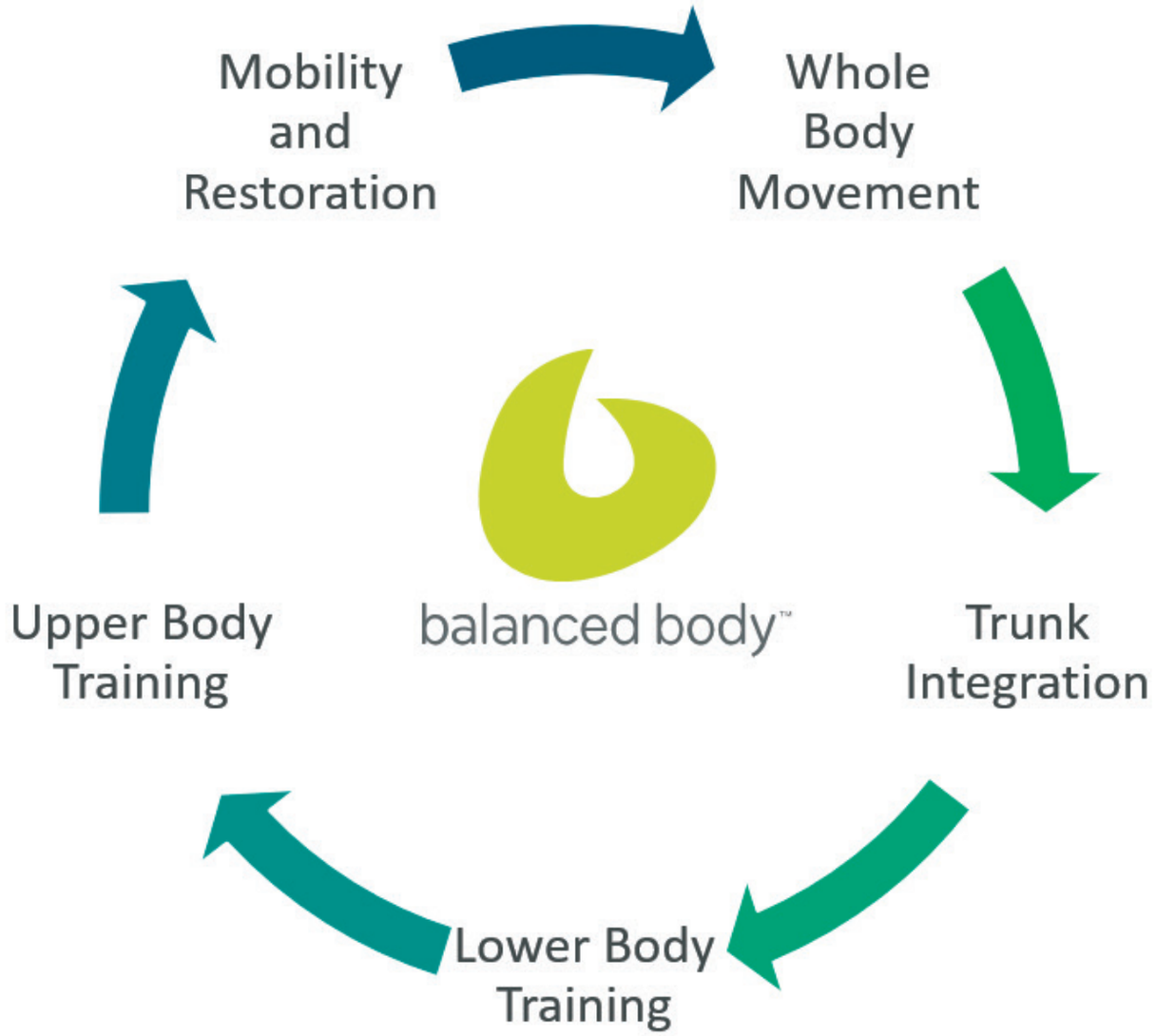
The body requires a balance of effort and relaxation to recharge and refresh. This section includes information on:

Mobility

- What it is, why mobility is useful and techniques for enhancing mobility.

Restoration, recovery and relaxation

- The importance of rest and relaxation to the recovery process.
- Self massage techniques to help the body recover.



WHOLE BODY MOVEMENT

GLOBAL, PLANAR AND LOCAL

Training clients to move better means training their whole body to move better. The most effective trainers focus on understanding and training functional, whole body movement in order to create pain free, efficient and effective movement patterns. Whether training an athlete for higher levels of performance, a senior citizen to stay active and healthy or an injured client to recover a pain free life, understanding how the body works and developing strong movement foundations are the key to creating effective fitness programs.

Training Whole Body Movement

Whole Body Movement requires the integration and coordination of multiple body systems working together. Whole body movement includes walking, standing, lifting, throwing, pushing, pulling and many other daily and sports related activities we engage in on a regular basis.

In order for the body to move through each day with ease, each of the following systems must play their part:

- Skeletal system
- Muscular system
- Fascial system
- Cardiovascular system
- Nervous system

Harmonious movement patterns are evidence that all of these systems are working in perfect synergy. Dysfunctional or impaired movement patterns point to disharmony somewhere in the body. One of the great joys and challenges of being a movement teacher is the need to continually refine one's ability to recognize and understand harmonious and impaired movement patterns and to expand one's ability to improve them.

GLOBAL, PLANAR AND LOCAL

To simplify the process of understanding and improving movement patterns, Balanced Body has developed a systematic framework for observing the body in motion.

The system involves observing the body from three different levels:

- Global movement patterns
- Planar movement patterns
- Local or regional movement patterns

GLOBAL MOVEMENT

Global movement is the highest level view. It is stepping back to observe the proverbial forest before tackling the trees. This panoramic view provides information on:

- Postural patterns
- Movement strategies
- Strength imbalances and side dominance
- Coordination and balance

PLANAR MOVEMENT

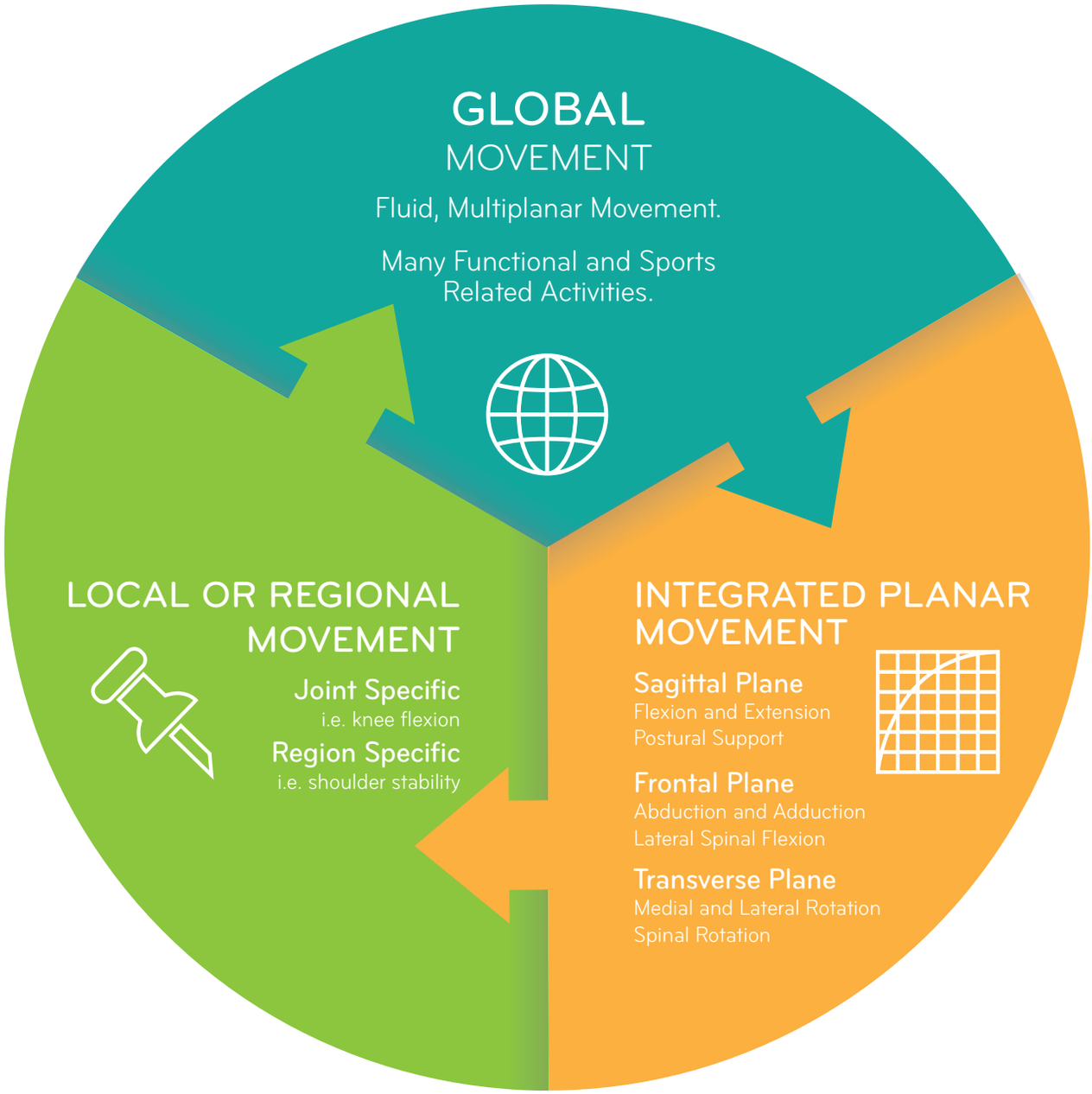
Understanding whole body or global movement can be very complex and difficult to analyze. Breaking down the observation of global movement into movement in the sagittal, frontal and transverse planes helps teachers more easily analyze what they are seeing.

As instructors, observing the body from the front, side and back is an excellent way to assess movement in each plane in order to more easily identify impaired movement patterns.

LOCAL MOVEMENT

Local movement includes regional and joint specific motions like the action of the shoulder in a push up or the alignment of the knee in a squat. Global and planar observations often lead to identifying one area or joint that is creating a disruption in the movement pattern. Once the movement pattern of the local area is improved, observation returns to the planar or global level to see if correcting the local issue improved the global movement pattern.

Learning to continuously move between the three levels of observation and learning the skills to improve a client's movement foundations at every level are at the heart of being an excellent movement teacher.



Analyzing Posture

Postural analysis is the science of understanding the optimum relationship of the body to gravity. To analyze posture we begin by identifying key bony landmarks and how they line up in a standing position.

This simple two page form can be used to chart static posture. It is helpful to establish baseline posture prior to beginning an exercise program and to occasionally re-assess client progress. Use the images to identify deviations and the space below for relevant notes and observations.

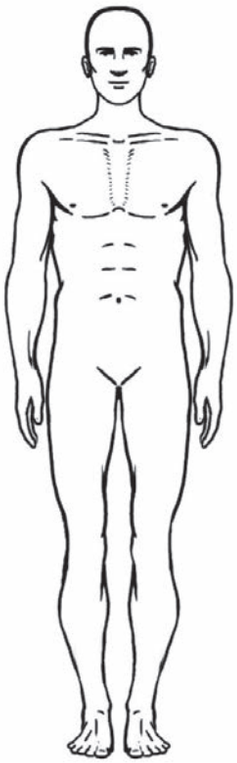
SIDE VIEW

VERTICAL OBSERVATION POINTS

- Tip of earlobe
- Top of shoulder
- Center of rib cage
- High point of iliac crest
- Mid point of the lateral side of the knee
- Slightly in front of the lateral malleolus of the ankle

FRONT VIEW

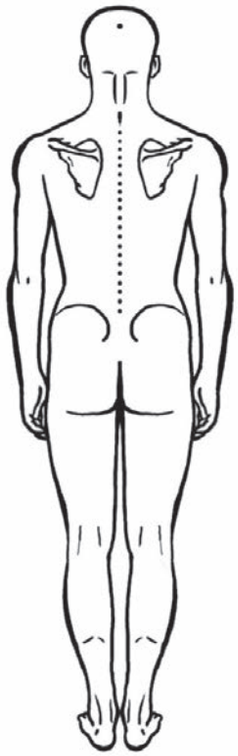
VERTICAL OBSERVATION POINTS



- Nose
- Center of Sternum
- Navel
- Center of pubic bone
- Inside ASIS
- Center of patella
- Center of the front of the ankle
- Space between 1st & 2nd toe

BACK VIEW

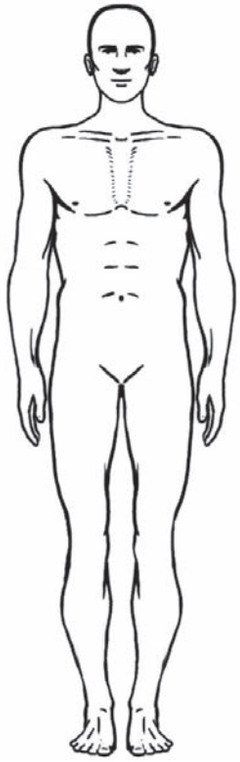
VERTICAL OBSERVATION POINTS



- Center of skull
- Spine straight
- Center of sacrum and tailbone
- Center of gluteal fold
- Center of back of knee
- Center of Achilles tendon

FRONT VIEW

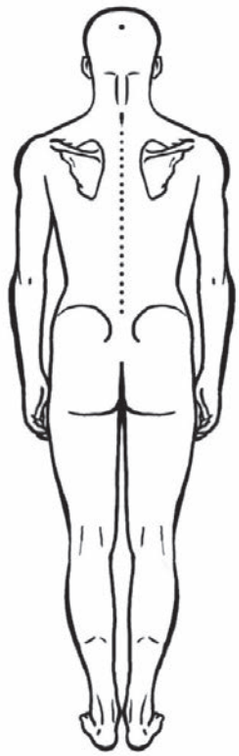
HORIZONTAL OBSERVATION POINTS



- Eyes level
- Shoulders level
- Equal distance between arms and torso
- ASIS level
- High point of iliac crests level
- Greater trochanters level
- Both knees even
- Equal turnout on both feet

BACK VIEW

HORIZONTAL OBSERVATION POINTS



- Ears level
- Level and balanced scapulae
- Equal distance between spine and sides of ribs
- PSIS level
- High point of iliac crests level
- Knees level

Common Misalignments/Deviations

Each of the following patterns are caused by a combination of bone structure, joint mobility, habitual patterns, muscular tightness and muscular strength. In addressing them, change will come about most easily with patterns that are primarily muscular and will be hardest to change in patterns that are embedded in the bones and joint structure. The goal is to create as much balance as the client's structure will allow and to work gently and gradually toward improved movement patterns.

SPINE AND PELVIS

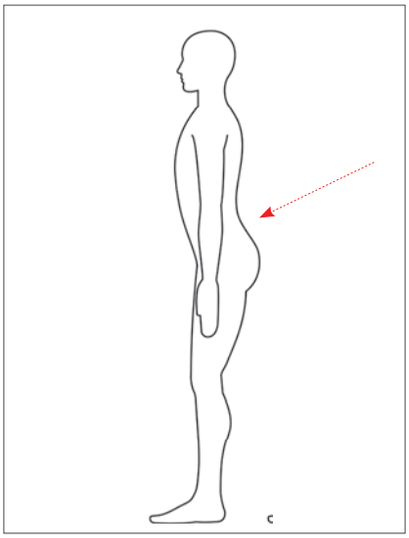
Scoliosis

- **Definition:** A lateral deviation of the spine usually accompanied by rotation. Scoliosis that occurs in one part of the spine such as the thorax is called a C curve scoliosis. If the scoliosis occurs in two parts of the spine, for example a right curve in the thorax and a left curve in the lumbar, it is called an S curve scoliosis.
- **General guidelines:**
  - Work to balance the client's posture by cueing them to maintain as much balance as possible.
  - Consider gently stretching the tighter sides of the curve and strengthening the open sides of the curve.
  - If this population is of interest, consider taking continuing education courses on scoliosis for more specific direction.

Scoliosis

Lordosis

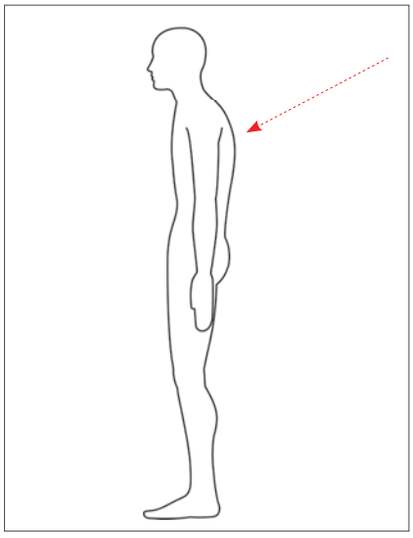
- **Definition:** A spinal curve toward the front of the body. There is supposed to be a small forward curve or lordosis in the lumbar and the cervical sections of the spine. An excessive curve can be called a lordosis or more accurately a hyperlordosis.
- **General guidelines:**
  - Lumbar lordosis is usually accompanied by tight low back extensors, an anteriorly tilted pelvis, tight hip flexors and weak abdominals in the neutral range.
  - Correct the pattern through increasing the flexibility of the lumbar and hip flexors and increasing the strength of the abdominals and hamstrings while actively stabilizing the pelvis in neutral.



Lordosis with an anteriorly tilted pelvis

Kyphosis

- **Definition:** A spinal curve toward the back of the body. There is supposed to be a small kyphotic curve in the thoracic spine. An excessive curve can be called a kyphosis or more accurately a hyperkyphosis.
- **General guidelines:**
  - Thoracic kyphosis is usually accompanied by weak thoracic extensors, tight anterior chest muscles and weak scapular stabilizers.
  - Correct the pattern by stretching the chest and strengthening the thoracic extensors and scapular stabilizers.



Kyphosis with a posteriorly tilted pelvis

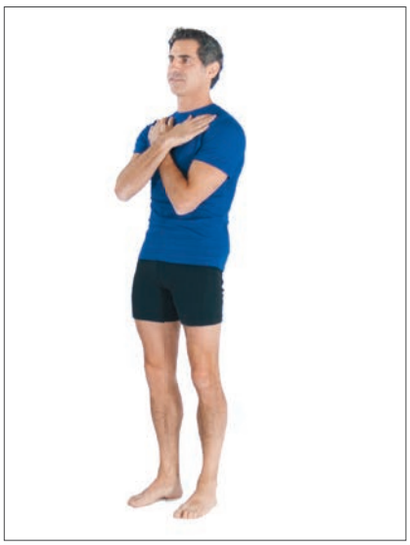
Anterior pelvic tilt

- **Definition:** When the ASIS is anterior of the pubic bone.
- **General guidelines:**
  - Lengthen the hip flexors and lumbar extensors and strengthen the hamstrings and abdominals.
  - Train to maintain posture in standing and functional movements.

Anterior Pelvic Tilt

Posterior pelvic tilt

- **Definition:** When the ASIS is posterior to the pubic bone.
- **General guidelines:**
  - Strengthen the hip flexors and lumbar extensors and lengthen the hamstrings and abdominals.



Posterior Pelvic Tilt

Pelvic up slip and down slip ("high hip or low hip")

- **Definition:** When the high point of the iliac crest is not level, the high hip side is called an up slip and the low hip side is called a down slip.
- **General guidelines:**
  - Balance the lateral system including hip abductors and adductors, quadratus lumborum and lateral torso muscles.

Pelvic inflare and outflare (Pelvic rotation)

- **Definition:** When one ASIS is anterior and closer to the midline while the other hip is posterior and farther from the midline, the anterior hip is in inflare while the posterior hip is in outflare. This is by definition accompanied by counter rotations of the femurs and the torso.
- **General guidelines:**
  - Balance the rotation of the torso and pelvis through the anterior and posterior oblique slings and the hip rotators.

COMMON MISALIGNMENTS

LEGS

Femoral medial rotation

- **Definition:** When the femurs are rotated toward the midline around their long axis. This can often be seen by the patellas aiming toward the midline when the legs are straight as if they were "cross eyed." This may be a postural pattern which is easier to change or it may be caused by the structure of the hip joint in which case work to balance the alignment as much as the structure will allow.
- **General guidelines:**
  - Strengthen lateral femoral rotation and stretch the adductors and medial rotators.

Femoral lateral rotation

- **Definition:** When the femurs are rotated laterally around their long axis. In this case the patellas will aim away from the midline when the legs are in a relatively neutral position.
- **General guidelines:**
  - Strengthen the femoral medial rotators and stretch the lateral rotators.

Knee hyperextension

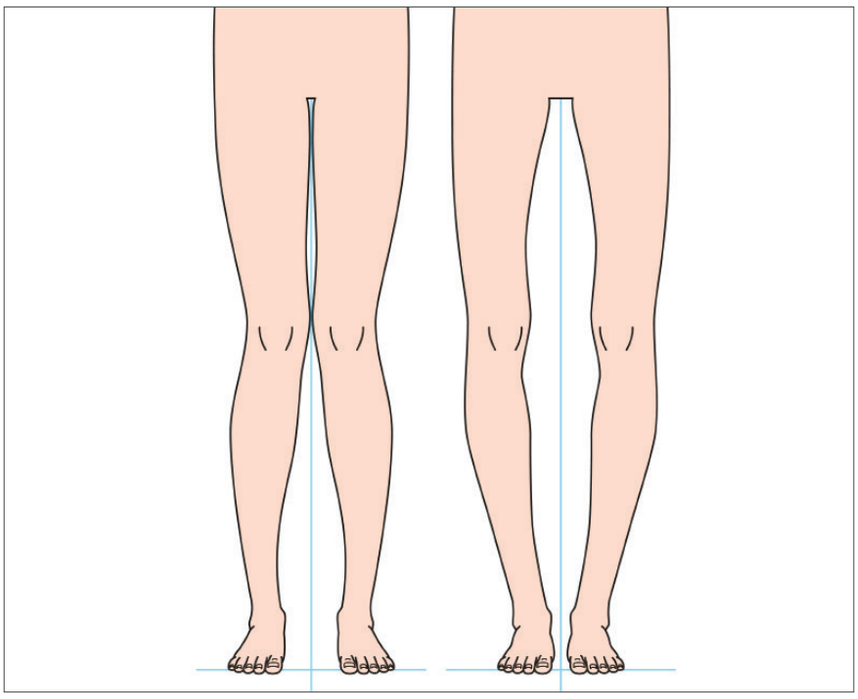
- **Definition:** In standing alignment viewed from the side, the knees are posterior to the plumb line. This is usually caused by hypermobility of the knee.
- **General guidelines:**
  - Make sure the knees do not hyperextend in any weight bearing exercises.
  - Focus on balance between hamstrings and quadriceps to stabilize the knee

Knock knees (genu valgum)

- **Definition:** When standing with the knees straight, the knees may touch but the medial border of the feet do not. This is called an increased Q angle. Knock knees are more common in women because of their wider hips. Knock knees and bow legs are caused by the structure of the hip and knee joint. The training focus is on creating the best alignment and muscle balance possible.
- **General guidelines:**
  - Cue the student to correct the alignment as much as possible while exercising.
  - To improve knock knees, assess hip rotation and the balance between hip abductors and adductors.

Bow legs (genu varum)

- **Definition:** A decreased Q angle shown in standing alignment with the legs straight when the knees don't touch but the medial borders of the feet do. Bow legs are often accompanied by knee hyperextension and sometimes correcting the hyperextension will correct the leg position.
- **General guidelines:**
  - Cue the student to correct the alignment as much as possible while exercising.
  - For Bow legs, look at hip rotation, knee hyperextension and the balance between hip abductors and adductors.



Genu Valgum (knock knees) and Genu Varum (bow legs)

Pronation

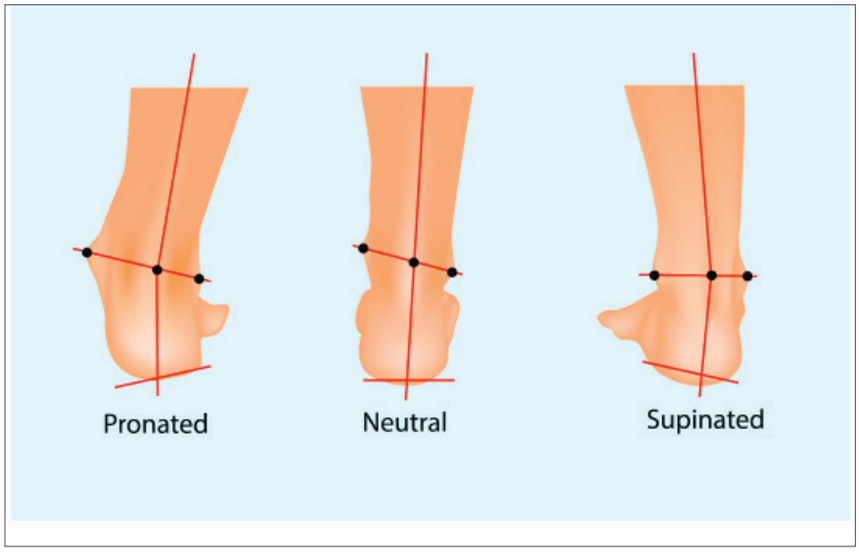
- **Definition:** In standing alignment, the arch flattens toward or contacts the ground and the Achilles tendon bows toward the medial side of the foot. In pronation the weight is carried on the medial side of the foot when standing. This generally indicates a lack of strength and stability on the medial side of the leg from the ankle through to the pelvis.
- **General guidelines:**
  - Strengthen the arch and the medial line of the legs. Observe and correct for habitual compensation.

Supination

- **Definition:** In standing the arch is lifted and the weight is carried on the outside of the foot. This pattern is usually one of stiffness in the joints and muscles of the foot which may limit the amount of change possible.
- **General guidelines:**
  - Stretch the arch and the medial side of the legs. Observe and correct for habitual compensation.

Bunions

- **Definition:** A bunion is a deviation of the toe towards the center of the foot. Bunions usually occur on the big toe.
- **General guidelines:**
  - Correct tendency to over turn out the legs and feet and correct tracking of the foot in gait.



Pronation, supination and neutral foot alignment (right foot shown)

Winging scapula

- **Definition:** When the medial border of the scapula lifts away from the rib cage. Can indicate a weak serratus anterior or a shallow rib cage.
- **General guidelines:**
  - Strengthen the scapular stabilizers and thoracic extensors.

Winging Scapulae

Elevated scapula

- **Definition:** When the scapulae are lifted up towards the ears. It usually indicates tightness in the upper trapezius, pectoralis minor and levator scapulae and a weakness in the inferior fibers of the serratus anterior and lower trapezius.
- **General guidelines:**
  - Strengthen the scapular depressors in their inner range.
  - Improve coordination of scapulohumeral rhythm in upward rotation.

Elevated Scapulae

Neutral Lumbopelvic Position

According to current research in biomechanics, the core works best to stabilize and support the pelvis and lumbar spine when in a "neutral" position. When standing or sitting with a neutral pelvis, the action of gravity on the trunk musculature leads to balanced engagement of the muscles around the spine and abdomen. This decreases the stress on the spine and helps to prevent low back pain and injury.

IDENTIFYING NEUTRAL

There are different landmarks that can be used to identify a neutral lumbopelvic position. When teaching movement, the easiest landmarks to use are the ASIS and the pubic bone. When these two bony landmarks are on a plane perpendicular to the floor in standing or sitting, or parallel to the floor in supine, the pelvis is considered to be neutral.

Finding the right starting position for each exercise provides a solid foundation to move from and creates more comfortable and efficient movement patterns. Research on a neutral lumbopelvic position has primarily been studied when the pelvis and low back are in a standing or upright position. Some modifications may need to be made when lying supine.

NEUTRAL PELVIS AND EXERCISE

Many exercises will challenge and strengthen neutral posture in standing. Maintenance of the spinal curves and neutral pelvis through movement is key to training dynamic core strength and integrating the core with the limbs.

IMAGES AND EXERCISES FOR IDENTIFYING A NEUTRAL PELVIS

Using the bones

Place the heel of each hand on the ASIS and the second or third finger on the pubic bone to create a triangle with the point facing down. Notice which way the triangle is tipped.

Anterior pelvic tilt

If the ASIS is anterior to the pubic bone, then the pelvis is anteriorly tilted.

Posterior pelvic tilt

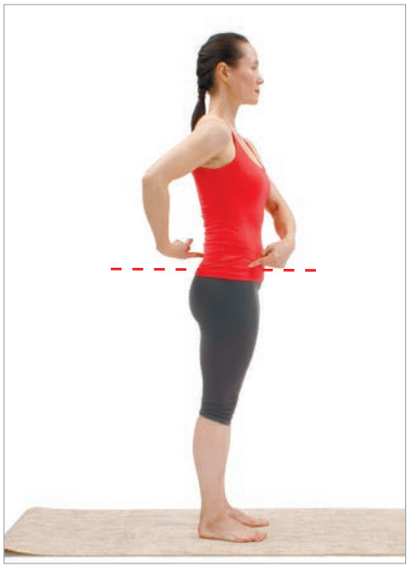
If the ASIS is posterior to the pubic bone, the pelvis is posteriorly tilted. Gently move the pelvis forward and back until the pelvis is relatively neutral.

Using imagery

Imagine the pelvis is a bowl full of water balanced over the legs. If the bowl is level, the water won't spill. If the pelvis is anteriorly tilted, the water will spill out the front. If the pelvis is posteriorly tilted, the water will spill out the back.

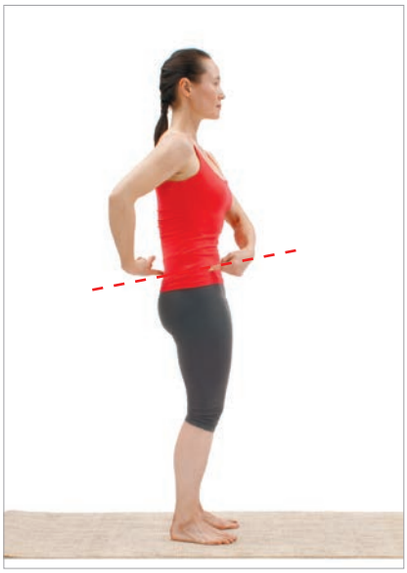
Neutral is dynamic, not fixed

Neutral pelvis is not a fixed position to create. It is a dynamic concept that shifts and changes slightly in relationship to the movement being performed.



Neutral Pelvis

Anteriorly Tilted Pelvis



Posteriorly Tilted Pelvis

NEUTRAL POSITION IN SUPINE

When standing, sitting or walking, a neutral lumbopelvic position is optimum for efficient movement. When supine, gravity is in a different relationship to the spine and adjustments to neutral lumbopelvic positioning may be necessary.

For example, in exercises where both legs are lowered toward the floor as in the Hundred, the core and abdominal muscles should be strong enough to keep the lower back stable as the legs lower. This keeps the psoas from pulling the lumbar spine forward and potentially causing pain or discomfort. If the core is not strong enough, the lower back position may be adjusted to provide support for these exercises.

Imprinted Spine

An imprinted spine provides support by placing the spine against the mat so it is externally stabilized. An imprinted spine can be created by increasing the flexion in the lumbar spine, posteriorly tilting the pelvis or placing a pad under the sacrum to passively tilt the pelvis and bring the spine closer to the floor.

Imprinted spine. In supine position, press the lower back towards the floor.

Supported Neutral

Supported neutral provides external support by placing a pad underneath the lumbar curve to fill in the space between the lower back and the floor. This position can be useful for teaching new students what a neutral spine is, stabilizing an unstable lower back or supporting a client with an increased lordosis.

Supported neutral. Place a lumbar support under the lower back.

EXCEPTIONS TO NEUTRAL

Neutral pelvis position may also not be appropriate for some clients with low back injuries. The following conditions may prefer an imprinted spine or a posteriorly tilted pelvis:

- Spondylolisthesis
- Spinal stenosis
- Spinal arthritis
- Some sacroiliac joint dysfunctions
- Some disc injuries

TRUNK INTEGRATION

INTRODUCTION

Trunk Integration is an essential concept in movement training. The trunk transfers forces from the lower body to the upper body, from the upper body to the lower body, from one side of the body to the other and from one leg to the opposite arm. The systems that make up Trunk Integration must be trained to work harmoniously in order to create coordinated, effective, efficient and powerful movement patterns.

The Evolution of Core Training

The concept of core training began when physical therapists were looking for a new model to help them treat clients with lower back pain. The first model focused on the action of the "core" as a stabilizer of the lower back during activities of daily living and in athletic pursuits. The first resource was "Clinical Biomechanics of the Spine" by Panjabi and White (1978) This book looked in detail at the biomechanics of the spine and its muscular support system and proposed that the action of the transversus abdominis and multifidi worked as partners to stabilize the spine when the body was in a neutral position.

This original idea of the "core" was expanded, researched and worked with until another seminal work came out, "Therapeutic Exercises for Spinal Segmental Stabilization in Lower Back Pain: Scientific Bases and Clinical Approach" by Richardson et al.(1999). This book put the biomechanical insights of the first book into clinical practice and focused on ways to help clients consciously retrain the stabilization system of the lumbar spine. The concept of the core was expanded to include the action of the pelvic floor and the diaphragm in addition to the transversus abdominis and multifidi.

Through practice with many clients in many environments, the importance of the core became clear but for creating the dynamic stability needed for both managing lower back pain and for optimizing lower back function in healthy, active people, the idea of the core needed to be expanded. In "The Pelvic Girdle: An Integration of Clinical Expertise and Research" by Diane Lee et al, The concept of lumbopelvic stability was expanded to include not just the inner support cylinder or inner unit but also the outer unit where the thorax, spine and pelvis connect to the limbs to create full body movement.

Trunk Integration

Balanced Body has integrated these concepts and many more into the ideas presented in this manual. Our goal is to help movement teachers understand the interconnections that tie the body together so they can work more effectively to create harmonious, whole body movement.

THE FOUR ELEMENTS OF TRUNK INTEGRATION INCLUDE THE FOLLOWING:

Breathing

This repetitive, unconscious action can profoundly effect movement, mood and energy levels. And the diaphragm forms the "ceiling" of the core or inner unit.

The core or inner unit

Consists of the pelvic floor, transversus abdominis, multifidi and diaphragm and forms the inner cylinder tying our pelvis, spine and rib cage together.

The four outer units

These four systems maintain the relationship between the upper limbs, thorax, spine, pelvis and lower limbs in functional activities of all kinds. The four outer units consist of the anterior and posterior oblique slings, the deep longitudinal system and the lateral system.

Spinal mobility

The focus of many core and trunk integration exercises is on stability. To balance stability, spinal mobility must be balanced and harmonious.

All of these elements are discussed and examples are given of the principles in action in this section.

References

Clinical Biomechanics of the Spine by Manahar M. Panjabi and Augustus A. White III, 1st edition 1978, 2nd edition 1990, Lippincott, Williams and Wilkins

Therapeutic Exercises for Spinal Segmental Stabilization in Lower Back Pain: Scientific Bases and Clinical Approach

by Carolyn Richardson, PhD, BPhty (Hons), Gwendolen Jull, PhD, MPhty, Grad Dip Manip Ther, FACP, Paul Hodges, PhD, MedDr, DSc, BPhty (Hons) and Julie Hides, PhD, MPhtyST, BPhty, 1st edition 1999, 2nd edition 2004, Elsevier Limited

The Pelvic Girdle: An integration of Clinical Expertise and Research by Diane Lee, BSR, FCAMPT, CGIMS, Linda-Joy Lee, PhD, BSc(PT), FCAMPT, CGIMS, MCPA, Andry Vleeming, PhD, PT , 1st edition 1989, 4th edition 2011, Churchill Livingstone/Elsevier

Breathing

"Breathing is the first act of life and the last." - J. Pilates.

It is the foundation of our existence and creates the fundamental rhythm that underlies our life. It is essential for maintaining and creating optimum health and wellbeing. Breathing techniques can be used to decrease stress, lower or raise blood pressure, improve aerobic capacity and calm the mind and spirit. Breathing has been used by every culture to change mind and body states in meditation, exercise and daily living.

How Breathing Works

The diaphragm is the primary muscle of respiration. It forms a dome whose bottom edge attaches to the inside of the rib cage, the spine, the 12th rib, the lowest costal cartilages and the xiphoid process. The other end of the muscle fibers of the diaphragm attach to a tendinous ring that sits at about the level of the 5th rib when the diaphragm is at rest.

On the inhale, the diaphragm contracts, drawing the top of the dome down as much as four centimeters with a full inhale. This increases the volume of the lungs and draws the air in. As the diaphragm relaxes, the dome rises back up and the air is pushed out of the lungs.

On the Inhale

- The diaphragm contracts and the dome moves down
- The volume of the lungs increases and draws air in
- Abdominal pressure increases
- Pelvic floor responds

On the Exhale

- The diaphragm relaxes and the dome moves up
- The volume of the lungs decreases and air flows out
- Abdominal pressure decreases
- Transversus abdominis contracts
- Pelvic floor responds

Accessory breathing muscles

In addition to the diaphragm, the following muscles are also involved in breathing by helping to move the rib cage:

- The internal and external intercostals, serratus posterior superior and inferior, the scalenes and the upper trapezius

The Breath in Movement

Breathing techniques can be used to facilitate movement, improve strength and increase mobility as well as improve lung capacity and focus the mind. As a general rule:

- Inhaling facilitates spinal extension
- Exhaling facilitates spinal flexion
- Either inhaling or exhaling can facilitate lateral flexion
- Either inhaling or exhaling can facilitate spinal rotation

When teaching a beginner these are good rules to follow. In order to challenge a more advanced student, reverse the breathing pattern to bring awareness back to the exercise.

Bracing for Stability

Exhaling during a challenging exercise helps to activate the trunk stabilizers and "brace" the torso. Bracing is often used for safety with clients rehabilitating from lower back and other injuries. As the deep structural muscles of the core get stronger, less bracing is required to do the same task.

Diaphragm, inferior view

The Inner Unit: Spine and Abdominal Support

The multifidi, transversus abdominis , pelvic floor and diaphragm work together to provide three dimensional support to the abdominal cavity.

Multifidi

- The multifidi are small muscles connecting the transverse processes of each vertebra to the spinous processes of the vertebra from three to four (or more) levels above. The multifidi run from C2 through the sacrum.
- They function to support the spine at the deepest level.

Transversus Abdominis

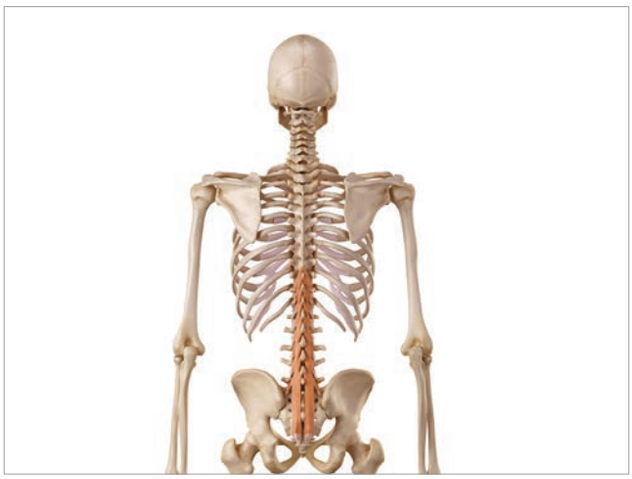
- The muscle fibers of the transversus abdominis wrap horizontally around the abdomen creating the deepest layer of the abdominals. The transversus abdominis acts like a corset to draw in the abdominal muscles and decrease the diameter of the waist.
- The transversus abdominis provides structure to the abdominal wall.

Diaphragm

- The diaphragm is the top or roof of the core and organizes the rib cage and spine in preparation for movement.
- As discussed in the Breathing section, an exhale can be used to activate the core, creating stability of the lumbar spine, pelvis and rib cage.
- In aerobic activities, the diaphragm works with the core to create stability while allowing full respiration to meet cardiovascular demands.

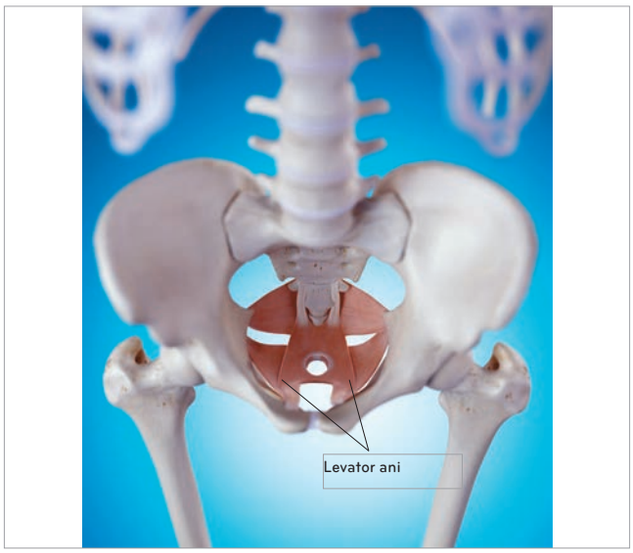
Pelvic Floor

- The pelvic floor is a group of muscles filling in the bottom of the pelvis and forming the "floor" of the core.
- The primary purpose of the pelvic floor is to hold the contents of the abdomen up against gravity.
- The pelvic floor includes muscles that control the flow of urine and feces, as well as muscles that hold the pelvis together and connect the pelvis to the femur.
- In women they are essential for childbirth and in both men and women, a healthy pelvic floor facilitates better sexual function.



Lumbar Multifidi

Transversus Abdominis



Pelvic Floor, internal view

Myofascial Connections

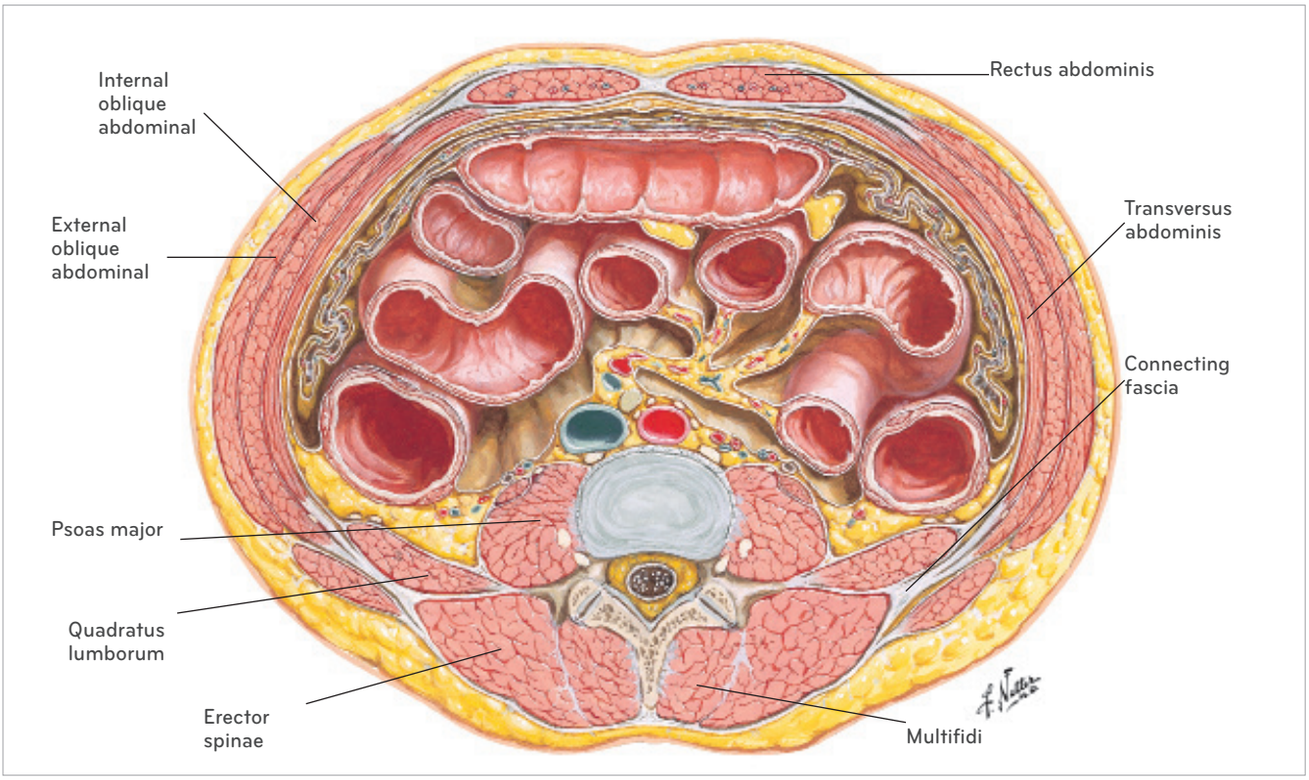
The inner unit stabilizes the lumbar spine through the myofascial connections between all of the elements of the inner unit. The myofascia consists of the muscles (myo) and their associated fascia. Fascia is the connective tissue that surrounds and interpenetrates all of the muscles and creates connections between them and their associated joints. The myofascial system ties the action of different muscles together to create the synergy necessary for integrated, whole body movement. In the lower back, the fascial system is called the thoracolumbar fascia.

This illustration is a cross section through the body at the level of the third lumbar vertebra. It shows the relationship between the muscles surrounding the lower spine and the transversus abdominis. By following the white fascia surrounding the transversus abdominis and connecting it to the fascia surrounding the erector spinae and quadratus lumborum, one might imagine that if the transversus abdominis contracts, it will increase the tension on the thoracolumbar fascia.

The thoracolumbar fascia acts much like a sausage casing around the filling of the multifidi. When the multifidi contract against the tension of the casing, they gently squeeze the spine creating a stabilizing force on the many joints between the vertebrae. The pressure of the casing against the multifidi also helps to create space between the vertebrae which is called decompression or axial elongation.

Based on electromyographic studies, in a normal healthy body, the multifidi, transversus abdominis, diaphragm and pelvic floor will fire in an appropriate sequence to stabilize the lower back in anticipation of spinal loading. With lower back pain, this sequence is often delayed or dysfunctional.

In a normal healthy body all of this happens automatically as part of a reflexive reaction to load being placed on the spine. When training clients to activate their inner unit, conscious cueing should be combined with movements designed to reactivate the reflexive sequences.



Cross section through L3. Lumbopelvic stability is generated by a light contraction of the transversus abdominis to tension the thoracolumbar fascia. The multifidi contracts into the tightened fascia, increasing its volume thus stabilizing the spine and creating axial elongation.

The Outer Unit

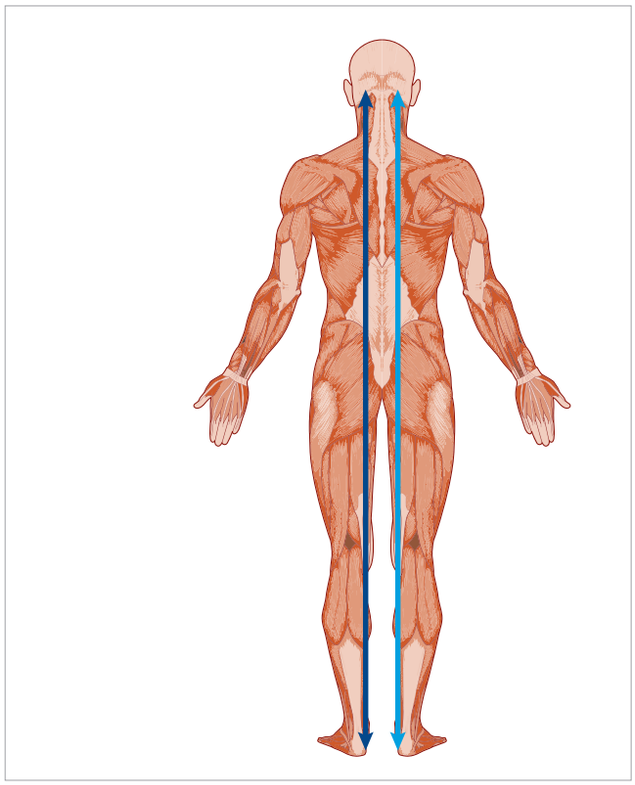
The Outer Unit consists of four subsystems, the Deep Longitudinal System, Lateral System and Anterior and Posterior Oblique Slings. These four systems work together to integrate and coordinate movement between the shoulder girdle, thorax, spine, pelvis and femurs. The Outer Unit creates movement and stability in the sagittal, frontal and transverse planes to produce fully balanced three dimensional movement.

THE DEEP LONGITUDINAL SYSTEM: SAGITTAL PLANE INTEGRATION

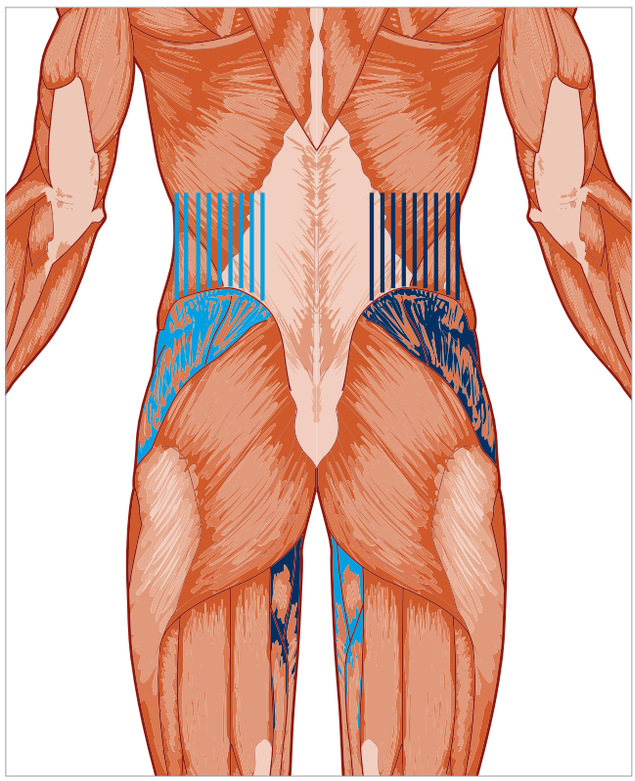
- The deep longitudinal system includes the erector spinae, sacrotuberous ligament, biceps femoris, gastrocnemius and plantar fascia.
- It supports the body upright against gravity.
- It is responsible for spinal extension when activated bilaterally and lateral flexion when activated unilaterally.
- It works with the posterior oblique sling to create extension and counterbalances the anterior oblique sling which initiates flexion.

THE LATERAL SYSTEM: FRONTAL PLANE INTEGRATION

- The lateral system includes the quadratus lumborum, abductors and adductors.
- These muscles are responsible for adduction and abduction of the hips and for up slip and down slip of the pelvis.
- The lateral system acts to balance the forces on the pelvis and to keep it level over the femurs in walking and standing.



Deep Longitudinal System



The Lateral System

The Oblique Slings: Transverse Plane Integration

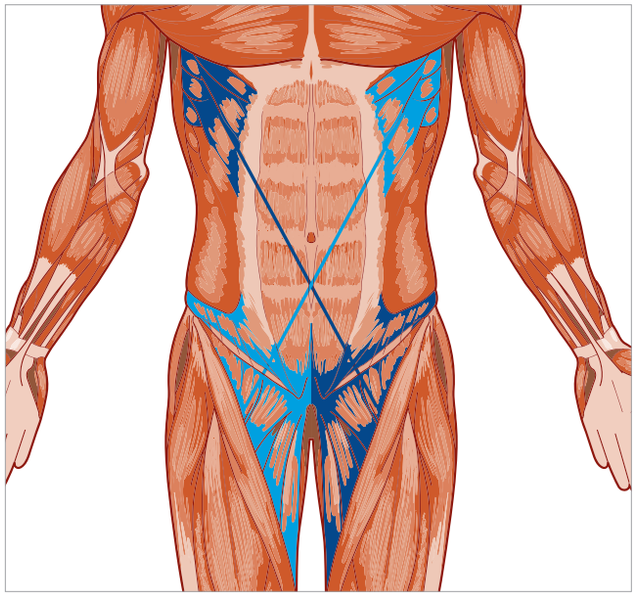
The anterior and posterior oblique slings (AOS and POS) are responsible for integrating the upper limbs, torso, spine, pelvis and lower limbs in whole body exercises such as running, throwing and swimming. The opposing slings (left to right AOS and right to left POS) create rotation while the parallel slings (right to left AOS and POS) create lateral flexion and rib translation.

THE ANTERIOR OBLIQUE SLING SYSTEM

- The anterior oblique sling includes serratus anterior, external oblique abdominals, contralateral internal oblique abdominals and contralateral adductors
- This system creates torso flexion when activated bilaterally and creates rotation between the rib cage and the pelvis when activated unilaterally.

Imagery

The anterior oblique system runs like a sash Miss America would wear over her shoulder or like crossed bandoliers and covers the line of the anterior serratus, external oblique abdominal, internal oblique abdominal and adductor muscles.



Anterior Oblique Sling

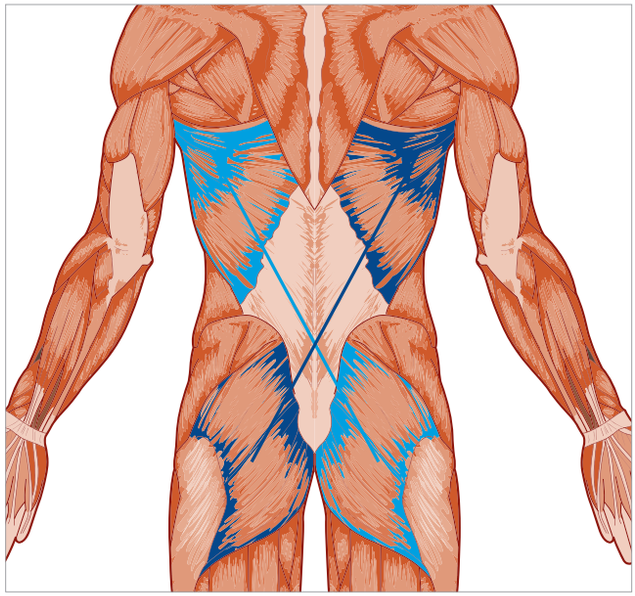
THE POSTERIOR OBLIQUE SLING SYSTEM

- The posterior oblique sling includes the latissimus dorsi and the contralateral gluteus maximus.
- The posterior oblique sling system creates torso extension when activated bilaterally and partners with the anterior oblique sling to create rotation and lateral flexion when activated unilaterally.

Imagery

The posterior oblique system runs like the back of the sash or bandolier covering the latissimus dorsi and the opposite gluteus maximus.

The anterior and posterior oblique slings keep the upper and lower body balanced for activities like walking and running. Both systems are activated in exercises such as an oblique abdominal curl or lateral spinal flexion.



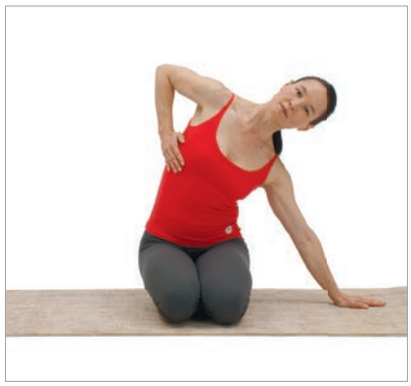
Posterior Oblique Sling

TRUNK INTEGRATION

EXERCISE PROGRESSIONS: BREATHING AND INNER UNIT ACTIVATION

Diaphragmatic Breathing

Posterolateral Breathing

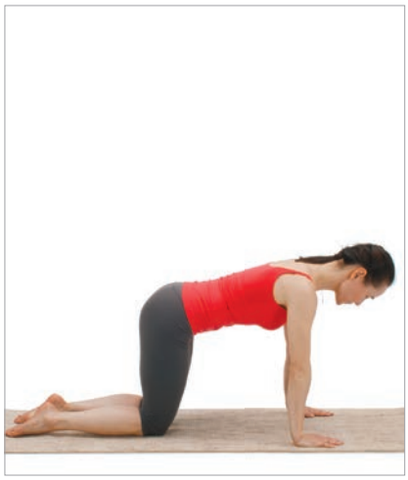


One Lung Breathing

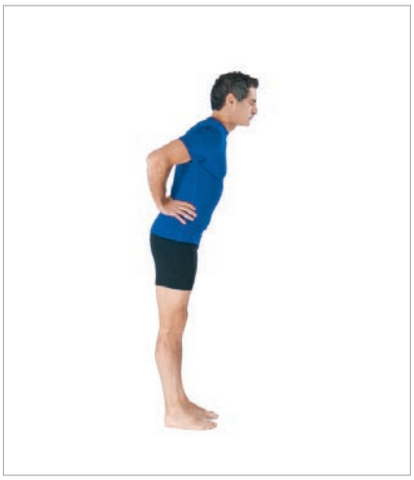
Pelvic Clock

Fingertip Abdominals

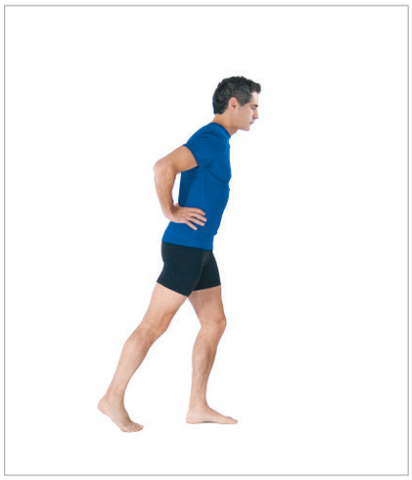
Pelvic Floor Activation



All Fours Abdominals



Standing Multifidi



Standing Multifidi
Single Leg

Marching

Abdominal Curl

Oblique Abdominal Curl

Opposite Arm and Leg Reach

The Spine

The spine creates the central axis of the body. Its position, symmetry and pyramidal shape give it strength while its tapering curves support and balance the three weight centers of the body: the head, thorax and pelvis. The spine has the capacity to absorb shock, is designed to protect the delicate spinal cord and has the capacity to support the weight of the body through various ranges of motion. Optimizing spinal mobility and strengthening the muscles supporting the spine is key to minimizing joint stress and maximizing overall health, physical wellbeing and activity specific performance.

FUNCTIONS OF THE SPINE

Force transference

- The many joints of the spine act to transfer force moving from the lower body to the head or from the shoulders to the pelvis. Because the spine is made up of many units like beads on a string, some energy is lost as the force moves from one bone to the next allowing ground forces to dissipate.
- The spine also acts as the fluid connection between the legs, pelvis, rib cage, shoulders and head. It connects and integrates the actions of the entire body.

Protects the spinal cord and nerve roots

- The segmental nature of the spine allows it to protect and distribute the nerves to the rest of the body.
- The interlocking structure of the vertebrae provide a vertical central channel to protect the spinal cord while the many lateral channels distribute the nerve roots to the body.

Creates Movement

- The segmental structure of the spine allows for a small amount of movement in multiple planes at each joint. This allows the torso to rotate, flex, extend and laterally flex without putting too much pressure on any one joint.
- The bones also provide attachment points for the many muscles that hold the spine together and coordinate the movement of both adjacent and distant vertebrae.

MOVEMENTS OF THE SPINE

The primary integrated movements of the spine are:

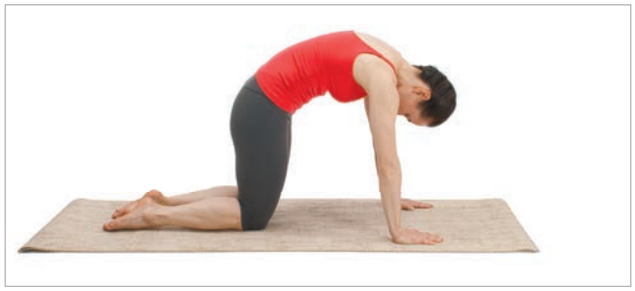
- Flexion
- Extension
- Lateral Flexion
- Rotation

Spinal Flexion

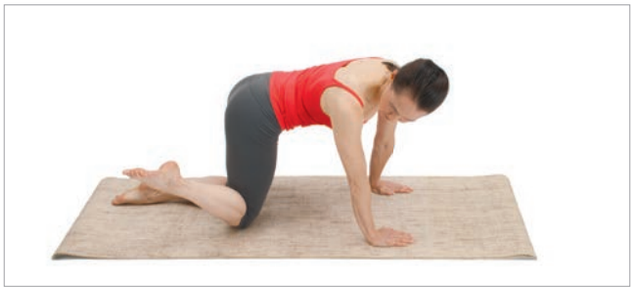
Spinal Extension

Spinal Lateral Flexion

Spinal Rotation



Cat/Cow



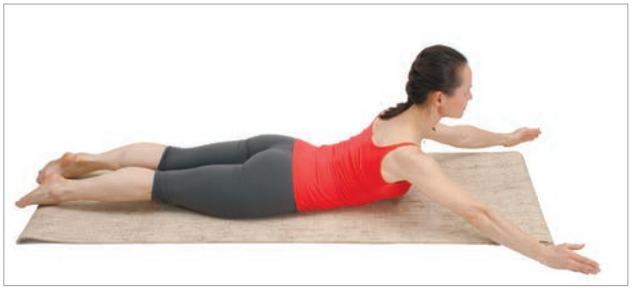
Tail Wag

Poodle Tail

Bridging

Bridging with Hip Dips, Typewriter and Figure Eights

Rockets



Mini Swan

LOWER BODY TRAINING

INTRODUCTION

The Lower Body

The lower body forms the foundation of mobility, strength and endurance for daily and athletic activities. A well trained, aligned and balanced lower body provides a lifetime worth of pain free movement. This section focuses on key training principles for helping clients to move well and stay healthy.

Lower Body Training Principles

Train optimum leg alignment

- Organize hip, knee and ankle in optimal alignment.
- Work with client's structure to find and train optimum alignment of the hip, knee, ankle and foot.

Balance range of motion

- Assess ranges of motion of the hip, knee and ankle and work to create the best possible range of motion on all sides of the joints.

Balance muscular strength

- Assess strength on all sides of each joint and work to create balanced strength between the agonists and antagonists to optimize support and optimum mechanics of the lower body.

Create strength and endurance

- Endurance is necessary for the lower body to perform its functions of walking, standing, squatting, lifting and lunging.

Train agility, balance and coordination

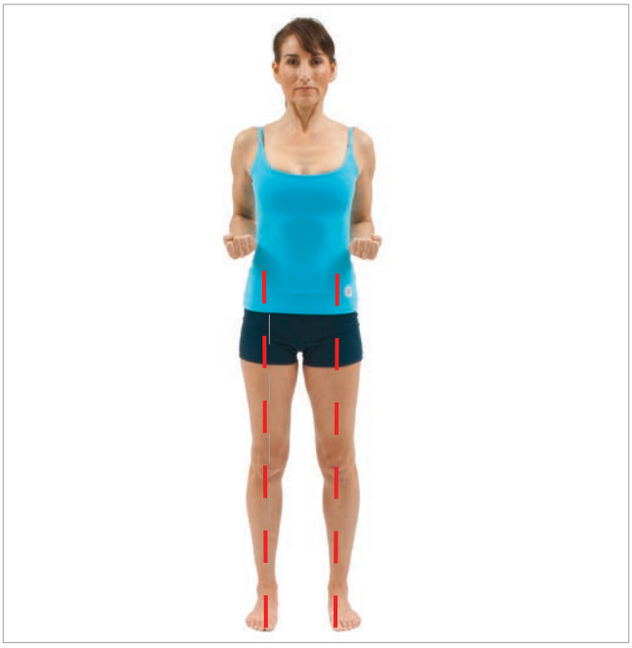
- Agility, balance and coordination are essential skills for the lower body.

TRAIN OPTIMUM LEG ALIGNMENT

Training clients to optimally align the legs can decrease wear and tear on the joints and help the muscles to provide balanced support for all the movements of the hip, knee and ankle.

In ideal alignment, the hip joint, knee joint and ankle joint are lined up directly over each other in standing and in squatting or lunging. Ideal alignment is exactly that, ideal. When working with clients, the goal is usually to correct, balance and strengthen the best alignment possible for that individual.

When working with athletic clients, their sport or activity might include working in ranges well outside of ideal alignment. In this case, work to strengthen and balance the lower body to be able to tolerate the stresses put on it by their sport or activity.



Leg Alignment - Hip, knee and ankle in line

BALANCE RANGE OF MOTION

Creating muscular balance on all sides of each joint is an important principle in training the lower body. Muscular imbalances in either strength or flexibility can easily lead to stress on the joints.

Without good range of motion on both sides of a joint, the muscles can't work correctly. This is called reciprocal inhibition. For example, if the hip flexors are too tight, the hamstrings won't have enough range to work well and strength gains will be difficult. Hip mobility, dynamic flexibility and myofascial release exercises are used to balance mobility of the lower body.

Balanced muscle development is important in both joint specific movements like hip extension, flexion, adduction and abduction shown below and in functional lower body moves like squatting, lunging and walking.

BALANCE MUSCULAR STRENGTH

Promoting balanced muscular development optimizes joint function, enhances power and creates support and stability for the joints. Strengthen the muscles around each of the joints in three dimensions:

Hip flexion and extension, abduction and adduction, medial and lateral rotation and circumduction.


Hip flexion


Hip extension


Hip abduction

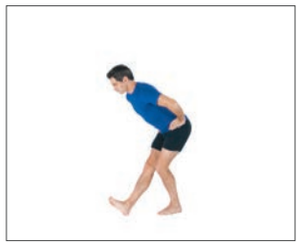

Hip adduction


Hip lateral or external rotation


Hip medial or internal rotation

Knee flexion and extension and tibial medial and lateral rotation.


Knee flexion


Knee extension

Ankle plantarflexion and dorsiflexion.


Ankle plantarflexion


Ankle dorsiflexion

Foot inversion, eversion and toe flexion and extension.

CREATE STRENGTH AND ENDURANCE

The lower body is often used to develop good cardiovascular health through repetitive, high output activities designed to challenge the heart and lungs. While walking, running, biking, swimming or climbing, the lower body needs a significant amount of both strength and endurance to stay healthy over time. With good leg alignment and muscle balance the client can work the lower body to develop the strength and endurance necessary to meet their goals.

Train good mechanics in functional movement patterns including:

- Locomotion: Walking, running, biking or swimming
- Squatting and lunging in a variety of ways.
- Foot and ankle work like heel raises and jumping to stabilize the ankle and improve balance.

TRAIN AGILITY, BALANCE AND COORDINATION

In order to handle ordinary and unexpected situations, clients need to work on agility, balance and coordination at a level appropriate to their goals. These elements create the whole body movement skills necessary for a person to manage their daily and athletic activities successfully.

- Agility can be as simple as being able to respond quickly to a change in the environment like a slippery patch of ice or as complex as training a soccer or basketball player.
- Balance is a multisensory skill that begins to deteriorate after the age of 30. Having a good sense of balance is important for keeping clients safe, especially as they age. Incorporating balance challenges in each session can help keep this system tuned up and clients moving with confidence and grace.
- Coordination of complex movements is what we are designed to do. Training clients in functional movement patterns involving coordination of the lower body, trunk and upper body are essential for overall health and wellbeing whether clients are a 60 year old gardener or a 20 year old tennis player. Coordination is the key to moving efficiently, generating power, and accuracy and minimizing wear and tear on the joints.

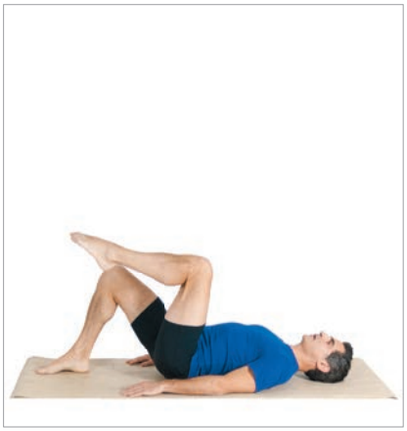
In designing an exercise program for the lower body, the goals and condition of the client will dictate which elements to focus on. If the client is strong but very tight, mobility may be the focus. If the client has had repeated knee injuries, alignment, balanced muscle development and mobility may all be included to balance the forces around the knee. For an older client who wants to remain fit and active, overall strength, endurance and balance may be the focus.

Agility

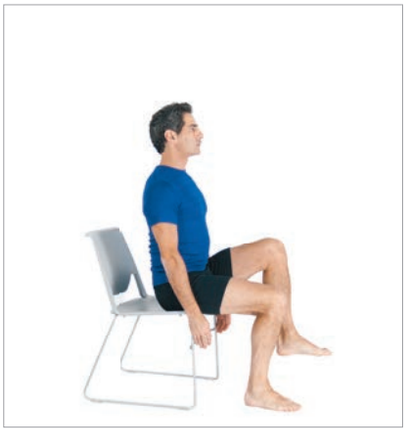
Balance

Coordination

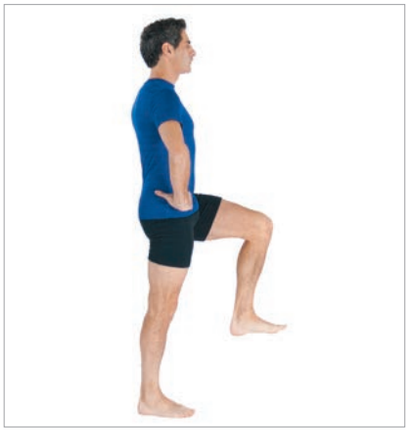
Hip Flexion above 90°



Marching Supine

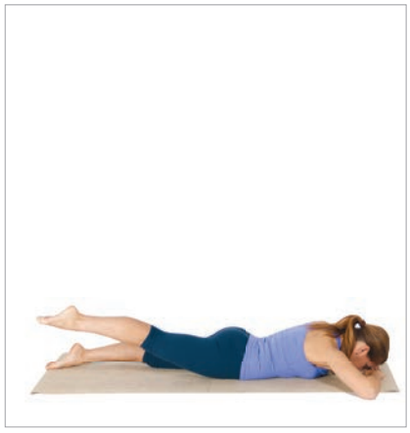


Marching Seated

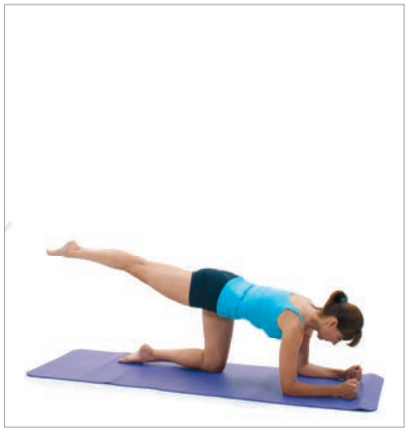


Marching Standing

Hip Extension



Hip Extension Prone



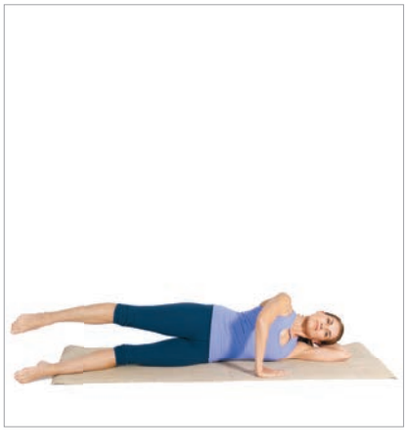
Hip Extension All Fours

Hip Extension Standing

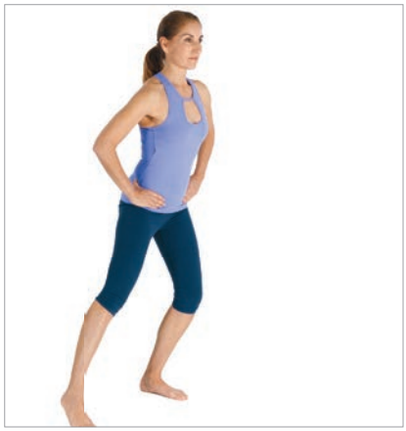
LOWER BODY TRAINING

EXERCISE PROGRESSIONS: HIP ABDUCTION AND ADDUCTION

Hip Abduction



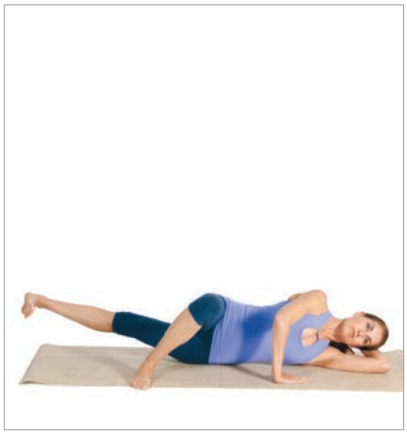
Side Lying Leg Lifts - Abduction



Stepping Out Abduction

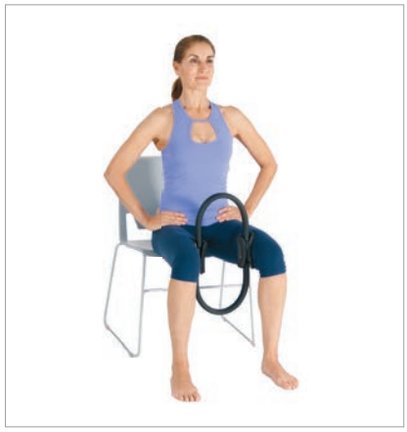
Standing Leg Lifts - Abduction

Hip Adduction



Side Lying Leg Lifts - Adduction

Standing Leg Lifts - Adduction

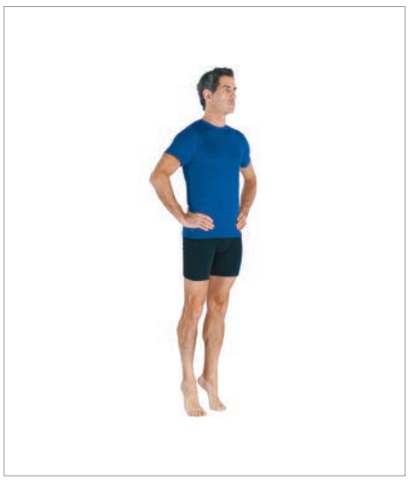


Seated Isometric Adduction

Foot and Ankle Strength

Plantar Flexion

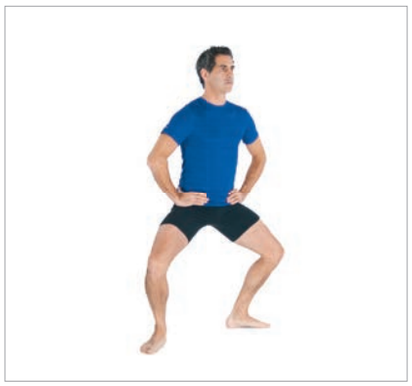
Dorsi Flexion



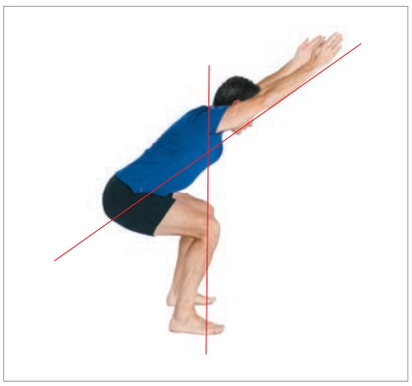
Heel Raise

Functional Movements

Marching with Arm Swings

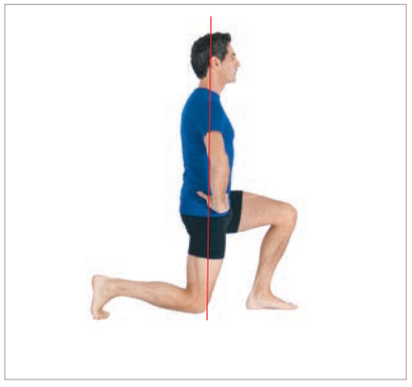


Knee Bends

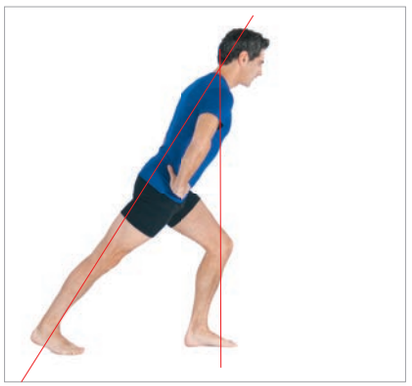


Squats - Narrow, Parallel

Squats - Wide, Turned Out



Upright or 90/90 Lunge



Tilt or Forward Lunge

The Upper Body

The upper body consists of the cervical spine, thoracic spine, ribs, shoulders, arms, elbows, wrists and hands. Upper body actions run on a spectrum from the fine motor skills of texting, drawing and sculpting to the power moves of throwing a ball or lifting a heavy object. The anatomical complexity and multiple functions of the upper body require a solid understanding of upper body anatomy, biomechanics and training principles to successfully train clients for functional and athletic activities.

Upper Body Training Principles

There are many ways to design an effective upper body training program but any program should begin by creating optimum movement patterns with a balance of strength, mobility and stability. When upper body movement is not well coordinated, injury can easily be the result. The following principles provide a framework for creating strength and balance in the upper body:

Optimize joint mobility and stability

- Create glenohumeral stability, coordination and endurance.
- Develop appropriate scapular mobility.
- Train dynamic scapular stability or scapular control.

Train functional movement patterns

- Pulling, pushing and lifting with both arms, one arm and in multiple directions.

Integrate upper body movements with the rest of the body

- Include rotation, cross body moves and exercises like throwing where power moves through the body to the arm.

OPTIMIZING JOINT MOBILITY AND STABILITY

The upper body has many more joints participating in most actions than the lower body does so understanding the balance between stability and mobility and thinking in terms of integrated rather than joint specific movement patterns is crucial for training success. The two areas to focus on are glenohumeral stability and endurance and scapular stability and mobility.

GLENOHUMERAL STABILITY AND ENDURANCE

Glenohumeral stability and endurance means training the rotator cuff to position the humeral head in the glenoid fossa so larger muscles and movements can be performed without compromising the glenohumeral joint. The muscles in this area are small so training should focus on endurance rather than strength or high repetitions with low resistance rather than high resistance with low repetitions. Training should also focus on maintaining the congruency of the joint or keeping the humerus relatively centered in the glenoid fossa as it rotates.

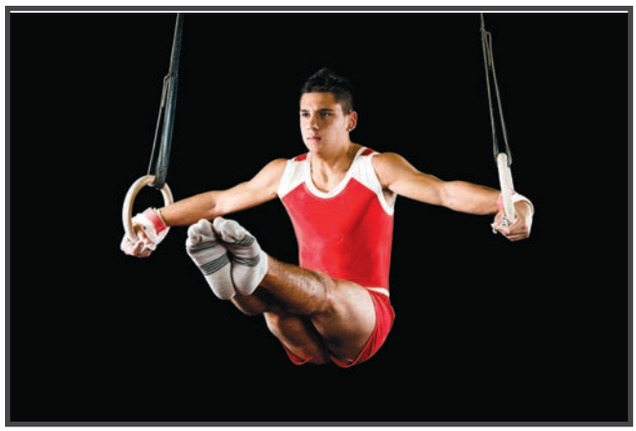
SCAPULAR MOBILITY AND COORDINATION

Optimizing scapular stability and mobility are important for creating power transfer through the shoulder joint and for minimizing stress on any one element of the upper body kinetic chain. Mobility exercises are designed to coordinate the actions of the lower body, spine, shoulder, arm and head to maximize power transfer and minimize joint stress in functional movements. If there is a limitation in mobility, for example the scapula is not moving into upward rotation when the arm is lifted, stress will be placed on the glenohumeral joint potentially leading to shoulder impingement.

SCAPULAR STABILITY AND DYNAMIC CONTROL

Scapular stability means positioning the scapula for optimum force transfer during movement. For example, in a push up, the scapulae may move into retraction as the body lowers but should return to a neutral position before starting a second rep. This provides a stable base for the glenohumeral joint to move into extension as the body lowers and to flex as the body rises.

In the case of raising the arm overhead in preparation for throwing a ball, the stability of the scapulae needs to be dynamically controlled through the range of motion. In other words it needs to move at just the right speed into upward rotation to support the action of the glenohumeral joint and the rest of the arm. In this example, if the scapulae stayed perfectly stable in one position, the arm could not rise high enough to produce the necessary power to throw the ball.



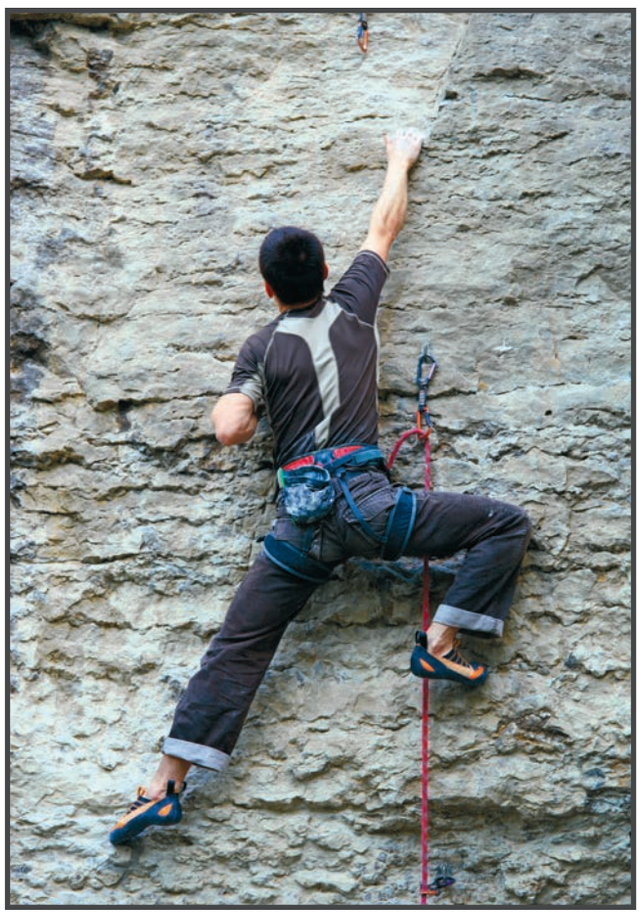
PULLING, PUSHING AND LIFTING

Because of the multi planar and multi joint actions of the upper body, training functional movement patterns is the best way to create strength and balance in the upper body. Pushing in all directions: forward, overhead, down and laterally; pulling in all directions: in, down and up and lifting in a variety of ways all provide a general framework for planning a well balanced training session. Using one or both hands and working with different hand grips can easily modify the exercise to create applications for any activity.

INTEGRATING THE UPPER AND LOWER BODY IN FUNCTIONAL MOVES

In addition to pushing, pulling and lifting, the upper body should be trained in movements incorporating the legs, hips and spine. For a power move like a tennis serve, most of the force hitting the ball is not generated by the shoulder and arm but by the legs and spine. Working on moves like throwing, or rotational moves can integrate the upper and lower body creating both more power and less likelihood of injury because a well coordinated movement spreads the load out between joints and transfers the energy smoothly from segment to segment.

For example, a golfer who does not integrate the rotation of the swing through the body from the feet to the hands to the club to the ball, will not generate the power needed for a good drive. Developing integrated mobility of the upper and lower body is crucial for many functional movements and a common limitation to developing power and efficiency in daily and athletic activities.



Shoulder Stability, Mobility and Muscle Balance

The scapulae are relatively mobile islands of bone floating on the back of the rib cage and connected through the acromioclavicular joint, the clavicle and the sternoclavicular joint to the thorax. The clavicle, the scapula and all of their associated joints work together to create movement of the shoulder. The scapulae function as platforms which the upper limbs use for support. The position, stability and strength of the scapulae are almost entirely dependent on the action of the muscles that surround them. This complex system is called the scapulothoracic joint. The shoulder muscles work isometrically in balanced partnerships to stabilize the scapulae for weight bearing exercises like the plank. The same partnerships work concentrically and eccentrically to move the scapulae and the upper limb for exercises such as lat pulls. These muscular relationships allow the scapulae to be supported in all planes for safe and efficient motion.

ELEVATION AND DEPRESSION OF THE SCAPULA

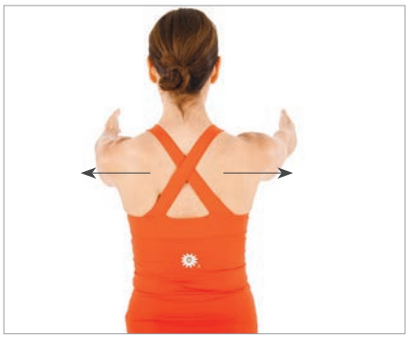
Elevation slides the shoulder blades up toward the head while depression draws them down toward the hips. The balance of these two actions keep the scapulae centered between the head and the bottom of the rib cage. The scapular depressors are generally weaker and less active than the elevators and require more training to create balance.

Scapular elevation

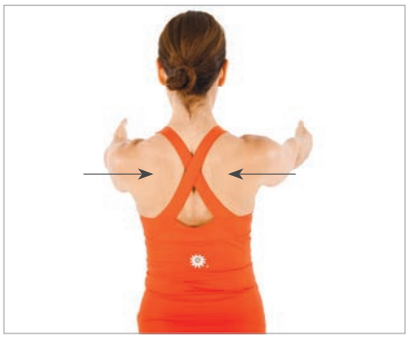
Scapular depression

PROTRACTION AND RETRACTION OF THE SCAPULA

Retraction pulls the scapulae toward the spine. Protraction pulls the scapulae away from the spine and around the rib cage. These muscles work together to keep the scapulae stable and balanced between protraction and retraction when bearing weight on the upper body as in a plank exercise. Dynamic scapular stability is critical for generating power in the upper body.



Scapular protraction



Scapular retraction

UPWARD AND DOWNWARD ROTATION OF THE SCAPULA

In upward rotation, the scapulae rotate so the glenohumeral joint angles up toward the ceiling while the bottom tip of the scapula swings laterally and superiorly around the rib cage. As the arms lower the scapulae depress and downwardly rotate, swinging the bottom tip of the scapulae toward the spine. The scapulae upwardly rotate approximately 1 degree for every 2 degrees of humeral movement in abduction or flexion above 60 - 90 degrees. This is called scapulohumeral rhythm.

Scapular upward rotation

Scapular downward rotation

Movements of the Glenohumeral Joint

The glenohumeral joint is designed for maximum range of motion. The humeral head is a very big ball fitting into the very small socket of the glenoid fossa of the scapula. Compare this to the close fitting ball and socket of the hip which also has a large range of motion but much more structural stability than the glenohumeral joint. Unlike the hip joint, the glenohumeral joint combines its motion with the scapula and the clavicle to allow the shoulder to throw a ball, swing from a trapeze or pull ourselves out of the pool.

In addition to the synergy between the glenohumeral joint and the rest of the shoulder joints, many actions of the arm are accompanied by movements of the thoracic spine. For example, the range of motion of the arm in flexion may be limited by the mobility of the thoracic spine in a client with kyphosis. Or, in observing a tennis player serving, or a baseball pitcher throwing, thoracic extension is part of the wind up to deliver power to the ball. Most functional moves of the upper body are working multiple joints in multiple planes so training for that reality is essential for success.

MEDIAL AND LATERAL ROTATION

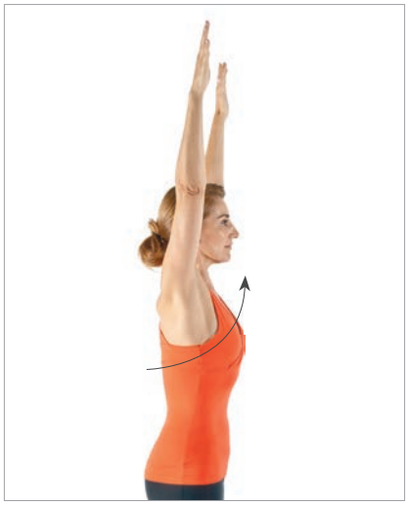
The humerus rotates in the glenoid fossa into medial (internal) and lateral (external) rotation. The rotators are responsible for positioning the humerus in the glenoid fossa so the larger, more superficial power muscles can move the humerus safely.

Shoulder medial rotation

Shoulder lateral rotation

FLEXION AND EXTENSION

The flexors and extensors move the arms forward and back in the sagittal plane. Once the arms move above shoulder height, upward rotation of the scapulae is necessary to allow the humerus to keep moving. For full flexion or flexion beyond straight overhead, thoracic extension is often necessary.

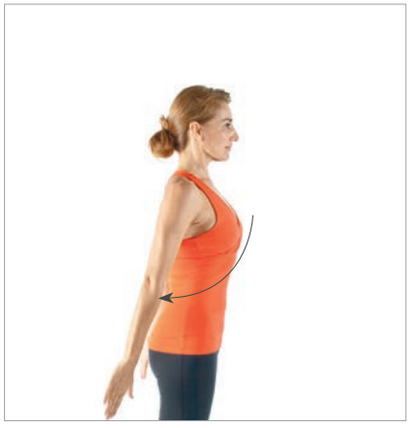


Shoulder flexion

ABDUCTION AND ADDUCTION

Abduction takes the arms away from the torso while adduction brings the arms to the side of the body or toward the midline if combined with flexion or extension. Upward rotation is again necessary when the arms move above shoulder height in abduction.

Shoulder abduction and adduction



Shoulder extension

UPPER BODY TRAINING

EXERCISE PROGRESSIONS: GLENOHUMERAL STABILITY AND SCAPULAR MOBILITY

Glenohumeral Stability

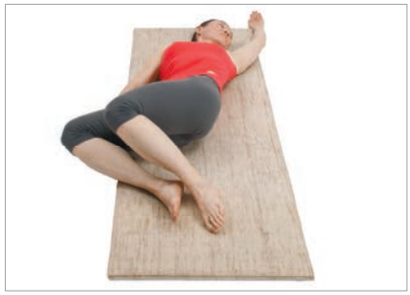
Lateral Glenohumeral Rotation

Medial Glenohumeral Rotation

Scapular Mobility

Arm Raises Together

Arm Raises Alternating



Angels in the Snow

Telescope Arms

Pinwheel

Develop Scapular Stability - Plank Preps

Sternum Drop

Plank Prep - All Fours Single Arm Lift

Front Plank

Modified Front Plank

Front Plank

Front Plank with One Leg Lifted

Front Plank with Opposite Arm and Leg Reach

Front Forearm Plank or Hover

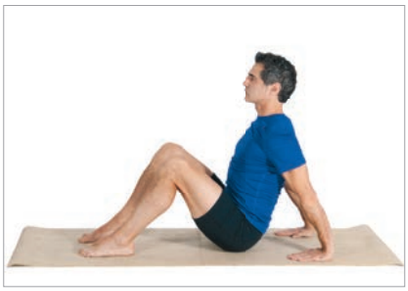
Push Up

UPPER BODY TRAINING

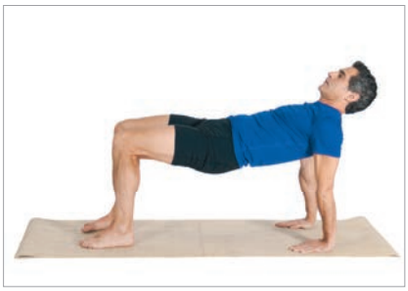
EXERCISE PROGRESSIONS: BACK AND SIDE PLANK

Back Plank

Back Plank - Elevation



Back Plank - Depression



Modified Back Plank

Mod. Back Plank - Marching

Back Plank

Back Plank - Leg Lift

Side Plank

Modified Side Plank

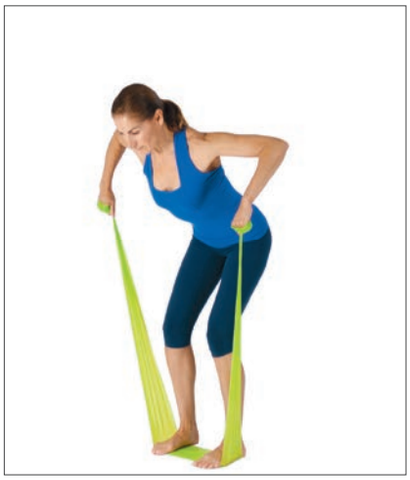
Side Plank - Feet Staggered

Side Plank - Feet Stacked

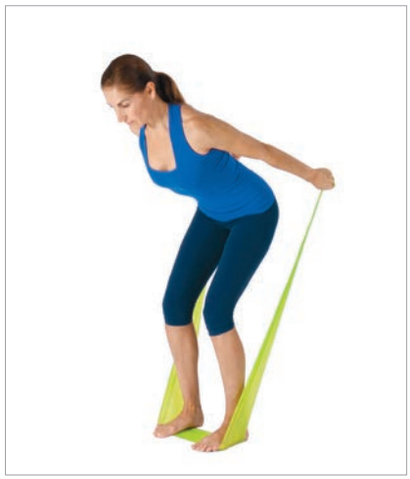
Side Plank with One Leg Lifted

Side Forearm Plank or Hover

Activating the Posterior Shoulder

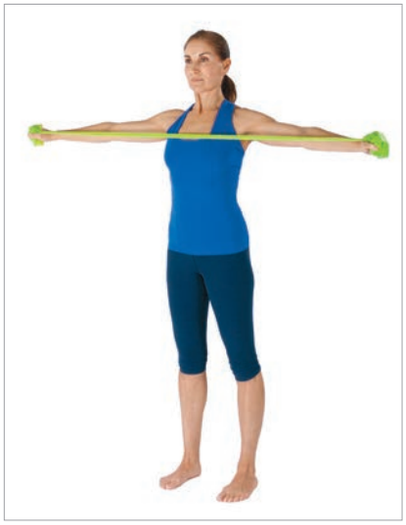


Rows



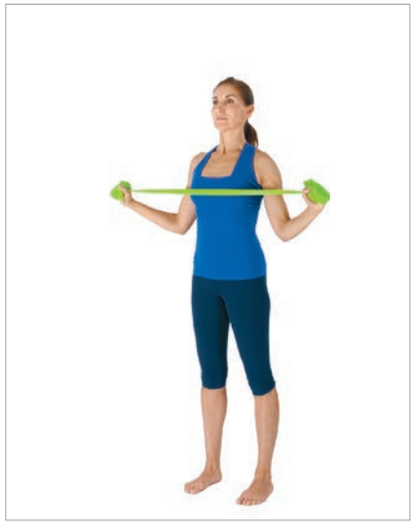
Triceps Press

Triceps Dip



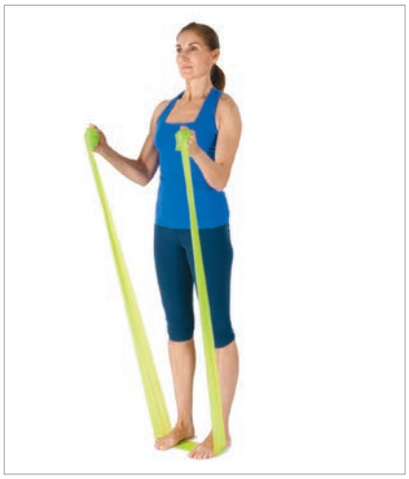
Lateral Press

Overhead Press



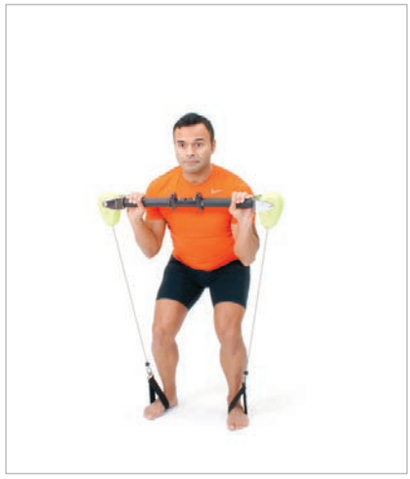
Pulling Down

Activating the Anterior Shoulder



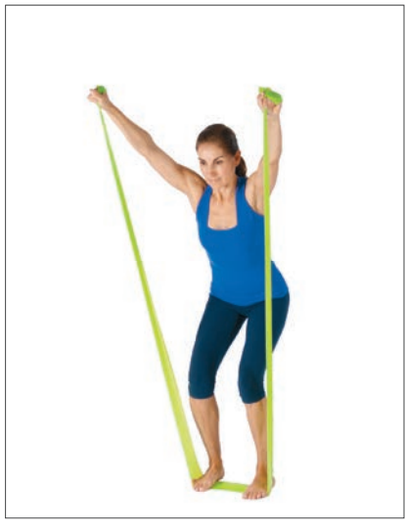
Biceps Curl

Chest Press

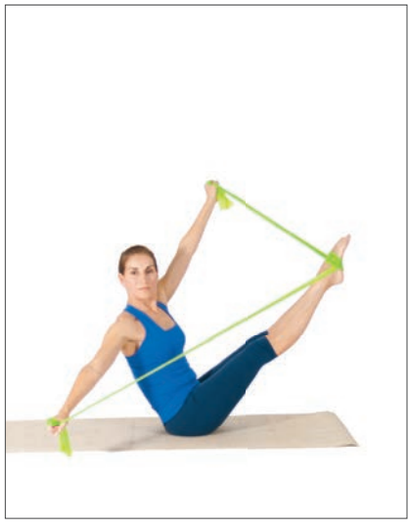


Lifting

Side Raise



Forward Raise



Integration of Upper and Lower Body

Stretching

Ever watch a dog or a cat after they the get up from a rest? One of the first things they do, after a great big yawn, is stretch. It is a natural instinct in all animals, including us humans. Stretching, as part of any physical fitness regime, provides an opportunity to restore and relax the body while facilitating both recovery and flexibility. While there are many theories surrounding stretching and the different stretching techniques it is clear that stretching is a great way to enhance flexibility, muscle control, awareness and range of motion.

Stretching techniques vary, but they all strive to increase flexibility and range of motion by overcoming the stretch reflex. Stretching techniques include static stretching, contract/release and active isolated stretching. Stretching can be slow and controlled, ballistic or dynamic. Each of these versions have value and can be used to find the most effective stretch for the client.

The Stretch Reflex

The human body has many brilliant ways of protecting itself against potential harm. The stretch reflex is one such mechanism. It moderates muscle length and protects against overstretching a joint. When a muscle is stretched, sensors called muscle spindles are stimulated and send a signal to the brain to contract the stretching muscle to limit its range of motion. To change the range of motion of a joint and reset this stretch reflex, many different strategies are employed. Some clients respond better to one technique than another so it is good to have options in your training toolkit.

Dynamic Stretching Techniques

Dynamic stretching involves gaining flexibility by moving in and out of end ranges of motion. It is an excellent way to increase flexibility while simultaneously developing stability of the joint at the end range. While some literature categorizes dynamic stretching as a technique of its own, others refer to it as dynamic preparatory movements for real world and sports specific activities. Activities such as yoga and Pilates are exercise modalities known for their dynamic stretching exercises.

Contract/Release

Contract/Release, or hold relax, is one form of PNF (proprioceptive neuromuscular facilitation) stretching. In a hamstring stretch for example, the muscle is put in a stretched position then the hamstring is contracted isometrically and released. Isometrically contracting a muscle for longer than 6 seconds creates high tension which is followed by sudden relaxation. This negative feedback lengthening is called autogenic inhibition. To perform, contract and release the muscle for 6 seconds three times before holding a sustained stretch for 30 seconds.

Active Isolated Stretch

Active Isolated Stretching, or AIS, is a method which is intended to naturally create neuromuscular relaxation by activating the antagonist of the muscle being stretched. In a hamstring stretch, for example, the hip flexors would be used to stretch the hamstring. It is the concentric contraction of the opposing muscle which creates the stretch in the targeted muscle. Activation of the opposite side of the joint pulls the muscle into a stretched position. Activation is designed to overcome the tendon stretch reflex by creating short, slow and controlled movements of the joint enhancing the stretch tolerance. Six to ten repetitions of a slow movement through range of motion is recommended before holding the stretch.

Static Stretching

Static stretching is a widely used and accepted form of stretching. A stretch is held for a specific period of time, usually for 30 – 45 seconds or longer. To improve flexibility, the American College of Sports Medicine recommends 2 to 4 repetitions totaling 60 seconds. It is currently believed that static stretching overcomes the stretch reflex by desensitizing receptors to tension. This in turn allows muscles to handle more force.

MOBILITY AND RESTORATION

EXERCISE PROGRESSIONS: LOWER BODY STRETCHES - SUPINE, KNEELING AND SEATED

Supine Stretches

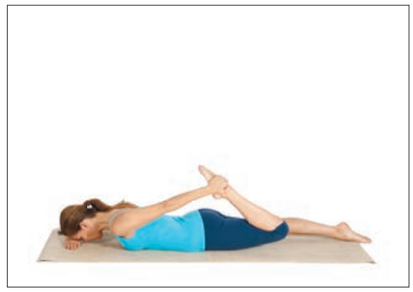
Hip Lateral Rotators

Hamstrings

Abductors/Lateral Leg

Adductors

Hip Flexors



Quadriceps

Kneeling and Seated Stretches

Hip Flexors

Quadriceps

Hamstrings

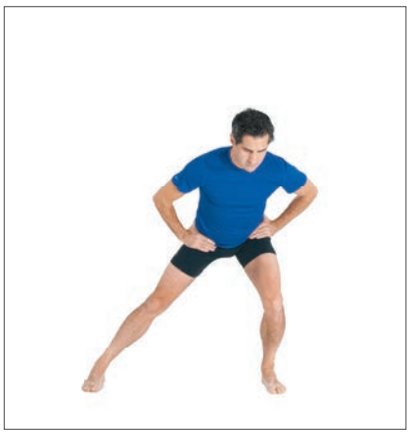
Abductors/Lateral Leg

Adductors

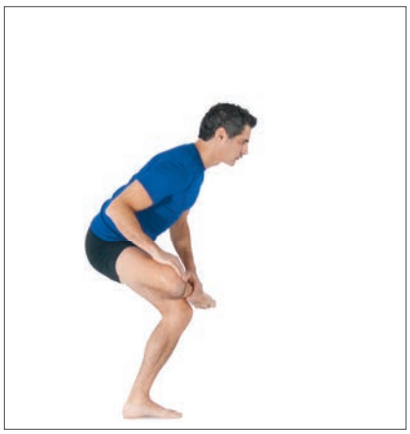
Hip Lateral Rotators

Standing Stretches

Hip Flexors



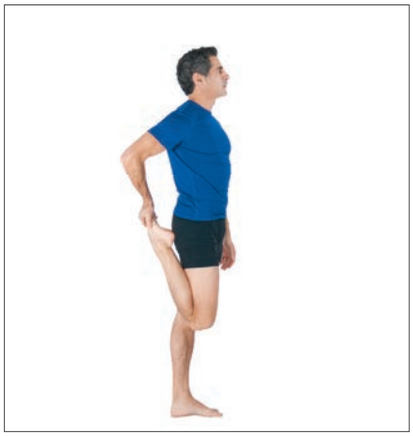
Adductors



Hip Lateral Rotators

Hamstrings

Abductors/Side Body



Quadriceps

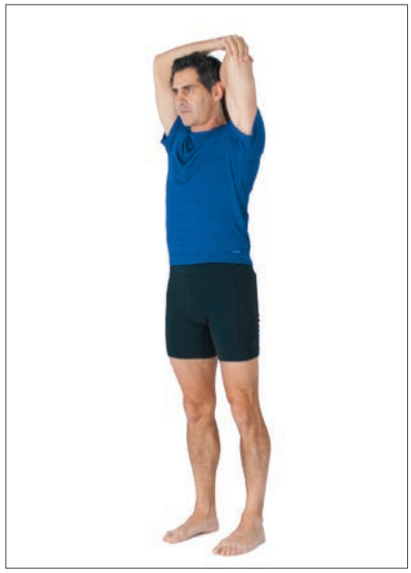
Calf

Soleus

Upper Body Stretches

Chest

Posterior Shoulder



Triceps

Eagle Stretch

Neck

Stretching

Forearm and Wrist Extensors - Starting Position

Forearm and Wrist Extensor Stretch

Wrist and Finger Extensors

Wrist and Finger Flexors

Fingers and Thumb

MOBILITY AND RESTORATION

MYOFASCIAL RELEASE, REST AND RECOVERY

Rest, Relaxation and Recovery

In our modern, always on the go society, rest and relaxation are not always a priority. Many ancient forms of health care and physical practice, from meditation to yoga, emphasize the rejuvenating power of rest in creating greater levels of awareness, fostering creativity and healing the effects of our daily activities.

Stress and Relaxation

Stress affects the autonomic nervous system (ANS) which controls many of our life sustaining functions such as heart beat, thermoregulation, respiration, and digestion. The ANS also works with the mind, affecting our emotions and our behavior. Continuous stressful stimuli can interfere and exhaust the routine ANS function while relaxation soothes the body and restores us to our natural state by modulating hormone release, slowing respiration rate and clearing the mind.

WHOLE BODY MOVEMENT AS RELAXATION

Movement can itself be a form of relaxation. Rhythmic, breath driven movements like those used in Tai Chi, or the repetitive action of running or cycling have been proven to release endorphins which can create a feeling of well being. Whole body exercise has also been shown to improve the function of the cardiovascular, respiratory, myofascial and neurological systems. When these systems are tuned up, the body is better able to handle stress and recover from illness, injury or hard physical training.

Incorporating moments of rest, breath and mindfulness into a session or into a client's home program will encourage them to take better care of themselves and to respect their bodies need for recovery. Cueing clients to focus on the breath in any given activity helps facilitate ease and relaxation which in turn creates a more productive learning environment, increases awareness of functional and dysfunctional movement patterns, decreases the likelihood of injury and increases client empowerment and satisfaction.

We encourage you to find these moments within the exercises and incorporate them into the client's workouts.

Recovery and Rest

An important part of physical training is the concept of recovery. Recovery takes many forms including resting between sets in an exercise sequence, getting a good night's sleep to allow tissues to recover and the nervous system to integrate a new skill and performing myofascial release or self-massage techniques to help tissues recover from over work.

Allowing time between intensive exercise sessions is critical to minimizing injury and maximizing strength and performance gains. Cellular repair is done by the body at night while we sleep so making sure there is recovery time between training sessions keeps the body from breaking down from too much strenuous activity.

Sleep and rest are also critical for learning a new skill or improving performance. When a client is having trouble with a new move, simply sleeping on it will often bring about positive change. On a smaller scale, incorporating short rest periods into a training session allows the muscles to recover enough to keep pushing.

Myofascial Release or Self Massage

The term myofascial release is often used to describe different manual therapy techniques which include soft tissue massage, manipulation and mobilization, trigger point therapy, strain-counterstrain therapy and foam rolling. All of these techniques are designed to positively effect musculoskeletal limitations by relaxing muscles, improving blood and lymphatic circulation, and removing toxins from immobile tissue.

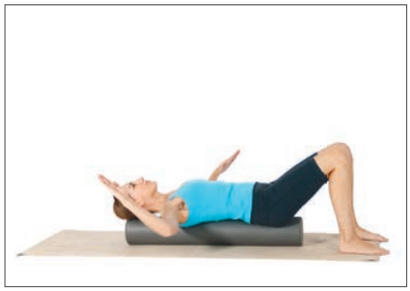
As a personal trainer or Pilates instructor, hands on techniques may be beyond your scope of practice so using self massage or myofascial release techniques on the foam roller are an excellent way to help clients recover. They can also be used to loosen tissue and improve range of motion through providing pressure on the tissue. Myofascial release can be used very successfully at the beginning of a session to decrease chronic tension patterns at the end of a session to help the tissues recover from the workout. Self massage can be used quite successfully with dynamic flexibility techniques to improve or maintain range of motion.

Roller Stretches

Chest Opener

Bookends Starting Position

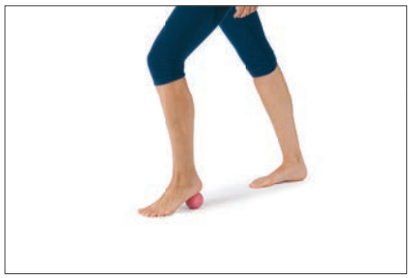
Bookends Stretch



Flip Flops

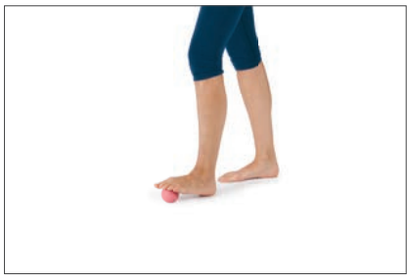
Angels in the Snow

Myofascial Release for the Feet



Heel Release

Arch Release



Metatarsal Release

Toe Release

Myofascial Release

Posterior Hip

Hamstrings - Two Legs

Hamstrings - Single Leg

Calves - Hips Down

Calves - Hips Up

Quadriceps/Anterior Thigh

Tibialis Anterior - Anterior Shin

Iliotibial Band/Lateral Thigh - Supported

Iliotibial Band/Lateral Thigh - Unsupported

Adductors/Medial Thigh

Lateral Torso

Upper Back

Occiput and Head