

Pilates Union UK

The Instruction Series



COMPREHENSIVE MATWORK MANUAL

Written by Emma Newham

**An extensive guide for Pilates
instructors and enthusiasts**

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Emma Newham's

Comprehensive Matwork Manual



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藏书章

By Emma Newham

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What is Pilates?

Created by Joseph Pilates in the 1920's, Pilates is a full-body exercise method that emphasizes proper alignment, good technique and correct breathing. It aims to increase flexibility and strength as well as integrate body and mind and induces a sense of relaxation and well being. Poor posture, weak muscles and habitual patterns of misuse due to injury or poor posture make the body inefficient and out of balance creating problems with alignment and good movement patterns. Pilates helps to restore the body's natural alignment, helping to bring it into balance so that it can move more efficiently with grace and ease and with minimal effort. The method may be taught without equipment on a mat or may employ the use of the Pilates machines developed by Joseph Pilates himself such as the Reformer, Cadillac and Ladder Barrel. There are up to eight basic principles within the method. It is often described as a mixture of Alexander Technique – to help improve posture: Body Conditioning – to strengthen and tone the body and Yoga – to help increase flexibility. It builds strength without excess bulk, creating a slender but toned body. It is now recognized by many leading physiotherapists, osteopaths and other health professionals to help in the role of injury prevention and rehabilitation. Aside from the aesthetic benefits, Pilates is now widely used by major sports stars from varying different areas that are attracted to the benefits gained from increasing core their strength. It teaches body awareness resulting in controlled, graceful but precise movements. Anybody can do Pilates regardless of age, fitness level or gender. It is suitable for a variety of health problems and medical conditions since many of the exercises can be adapted, modified or changed to cater for individual needs

Who was Joseph Pilates?

Joseph Hubertus Pilates was born near Düsseldorf in Germany in 1880. As a child, he suffered from many illnesses such as asthma, rickets and rheumatic fever. In order to build up his own body, he dedicated his life to becoming physically fit. He decided to study yoga and Zen meditation. Around the age of 14, he became proficient in gymnastics,

diving and skiing.

In 1912, he came to England and became a boxer and he also worked as a circus performer. Later he trained detectives at Scotland Yard in the art of self-defense. During World War One, he was interned in a war camp. It was here that he taught fellow internees his exercises, which combined flexibility and strength that he had used to build up his own body.

It was whilst working as a hospital orderly on the Isle of Man that the idea for the original Cadillac machine was born. By attaching ropes and springs to the beds of soldiers who could not walk, he helped in their rehabilitation process.

He returned to Germany after the war where he continued to develop and teach his method. Pilates popularity spread to the dance community thanks to gaining favour via Rudolf Von Laban, creator of the famous dance notation. It was when the German government requested that he train the German army that Joe decided to emigrate.

In 1926, he moved to the States where he met his wife, Clara, whom he eventually married. Together they established a studio in New York City where they shared premises with the New York City Ballet. It was here that he taught his method of exercise, which he named, Contrology.

The studio became very popular with dancers since it helped them recover from injury and strengthened their technique. Because of their shared address with the NYC ballet, many dancers trained with Joe. George Balanchine, who studied with Joe, invited him to train his young ballerinas. Other dance legends such as Martha Graham, Ruth St. Denis and Ted Shawn, Jerome Robbins also trained with Joe.

Two of Joe's students, Carola Trier and Bob Seed, are known to have opened their own studios whilst Joe was still alive. Bob Seed was a former hockey player whilst Trier, had a background in dance. Joe and Clara remained close friends with Trier until their deaths but fell out with Seed when he opened a studio across town from Joe and tried poach some of his clients.

In 1967, at the age of 87, Joseph Pilates died without leaving a will. It was only after his death that Contrology became known as the Pilates method.

His legacy lives on through the masses of instructors teaching his method and via the two books he wrote in his lifetime.

Return to Life through Contrology (circa 1928)

Your Health: A Corrective System of Exercising That Revolutionizes the Entire Field of Physical Education (circa 1934).

Pilates Elders

Clara still continued to operate at the Studio on Eighth Avenue in New York. Around 1970, **Romana Kryzanowska**, who had studied with Joe and Clara in the 1940's, was made director. Some of Joe and Clara's students later opened their own studios.

In 1970, **Ron Fletcher**, a Martha Graham dancer, who studied under Joe in the 1940s, opened his studio in L.A, which attracted many Hollywood celebrities.

Kathy Grant, another of Joe's students and teachers, took over direction at the Bendel's studio in 1972.

Lolita San Miguel taught Pilates at Ballet Concierto de Puerto Rico in San Juan, Puerto Rico.

Both Kathy and Lolita were awarded degrees by the State University of New York in 1967 to teach Pilates. They are believed to be the only two Pilates practitioners officially certified by Joe himself.

Dancer, **Eve Gentry**, taught at the New York Studio from 1938-1968. She opened her own studio in Santa Fe, New Mexico. She was a co-founder of the Dance Notation Bureau and was awarded the "Pioneer of

Modern Dance Award" by Bennington College in 1979.

Dancer, **Bruce King**, a member of the Merce Cunningham Company, Alwyn Nikolais Company, as well as his own Bruce King Dance Company trained with Joe for many years. He opened his own studio at 160 W. 73rd Street in New York City in the 1970's.

Mary Bowen, who trained with Joe in the 1960s, started teaching Pilates in 1975. She founded "Your Own Gym" in Northampton, Massachusetts.

Robert Fitzgerald opened his studio on West 56th Street in the 1960s, where he had a large clientele from the dance community.

Pilates Principles

According to which text you read, there are up to nine Pilates principles. Since Joseph Pilates did not directly write down these principles, there is no concrete agreement within the Pilates industry as to the order or particular terminology used to describe each principle. We therefore rely on the work of his successors to describe the concepts taken from his work. The principles can seem vague initially but it is the application of these concepts within each exercise that make Pilates unique.

Centering: Focus is brought to the centre of the body where all Pilates movements originate. The energy for the exercises is sourced from the centre or what we now refer to as the core. Joseph Pilates coined the term "powerhouse" to refer to this area of the body. This area extends from the rib cage down to the pelvic basin and incorporates the abdominals, back, pelvic floor, inner thighs and buttocks. All action and energy for Pilates exercises initiates from the powerhouse and flows outwards to the extremities. It therefore builds great abdominal strength, allowing the rest of the body to move much more effectively

and efficiently. Regardless of which area of the body being worked, the emphasis is on every action being initiated from the core. Once the core muscles are engaged, this assists in stability of the pelvis and spine and reduces risk of injury whilst exercising. Pilates therefore strengthens the interior (or architectural muscles) of the body before attempting to strengthen the exterior.

Concentration: It is important to establish a connection between body and mind to gain optimal value from each exercise. By bringing attention to each movement, we increase body awareness and conscious control. Each of the Pilates principles should be incorporated into every exercise and this demands intense focus. Without concentration, some of these principles may be lacking, making for sloppy, uncontrolled movements. There are many different instructions to focus on within each exercise, making it difficult for the brain to assimilate initially. This is why it takes a long time to perfect Pilates and can be frustrating for the beginner. Those new to Pilates need to pay careful attention to their bodies, building upon small, basic movements and progressing to the next stage once a level of competency has been reached. Stress can interfere with having a good Pilates session, since the mind is unable to fully concentrate on the movements. A good tip is to close the eyes when performing the exercises. With the eyes shut, the visual stimulus is taken away. The brain is then free to home in on the internal environment and becomes more receptive to different sensations within the body and awareness and feeling are enhanced.

Control: Pilates exercises are performed with the utmost control, which minimises injury risk and produces effective results. Unlike many exercise regimes, which advocate multiple repetitions, Pilates emphasises quality of movement over quantity. Every instruction to each individual body part is carefully controlled and collectively contributes to the overall success of the whole move. Attention to detail is crucial in achieving perfect control.

Precision: Similar to control but focusing on alignment and spatial

awareness. There are precise instructions for correct placement and positioning of the body within each exercise to assist in proper alignment and good posture. Every exercise has definitive points where the body should be positioned at all times. Each exercise has an intention and once we know the purpose of an exercise, we can understand how to precisely move the body in such a way as to achieve the original goal. Lack of proper positioning and awareness results in postural misalignments and poor movement quality. With good training, precision can be increased resulting in improved posture and good overall movement. Control and precision eventually becomes ingrained, having the effect of good movement patterns in our everyday lives also.

Breath: Joseph Pilates stated “Even if you follow no other instructions, learn to breathe correctly”. He likened the lungs to bellows, using them to pump air fully in and out of the body. Pilates believed in enriching the blood with oxygen so that it could awaken all the cells of the body and eliminate stale air and the wastes related to fatigue. He believed that forced exhalation was the key to a full inhalation.

Every movement in Pilates has a specific breath pattern. Together with the timing of the breath, it enhances effective muscle use. Generally speaking, we tend to exhale on the effort (or exertion) as this helps prevent the body from creating tension. Effective breathing can help to lengthen the abdomen, broaden the upper back and helps train the correct muscle recruitment for everyday core strength.

The lungs need to open to the front, back and sides. If we can do this well, then our oxygen uptake increases and therefore our lung capacity. Unfortunately, most of us only open the front lungs, using the upper lobes, since sedentary lives lead to shallow breathing. Many people often hold their breath during exercise, particularly those new to Pilates, due to the concentrated effort of coordinating a difficult task. Muscles can tense up when we hold our breath, which can exacerbate poor posture.

Proper breathing will assist in flowing movements and it is an integral part of the technique and one of the key principles. Pilates encourages deep breathing, using the lower and upper lobes of the lungs. Benefits

of correct breathing allow the blood to be enriched with oxygen, which nourishes all the cells in our body, whilst expelling stale air. Our circulation increases and we feel rejuvenated. More oxygen in the muscles helps them to relax and therefore reduces tension. It also assists in concentration and control whilst exercising. We use the breath to initiate and support movement.

Thoracic or lateral breathing allows us to keep the abdominal muscles pulled in whilst inhaling and exhaling. This protects the spine whilst exercising. The aim is to keep the abdominals pulled in whilst inhaling and exhaling. This protects the spine whilst exercising. The aim is to keep the abdominals contracted whilst we breathe laterally, so that we have maximum support during movement. The focus is the breathe into the lower lobes of the lungs, all the way down the spine and into the pelvic basin, trying to expand the breath into the sides and back of the ribs. There is more efficient gaseous exchange in the lower lobes. Exhaling deeply encourages the engagement of the deep core muscles. The combination of correct breathing and stabilisation needs to occur before movement for safe and effective technique.

Flow: Pilates exercises should be performed with grace and ease, which assists in flowing movements. A smooth, continuous rhythm with appropriate transitions makes for the harmonious flow of a Pilates workout. Movements are not held static; rather the repetitions aim to create continuous motion with an even flow. The intention is for the exercises to flow into each other thereby increasing stamina. A competent flowing class can look as elegant as a choreographed dance routine.

A NOTE ON THE EXERCISE INSTRUCTIONS

Repetitions

Unless otherwise stated, assume that for the majority of exercises, a suitable number of repetitions to perform would be around ten. For beginners, it is more likely to be around six repetitions, or whatever the body can handle, so long as technique is not compromised. For the advanced student, two sets of ten repetitions may be appropriate, provided ability allows on certain exercises.

Target muscles

This is a broad overview of the prime muscles involved in any particular exercise. It is not an exhaustive list by any means. Often, muscles are grouped together to make the list more compact. For example, scapula stabilizers often appear under this category. When broken down, this includes the lower trapezius and serratus anterior muscles. Below is a short list of grouped muscles that are broken down into their component parts for future reference.

Contra-Indications

Some exercises may not be appropriate for certain medical conditions or physical problems, since it may aggravate or exacerbate pre-existing conditions. At the end of each exercise is a list (not exhaustive) of contra-indications to that particular exercise. This is a general guideline only, which may or may not apply to each individual student. For example, it may state that the exercise is unsuitable for certain disc-related back problems. It is up to the individual instructor to help the student ascertain whether that broad guideline actually applies to them. Suitability for the exercise would depend upon several factors. Age, ability, severity of the disc problem, any other problems (related or not) as well as the level of core strength, would all be factors to take into consideration when attempting a contra-indicated exercise. A student who is young and active, with a reasonable amount of core strength may well be able to attempt the exercise without any problems or side effects. Conversely, an elderly student with a severe back problem, who has relatively poor core strength, may find that the exercise makes their condition worse. That is not to say that they will never be able to perform a certain exercise that initially was too difficult or painful. It is often the case that when a certain level of core strength has been built up over a period of time from regular Pilates practice, the same exercise may be attempted further down the line without any adverse effects.

There will be some exercises that will always remain contra-indicated no matter what factors are taken into consideration. Students with osteoporosis in the spine should never attempt forward flexion since it will always exacerbate the condition, regardless of core strength. However, mild osteoporosis in any other bones and joints would not affect forward flexion of the spine. It is likely that if osteoporosis is present in the bones, then it is more than likely to be present in the spine also and any exercise involving forward bending would therefore be unsuitable.

There will be certain exercises that are completely unsuitable for pregnant women. These exercises are not listed here, since this is not a manual for pregnancy. Pregnant ladies should seek the advice of a medical practitioner or professional exercise instructor before attempting any exercise. There are many pregnancy related exercise manuals and DVD's available but the advice given in this instructional manual does not cater for the needs of pregnant women and is therefore unsuitable.

PILATES BASICS

Relaxation Position

Aim

To relax the body and mind and release tension

Starting Position

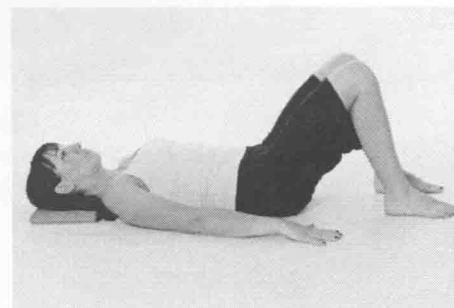
Lie supine with the knees bent and the feet flat on the floor. The middle of the hip should be in alignment with the middle of the knee, down to the second toe of the foot. The feet face forwards. The arms rest down by the sides of the body with the palms facing the floor. A small head cushion may be placed underneath the skull in order to place the cervical spine in its natural position.

Action

Become aware of the points of contact between the body and the floor. The back of the skull and the floor, the shoulder blades, elbows, hands, pelvis, buttocks and feet. Try to allow the body to feel heavy, almost as if the floor is made of sand and the body is sinking into it.

Now work your way through the body from head to toe, relaxing each body part. Try to visualize each body part as you work your way down. Start by releasing tension in the facial muscles; chin; jaw and throat. Then allow the neck and shoulders to relax. Feel the collarbones opening and widening. The scapula and spine release. Allow the abdomen, hips, buttocks and pelvis to feel heavy and grounded. Finally dissolve any tension in the legs, feet and toes.

Once you have worked your way through the body, observe the natural breathing rhythm. On the inhalation the abdomen rises and on the exhalation the abdomen falls. Allow the mind and body to release. Ask yourself this question. "How easy or how difficult is it for you to relax?" Does it come naturally with minimal effort? Or, do you fight the relaxation? Is your mind busy and does your body want to fidget? Can you let go easily and just "be"? Observe without judgment. The more you practice relaxation, the easier relaxation comes to you.



Neutral Pelvis

Aim

To find the natural curve of the lumbar spine so that we can learn correct placement of the spine for future exercises

Starting Position

Lie supine in the relaxation position with the knees bent and the feet flat on the floor, hip distance apart. A small head cushion may be placed underneath the skull in order to place the cervical spine in its natural position.

Action

North Position of the Pelvis

Inhale to prepare. As you exhale, gently tilt the pelvis backwards into a posterior tilt. The pubic bone will point up to the ceiling. The pubic bone will be higher than the hipbones resulting in the lumbar spine being lengthened towards flexion. The lower back will press down into the floor.

South Position of the Pelvis

Inhale to prepare. As you exhale, gently tilt the pelvis forwards into an anterior tilt. The pubic bone will point down to the floor. The hipbones will now be higher than the pubic bone, resulting in the lumbar spine being in an extended position. The lower back will arch away from the floor.

Action

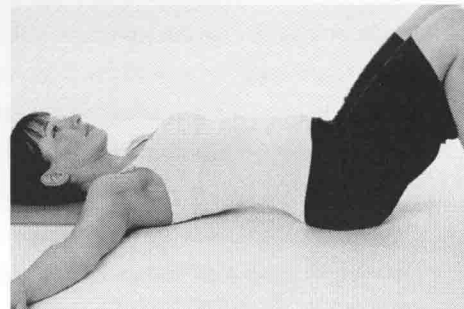
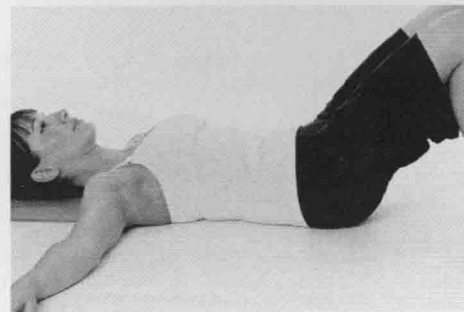
Tilt the pelvis gently north, then centre and then south and return to the centre a few times and come to rest half way between the two points. The true definition of a neutral pelvis is when the anterior superior iliac spine (ASIS) is level with the pubic symphysis (i.e. if you got a spirit level between each hip bone and the pubic bone, all bones would be level at the same plane and height). Ideally this neutral pelvis should feel natural but because of different postural types, this may not be the case. A neutral position should not be forced if it feels uncomfortable in any way. If it does not happen naturally initially, then it is something to work towards as the body gets stronger.

Watchpoints

- Try not to grip in the hip flexors and glutes.
- Maintain good alignment with the hip, knee and second toe.
- Ensure that the back of the neck stays long and the shoulders stay away from the ears.

Contra-Indications

Certain back problems may feel uncomfortable with the flexion and extension of the lumbar spine. In this case, keep the range of movement to a minimum or avoid the position that causes discomfort.



Breathing

Joseph Pilates stated, "Even if you follow no other instructions, learn to breathe correctly". He likened the lungs to bellows, using them to pump air fully in and out of the body. Pilates believed in enriching the blood with oxygen so that it could awaken all the cells in the body and eliminate stale air and the wastes related to fatigue. He believed that forced exhalation was the key to a full inhalation.

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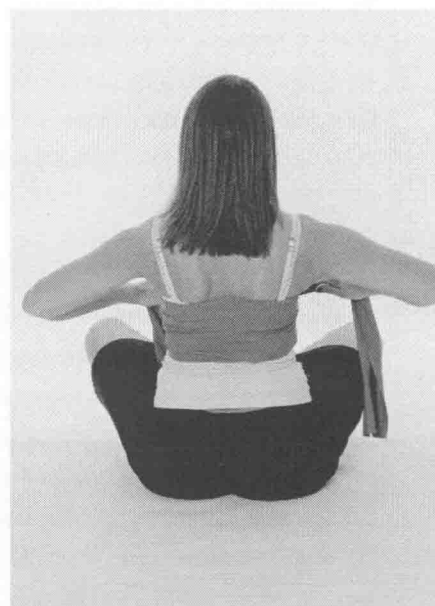
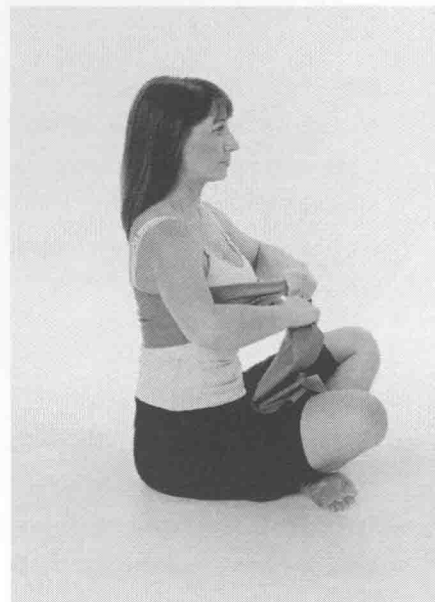
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Unfortunately, most of us only open the front lungs, using the upper lobes, since sedentary lives lead to shallow breathing. Many people often hold their breath during exercise, particularly when new to Pilates, due to the concentrated effort of co-ordinating a difficult task. Muscles can tense up when we hold our breath, which can exacerbate poor posture.

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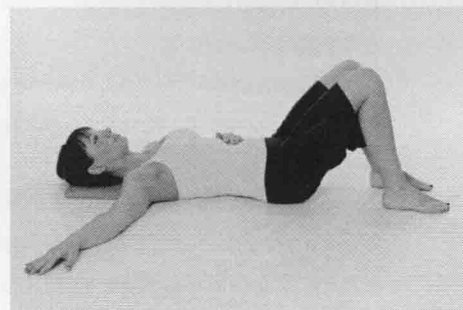
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To practice thoracic breathing, you may use a stretch band wrapped around the mid back. As you inhale, allow the ribs to expand and therefore stretch the band but avoid lifting the breastbone too high. On the exhalation, the abdomen should hollow and the pelvic floor should be engaged, lending to lumbar and pelvic stability. The goal is to keep these muscles engaged on the inhalation and the exhalation to a low level of contraction (around 30%). As you practice lateral breathing, you will find that you are able to perform Pilates exercises with greater ease. Whilst lateral breathing is the technique to use when you want to keep your abdominals engaged during exercise, we do not want to walk around with our abdominals contracted all of the time. Diaphragmatic breathing, with a natural extension of the belly on an inhalation, is the healthiest way to breathe regularly.



Pelvic Stability

The combination of the transversus abdominis, a deep back muscle known as the multifidus and also the pelvic floor muscles make up our core. The correct engagement of these core muscles will hold our pelvis in the safe neutral position whilst we are performing our exercises. This helps to prevent any tilting or arching of the lumbar spine, causing potential stress to the lower back. We call this pelvic stability.



Transversus Abdominis

We shall learn how to engage the transversus abdominis in 4 different positions. Remember we only need to recruit this muscle by about 30%. The reasons that we recruit at a low level is that we need to try to isolate these muscles in order to prevent other stronger muscles helping out and doing the job of the core. Also, the core muscles should be working for the whole of our Pilates class and if they are engaged too much then they will fatigue very quickly. We need them for endurance so a low level of recruitment will make them last longer. “Less is more” – the less you contract, the more you will be able to isolate. The harder you contract, the less you will be able to isolate.

Position One – Relaxation Position

Starting Position

Lie supine in the relaxation position with the knees bent and the feet hip distance apart. A small head cushion may be placed underneath the skull in order to place the cervical spine in its natural position. Find the neutral position of the pelvis. You may like to slide the fingertips of one hand underneath the natural lumbar curve in order to check that the pelvis remains in a neutral position. Ensure that the body does not move an inch as you slide the fingertips under. Check that there is an even pressure on the fingers throughout the exercise (i.e. no decrease in pressure if the pelvis tilts south and no increase in pressure if the pelvis tilts north). You may place the opposite hand on top of the belly.

Action

Inhale to prepare. Exhale and gently draw in the navel back down towards the spine. Try to achieve around 30% contraction. If you are unsure what 30% feels like then contract the navel as hard as you can (i.e. 100%). Then release the contraction by half (i.e. 50%). Then release by half again and that will be around 25% contraction.

Watchpoints

- Watch out for any tension in the body, particularly around the neck and shoulders
- Keep the length between ears and shoulders and the back of the neck long
- Ensure that there is not change in pressure on the hand that is under the pelvis as you engage the transversus abdominis
- Try not to grip around the hip flexors, buttocks or legs