

武道



Martial Arts



Dr. Gubacsi Attila Ph.D

DBands Martial Arts

Special Martial Arts Functional Training System

Instructor Course



Dear DBands Martial Arts Instructor Candidates,

Perhaps the most important motto of DBands Martial Arts is RESPONSIBILITY; responsibility towards our own body, our health and as masters, towards the the health of our students.

Martial arts are, above all, a lifestyle, the source of our mental and physical health. Competition and a competitive work load is only a short life stage of a martial arts lifestyle, which is why the most important thing is to respect our health, our body and our attributes. Nothing can be more important than preserving the health of our students. We are responsible for them until the end of our lives. We cannot sacrifice the health of a 20-something-year old for a competition medal. We must also be aware that the methodology of traditional martial arts are not necessarily to be followed in every aspect of life. The high-pressure training load before competitions and exams should only be allowed in exceptional cases (such as a Dan exam) and under serious professional planning and control. The trademark and pride of a style or a master shouldn't be the fact that students faint at each training session or struggle for their lives with broken limbs and dehydration.

This is a misinterpretation of the NEVER GIVE UP mentality. This road will only cause diseases and lead to the hospital, where martial arts are not constructive but destructive, both mentally and physically. Without time for recreation, traditional training by pushing people to the limit will often lead to waist and back pains, a herniated disk, permanent muscle and joint pain. All this could be prevented by incorporating the methods, recommendations and techniques of sport sciences and rehabilitation into the traditional training methodology.

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Jelen dokumentumot kizárólag a DBands Martial Arts instruktori képzésének hallgatói kapják. Minden egyéb felhasználás, a dokumentum vagy bármely részének másolása, továbbítása, terjesztése csak a szerző előzetes írásbeli hozzájárulásával engedélyezett!
www.gubacsi.com

武道



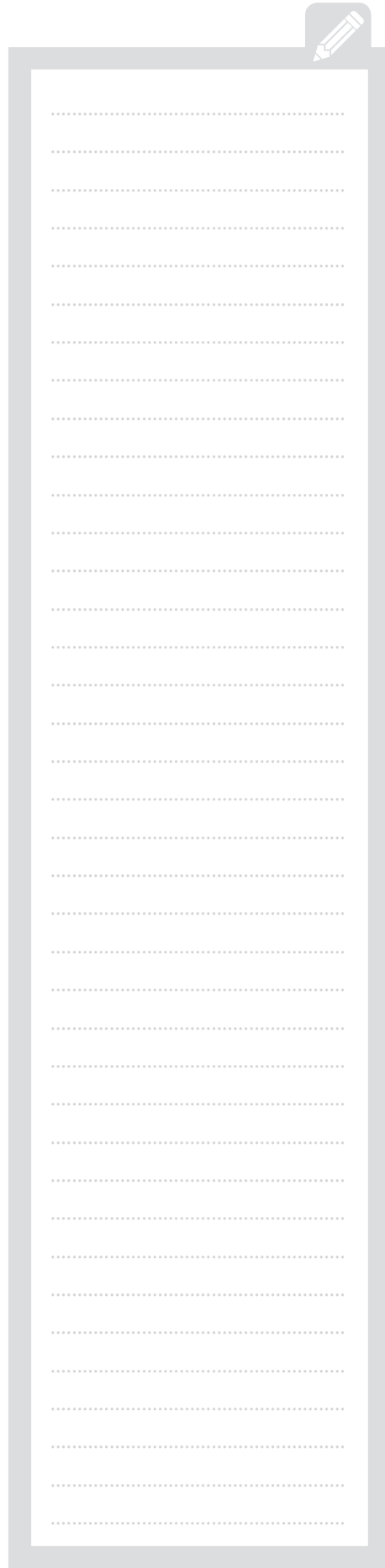
The reinterpreted martial arts follow closely the physical and mental changes in lifestyle and the challenges of a new age, while increasing performance with the most efficient preventive and health preserving techniques; for example, with the help of the DBands Martial Arts methodology, which is used by more and more international and Hungarian martial artists, from the cage fighters of UFC, Hector „Showweather” Lombard, to Olympic wrestlers.

The methods and techniques of DBands Martial Arts are one of the most useful and most innovative solutions. The unique techniques and the methodology built on them open new perspectives in functional training that would have been unimaginable until now. DBands Martial Arts facilitates the development of the physical capabilities of fight athletes, such as explosiveness, agility, stamina and stability, in a practical and efficient way. Both athletes of national teams and experienced coaches have reported significant development in their agility, stamina and stability since they started using DBands, and there were some who managed to get rid of chronic pain with the help of DBands Martial Arts.

In martial arts it is indispensable to continuously check and correct joint stability and mobility, develop neuromuscular connections, but what's most important is the mindful use and strengthening of the CORE. The importance of this is further confirmed by the fact that the gravitational axis of our body as well as the power chakra of eastern philosophy, Chi-Tanden, can also be found here.

Consequences of the mechanism of DBands - summary

- Attachable straps placed above the knee
- Attachable short elastic resistance bands
- The resistance band can be removed
- Adjustable resistance
- Factors determining the degree of resistance:
 - Age
 - Weight
 - Training level
 - The stage of training
- Provides free joint movement range in all movement patterns
- Fighting the resistance created can be feasible within sport-specific movement patterns
- **Special strength development is achieved without impeding or even improving technique!**
- Does not affect the movement pattern
- **DBands is a part of the kinetic chain**
- Its anchor point is the CORE
- The progression of the minibands



Consequences of the mechanism of DBands

On the kinetic chain

- lateral pelvis stabilisation (continuous activation of gluteus medius)
- vertical pelvis stabilisation (harmonious cooperation of the pluteus maximus m.ilioipsoas)

- minimising energy loss
- increased efficiency of running motion and technical execution
- optimal ratio between stabilisation and dynamism

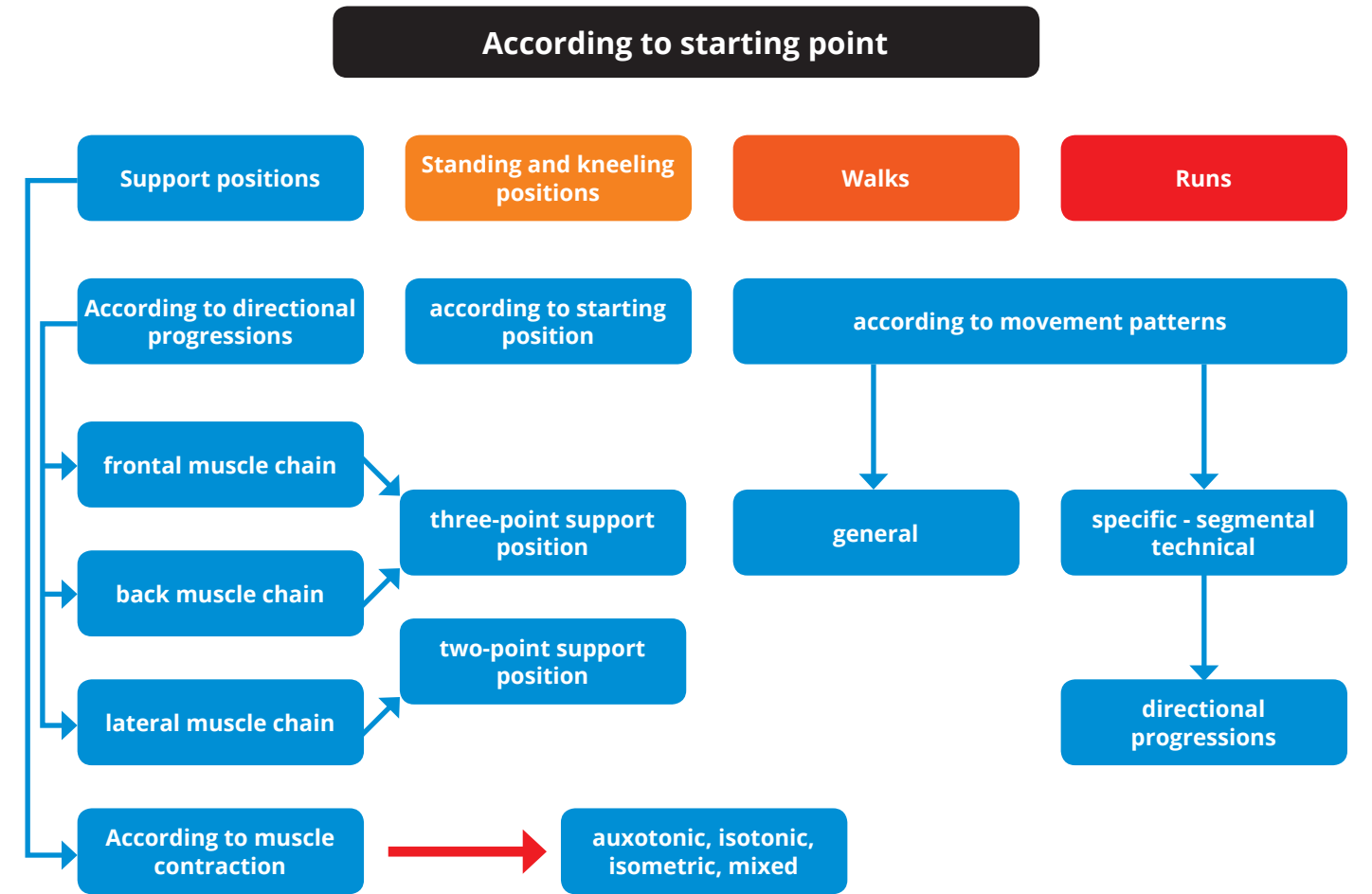
On the neuromuscular system

- The effects of switching between training with and without the bands:
 - Increased neuromuscular activity - develops neuromuscular connections
 - During and shortly after the resistance training, the central nervous system sends similar stimuli to the peripheral system based on spinal cord reflexes, which means that even without resistance the transmission of force remains on a similar level, which positively affect frequency.

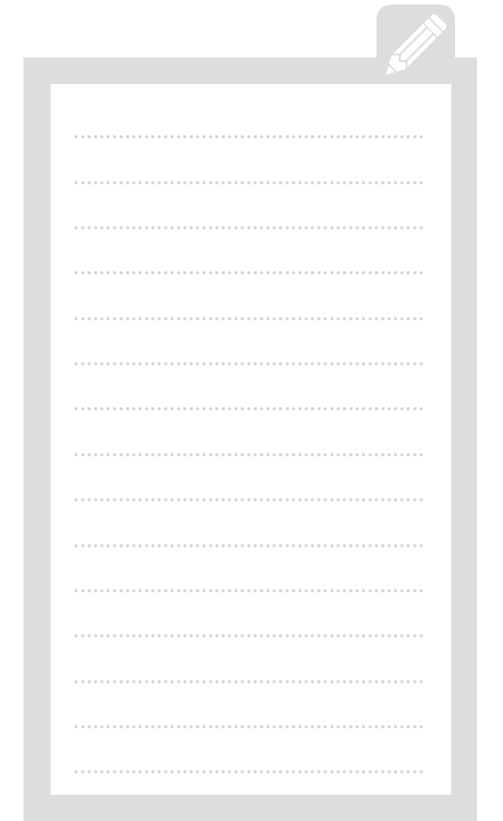
Proprioceptive effect of the bands

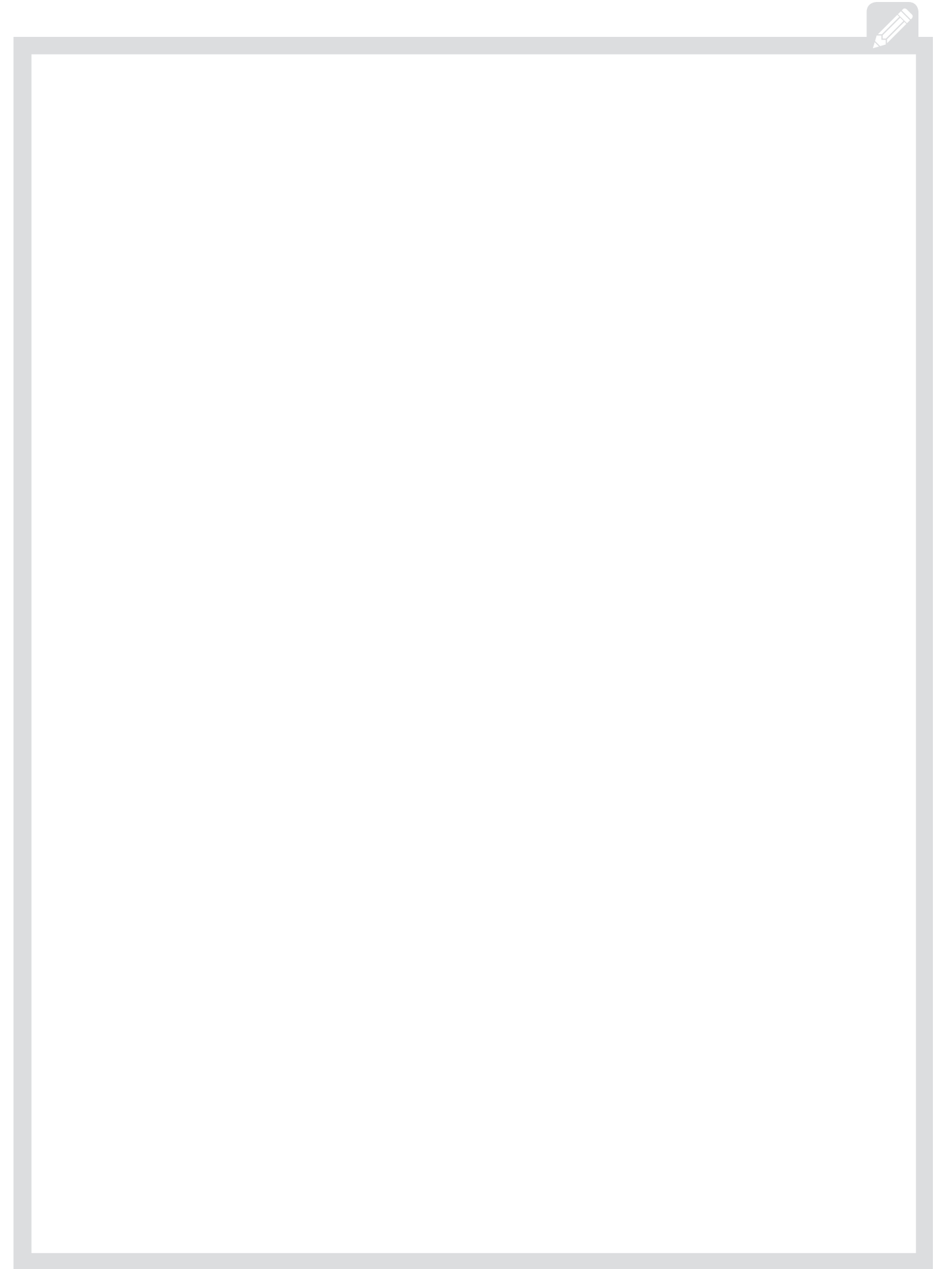
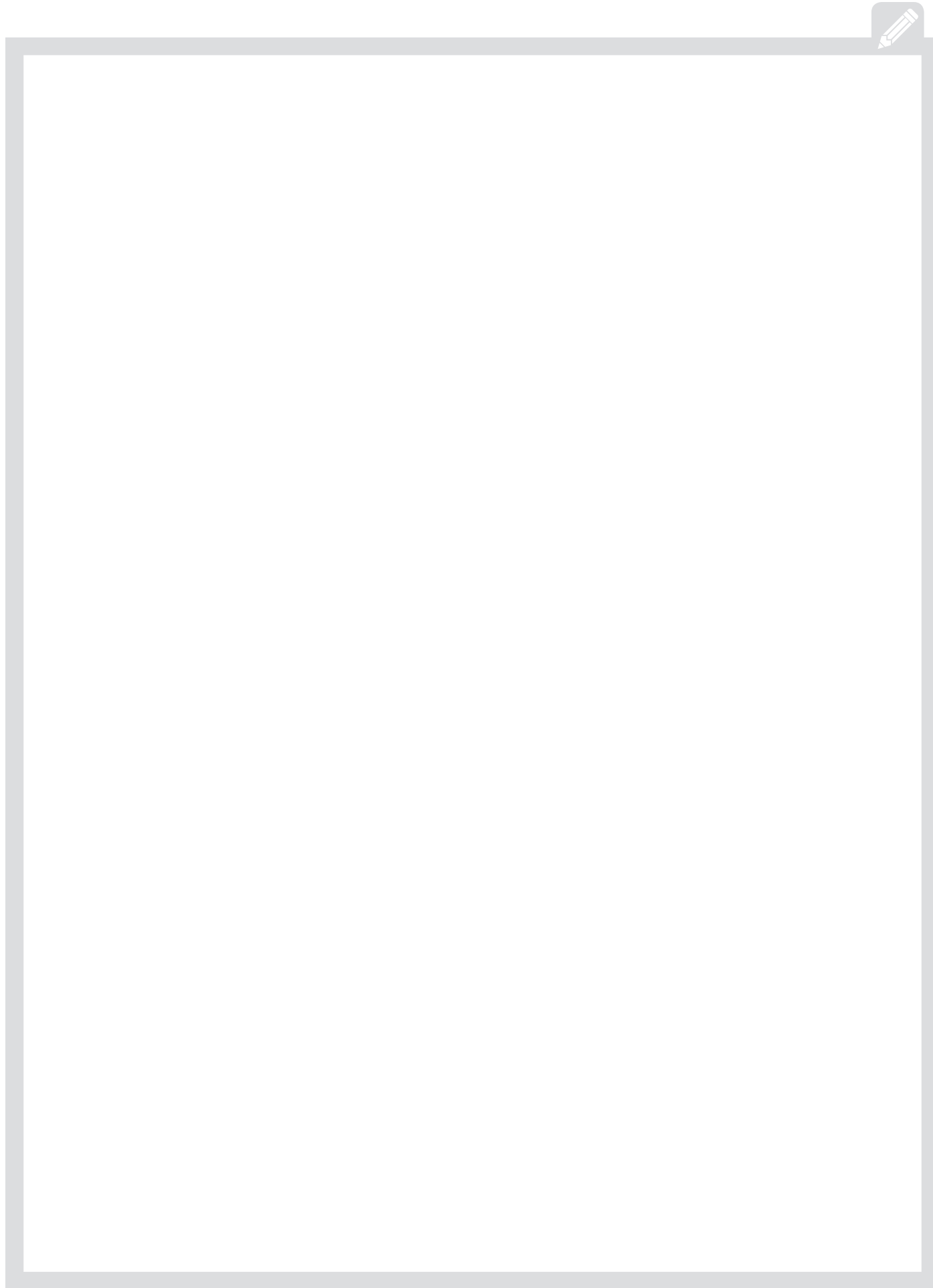
Stabilising the knee - preventive

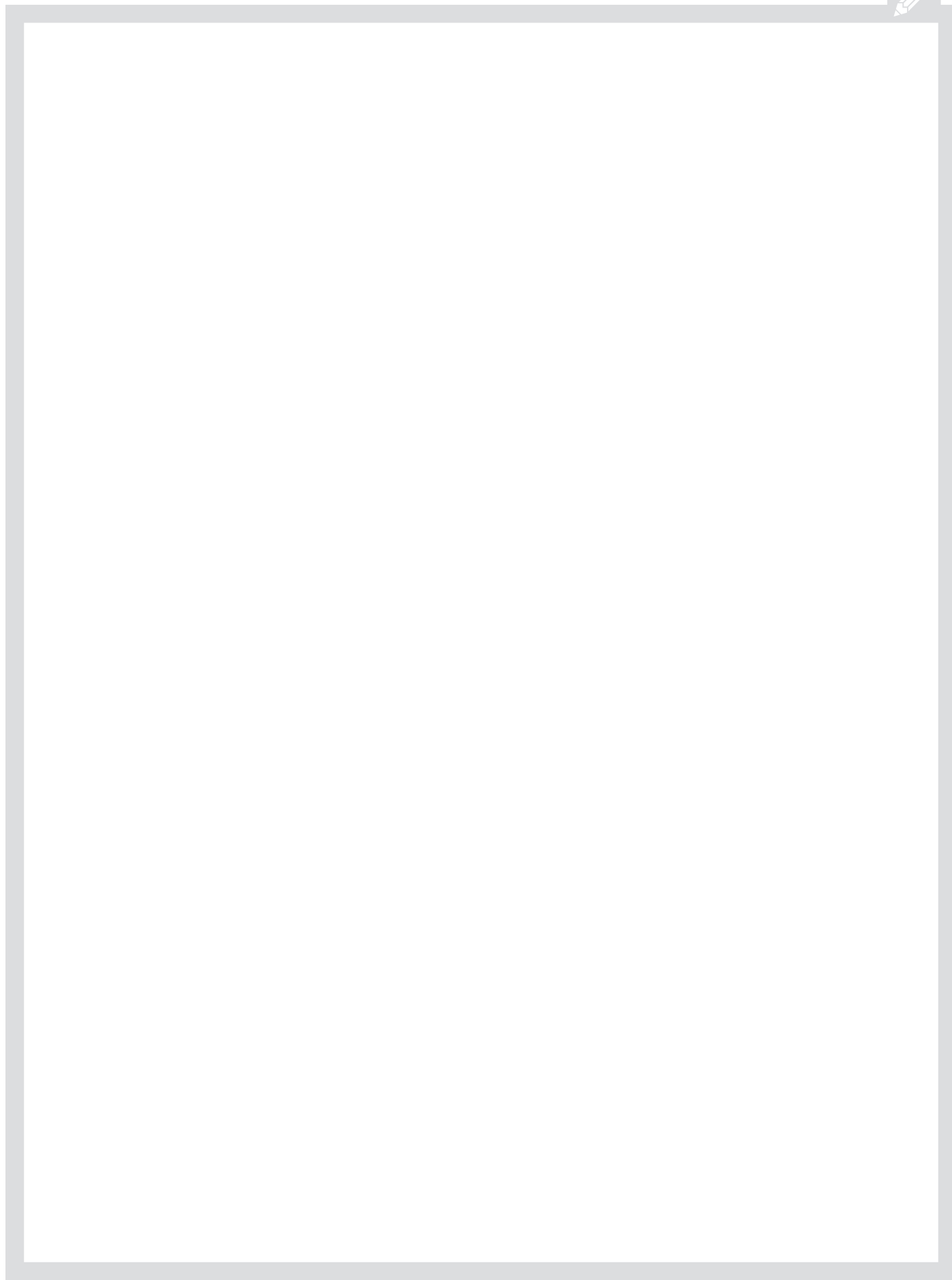
Structure of DBdands stabilising program



DBands stabilising program - directional progressions







Functional anatomy of muscles engaged in running motion

Internal hip muscles:

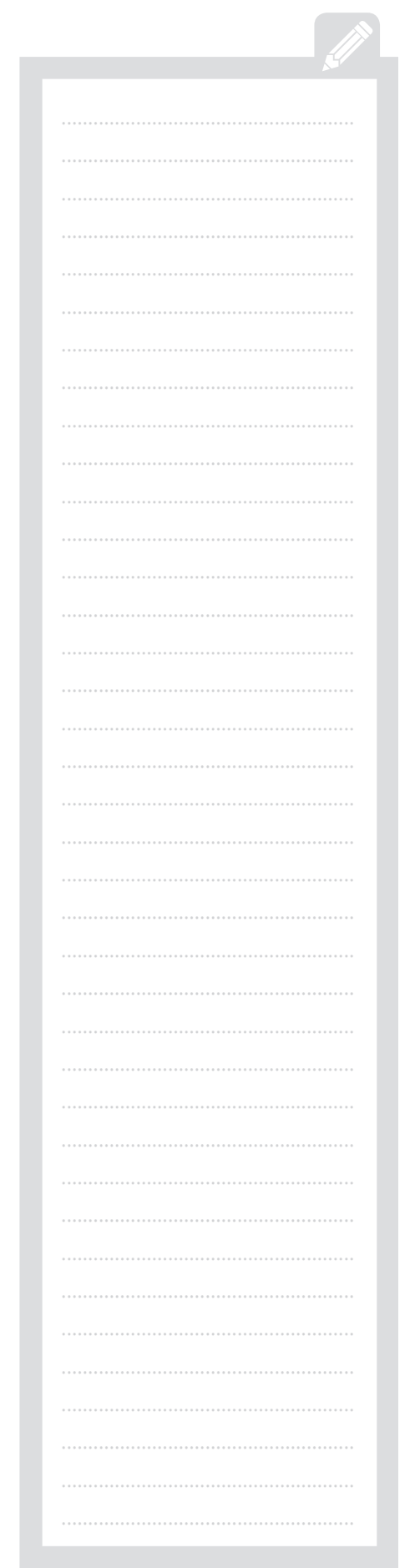
- the hip muscles originate in the abdominal cavity and the inner pelvis and this is where most of them are located. The hip muscles band the hips and rotate the legs (based on where they insert) outside (mostly) and inside.
- the two most powerful hip-flexing muscles are m. iliacus (hip muscle) and m. psoas major.
- the most powerful thigh lifting muscle is m. iliacus. Other internal hip muscle: psoas minor (insignificant, is not engaged in hip flexing and is often absent)
- m.piriformis, m.obturator internus and m.gemellus superior and inferior play an important role in rotating the thighbone outwards. They are abductors. They are collectively called triceps coxae.

External hip muscles:

- gluteus maximum: hip contraction, draws the thigh back, abducts it and rotates it outwards. Its the antagonist of the psoas muscle. Together with the abdominal muscles they determine the current position of the pelvis.
- gluteus medius: abducts the thighbone, rotates it inwards, pushes it outwards (when the frontal fibre is contracted) and adducts it slightly. Rotates the thigh outwards when the back fibre is contracted. Flexes the torso and pulls it to the side.
- gluteus minimus: abducts the thigh, rotates it inwards and flexes the torso.
- m. tensor fascia latae: flexes the pelvis, contracts the knee joint and abducts the thigh.
- quadratus femoris: rotates the thigh outwards and adducts it.
- m. obturator externus: draws the femoral head into the acetabulum, rotates it outwards (fixed pelvis), abducts the thigh when the hip joint is flexed.

Thigh contractors:

- m. sartorius: flexes the hip and the knee joint, then rotates the thigh outwards, when the knee is flexed, rotates the leg inwards. Only a contractor due to its location.
- m. quadriceps femoris: the only contracting muscle of the knee. When the knee is flexed, it supports the body weight. The rectus femoris crosses two joints, so it is also engaged in the flexing of the hip joint. They keep the kneecap straight (vastus medialis, vastus lateralis).
- the functional anatomy of running muscles - thigh flexors
- m. semitendinosus
- m. m. semimembranosus
- m. biceps femoris
- they flex the knee joint and engage in contracting the hips when the knee is fixed (support phase). With the biceps femoris, only the longer head contracts the hips, because the shorter head does not cross the hip joint.
- the biceps femoris rotates the lower leg outwards, the other two rotates it inwards.



Thigh adductors:

- m. pectineus
- m. adductor brevis
- m. adductor longus
- m. adductor magnus
- m. gracilis
- All adduct the thigh, when the thigh is fixed, draw the pelvis out front. Their primary function is moving the pelvis. The gracilis crosses two joints, when the leg is fixed, it flexes the hip joint.

Leg muscles

- musculus tibialis anterior: it dorsiflexes the foot and the ankle (for jumping). Sole supination (rolling).
- m. triceps surae:
- gastrocnemius (two heads, crosses several joints): with strongest extended knee joint (raising the heel, bending the leg forwards), jumping. Flexing the knee.
- Soleus (one head), flexes the knee

Optimising application according to the nature of the muscles

- We must take into consideration that muscle are of different nature, i.e. some are tonic, some are phasic. However, there are no exclusively phasic or tonic muscles, most are mixed, their nature is determined by what fibres are in majority in the given muscle according to their function.
- Phasic muscles (most commonly white fibres) mostly engage in fast, dynamic execution. They get tired quickly and tend to weaken. It is important to both strengthen and stretch them. Varying degrees of development and tonality of the antagonists and synergists of the phasic muscles can lead to injuries. If we are aware of the ratio and development level of these muscles, we can decide what muscles require more stretching or strengthening to achieve balance. This also require an optimal balance in the ratio of phasic and tonic muscles.
- Tonic muscles (most commonly red fibres) are suitable for enduring performance, they are antigravity muscles and are prone to shortening. It is vital to stretch them.
- Continued application of FMS technique is recommended throughout the training.

Phasic muscles (primarily but not limited to)

- obliquus abdominis externus and internus
- rectus abdominis
- obliquus internus abdominis and obliquus medialis abdominis
- gluteus maximus
- adductor longus

Tonic muscles (primarily but not limited to)

- lower back muscles
- musculus quadratus lumborum
- musculus piriformis
- musculus rectus femoris
- m. tensor fasciae latae
- thigh flexing muscles
- m. iliopsoas
- musculus sartorius



User manual



How to use DBands

The components of DBands:

1. straps attachable to the knee
2. elastic resistance bands with clips
3. DBand bag

Attaching DBands:

1 Attaching Straps:

The straps are attached tightly above the knee so that the DBand logo should fall directly above the knee, with the letter D vertically placed, its top pointing towards the hips, its bottom facing the kneecap. The two metal semirings on the side of the straps (where the elastic strings are to be attached) should fall on the two outer sides of the thighs.

2 Attaching the elastic bands:

Within one intensity level, the two bands are of two different length. The longer should be attached to the front, the shorter to the back.

3 Detaching the elastic bands for removing resistance:

The clip attached to the front semiring of the left leg should be placed to the back semiring of the right leg, while the clip attached to the back semiring of the right leg should be placed in the front semiring of the left leg, so that the elastic bands are placed on the outer side of both thighs, as a result of which we can continue workout without resistance.

4 Reattaching elastic bands to resume resistance workout:

Repeat the process described above, but reversed.

Operating instructions:

- before use: check if the bag contains elastic bands for both intensity levels (colour-coded) and both bands for each level (short and long). Yellow bands are recommended for athletes of 70 kg and beginners, while black bands are recommended for athletes over 70 kg and advanced.
- after use: the bands should be disinfected and left to dry, then placed back in the bag.
- must only be dry cleaned once a month or according to frequency of use.
- make sure the bands and straps are not mixed with other DBands tools.



Warm up protocol - without attachable equipment

- Mobilisation
- Stabilisation
- Dynamic stretching

1/a. Hip rotation while lying on the back with soles on the ground.

KH: Lie on your back with your knees bent in a 45-degree angle. The vertical axis of the legs is perpendicular with the ground. Put your soles on the floor and your knees together, lay your arms straight on the floor beside your body in a 45-degree angle with your palms facing the floor. Make sure your shoulders touch the ground and your buttocks are tucked in. Tip your chin down so that your neck can touch the floor as much as possible.

VH: Keep your knees together and put one foot on top of the other. When you rotate your hips, your outer knee touches the ground. Rotate your hips in both direction. Repeat: 4 time to the left, 4 times to the right. Your palms and shoulders should not leave the ground at any point.

BH: Same as KH.

1/b. Hip rotation while lying on the back with knees bent in a 9-degree angle.

KH: Lie on your back with your knees bent in a 90-degree angle. The vertical axis of the thighbone is perpendicular with the ground. Your lower legs are parallel with the ground, your feet are in the air, flexed (!). Put your knees together, lay your arms straight on the floor beside your body in a 45-degree angle with your palms facing the floor. Make sure your shoulders touch the ground and your buttocks are tucked in. Tip your chin down so that your neck can touch the floor as much as possible.

VH: Keep your knees together the whole time. Rotate your hips to one side and then to the other side, taking turn with your knees touching the ground. Repeat: twine to the left, twice to the right. Your palms, shoulders and shoulder blades should not leave the ground at any point.

BH: Same as KH.

1/c. Hip rotation while lying on the back, stretching the leg towards which you are rotating.

KH: Lie on your back with your knees bent in a 90-degree angle. The vertical axis of the thighbone is perpendicular with the ground. Your lower legs are parallel with the ground, your feet are in the air, flexed. Put your knees together, lay your arms straight on the floor beside your body in a 45-degree angle with your palms facing the floor. Make sure your shoulders touch the ground and your buttocks are tucked in. Tip your chin down so that your neck can touch the floor as much as possible.

VH: Rotate your hips to the left. Stretch your left leg when it touches the ground, while you grab your right ham with your left hand. Pull your right knee towards the ground and upwards. Your left leg is straight in line with the spine, your left foot is flexed. Hold the position for five seconds and repeat it to the other side. Repeat: once to the left, once to the right. Your palms and shoulders should not leave the ground at any point.

BH: Lie on your back with your knees bent in a 45-degree angle. The vertical axis of the legs is perpendicular with the ground. Put your feet on the ground, your knees together, lay your arms straight on the floor beside your body in a 45-degree angle with your palms facing the floor. Make sure your shoulders touch the ground and your buttocks are tucked in. Tip your chin down so that your neck can touch the floor as much as possible.

2. Hip press-up while lying on the back

KH: Lie on your back with your knees bent in a 45-degree angle. The vertical axis of the legs is perpendicular with the ground. Pull your feet back while your heels touch the ground(!). Put your knees together, lay your arms straight on the floor beside your body in a 45-degree angle (diagonal position). Make sure your shoulders touch the ground and your buttocks are tucked in. Tip your chin down so that your neck can touch the floor as much as possible. Pull your feet back while your heels touch the ground.

VH: Press your hips up then hold the position for 5 seconds. Stretch you left leg in this position, press your hips up six time, then repeat the exercise with the other leg.

BH: Same as the starting position.

3. Leg rotation with bent knees while lying on the back

KH: Lie on your back, bend your left knee in a 90-degree angle. The vertical axis of the thighbone is perpendicular with the ground. Lay your straight right leg on the floor. Your left lower leg is parallel with the ground, your feet are in the air, flexed. Put your knees together, lay your arms straight on the floor beside your body in a 45-degree angle with your palms facing the floor. Make sure your shoulders touch the ground and your buttocks are tucked in. Tip your chin down so that your neck can touch the floor as much as possible.

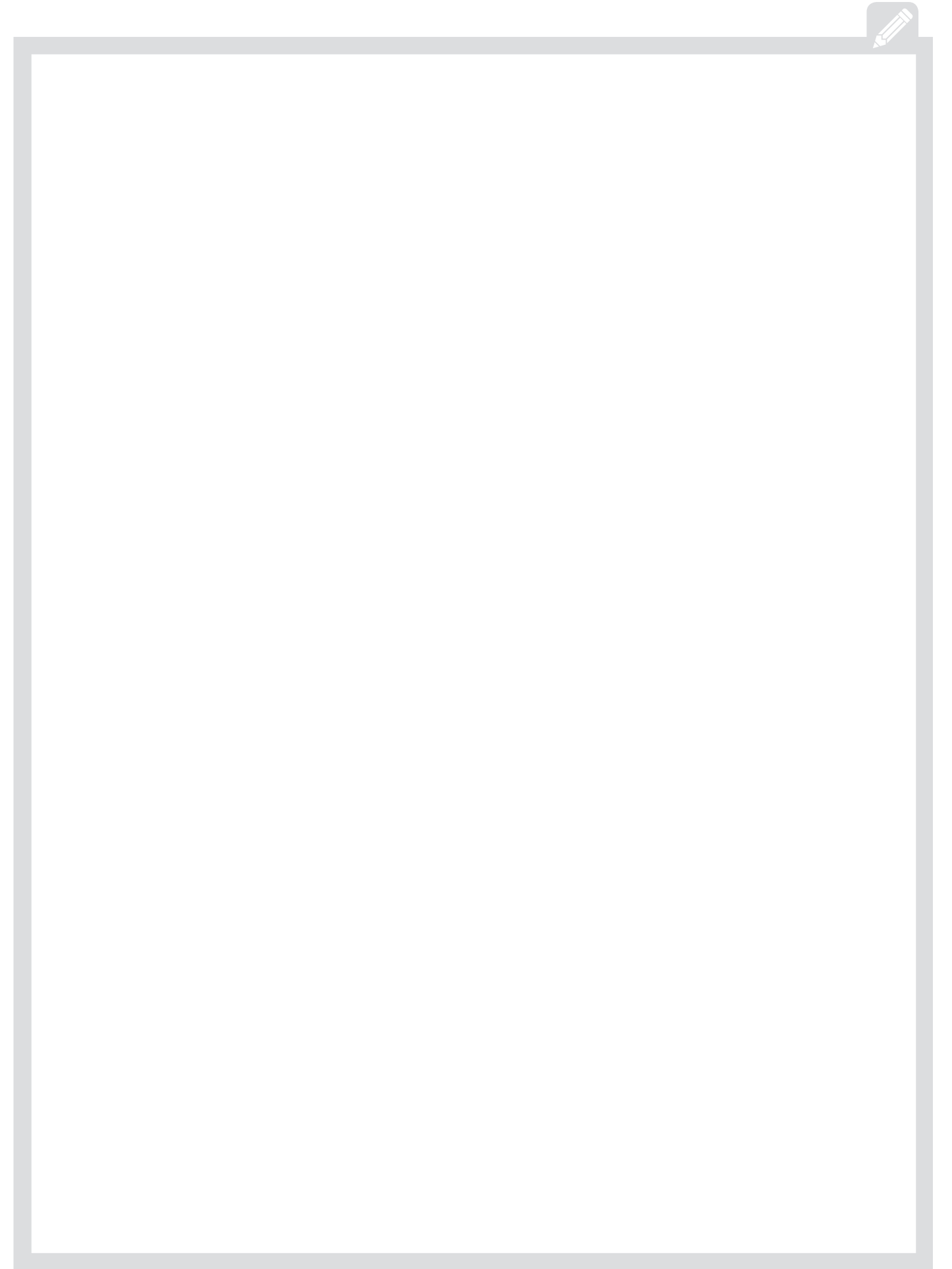
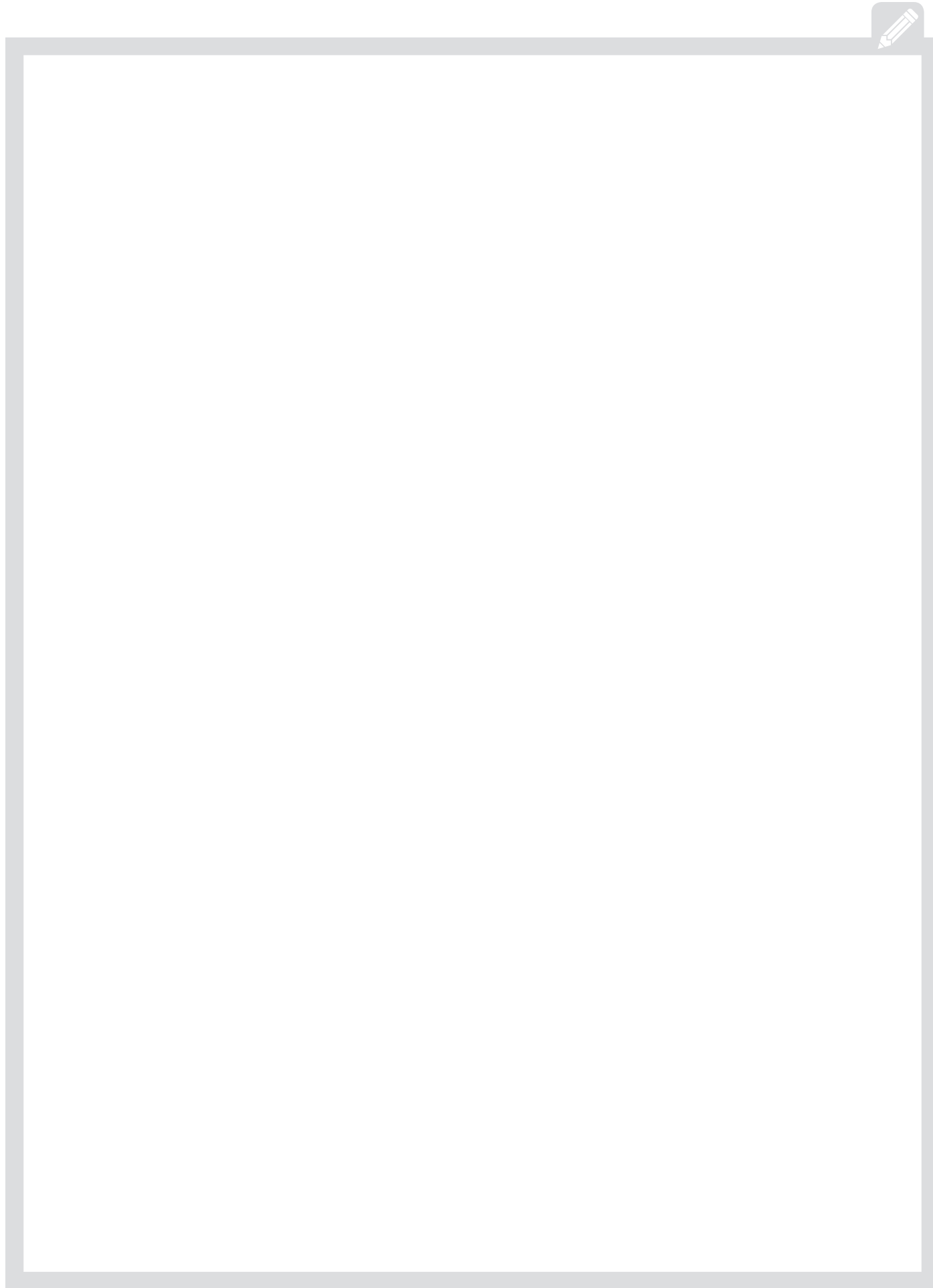
VH: Rotate your bent knee (towards yourself then to the side). Try to reach the limit of your hip joints by taking advantage of the weight of your active leg, especially when you rotate to the side. Repeat: four times with the left leg, 4 times with the right leg.

BH: Lie on your back, pull your knees up, feet on the floor.

4. Switch from fruit basket position to chest plank.

KH: Lie on your back, raise your arms in the air and keep your legs straight. To achieve the fruit basket position, raise your shoulders, shoulder blades and legs, keep your legs slightly apart and your arms open. Tuck your buttocks in and contract your abdominal muscles. Try to only raise your limbs slightly so that your lower back curve stays neutral.

VH: Hold this position for 15 seconds then switch to chest plank position, hold it for 20 seconds then turn back into fruit basket position then repeat. Repeat: twice to each side. **BH:** Lie on your back, raise your arms in the air, keep your legs straight.



What is DBands Martial Arts?

DBands is the only tool that becomes a part of the kinetic chain by attaching the two knees and making them move synchronously with the user, while creating resistance the user has to counterweigh.

Its attachment point is the CORE itself. This mechanical advantage makes the continuous engagement of the core muscles possible. It immediately activates the gluteus medius and maximus. By attaching and removing the bands we facilitate the intense working of the nervous system, which then goes through a learning curve (proprioception) that can exponentially increase the expansion of neuromuscular synapses, enhancing movement precision, one of the main goals of martial arts.



It is essential to be familiar with the functioning of the kinetic chain and to make it move in a synchronised and appropriate way to avoid injuring the ankles, knees and pelvis during the practice of kihon – kata – kumite. Zenkutsu, kokutsu, shiko and kiba dachi can be fatal to the knees and ankles.



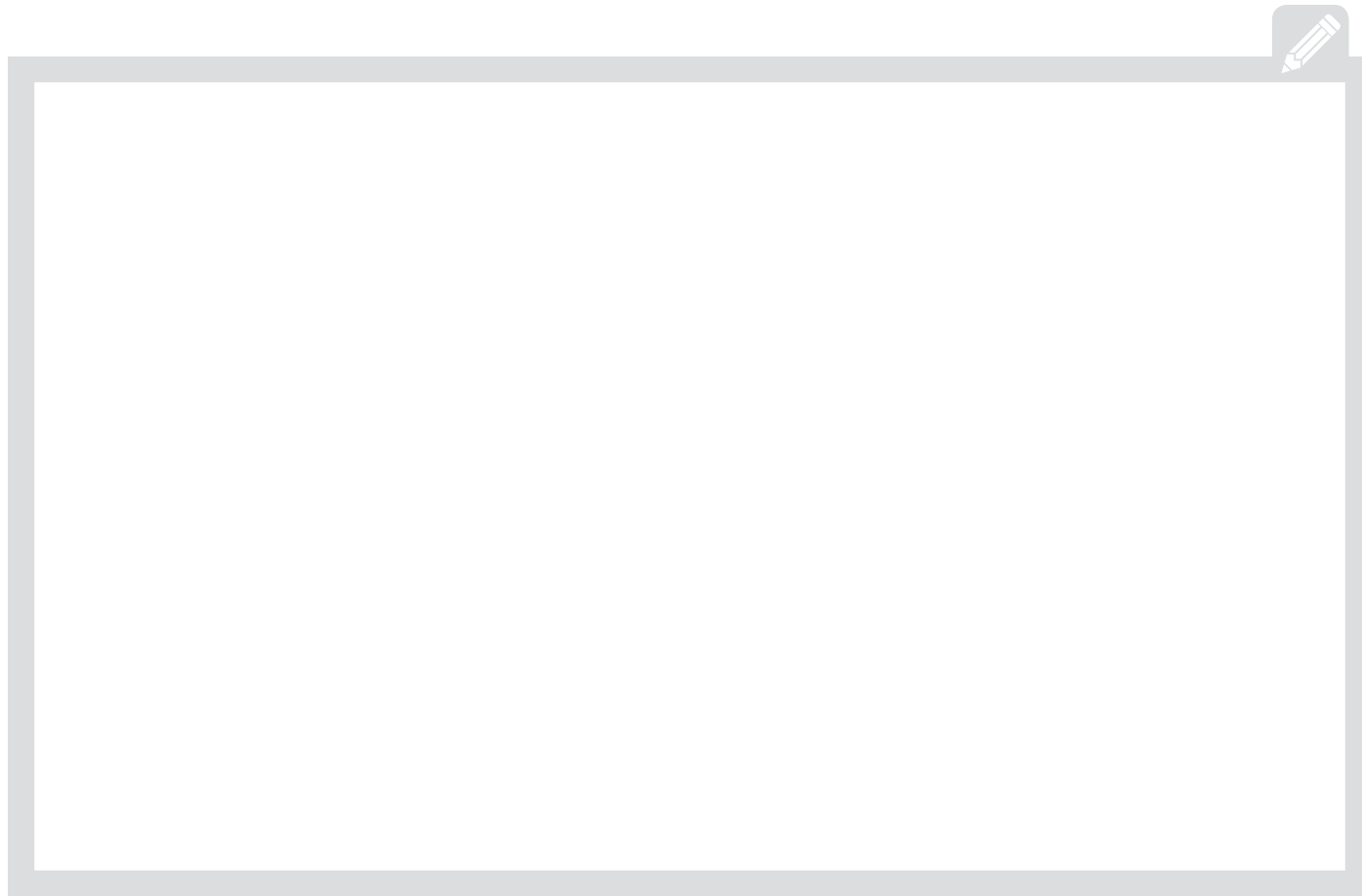
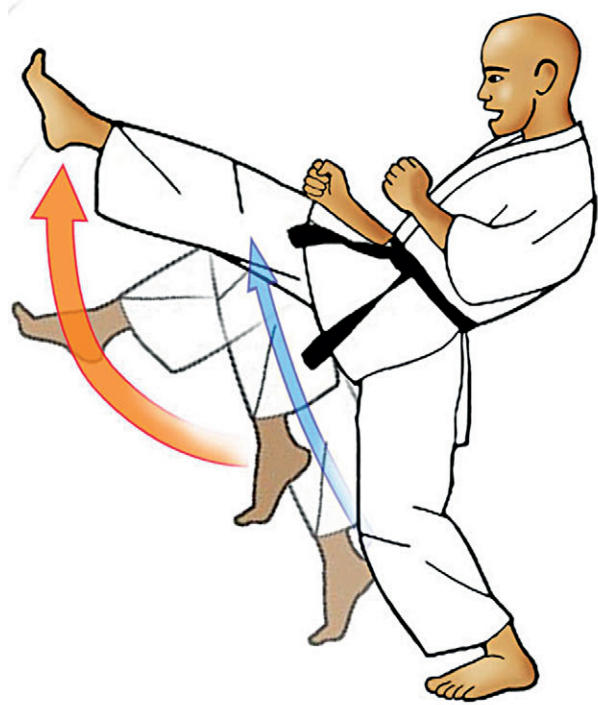
Stabilising the pelvis and the knees, activating the gluteus, using the kinetic chain in a precise way (mobile ankles and stable knees), developing neuromuscular connections and increasing body awareness (proprioception) are indispensable to achieve an appropriate body position during practice.



Basic kick training using DBands Martial Arts

Individual exercises:

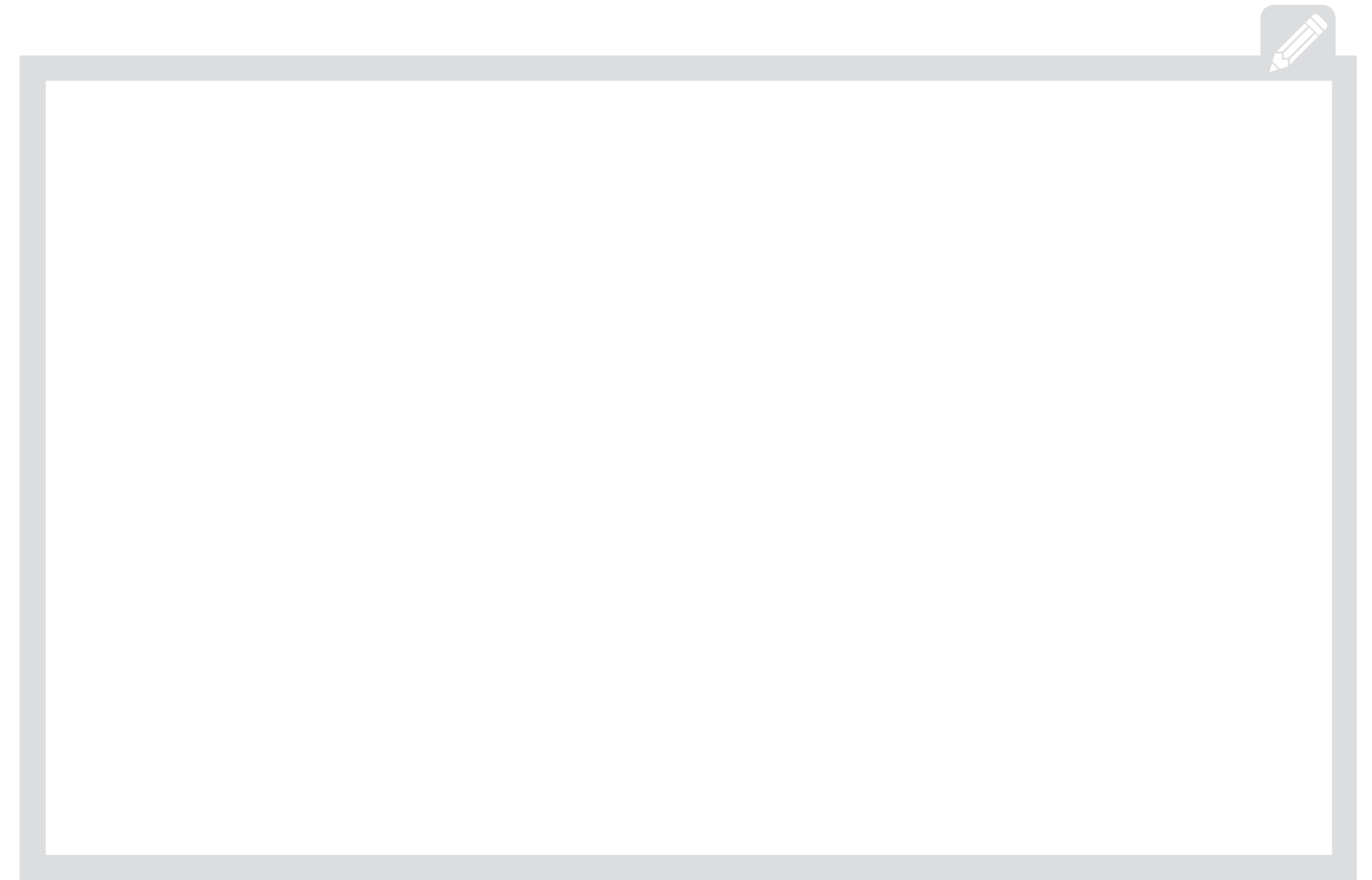
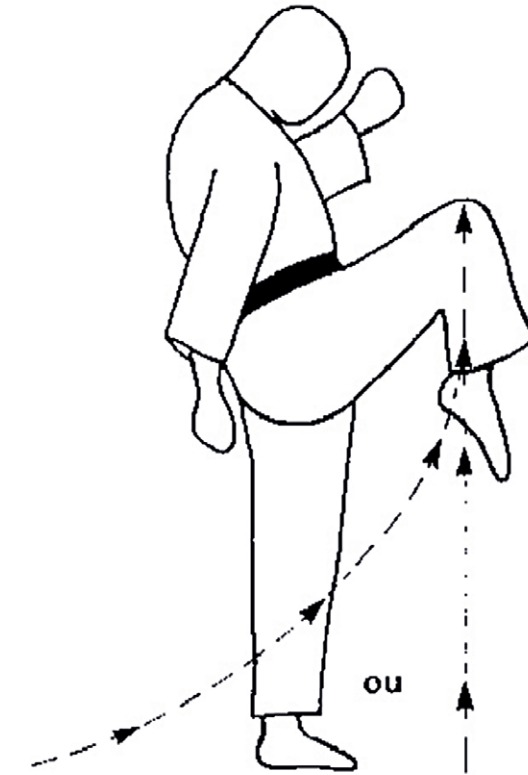
1. Pushing kick - Mai Geri Chudan, Jodan



Basic kick training using DBands Martial Arts

Individual exercises:

2. Hiza Geri Chudan/Jodan front/side knee kick

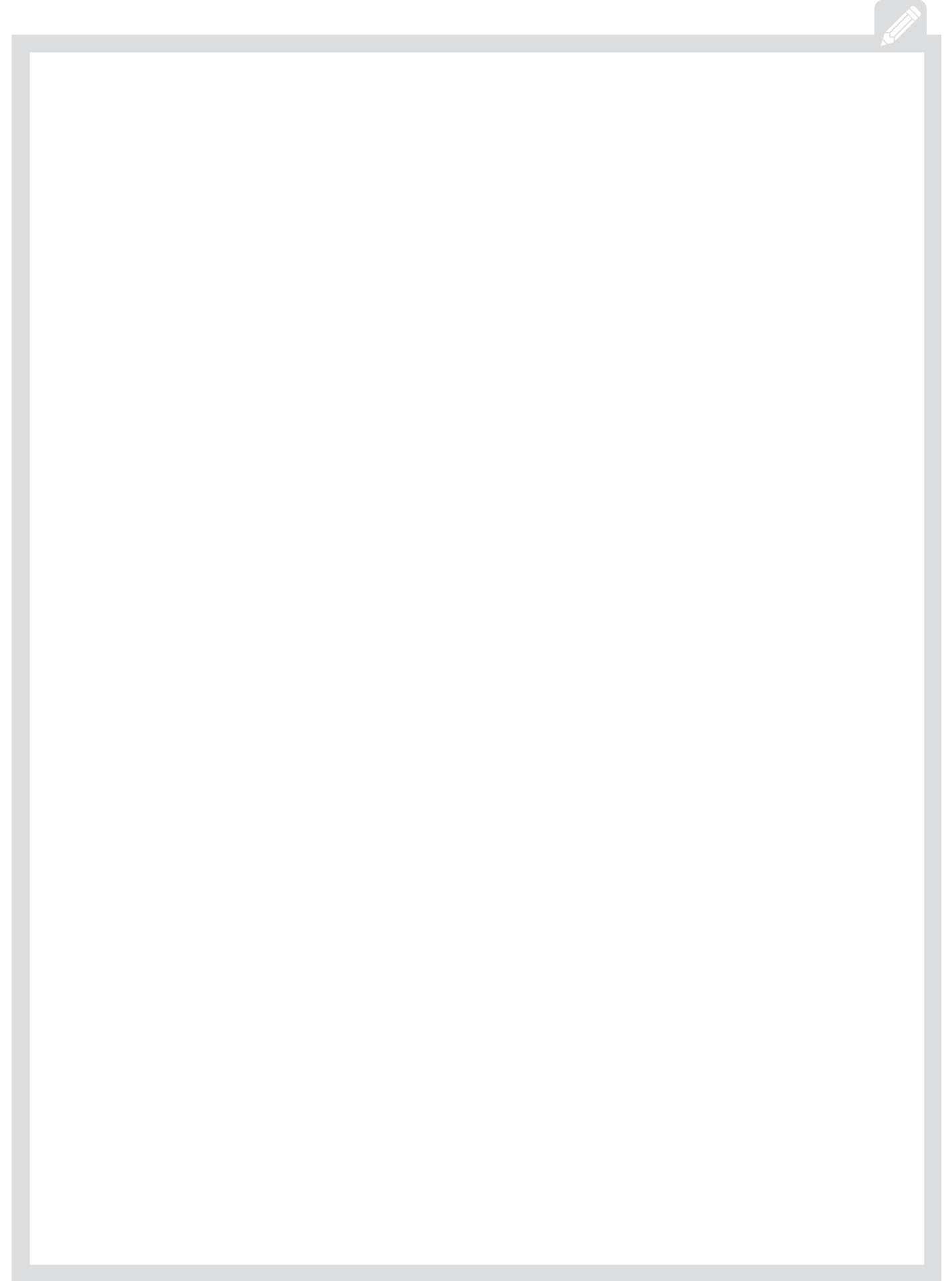
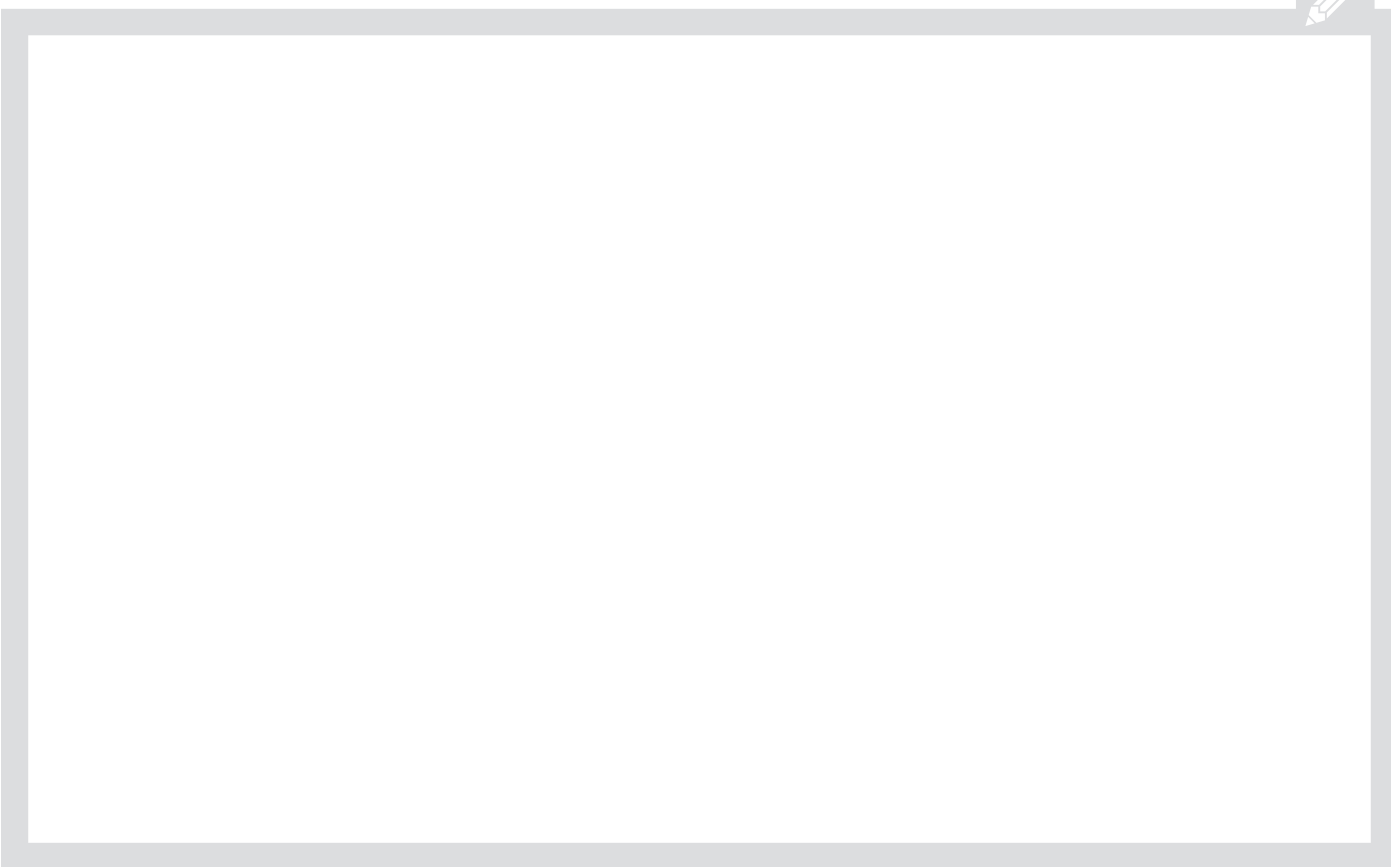
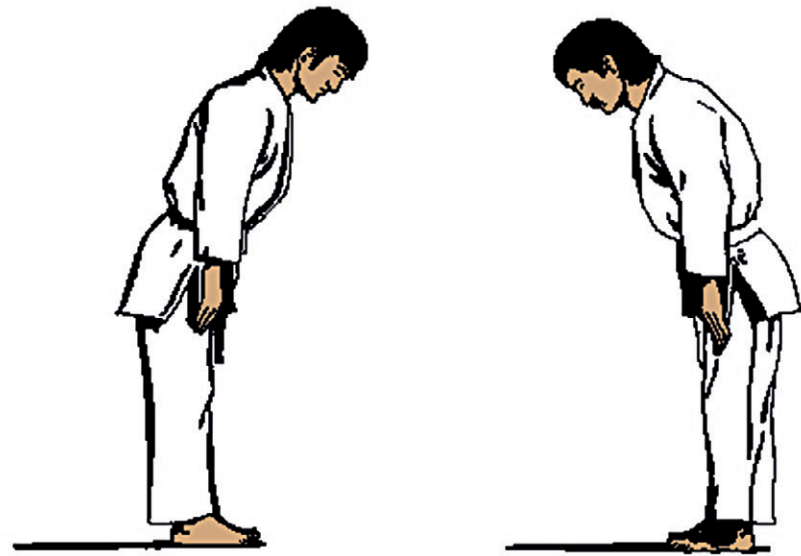


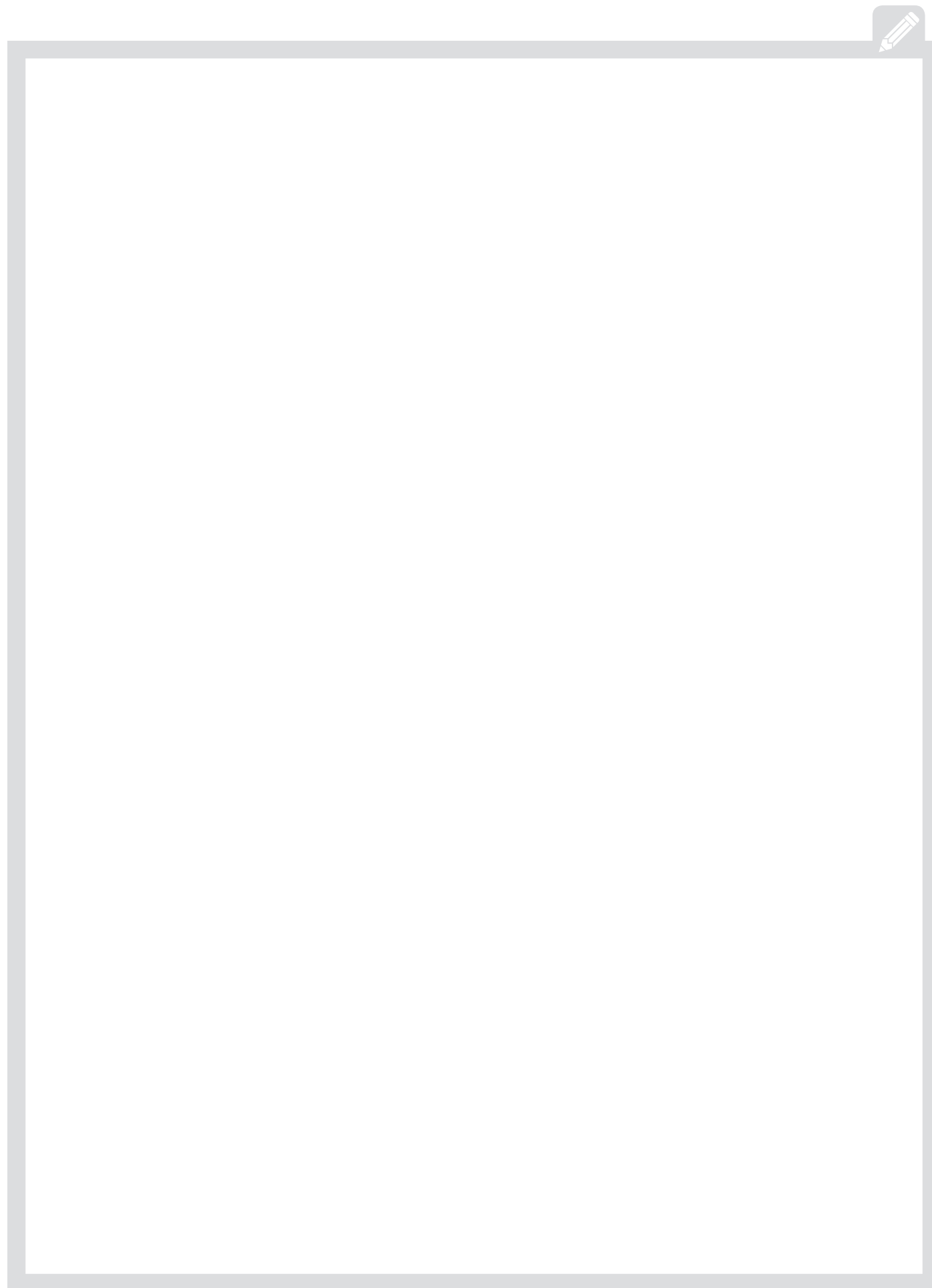


Basic kick training using DBands Martial Arts

Exercises in pairs:

2. Hiza Geri Chudan/Jodan front/side distance apperception, Dbands Off/On, Touch ground/Stand, without Touch ground/Stand, Slow/Fast
3. Mawashi Geri Gedan distance apperception, Dbands Off/On, Touch ground/Stand, without Touch ground/Stand, Slow/Fast
4. Kumite Aka/Shiro in turns/free movement and non-free movement





FINALLY:

- 1. QUALITY - NO QUANTITY** – Less is always more. In other words, when performing an exercise, perfect execution, and not quantity should count.
- 2. BODY of KNOWLEDGE** – Body consciousness above all. Body awareness of the students is very important. They should know their deficiencies in the areas of mobility and stability, in order to focus on them during practice. They should be able to move all parts of their body consciously and usefully. They should know their own limits, and they should reach, but not exceed them regularly. Nevertheless, always use unpredictable directions, exercises and situations. Prepare your neuromuscular connections for unknown situations, because this is what you will face in REAL LIFE.
- 3. 3D TRAINING** – Stay with spatial movements, since this is what you will face in REAL LIFE and in martial arts as well. Instead of isolated machine training, use exercises that move the full body in 3D, let your own body be the gym. Combine sagittal (forward and backward) and transverse (horizontal) directions.
- 4. INSTABILITY** – Exercises carried out in unstable positions are a key to safe training, because they make every muscle work, thus, protecting the entire body.
- 5. REST TIME** – The importance of recovery and resting time periods. This is an exponentially important requirement for children and older people.
- 6. LISTEN to YOUR BODY** – Listen to your body's signals and take them seriously. The "I can take anything, no matter if it hurts, I will recover" attitude is wrong. Respect your body and give it what it needs, including healthy food, plenty of hydration, recovery and healing, if necessary.
- 7. BUDO** – Walk your own path and mind the principles of REIKI and ZEN:

Just for today, don't worry.





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 - SmartGUARD Civil Kyusho Defense Chief Instructor
 - TRX® Trainer
 - Ultimate Sandbag Core Fitness System Trainer
 - IWI G-FLEX Instructor
 - TRX® Rip Trainer
 - Boot Camp Trainer
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