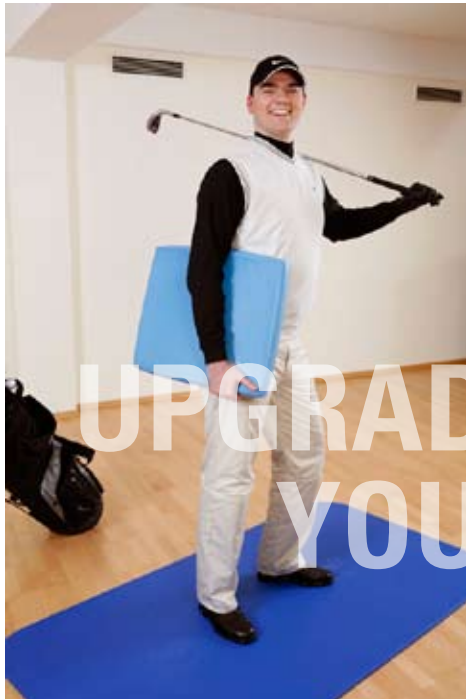




**BeBalanced! SPORTS**  
FITNESS AS LIFE CONCEPT



von Manuela Böhme



UPGRADE  
YOUR LIFE



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# INTRODUCTION

In addition to practicing techniques, anyone who seriously pursues a favourite sport not only requires fitness training to enhance performance but also needs to perform exercises that compensate for muscular imbalance caused by the sport itself. The stability of the torso musculature forms the foundation for peak athletic performance. This also applies to everyday movements. As a result, additional fitness training must include exercises for this part of the body whether it is designed to enhance performance or have a compensating effect. Movement patterns always involve complex interactions between many different muscles. This means training muscles or muscle groups in isolation is not highly expedient, since the interplay between all of the muscles involved in a movement is decisive in terms of performance. Exercises that involve several joints as well as exercises in an open system achieve this objective (by definition, the end of an open movement chain that is away from the torso is free and without fixed support; with a closed movement chain, the end of the chain that is away from the torso is in contact with something stable).

## Training plans

In order to develop a supplementary training programme for an athlete, the typical movement patterns for the specific sport must be analysed.

1. How does the athlete move?
2. What muscles are involved?
3. What muscles are neglected?
4. What skills does the athlete need to acquire?
5. What are the risks of injury?
6. How can injuries be prevented?
7. What is the nature of compensating training?

Thus the body needs to be balanced in order to be fully functional. Balance disorders may have a variety of causes: Misaligned body axes, congenital, acquired, or habitual defective positions or malpositions of the head, pelvis, hips, knees and ankles or a misaligned spine. Added to this is the physical stress of muscles and bones that are constantly fighting gravity. Excessive body weight aggravates this condition.

Nature has equipped us with a sufficient sense of responsibility, competence and strength to treat our own body well. When one is able to read physical signs, indisposition and pain can be prevented or mitigated provided one makes changes or stops doing things that are detrimental in a timely manner. This is why it is important to learn to trust our own senses, rather than becoming dependent on what we assume are expert opinions. Personal involvement, motivation and consistent action are required in order to maintain physical balance.

The following sports are considered in more detail below:

- Tennis
- Football
- Inline skating
- Golf

# BeBalanced! SPORTS

## TENNIS

Blue hours for tennis players – BeBalanced!

“I am too old for tennis, so now I do something else. I have my own ball; I hit it in some direction, then I walk after it, and when I find it I hit it again.” Franz Beckenbauer (German football player).

That, of course, is one possible solution. Unfortunately many recreational athletes do not share Mr. Beckenbauer’s opinion. Tennis, while formerly elitist with players dressed entirely in white, has become a popular sport. In addition to approximately two million association members, Germany has more than 2.4 million people who play tennis without joining a club. The white sport ranks high on the popularity scale. A comprehensive study by Sport + Markt AG shows that tennis is the most attractive sport for the largest number of people in Europe after football.

Here at home, tennis experienced a boom in the 90s with Steffi Graf and Boris Becker.

However, the white sport is already more than 800 years old. Its roots can be traced back to monastery gardens in the 13th century; in the 16th and 17th centuries, it developed into a popular sport. In 1874, Englishman Walter C. Wingfield patented lawn tennis and documented the first set of rules. The rules that are still in effect today were developed at the first championships in Wimbledon (London) in July 1877.

Approximately 75 percent of tennis players are amateur athletes who mainly participate in the game because they enjoy the exercise but do not participate in competitions regularly. Tennis has a lot to offer for this group of amateur and recreational athletes: Fun, companionability, recognition, fitness, health, sports culture, competition.

So-called fun sports have also developed in the field of tennis. Beach and street tennis are among the most popular of these new, modern forms of exercise.

Tennis is a sport that can be played even at an advanced age. Naturally, physical fitness and the ability to accurately assess one’s own skills play an important role. There is a high risk of impairments to health as a result of overestimation. As the Frankfurt University Clinic reports, 100 to 120 tennis players fail to leave the tennis court alive each

year. Circulatory problems such as heart attacks are the most frequent cause of death.

The frequency of injuries caused by tennis is relatively low compared to other sports. Half of the complaints are the result of acute injuries while the other half is caused by excessive strain.

While older tennis players increasingly suffer from chronic complaints (depending on pre-existing conditions), youths and younger athletes suffer acute injuries more frequently.

Causes include slipping and / or excessively sudden starting and stopping. Surface conditions on the court play a key role; for example, a long sliding phase on sand compared to a short one on a hard court.

The legs are especially susceptible. Acute injuries in this area are more common than inappropriate strain. Short sprints may trigger painful strain trauma and muscle fibre ruptures. The musculature of the calves is especially susceptible. In older tennis players, sudden starts or jumps may cause a previously injured Achilles tendon to rupture. The victim experiences sudden intense pain. In many cases, the rupture is also accompanied by an audible snap.

Ankle injuries may result from slipping or stepping onto the ball. Depending on the degree of severity, this may result in dislocation, a sprain, or a torn ligament which causes intense pain and makes the ankle swell.

Tennis arm or tennis elbow (epicondylitis radialis humeri) is probably the most well-known complaint of tennis players. It is caused by excessive strain. Over the course of his or her tennis career, every fourth recreational player has to deal with this condition. Tennis elbow mainly occurs in people starting in their mid-40s. Impact and vibration stress caused by hitting the ball, especially with the backhand, place excessive strain on the extensors and the related tendon connections at the elbow. This causes pain on the outside of the elbow. A racket with strings that are too tight or an excessively heavy racket may also constitute contributing factors.



# BeBalanced! SPORTS

## TENNIS

Prevention with BeBalanced Products from AIREX®

Requirements for a training programme to improve the tennis player's game and simultaneously protect the body against injuries:

- Tennis is a power combination of strength and endurance. A normal tennis match may require 300 to 400 explosive surges of power. Since the expenditure of energy is tremendous, adequate preparation that includes well thought-out strength training is very important.
- All tennis players should also participate in comprehensive endurance training. During a tennis match, the heart rate reaches approximately 60 – 70 percent of the maximum heart rate. If the body is not sufficiently prepared, even the winner must be carried off the court in total exhaustion...
- There is a high risk of becoming one-sided since tennis is only played with one arm. Training is required to compensate for the resulting muscular imbalance.
- Strong torso musculature helps improve the precision of various strokes, and also protects the spinal column against wear.
- Coordination – especially hand (arm)-eye coordination – plays a major role in tennis.
- Dynamic and reactive stabilisation are especially important for running back and forth quickly and stopping abruptly. This is why balance training is essential.
- Not only can a tennis racket and ball establish a relationship with the sport, they also create additional resistance to make the exercises more challenging.

The AIREX® Balance-pad Elite and the AIREX® balance beam are two outstanding products for this type of training. Various standing positions strengthen the ankles and improve balance.

Training is carried out barefoot so that correct strain on the feet can be perceived properly.

# BeBalanced! SPORTS

## TENNIS



# BeBalanced! SPORTS

## TENNIS



Stand on the AIREX® Balance-pad Elite with both feet. Keep a lightweight ball in the air using the racket. Stand on one leg to make this exercise more challenging!



Wide step position, front foot on the AIREX® Balance-pad Elite, rear foot on the mat. Tennis ball in one hand. Raise the rear leg (knee lift) and switch the ball from one hand to the other. Then return to the initial position.



# BeBalanced! SPORTS

## TENNIS



Both legs on the AIREX® Balance-pad Elite, knees bent, tennis racket in the playing hand while the other hand holds a tennis ball. Straighten and extend the legs while moving the racket behind the head and extending the ball arm. Serving position.



Wide step position, front foot on the AIREX® Balance-pad Elite, rear heel raised. The ball is resting on the racket. Move the bent arm from one side to the other while keeping the eyes focused on the ball.



Sit on the AIREX® Balance-pad Elite, legs open, feet pulled in. Upper body upright, ischial tuberosity in contact with the AIREX® Balance-pad Elite. While holding the racket horizontally between both hands, lean the upper body back slightly and then return to the initial position. Attention: The ischial tuberosity always has to remain in contact with the AIREX® Balance-pad Elite!

# BeBalanced! SPORTS

## TENNIS



From the quadruped stance with both knees on the AIREX® Balance-pad Elite, with the hands holding the tennis racket horizontally, extend one leg backwards. The handle of the racket must be held in the air; it does not touch the ground! Raise and lower the extended leg. Close your eyes to make this exercise more challenging!

# BeBalanced! SPORTS

## FOOTBALL

To put a round peg in a square hole, your foot has to be on the AIREX® Balance-pad Elite.

Right. We are talking about the most popular sport in the world – football.

Germans are great fans of the game:

Six million people (approximately seven percent of the population) are actively involved in more than 27,000 football clubs. A league system has been established, led by the 1st, 2nd and, starting in 2008, the 3rd German Football League. The German champions are selected in the 1st German Football League. There are also national tournaments, such as the German Football League cup and the league cup.

Football originally comes from England. The first rules for the game of football were compiled by students at Cambridge in 1846. In 1878, the first game using electric lighting (with so-called floodlights) was held in Sheffield. The first professional league was founded in England in 1888. Changing clubs in exchange for money was permitted in England in 1899, initially for a maximum amount of 10 pounds. In continental Europe, football mainly became popular in Switzerland. The first team was assembled in the Geneva region back in the 1860s. Football came to Germany in 1874.

### Football – a man’s game?

Not by a long shot. Women’s football is one of the fastest-growing sports in Germany. The world championship title earned by the German national women’s football team and the tremendous success of club teams have greatly enhanced the image of this formerly marginal sport. Meanwhile approximately 30 million women and girls around the world are involved in football. This includes 12 million in Europe, 8 million in the USA and approximately 800,000 in Germany.

Things haven’t always been this way. Women were not officially permitted to play football in Germany until 1972. Around the start of the 20th century, women in Germany played a game similar to football where players stood in a circle and kicked the ball to each other. However, the game was considered morally reprehensible. This attitude lasted for decades, albeit with some interruptions. The German

Football League in 1955: “. . . the appeal of femininity disappears, and the body and soul of women inevitably suffers damage.” At its annual meeting that same year, the league decided to ban “women’s teams” from playing football.

It’s a good thing that this is no longer the case today. This sport offers plenty of exercise for men and women alike. Getting involved with other people and competing as a team makes it especially attractive. Goals, going head-to-head, penalty kicks – all of these are very emotional situations. This is another reason football is so popular. You can also play football just about anywhere – without a club, without a trainer, without goals. And don’t they say that exercise is good for you? This is true, but:

- Football is a fast-moving sport. Quick changes of direction, short sprints. It involves frequent short-term maximum strain.
- Football is a contact sport with head-to-head contests, header duels, elbows etc. Excessive emotional abandonment results in a high risk of injury.
- Football is largely played without the use of protective equipment.
- Football is played in any weather. Heat, extreme cold and ice increase the risk of injury.
- Conditions on the football field are not always ideal. Uneven ground, restrictive field demarcations, hard fields etc. also increase the risk of injury.

As football has become more popular, the number of football injuries has also increased. Estimates indicate that 50-60% of all sport-related injuries and 3.5-10% of all injuries that require hospitalisation in Europe are the result of playing football.

Injuries frequently occur in the:

- Foot
- Ankle
- Lower leg
- Knee
- Thigh
- Groin
- Back

Strain trauma, contusions, sprains, fractures, dislocations and excessive strain occur.

# BeBalanced! SPORTS

## FOOTBALL

Injuries during a game are more than twice as frequent as injuries while training. The quadriceps (for jumping and kicking) and the adductors (for running, braking the leg after a kick and knee stabilisation) are the main muscle groups involved in playing football.

Muscle injuries are the result of outside forces (contusion) or excessive strain (strain trauma). They mostly occur at the beginning (insufficient warm-up) or end of a game (fatigue and excessive muscular strain).

The knee is very prone to injury when playing football. 70% of all football-related knee injuries are ligament ruptures, with nearly two-thirds of these constituting ruptures of the anterior cruciate ligament. Inward rotation of the leg while the foot is in a fixed position combined with bending the knee is a typical cause of injury. This frequently happens as the result of force exerted by an opponent, but may also occur without any outside influences.

Nearly half of all football injuries can be traced back to the personal condition of the player:

- Joint instability
- Excessive muscle tension
- Amyosthenia (muscular weakness)
- Defective anatomical positioning
- Fitness

In brief: Many players are not adequately prepared – physically and mentally – for the strain of a 90-minute game.

This is why training should cover dexterity, full-body coordination, extension and joint stability in addition to eye-foot-ball coordination and endurance.

Gina Heinssen (the model in these photos), who has been playing on the ladies' team of the Hamburg sport association for 20 years, also made this experience. She played in the first German Football League and trained 4 to 5 times a week. Four years ago, she played on the national youth team but found it too stressful trying to combine school

and the national team, so she was forced to stop playing. This worked out for the best since she is now training to become a fitness coach at the Institut für Fitnesspädagogik (Fitness Training Institute) in Hamburg. Gina is taking a course in Medical Fitness in addition to many other subjects. This course includes detailed theoretical and practical proprioceptive training, especially training with the AIREX® Balance-pad Elite. Gina benefits from the joint stabilising effects of BeBalanced! Training in particular, and raves about the AIREX® Balance-pad Elite: "Since I started doing exercises on the AIREX® balance pad elite, I hardly have any pain in my knees. Now, even when I do get pushed around by an opponent, it doesn't end in a fall that results in a stretched ligament as it did so many times in the past. Instead, I regain my balance quickly and do not sustain an injury." One year ago Gina – at the age of 20!! – suffered a herniated disc in the cervical spine. Her football career has also been accompanied by strain trauma in the thighs as well as muscle fibre ruptures. Today, she looks at football training through the eyes of an up-and-coming fitness coach. "We really should use the AIREX® Balance-pad Elite in each training module. While we do practice stabilisation after a jump, we never use an unstable surface. It is also excellent for coordination training and practicing techniques." In spite of all the injuries and pain, Gina cannot imagine life without football. She wants to combine fitness training and football, for example as a fitness coach.

Gina has applied her professional know-how to the following exercises as well as teaching me. I would like to take this opportunity to thank her.

We encourage all football players to complete these exercises regularly and to integrate them into their standard training programme, or to at least include some of the exercises. Important: Warming up prior to completing the exercises is essential!

# BeBalanced! SPORTS

## FOOTBALL



# BeBalanced! SPORTS

## FOOTBALL



Shoot the ball upwards and catch it with your thigh.



Shoot the ball upwards and catch it with your thigh, but look up at the same time.



Use your foot to move the ball back and forth in front of the AIREX® Balance-pad Elite.



Use your foot to move the ball back and forth beside the AIREX® Balance-pad Elite.

# BeBalanced! SPORTS

## FOOTBALL



Kick with your left leg. After kicking, jump onto the AIREX® Balance-pad Elite with the left leg and raise the right knee.



From a crouched position: Jump up, catch the ball and land in a crouched position.

# BeBalanced! SPORTS

## FOOTBALL



Bounce the ball off your head and land on one leg.



Catch the ball and land on one leg.

# BeBalanced! SPORTS

## FOOTBALL



On your back: Bounce the ball off your head in the jack-knife position, then return to the prone position.



Lying on your side: The ball is lying underneath the extended arm. Raise and lower both legs.



Lying on your back: Raise the buttocks and roll the ball ahead using your feet.



# BeBalanced! SPORTS

## INLINE-SKATING

### Inline skating made easy

You see them everywhere in the spring. At least on all paved trails that are reasonably tolerable to the eyes and nose: Inline skaters. The area where I live is just about ideal for people who like to keep fit on wheels. Not every skater who passes by sheep in the northern dike landscape on the weekend is equipped with wrist protectors, elbow and knee pads and a helmet.

Quite to the contrary. I frequently see inline skaters with no protection at all. Helmets in particular are very unpopular. However, the lack of protection does not appear to be merely a matter of money. Many of them are equipped with very expensive inline skates, and supplement their look with a pair of cool sunglasses. With top-end sports equipment, skaters can reach high speeds so that moving fast becomes quite an experience. The physical (endurance, skill) and mental challenge (attention, reaction) also make this an interesting sport. Inline skating is fun, gets people to go outside and is good exercise. But just like other amateur sports without professional instruction, it also has a downside: Inline skating can result in serious injury when skaters hit the trails without proper safety equipment or sufficient expertise. The most frequent problems include a lack of driving and braking skills, insufficient safety equipment and excessive speed. Nevertheless, the risks should not be exaggerated. After all, these risk factors can be minimised or even eliminated with corresponding equipment and purposeful training.

### History and development

The concept of inline skating is not new. In 1760, a Belgian named John Josef Merlin pioneered the idea when he

mounted metal wheels to the steel runners of ordinary skates and made the first attempts at inline skating. The next generation of inline skates was designed by the Olsen brothers in Minneapolis, USA in 1980. As hockey players, they were looking for a new way to train during the summer months so they attached polyurethane rollers and a rubber brake pad to the bottom of hard-shelled shoes. Their efforts eventually led to the development of different forms of inline skating, which are officially divided into four disciplines by the international associations for the sport. These disciplines include inline hockey, speed skating, aggressive and stunt skating. However, 90% of all inline skaters are fitness skaters.

### Physiological effects

Inline skating is an endurance sport which is very easy on the joints. The amount of pressure exerted on articular cartilage is much lower compared to running, and the ankle does not have to absorb the weight of the body after it is suspended in the air. In addition, pressure is built up gradually which is similar to cycling.

Studies have shown that regular fitness skating increases maximum oxygen absorption and the maximum endurance period. Inline skating also has a positive effect on the cardiovascular system. Regular training enhances aerobic endurance performance.

Proper technique also results in enhanced muscular strength, similar to cycling.

The sport is easier on the joints than running, but is also subject to a much higher risk of injury.

# BeBalanced! SPORTS

## INLINE-SKATING

The risk of injury during inline skating is high. This is related to driving speeds of 20-30 km/h and, in speed skating, top speeds of as high as 50 km/h or more. Problems are especially likely to occur if proper braking techniques have not been mastered.

Inline skaters with little practical experience as well as older people suffer more serious injuries than proficient and young skaters. Fractures are the most common type of injury incurred while skating. Once again, age plays a role: Femoral fractures in the vicinity of the hip joint (which take a long time to heal) are much more frequent in skaters over 35 years of age.

Areas of the body prone to injury during skating include:

- Distal forearm
- Wrist
- Knee
- Lower leg
- Ankle
- Head
- Face

In addition to bone and joint injuries in the form of fractures and distortions, inline skating also frequently results in soft tissue injuries such as abrasions and contusions.

### **Injury prevention and posture training**

There is no doubt that inline skating is very popular. In spite of all the risks, inline skating is an excellent outdoor fitness sport in harmony with nature. However, training is essential in order to enjoy this sport to the fullest. Many skaters exhibit terrible posture while skating. They wave their arms around, keep their upper body rounded and too far forward and allow their feet to buckle inwards. Even though these skaters may not actually fall down, the "extra" movements they make to not exactly help relieve strain on their back. The fact that the ability to maintain balance while transferring weight from the left foot to the right or vice versa is frequently very weak can also be observed time and time again. Attempts are made to compensate for this weakness by skating parallel, keeping the legs opened wider.

This means that training to prevent falls has to include:

- Back training and posture training
- Light strength training
- Balance training

### **Training with the AIREX® balance pad elite**

All 3 of these points can be easily addressed using the AIREX® Balance-pad Elite. If you are a personal trainer, you can pick up some suggestions for your customers. If you are an inline skater: Have fun trying these exercises!

### **Initial position for inline skating**

A stable initial position is the starting point for all inline skating activities. In the initial position, the nose, knee and toes form a vertical line while the feet are shoulder-width apart. This position prevents falling backwards.

### **Training with the AIREX® balance pad elite:**

Initial position as described above.

Exercise: Slightly shift your weight to the front, back, right and left.

Falling

Falling with protective equipment is first practiced without inline skates (on a soft surface) and then on asphalt. In case of a fall, you should always brace yourself towards the front – never backwards!

Skaters practice falling onto their kneepads by absorbing the fall with the elbow and wrist protectors.

The fingers are spread during this process.

Training with the AIREX® Balance-pad Elite:

Exactly as described above!

1st exercise: Falling onto the AIREX® Balance-pad Elite with the knees.

2nd exercise: Falling onto the AIREX® Balance-pad Elite with the elbows.

3rd exercise: Jumping up or jumping off a step and landing on the AIREX® Balance-pad Elite with both feet, falling onto the knees (hard floor), then onto the elbows.

# BeBalanced! SPORTS

## INLINE-SKATING

### Braking

There are different braking techniques such as the heel stop:

Braking using the brake pad is often the only effective way to slow down. Bring the legs into the scissor position.

Slightly bend the knees and lean the upper body ahead.

Move the skate with the brake pad ahead and raise the front roller. Extend the knee in order to brake more forcefully.

Training with the AIREX® Balance-pad Elite:

Initial position: Stand on the AIREX® Balance-pad Elite with both feet. Close step position. Raise the toes of the forward leg and extend the knee. Slightly flex the supporting knee. Support the hands on the thighs and move the extended upper body forward.

Exercise: Raise the forward knee while extending and then lowering the arms (assume the initial position).

### Switch legs.

The T-stop is another braking technique: Its name is based on its T-shape. Both feet are parallel at the start. In order to brake, shift your weight to the supporting leg (this varies from one skater to the next, but is easy to determine). Raise the other skate, rotate it by 90° and slowly set it down behind you. It is important to leave your weight on the supporting leg and keep the supporting knee slightly bent. Now you can start to smoothly shift your weight to the inside edge of the skate that was rotated.

### Training with the AIREX® balance pad elite

Initial position: Wide step position; the forward foot is on the AIREX® Balance-pad Elite and points out slightly, the knee is bent. The rear leg is extended

1st exercise: Extend and bend the forward leg.

2nd exercise: Perform the same exercise, except with the heel of the rear foot raised.

3rd exercise: Perform the same exercise, except with the inner edge of the rear foot on the floor.

Exercise: Keep the forward leg bent. Raise and lower the rear leg.

# BeBalanced! SPORTS

## GOLF

Golf is frequently considered a sport for seniors and the golf course dismissed as a playground for the rich. Non-golfers rarely even recognise golf as a sport. But anyone who has been to a driving range knows how much exercise golf really is. 124 out of a total of 434 muscles are involved when teeing off correctly, which clearly qualifies as a full-body workout. Golf also burns fat. An 18-hole round usually lasts four hours and uses up at least 1200 calories. It is also suitable for people with high blood pressure since low-level but constant exercise is ideal for the heart and circulatory system. Outdoor exercise while communing with nature allow the golfer to relax. Researchers in Paderborn believe golf may enhance the versatility of brain activity. It offers an ideal counterpoint to frequently stressful everyday life. Golf is also good emotional training, since an angry or impatient golfer is unlikely to get the ball in the hole.

Brief history of golf:

- The first written record of golf dates back to 1457.
- Thanks to royal support from King Charles, golf spread across Great Britain in the 16th century.
- Records of the first golf club producer date back to 1603.
- The first international match took place in 1682 in Leith, where Scotland (represented by the Duke of York and George Patterson) defeated an unnamed English duo.
- The Royal Burgess Golf Society, the first golf association, was founded in 1735.
- Records indicate that golf clubs were first exported to America in 1743.
- The Gentlemen Golfers of Leith association is founded in Leith in 1744. They also publish the first formal set of golf rules. This association later becomes the Honourable Company of Edinburgh Golfers, which still exists today.
- The St. Andrews Society of Golfers, which was founded in 1754 and later renamed the Royal & Ancient Golf Club of St. Andrews, is considered the oldest golf club that has been in existence continuously at the same location.
- Match play is first mentioned in St. Andrews in 1759, where only stroke play was used previously.
- Royal Blackheath, in the vicinity of London, became the first golf club outside Scotland in 1766. The first clubhouse opened in Leith in 1768.
- The first documented ladies' golf tournament was held in Musselburgh in 1810 and the first ladies' golf association was formed in St. Andrews in 1867.
- Outside the main British islands, the first club was founded in Bangalore, India in 1820.
- Starting in 1826, the hickory shaft gained popularity over other types of wood. The steel shaft hit the market in 1891.
- Starting in 1848, the featherie was replaced by the longer-range gutta-percha ball which is also cheaper to produce. The gutta-percha ball was superseded by the Haskell ball, a wrapped hard rubber core ball, for the same reasons in 1898.
- The Open Championship, the oldest tournament still in existence today, celebrated its premiere in Prestwick in 1860.
- Young Tom Morris got the first documented hole in one in 1867.
- The USGA was founded in 1894.
- The scoring method according to Stableford was invented in 1898 and the wooden tee was patented in 1899.
- Golf was included as an Olympic sport at the 1900 and 1904 games.
- Grooves appeared on the blades of golf clubs in 1902 and dimples on the golf ball in 1905. The centre-shafted putter was taken out of play in 1910, and the steel shafts by R&A followed suit in 1911.
- PGA of America was founded in 1916 as the first organisation to represent the interests of professional golfers.
- Steel shafts were once again approved everywhere in 1929, leading to the final demise of hickory shafts.
- The upper limit of 14 clubs per player and game was once again applied starting in 1938.
- R&A and USGA agreed on a joint set of rules in 1951. At the same time, stymies were discontinued and centre-shafted putters were once again permitted.
- The rubber grip (previously leather) and cast irons (formerly forged) made their debut in 1963. The graphite shaft and cavity back iron followed in 1969.
- The only two strokes of golf played on the moon to date were executed by astronaut Alan Shepard in 1971.
- The first metal driver heads hit the market in 1979, replacing persimmon wood.
- Titanium was introduced to the American market as a wood material in 1994 and soon gained popularity (source: Wikipedia).

# BeBalanced! SPORTS

## GOLF

Golf can also lead to injuries. Acute excessive strain injuries may be caused by:

- Incorrect swing. More strength than technique. Poor back position.
- Hitting the ground too often. The club and wrist decelerate from a speed of 170 km/h to 0 km/h.
- Playing and training excessively.

Ongoing improper strain causes disorders such as golfer's shoulder or golfer's elbow.

### **A must even for golfers: Warming up**

Muscles, tendons and ligaments must be warmed up for at least 10 minutes in order to keep them flexible and prepare them for strain. In particular, golfers should make sure to properly warm up the heavily used musculature of the shoulder girdle and hips before teeing off. One might think that walking from one hole to the next is enough of a warm-up. Not by a long shot. Mature golfers in particular frequently complain about pain in their shoulders. The risk of injuring your shoulder while playing golf rises with increasing age. This is because golf may be the last straw in case of pre-existing degenerative shoulder disorders.

Such problems can include hairline fissures in individual tendons or the onset of cartilage damage which go unnoticed on a day-to-day basis. Ongoing excessive strain while practicing frequently leads to so-called "golfer's shoulder" in case of premature muscle fatigue and / or reduced muscular endurance as well as insufficient flexibility. Symptoms include pain when executing movements or at night.

A mechanical bottleneck known as "impingement" is frequently considered the cause. Degenerative processes cause the space for the movement of the tendon / muscle groups of the rotator cuff under the acromion to become inflamed and painfully constricted. Once this condition has developed, an unfortunate movement while teeing off or when hitting the ground is often enough to tear or even rip off the rotator cuff. A specialist should be consulted as so-

on as the initial symptoms of pain become noticeable. Regular preparation and systematic training of the locomotor system can help you stay healthy and successfully enjoy golf up to an advanced age.

This also applies in case of back problems. A golf swing puts a lot of strain on the spinal column. More than 50% of all golfers already suffer from back pain at the start of a game. As a result of small errors while swinging, amateur players put up to 80% more strain on their spinal column than professional golfers.

A player generates up to 3000 watts of energy during a golf swing. Only 1200 watts are generated by the arm muscles. The remainder comes from the back and leg musculature. Most golfers are not adequately prepared in terms of muscular fitness; as a result, they suffer from back pain that often requires surgical treatment.

The spinal column is the key structural element that transmits force from the legs through the arms and to the head of the golf club. Not only does a poor swing result if the spinal column is unable to play its part, but the small of the back also suffers. Weak stomach and buttock muscles place an even greater strain on the spinal column, as do incorrect movements of the hips and knees.

Golf is teeming with numerous other opportunities to use the spinal column incorrectly. These include taking the ball out of the hole and many more.

# BeBalanced! SPORTS

## GOLF



# BeBalanced! SPORTS

## GOLF



Initial position: Lying on your back, with the edge of the AIREX® Balance-pad Elite at armpit height, feet apart to the width of the hips, golf club held in both hands and lying on the chest.



Exercise 1: Pull one knee towards the body while simultaneously lifting the upper body. The golf club touches the thigh of the raised leg.



Exercise 2: Pull both knees towards the body while simultaneously lifting the upper body.



Exercise 3: Pull one knee towards the body while simultaneously lifting the upper body diagonally to the side.



Exercise 4: Both knees stay in the air while the upper body is alternately raised to the right and left.

# BeBalanced! SPORTS

## GOLF



Initial position: Lying on your side, forearm on the AIREX® Balance-pad Elite, knees bent. The other hand holds the golf club straight up and pushes it down onto the floor.



Exercise 1: Raise and lower the buttocks.



Exercise 2: Raise the buttocks while simultaneously extending and raising the top leg.

# BeBalanced! SPORTS

## GOLF



Initial position: Lying face down, AIREX® Balance-pad Elite at chest height, both hands hold the golf club across the buttocks, legs are open, knees are bent, toes point outwards.



Exercise: Raise and lower the upper body.

# BeBalanced! SPORTS

## GOLF



Initial position: Lying face down, AIREX® Balance-pad Elite at chest height, both hands hold the golf club, legs are open, knees are bent, toes point outwards.



Exercise 1: Raise and lower the upper body.



Exercise 2: Raise the upper body and simultaneously turn to the side.

# BeBalanced! SPORTS

## GOLF



Initial position: Lying face down, AIREX® Balance-pad Elite at chest height, both hands hold the golf club, forehead is lying on the golf club, legs are closed.



Exercise: Simultaneously raise the legs and upper body.

# BeBalanced! SPORTS

## GOLF



Initial position: Quadruped stance, both hands on the AIREX® Balance-pad Elite.  
Exercise: Rotate one hand so that the fingertips point towards the knees. Hold this position.

# BeBalanced! SPORTS

## GOLF



Initial position: Quadruped stance, hands and knees on 1 AIREX® Balance-pad Elite respectively. Golf club held in one hand.



Exercise 1: Raise the golf club while simultaneously lifting the opposite leg.



Exercise 2: Open / rotate the body to the side and extend the leg on the same side behind you.

# BeBalanced! SPORTS

## GOLF



Initial position: Step position; the forward foot is on the AIREX® Balance-pad Elite, the knee is bent. The rear leg is extended with the heel raised, golf club held in both hands.



Exercise: Raise the arms to shoulder height and lower them.

# BeBalanced! SPORTS

## GOLF



Initial position: Stand on the AIREX® Balance-pad Elite with both feet. Golf club held behind the neck.



Exercise: Tilt the upper body forward while simultaneously raising the opposite leg so that the knee and elbow touch.

# BeBalanced! SPORTS

## GOLF



Initial position: Stand on the AIREX® Balance-pad Elite with both feet, one heel raised, with both hands holding the golf club vertically.

Exercise: Raise and lower the leg.

# BeBalanced! SPORTS

## GOLF



Initial position: Stand on the AIREX® Balance-pad Elite with both feet, both hands holding the golf club vertically.



Exercise: Simulate a golf swing.

# IMPRESSUM

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