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Introduction

The pelvic floor – the neglected muscles

Most people are not familiar with their pelvic floor and it is, thus, difficult for them to specifically activate or relax the various muscles which form the pelvic floor. It is easiest to imagine that the pelvic floor is a hammock which gives support to the organs of the abdomen. For this reason, it is very important that the pelvic floor is healthy, on the one hand, it should be strong and on the other, capable of relaxing to permit an optimal functioning of the bladder, bowels and sexual organs. If the muscles are too weak, this leads to weakness of the bladder and dropping of the uterus. If the muscles are chronically tense, this leads to constipation and, with women, to discomfort during sexual intercourse. It is therefore worth getting to know and training these muscles for many reasons.

In particular with women who have given birth normally, there is often the following unbalance: the muscles running lengthwise (around the vagina) are weakened, the ones lying diagonally (around the anus) tense. Through the weakness of the lengthwise running fibres, the sacrum tends to tip too far forward. This leads to overloading of the rear ligaments between the pelvis and sacrum and the lowest small vertebral joints. The training with the EPI-NO Delphine Plus is particularly valuable in this case as, through the tactile feedback, the concentration in the front part of the pelvic floor area is strengthened. In this manner, not only incontinence problems disappear but also pain in the lower part of the back and in the muscles of the bottom.

The transversal abdominal muscle (Musculus transversus abdominis)

When the abdominal muscles are mentioned in this brochure, the lower muscle fibres of the transversal abdominal muscle are meant. The transversal abdominal muscle is to be found directly above the pubic bone and goes right up to the tip of the breastbone. Its fibres run horizontally round the middle of the body.

The function that the pelvic floor has for the pelvic organs, the transversal abdominal has for the abdominal organs: it gives them support. If the muscle is limp, the abdomen arches outwards and the organs pull over their retaining bands at the spine. If the muscle has a good basic tension, - in professional lingo “tonus” – the abdomen is flat, slightly waisted and the spine can support itself on the organs as on a water-filled cushion.

This muscle too can become out of form as the result of a pregnancy: In the last third (of the pregnancy) it is massively overstretched by the growing child and in the first weeks and months after the birth many women have too little time and leisure to train back into form.

You will notice that in this brochure we talk a lot about the **30% basic tension**. By this we mean the activation of the pelvic floor muscles and the lower fibres of the transversal abdominal muscle. Anatomically they can be hardly separated from each other and thus they work mostly as a team which is good for the stability of the transition between pelvis and the lumbar spine.

Strictly speaking, the lower back muscles, which stabilize the spine segment by segment, attach themselves to the pelvic floor and abdominal muscle team and are thus particularly important for the protection of the inter-vertebral disks.

So that these muscles can work in a good relationship with each other, it is important that the exercises are carried out in the **neutral position** of the pelvis.

Neutral position means that in the dorsal position the pubic bone and both the pelvic bones are aligned parallel to the floor.

To illustrate: a tray with a glass of champagne stands on the pelvis – nothing should run out.

Before you begin with the training...

- First completely read through the description of the exercise in order to understand it better.
- Familiarize yourself with the use of the instrument; practise several times gently pumping up the balloon with one hand and then letting the air out again.
- See that all around is quiet (door closed, telephone regulated on low tone, etc.)
- Wash your hands.
- Familiarize yourself first with breathing before you combine breathing and exercise.
- The exercises are arranged according to degree of difficulty; we therefore recommend that you do the exercises in this order.
- Only train with the balloon in an intra-vaginal position (in the vagina) when you feel like it; the pelvic floor is a very sensitive part of the body, exaggerated training discipline is not advisable; if you have your period or an inflammation, you should not train with the balloon in the vagina. You can, however, do parts of the training program without EPI-NO Delphine Plus or use the instrument for external feedback.
- It is very important not to pump up the balloon so much that you feel pain!
- If you feel pain, you should stop the exercises and consult your doctor. So: no “try your strength” attitude! The pelvic floor muscles are made of mainly slow muscle fibres. Muscle fibres of this kind are best trained with little resistance.
- Tip: So that you do not freeze during the exercises with the EPI-NO Delphine Plus in the vagina, you should increase the room temperature a little. Alternatively you can “sacrifice” old leggings and cut out the crotch.

Breathing

The diaphragm is the most important breathing muscle. It spans as a dome the abdominal visceral organs and forms the separating layer between the abdominal chamber and the breast.

The diaphragm and the pelvic floor muscles are linked with each other via connective tissue casings (adventitia) of the abdominal chamber, so-called fascias, like two parallel suspended sails. Thus, healthy respiration for the pelvic floor training is very important.

When the pelvic floor and abdominal muscles are fully relaxed, the following takes place with the respiration:

When breathing in, the diaphragm sinks and presses the abdominal organs unbraked downwards whereby the pelvic floor is also lowered. When you breathe out, the diaphragm moves up again, the pressure on the abdominal organs decreases and thus the pelvic floor also moves upwards again.

This breathing technique is called **abdominal breathing**. This also provides a kind of “organ massage” and is important for relaxation.

When standing, sitting or walking however, **abdominal breathing** alone is unsuitable as the pelvis and the lumbar spine require an approx. **30% basic tension** for optimal stabilisation.

To learn the **30% basic tension** you will find special instructions in the following exercise section – “From 0 to 100 – find the 30% basic tension”.

Perception exercise:

The easiest way to feel the movement of the diaphragm is if you put your hands on the lower ribs and pant while so doing. You feel the movement in the pelvic floor if, while panting, you place the finger tips of one hand lightly on the perineum region between anus and vagina.

Healthy breathing, which also permits a good segmental stabilisation, reaches all three breathing zones: 1/3 in the abdominal region, 1/3 in the region of the lower ribs, 1/3 in the upper apex of the lungs. To obtain a better access to this healthy breathing, it is very helpful to first control the breathing zones individually.

Lateral thorax breathing, i.e. breathing in the region of the lower ribs, is particularly important as often a lack of mobility in the ribs (and the muscles which bind the ribs together) requires special attention.

Breathing exercise:

It is best to exercise breathing in the various breathing zones lying on your back and touching the corresponding places with your hands:

1. **Abdominal breathing** Touch between pubic bone and belly button. The stomach should rise when you breathe in and sink when you breathe out.
2. **Lateral thorax breathing** Touch lower ribs with both hands. The ribs should expand to the side when breathing in and sink when you breathe out (as a parasol that opens and closes).
3. **Lung apex breathing** Touch breastbone. The breast bone should rise when you breathe in and sink when you breathe out.

The completion of this exercise is breathing in all three regions with one breath.

1/3 stomach, 1/3 lateral thorax and 1/3 lung apex.

Then breathe out completely.

As the fibres of the diaphragm muscle are optimally stretched in the complete breathing out phase, it is important not to neglect the breathing out. Try, therefore, to breathe out for somewhat longer than you need to breathe in.

The conscious deepened breathing can easily cause you to hyperventilate (receive too much oxygen so that one becomes giddy). To avoid this, take a pause from time to time during which you breathe quite normally.

Description of exercises

1. Isometric pelvic floor training

Starting position: exercise first lying on your back with several cushions under your head and the upper part of your body. Later you can carry out this exercise also in all other positions.

Exercise sequence:

Tense pelvic floor muscles and hold the tension for 10-15 seconds.

In picture form: Lift up a slipping tampon
Stop the urine jet
Raise the bladder somewhat
Lift up a date with the vagina

Now with EPI-NO Delphine Plus:

Starting position: On your back, one or several cushions under your head and the upper part of your body, insert half the balloon (without air) into the vagina.

Exercise sequence:

1. Pump up the balloon until you feel a minimum resistance (women who have not given birth will already feel this resistance at “1” whilst women who have had pregnancies may only feel something at “3 to 5”).
2. Now tense the pelvic floor muscles (press the balloon together), the needle should increase by one step (e.g. from “1” to “2”), try to hold the needle there (if possible without the needle moving) for 10-15 seconds.
3. Breathe in deeply and totally relax the pelvic floor with the next breathing out; the needle will then usually fall back to the step at which you began (e.g. from “2” to “1”).
4. While your pelvic floor muscles are relaxing, please pump very gently a step higher (e.g. from “1” to “2”).
5. Repeat the steps 2. to 4. twice more.

In picture form: Pressing a lemon.

How often? Allow yourself a short pause after the first time and repeat the series another two times (with again a short pause between the 2nd and the 3rd time).

Purpose of exercise: Conscious tensing and relaxing of the pelvic floor in order to obtain strong and, at the same time, elastic pelvic floor muscles.

2. From 0 to 100 – find the **30% basic tension**

Starting position:

Lie on your back, if necessary with cushion under your head

Sequence of exercise:

1. Breathe in deeply.
2. when breathing out, slowly tense the pelvic floor and abdominal muscles in imaginary 10 steps 10 – 20 – 30 – 40 – 50 – 60 – 70 – 80 – 90 – 100
3. when breathing in, slowly and gradually relax the pelvic floor and abdominal muscles
90 – 80 – 70 – 60 – 50 – 40 and STOP at **30**
4. Continue to breathe normally and consciously observe the **30% basic tension**.
“Store“ the 30% feeling so that you can call it up again at any time.
You can also now stand up and run around with this new feeling. It is interesting to note the comparison with the 0% muscle activation.

In picture form: Lift goes up to the 10th floor and back to the 3rd floor.

How often? 3 – 5 times

Tip:

You will find it easier to slowly tense your muscles than to slowly relax them. So exercise this several times until you can control the slow relaxation of the muscles.

Now with EPI-NO Delphine Plus:

Sequence of exercise:

- Insert half the air-free balloon into the vagina.
- Gently pump up the balloon till you feel a minimum resistance (depending on your pelvic floor antecedents, needle will be between 1 and 5).
- Now continue the sequence of the exercise 1. to 4. as described above.
- The needle will during the tension “from 0 to 100” move upwards 1-3 steps on an average. (On no account should you expect 10 steps).

Purpose of exercise: With this exercise, it is a question of finding out how pleasant and safe a **30% basic tension** feels. When we are not lying down (sitting, standing or walking) the pelvic floor muscles should always be approx. 30% active.

You will notice that 30% muscle activity is not much and not at all exhausting. Record how your posture improves and with it radiance towards your environment.

3. The butterfly

Starting position:

Lie on your back, if necessary with a cushion under your head, hip and knee joints bent, feet placed close together on the floor, **neutral position** in pelvis.

Sequence of exercise:

1. breathe in as preparation
2. breathe out right knee opens to the side (left knee remains turned towards the ceiling)
3. breathe in hold this position
4. breathe out right knee closes upwards

Other side

in picture form: strong middle of body but “empty, light leg”, “anchor” on the other side.

How often? 5 times each side

Tips: The timing is important here: fractions of a second before you open the knee to the side – or close it again – always use the **30% basic tension** so that the pelvis remains stable during the movement.

This exercise requires a firm surface to lie on.

Now with EPI-NO Delphine Plus:

Sequence of exercise:

- Insert half the balloon in the vagina.
- Gently pump up the balloon until you feel a minimum resistance (depending on your pelvic floor antecedents, needle will be between 1 and 5).
- Now the exercise sequence 1. to 4. as described above.
- The needle will move slightly up during the **30% basic tension**. (Only expect ¼ to ½ step).
- What is difficult is to keep the needle at this basic tension position while you carry out the movement.

Purpose of: This exercise strengthens and sensitizes the pelvic floor muscles.
exercise:

4. The stork

Starting position:

Lie on your back with a cushion under your head if necessary, hip and knee joints bent, feet with a distance of 10 cm between them on the floor, **neutral position** of pelvis.

Sequence of exercise:

1. breathe in as preparation
2. breathe out stretch out right leg downwards on floor
3. breathe in keep this position (without hollow back and with stable pelvis)
4. breathe out bend right leg again (heel drags over the floor)

Other side

In picture form: the leg is passively moved with strings like a marionette

How often? 5 times each side

Now with EPI-NO Delphine Plus:

Sequence of exercise:

- Insert half the airless balloon into the vagina.
- Gently pump up the balloon until you feel a minimum resistance (depending on your pelvis floor antecedents, the needle will be between 1 and 5)
- Now the exercise sequence 1. to 4. as described above.
- The needle will move slightly up during the **30% basic tension**. (Only expect ¼ - ½ step).
- What is difficult is to keep the needle at this basic tension position while you carry out the movement.

Tips: Shortly before you stretch your leg – or bend it again – always return to the **30% basic tension** so that the pelvis remains stable during the movement.

This exercise requires a firm surface to lie on.

During this exercise, the pelvis should always remain in the **neutral position**. This is achieved when the pubic bone and both the hip joints are on a level parallel to the floor.

Purpose of: Good timing between breathing and thus sensible pelvis floor strengthening.
exercise:

5. Bend leg

Starting position:

Lie on your back, hip and knee joints bent, feet 10 cm apart on floor. **Neutral position** for pelvis.

Sequence of exercise:

1. breathe in for preparation
2. breathe out bend right knee to the upper part of the body (90° angle between torso and thigh)
3. breathe in keep this position (stable pelvis)
4. breathe out replace right leg

Other side

In picture form:

Leg is moved passively as a marionette
So that the pelvis does not topple over to the side, it helps if one imagines an “anchor” on the opposite side of the moving leg.

How often? 5 times each side

Now with **EPI-NO Delphine Plus: intra-vaginal**

Sequence of exercise:

- Insert the empty balloon halfway into the vagina.
- Gently pump up the balloon until you feel a minimum resistance (depending on pelvic floor antecedents, the needle will show between 1 and 5).
- Now the exercise sequence 1. to 4. as described above.
- The needle will move slightly upwards during the **30% basic tension**. (Only expect ¼ to ½ step).
- What is difficult is to keep the needle at this basic tension position while you are carrying out the movement.

Or with **EPI-NO Delphine Plus: external**

Sequence of exercise:

- Place the balloon at the level of the belly button and crossway below the lumbar spine.
- Pump up the balloon 6x – 8x.
- Tilt the pelvis several times upwards (lumbar spine on the floor) and downwards (hollow back) and watch the reaction of the needle (when the pelvis tilts upwards, the needle goes upwards, and when the pelvis tilts downwards, the needle goes downwards).
- Look for the **neutral position** of the pelvis – exactly between these two extremes.
- Now the exercise sequence 1. to 4. as described above.
- The aim is now to carry out the exercise without the needle moving upwards or downwards.

Purpose of exercise: Good coordination of the pelvic floor muscles and the abdominal and back muscles in combination with the breathing.

6. The shark's mouth

Starting position:

Lie on your side, both legs bent 90°, knees above each other, heels as an extension of the back, underarm stretched upwards, upper hand put in front of the ribs on the floor, length between head and coccyx with the natural curves of the spine, **neutral position** of the pelvis.

Sequence of exercise: (beginning lying on the left side)

1. breathe in as preparation
2. breathe out right knee opens upwards while the feet remain in contact
3. breathe in stay in this position (stable pelvis)
4. breathe out right knee slowly back to starting position

Other side

In picture form: "empty, light leg"

Lengthen upper ischium to the wall so that the spine in the waist region is not lying on the floor but is parallel to the floor.

Imagine a small tunnel under your waist

How often? 10 times to the right, then 10 times to the left

Now with EPI-NO Delphine Plus (external):

To control stability, place EPI-NO Delphine Plus approx. at belly button level between waist and floor (under your back). Pump up the balloon approx. 6-8 times and put the display in a position which is easy to see. During this exercise, the needle should not move.

Purposes of To strengthen external rotators of the hips.

exercise: To train the stability between pelvis and lumbar spine.

Focus: to activate the **30% basic tension** split seconds before the external movement muscles.

7. The magic pelvic floor balloon

With **EPI-NO Delphine Plus**:

Starting position:

Sit upright on a chair, both feet are parallel and fully in contact with the floor, the knees should have an angle of 90°.

Sequence of exercise:

- Pump up the balloon approx. 10x so that it is approx. the size of a pear.
- Sit in the centre of the balloon so that you feel it in the middle between pubic bone, coccyx and both the ischiums.
- Remain approx. 2 minutes sitting upright on the balloon.
- You can use the time e.g. for conscious breathing in all three breathing zones.
- Then take the balloon out and feel afterwards
 - What has changed?
 - Is it easier for you to sit upright now?

Purpose of exercise: This exercise relaxes the pelvic floor muscles. That is particularly important if you sit a lot or generally wish your pelvic floor to have more relaxation.

Tip:

The resilience of the balloon is adjusted to normal body weight. If you suffer from overweight, please use a folded guest towel or a stable ball from the play and therapy domain for this exercise.

8. The table (general exercise)

Starting position:

On all fours, the knee under the hip joints, the hands under the shoulders, length between head and pubic bone with the natural curves of the spine, **neutral position** in pelvis.

Sequence of exercise:

1. breathe in as preparation
2. breathe out push the right leg backwards over the floor and, if necessary, lift it a little from the floor
3. breathe in stay in this position (stable pelvis)
4. breathe out right leg back to starting position

Other leg

In picture form:

Connecting line between tip of breastbone and sacrum
 Lengthen the crown of the head forwards
 Lengthen ischium directly to the wall behind you
 “empty, light leg”

Pull up the organs with the abdominal muscles to the spine (in so doing do not alter the natural spinal curves)

How often? 5 times each side

Purpose of Exercise for whole body with focus on activating the **30% basic tension** for split

Exercise: seconds before the external movement muscles and during the movement not to lose the **neutral position** in the pelvis.

Tips:

Well prepare the leg remaining on the floor for the balancing work by well activating beforehand the external hip and bottom muscles.
 Advanced persons can in addition lift the diagonal arm from the floor.
 This exercise is not so suitable for the use of the EPI-NO-Delphine Plus.

Final remarks:

- Clean the balloon after each training session.
- If during a training session you work with the balloon externally and in the vagina, a thorough cleaning is vital before every intra-vaginal use.
- Try to integrate the exercises into your everyday life, e.g. take up the **30% basic tension** position before getting out of bed in the morning, before you take your coffee cup out of the cupboard, before you get into your car, ...
- Practise healthy breathing as often as possible.
- Take time for your pelvic floor, your body and for more of the pleasures of life.