



Cursus level 4 & 5 MudaGym

The last part of the course need to give insides how to bring technical skills, coaching skills and have the proper understanding about setting up a program and implement it with their students.

MudaGym

Amsterdam

ID 6407515433f5b

Date 07-03-2023

Time 15:59 CET

Attachment

level 2 - mudagym.pdf



MudaGym® academy

Written by: Vincent Muda & Tycho Muda

MudaGym® academy by Vincent Muda & Tycho Muda



| | |
|---|----|
| 1.About MudaGym theory | 5 |
| 1.1 Who are we? | 5 |
| 1.1.1 History of the rowing machine | 5 |
| 1.2 Vision, Mission and Goal | 5 |
| 1.2.1 Vision | 5 |
| 1.2.2 Mission | 5 |
| 1.2.3 Goal | 6 |
| 1.3 MudaGym Triangle | 6 |
| 1.3.1 Triangle structure: | 6 |
| 1.3.2 What the client sees—the visual element of the MudaGym triangle | 6 |
| 1.3.2.1 The trainer | 7 |
| 1.3.2.2 The time span of the training | 7 |
| 1.3.2.3 The displays of the rowing machine | 7 |
| 1.3.3 The auditory element of the MudaGym triangle | 7 |
| Voice: | 7 |
| Noise: | 7 |
| Music: | 7 |
| 1.3.4 The feeling element of the MudaGym triangle | 7 |
| 2 Before the training starts | 8 |
| 3 Safety | 10 |
| 3.1 Welcome the client (Personal) | 11 |
| 3.1.1 Step 1: Check how they feel | 11 |
| 3.1.2 Step 2: Check for injuries | 11 |
| 3.2 Adjust the rowing machine to the client’s posture | 12 |
| 3.3 How to handle resistance | 14 |
| 3.3.1 Step 1: Adjust the resistance | 14 |
| 3.3.2 The explorers (1–10 times) | 16 |
| 3.3.4 The achievers (≥21 times) | 16 |
| 4 The workout | 17 |
| 4.1 The warm-up | 17 |
| 4.1.1 Technical warm-up | 18 |
| 4.1.2 Increase the intensity of the warm-up | 18 |



| | |
|---|----|
| 4.1.3 Specific warm-up | 19 |
| 5 The training | 19 |
| 5.1 Forms of intensities | 19 |
| 6 Cool-down | 20 |
| 6.1 Types of stretch exercises | 20 |
| 1. Hamstrings | 20 |
| 2. Glutes | 20 |
| 3. Back muscles | 21 |
| 4. Shoulders | 21 |
| 7 Additional cool-down activities | 22 |
| 7.1 Aftercare | 22 |
| 8 Technical rowing | 22 |
| 8.1 The sequence of the preparation phase | 23 |
| 8.1.1 Starting posture | 23 |
| Step 1 in the preparation phase | 24 |
| Step 2 in the preparation phase | 24 |
| Step 3 in the preparation phase | 24 |
| 8.2The sequence of the explosion phase (the stroke) | 25 |
| Step 1 in the explosion phase | 25 |
| Step 2 in the explosion phase | 25 |
| Step 3 in the explosion phase | 26 |
| 8.3 Last in, first out (LIFO) | 26 |
| 8.4 Handle position | 26 |
| 9 Monkey eating banana | 27 |
| 9.1 MudaGym language: | 28 |
| 9.2 How to become a monkey eating a banana | 30 |
| 9.2.1 Know the type of training | 31 |
| 9.2.2 The timeframe with highlights | 31 |
| 9.2.3 Choose your overall technical focus | 31 |
| 9.3 Do not think of the pink elephant | 32 |
| 10 Technical focus | 33 |
| 10.1 Exercises on the rowing machine | 33 |
| 1. Arms only | 33 |



| | | |
|------|--------------------------------|----|
| 2. | Arms and backswing | 34 |
| 3. | Legs-only pulse | 35 |
| 4. | Legs only | 36 |
| 5. | Legs and backswing | 37 |
| 6. | First, second and third checks | 38 |
| 7. | Quarter and half bench row | 40 |
| 8. | One-arm row | 41 |
| 9. | Underhand grip pull | 42 |
| 10. | Bicep curls | 42 |
| 11. | Hinge | 43 |
| 12. | One-leg row | 43 |
| 13. | Strapless row | 44 |
| 11 | Row in balance | 44 |
| 11.1 | Baseline tempo | 45 |
| 11.2 | Contrast in rowing | 45 |
| | High contrast | 46 |
| | Medium contrast | 46 |
| | Low contrast | 46 |
| 11.3 | Breathing rhythm | 46 |



9 Monkey eating banana

In theory, we should speak such that everyone understands us. However, in reality, we often communicate in ways that are easy for **us** to understand. As trainers, we should not assume that our customers speak our language. Instead, we should have the knowledge, experience (soon) and preparation to provide an understandable lesson.

To develop a safe but accessible sports environment, we want to avoid using difficult terms, professional jargon and non-understandable sentences. Therefore, we introduce the concept of a “monkey eating a banana.” What makes monkeys eating bananas so valuable not only for you as a trainer but also for the client? In figure 14 you find our simplified language to explain the technique, posture and the meaning of the exercises.

9.1 MudaGym language:

| Exercise | How to sit | Meaning of exercise | Description from trainer to client |
|-------------------|--|---|--|
| Arms only | Legs straight, toes down, shoulder blades compressed | Strengthen the body posture in the finishing stage by maintaining the power through the legs | Chin up, chest forward, shoulder blades to the back, relaxed fingers around the handle |
| Arms & body swing | Legs straight, toes down, shoulder blades compressed | Strengthen the movement between the upper body and the arms; find a dynamic transition between those two body parts | Chin up, chest forward, fingers relaxed around the handle, wrists straight, shoulder blades to the back |
| Check 1 | Legs straight, toes down, shoulder blades compressed and handle against the chest with straight wrists and wide elbows | You practice a strong finish with the right posture | Chin up, chest forward, toes pushing down into the footplate, fingers relaxed around the handle, wrists straight, elbows in line with the handle |
| Check 2 | Legs straight, toes down, shoulders behind the hips with compressed shoulder blades, arms straight | The first movement in the recovery phase is hands away; here, we practice slow handling through the arms | Chin up, chest forward, toes pushing down into the footplate, fingers relaxed around the handle, hang on your abs |
| Check 3 | Legs straight, hinge forward through the hips with | The next movement after break 2 is the hinging forward | Look forward, keep shoulder blades compressed, hold the |



| | | | |
|---------------------------------|--|--|--|
| | compressed shoulder blades and straight arms | through the hips. We break when we feel tension in the hamstrings or when the handle is halfway down the shins | handle relaxed in the fingers |
| Strapless feet | Without the straps around your feet | We practice this to keep pressure under the feet Toes should always be attached to the footplate | Push your toes down; you will feel pressure in the calves |
| One-arm row | Hold the handle in the middle with one arm; the rest is normal rowing | We practice this to hang long on the arms and lock the core to remain facing straight forward | Hold the handle in the middle; keep arm straight during the leg drive |
| Underhand grip arms only | For the triceps, keep legs straight, hanging to the back on the abs. | Focus on a straight body posture and the pressure between the shoulder blades and the triceps | Chin up, chest forward, shoulder blades together to the back, toes pushing down into the footplate |
| Legs only | Straight arms, hinged forward, light fingers around the handle, compressed shoulder blades | Focus on the power through the legs; jump through the toes, and hold that pressure there | Compress the shoulder blades; keep light fingers around the handle; lock your core; feel the calves and hamstrings during the push |
| Legs & body swing | Straight arms, just pushing with the legs and the movement with the upper body | Focus on the connection between the leg drive and the body that takes over when the legs are almost down | Chin up, chest forward, shoulder blades together to the back, toes pushing down into the footplate, fingers relaxed |
| One-leg row | Take one leg off the footplate, stretch that leg to the outside of the machine to avoiding | Focus on the leg drive; keep the knee in line with the toes, and push through the toes the whole way; | Keep the knees in line with the toes; pull shoulder blades together to the back; lock the core to stay straight; hang on |



| | | | |
|---------------------|--|---|---|
| | hitting your shin against it | lock your core to stay straight | the arms for maximum pressure on the legs |
| Speed ladder | Normal position | In this exercise, we focus on rhythm and increasing it. We climb in rhythm and speed together | Focus on the leg drive; the power comes from the lower parts, and the rhythm is created by relaxation in the hands and movement towards the tablet |
| Pyramid | Normal position | Same exercise as the speed ladder. However, here both the rhythm and speed decrease | Focus on the leg drive; the power comes from the lower parts, and the rhythm is created by relaxation in the hands and movement towards the tablet |
| Power ladder | Normal position | Focus mainly on power. The rhythm stays the same, and the power will increase with each step | Focus on light fingers around the handle, compressed shoulder blades and a tight core. Push through the toes, and maintain the pressure until the end of the movement |
| Rhythm row | Normal position | Focus on rhythm, and try to row as one team | As the trainer, you will count exactly to the rhythm |
| One-arm row | Using only the left or right hand, hold the handle in the middle | Focus on the hang movement of the arm | Hold the handle lightly in the fingers. Wait with the pull of the single arm until the end of the leg drive |

Figure 14: MudaGym languages

9.2 How to become a monkey eating a banana

To apply the principle of a monkey eating a banana, preparation and knowledge about how the workout will go are key. They ensure peace of mind and give us focus and control over what we do.

As the trainer, prepare yourself to ensure a smooth workout for the client by

- 1. Knowing the type of training you are giving;
- 2. Knowing the time frame of the training and what you want to highlight; and



3. Choosing your technical focus point for the workout.

9.2.1 Know the type of training

We have developed several forms of training that are accessible to everyone, as described in the table below. The idea is that we always offer a full body workout.

| Type of training | Goal of the training | Focus | |
|---|---|--------------------|-----------------|
| Technical training in combination with endurance training | Increasing stamina Improving technical skills in rowing Training format: 1 - Longer distances row 2 - Exercises during the row | Technique | General |
| | | Body posture | Low resistance |
| | | Movement | Longer distance |
| | | Rhythm | Low rhythm |
| Power training | Strength and explosiveness Training format: 1 - Power row / low rhythm with high resistance 2 - Start training / high rhythm with high or low resistance | Technique | General |
| | | Power through legs | High resistance |
| | | Movement | Power/watts |
| | | High & low rhythm | Short distance |
| HIT—High interval training | | | |
| Strength endurance | | | |

Figure 15: Different type of trainings

9.2.2 The timeframe with highlights

The trend today is a to-go society where people tend to live by an agenda and often plan tightly. We therefore have the responsibility not only to take the client through the training properly but also to start and stop on time. The time frame is thus the common thread in the training, and once you start the training, you cannot stop.

The time frame is made up of 4 parts, each with its own meaning. In the time frame, you can also see that the blocks are not all of the same height; the differences indicate the intensity. As a trainer, you decide what your focus is and what you want to say per block. Ensure that the focus area aligns with the block in question and that you apply the MudaGym triangle at all times.

9.2.3 Choose your overall technical focus

As a trainer, you should prepare your training well and know the course of the program. During the training, you know what you want to say and where you will work on the whole



training. A focused plan in your training is useful because it affords you security, allows you to prepare information that you can share and always gives you something to fall back on during difficult training sessions.

Different technical focusses are as follows:

- Strong posture
- Maintaining resistance until the end of the stroke
- Rhythm rowing

9.3 Do not think of the pink elephant

When we deliver training, we only want to share information about what we want the client to see, do or feel. We tell them in a simple language what we want them to achieve during the exercise, during a specific segment of the training or when we offer technical feedback.

When the client is tired and working up a sweat, it is important that you are sharp and clear about what you want from them. If they need to go faster, you say, “GO FASTER” instead of “DON'T GO SLOWER.” Words such as “NO” or “DO NOT” cause confusion. Therefore, avoid these words at all costs, and focus on what you want from your customer. If they need to sit in a stronger position, then that is what you want to share with them.

In the following chapters, we describe the technical aspects of giving the training, client attitude and rhythm rowing.



10 Technical focus

You now know what the training structure is, what the 6 steps of a complete rowing movement are and how we want you to communicate with the client. This means you have passed the intermediate test and are now an official Level 1 trainer. To become a successful trainer, you must understand how to combine safety with high-quality training while delivering a fun and challenging workout.

In this chapter, we focus on the technique of rowing and exercises that will provide improvement in technique. We share technical exercises that apply to the rowing machine as well as ground exercises. Feel free to return to this information as and when you need to.

Please continue to remember the concept of a monkey eating a banana. (Chapter 9)

Technique mastery is a form of expertise in any sport and cannot be achieved overnight. We must understand this and take our time. To this end, we apply technical exercises during every training session.

10.1 Exercises on the rowing machine

In this section, we describe the technical exercises and what we want clients to feel when they perform each one.

| Exercises | | | |
|----------------------|---------------------|--------------------|------------------------|
| 1. Arms only | 2. Arms & backswing | 3. Legs-only pulse | 4. Legs only |
| 5. Legs & backswing | 6. First break | 7. Second break | 8. Third break |
| 9. Quarter bench row | 10. Half bench row | 11. One-arm row | 12. Underhand grip row |
| 13. Bicep curls | 14. Hinge | 15. One-leg row | 16. Strapless row |

Figure 16: exercises

1. Arms only

Using only the arms to row, we proceed through the preparation phase. When we use only the arms, we have a strong pose, where the legs are stretched, the toes are pushing against the footboard and the chest is pushed up and forward.

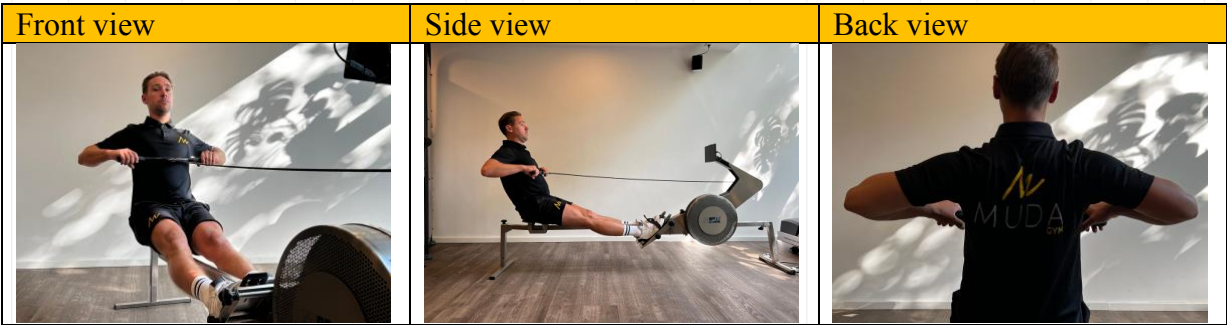




Figure 17: Arms only

While extending our arms, we hold the handle at chest height; when the arms are extended, we pull the handle back to the diaphragm (middle of the body). Ensure that the elbows are moving away from the body and the shoulder blades are coming together until you tap your diaphragm with the handle. The wrists should always be in line with the forearm.

What do you feel?
Your core is tightened, and you feel contraction between your shoulder blades, chest muscles and arms. As you pull the handle towards you, you feel your feet pushing against the footboard.

Watch video: [Arms only](#)

2. *Arms and backswing*
After the arms, the back comes into play. Because you are demonstrating the movement to clients, make the movement static so they can clearly see the transition of the movement. However, move like a human, not like a robot.

As we move our backs towards the display, we bend over from our hips to the front. Our back remains strong, the shoulder blades remain slightly drawn together, and the chest remains in an intimidating position.



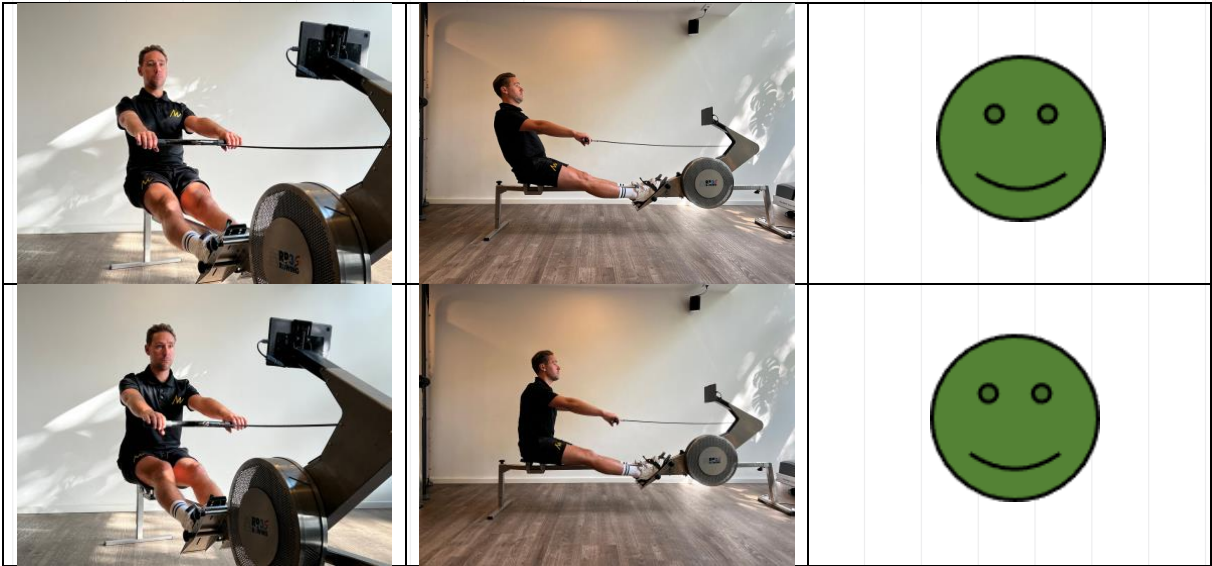


Figure 18: Arms and backswing

When the arms and legs are extended, we are ready to initiate the backswing movement. During the swing, the chest, shoulders, back, abs, buttocks, thighs, hamstrings and calf muscles are tightened. The feet press even harder against the footboard than they do with the arm movement alone. Finally, the handle's end position is the same as in the arms-only rowing motion.

What do you feel?
The whole-body experiences resistance, and the feet push against the footboard. The abs as well as the back, shoulder and chest muscles are tightened as you make the swing back and pull the handle towards the middle of the body.

Watch video: [Arms and backswing](#)

3. Legs-only pulse
This exercise is difficult because we ask the client to maintain a strong posture, sitting fully prepared in a position that will cause a high amount of muscle tension on the back. The reason for this is that the hamstring and glute muscles tighten. This pulls the back muscles into a tighter position, which causes fatigue if this exercise is performed for too long.

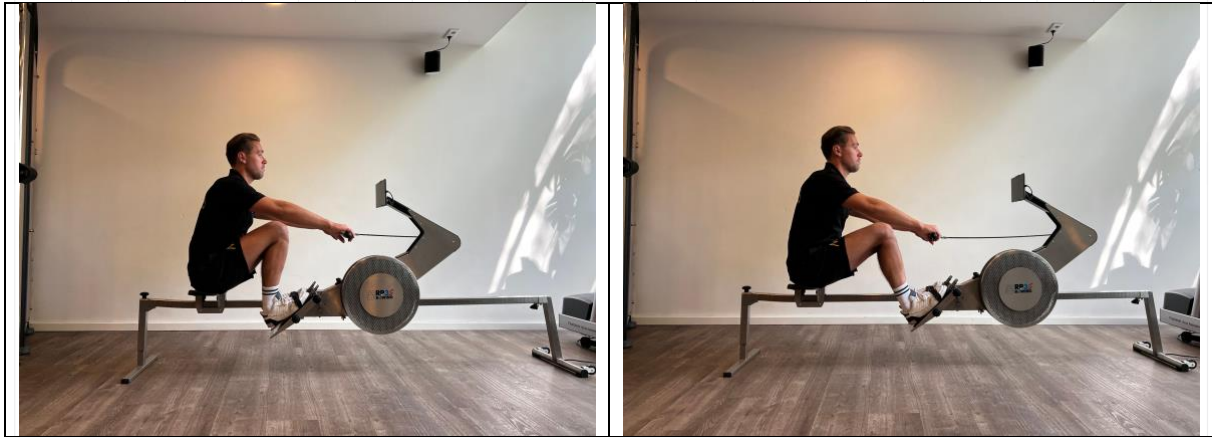


Figure 19: Legs only pulse

In this exercise, we want to see full activity in the upper body: the arms should be stretched out and just above the knees. For clear language, you can also instruct the client that their arms should be at chest height. Then, the client pushes their legs 5 cm away from the display and stops. In this 5-cm push away, the client should feel resistance. After the 5 cm, the explosion of force stops, and the client sits still for 1 second before moving gently back to the display.

The exercise shows that, even in the first part of the stroke, resistance must be felt, and an active posture is necessary for this.

What do you feel?
Tension will be felt in the hamstrings, legs, buttocks, calves, back, shoulders, chest and abs. The tension should feel like lifting something heavy off the ground, as in a deadlift.

Watch video: [Legs-only pulse](#)

4. Legs only
In this exercise, we continue to focus on the legs only. After the legs-only pulse, we now fully stretch out the legs. In doing so, the entire upper body remains fully under tension. During the extension of the legs, we produce the most power. After all, 70% of the power is supplied by our legs.

Remember that an active posture, a straight back, tightened abs and contracted shoulder blades are essential for optimal acceleration of the legs. When the acceleration has been completed and you are still bending forward with straightened arms, you have a 1-second break before moving slowly back to the display.

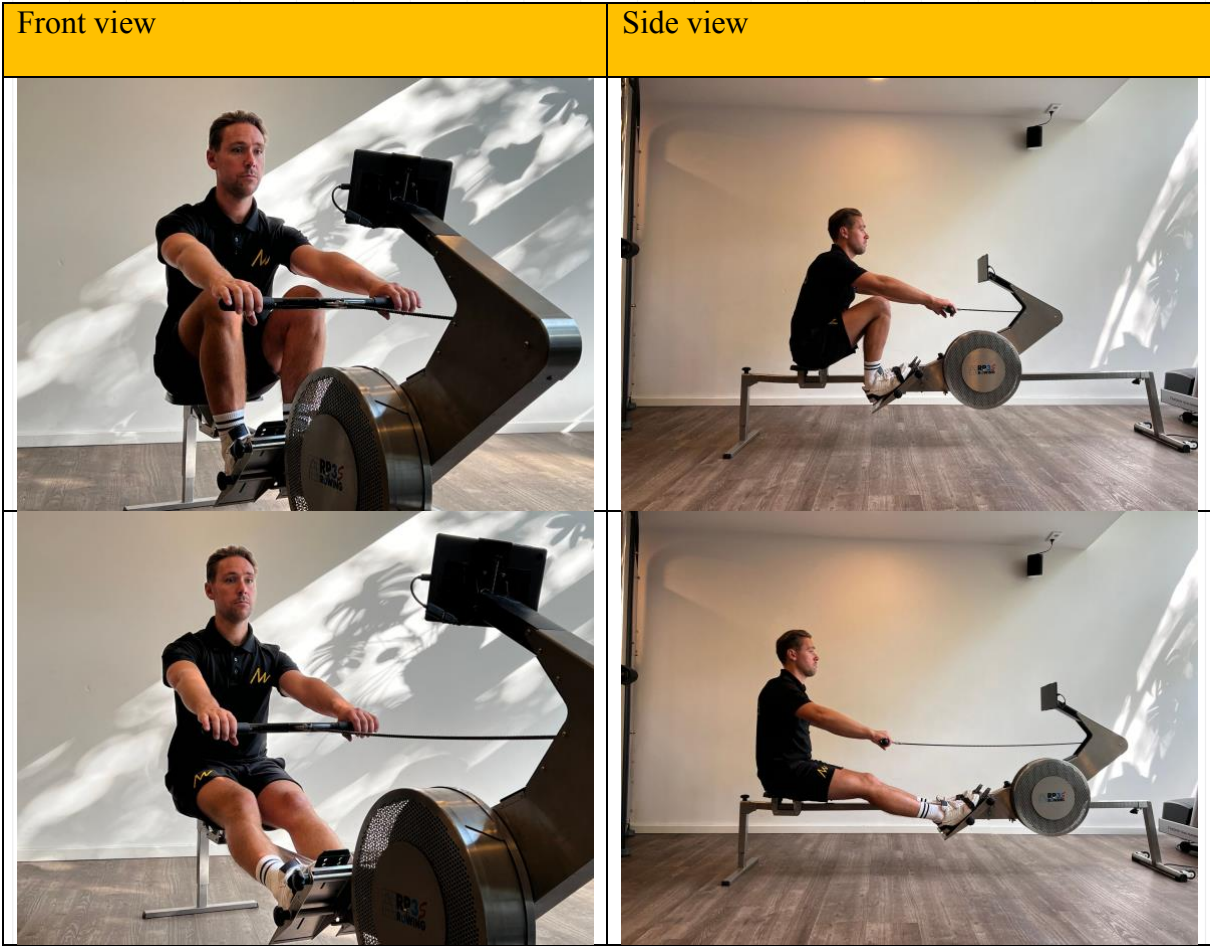


Figure 20: Legs only

What do you feel?
Tension will be felt in the hamstrings, legs, buttocks, calves, back, shoulders, chest and abs. The tension is pressure on the muscles, which feels like squeezing. The whole upper body must be active and strong.

Watch video: [Legs only](#)

5. Legs and backswing
The backswing comes after the legs. In this exercise, the connection is made between the legs and the backswing. Here, we focus on the trunk taking over the energy created by the legs. This movement must be performed powerfully and is similar to the Romanian deadlift. When the legs are almost straightened out, the torso swings backwards. The hip extensors take over, and the created energy can be transferred to the trunk. The arms do not participate for the time being.



Figure 21: Legs and backswing

What You Feel
As with leg rowing alone, there is resistance throughout the body. You can especially emphasize keeping the body strong and the back straight. With this instruction, you make it clear to the client that the posture of the trunk is important.

Watch video: [Legs and bodyswing](#)

6. First, second and third checks
During this exercise, we go through the preparation phase in steps, which we refer to as a CHECK. This exercise is only suitable in the preparation phase, because we interrupt the movement by stopping the motion.

The first check is a short break from the entire rowing motion. After the stroke, stop with the hands at the diaphragm and pause for 2 seconds. In this position, we pay attention to the posture of the body, ensuring that the body is strong and the toes are pressed against the footboard. Use this exercise to take the speed out of the movement in order to step through the preparation phase.

The second check is a pause after you have stretched the arms. The body is still leaning back, the toes are pressing against the footboard and the arms are extended. The hands are at chest height, and we look forward with a proud, intimidated torso. Hold this pose for 2 seconds



before bending over, allowing the knees to rise up for another stroke. Make clearly visible the movement in which you as a trainer bend over from your pelvis.

The third check is a short pause after you have extended the arms and bent them in. In this position, the handle is still at chest height, the shoulder blades are slightly contracted, the chest is pointing forward in an intimidated position, and the legs are flat. The hands will come to a stop halfway up your shins. Next, hold a pause for 2 seconds before allowing the legs to come up. Ensure that the body remains active and is ready to push powerfully with the feet against the footboard.

| First check | Second check | Third check |
|-------------|--------------|-------------|
| | | |
| | | |
| | | |

Figure 22: 1st, 2nd & 3rd check

Watch video: [First check](#)

Watch video: [Second check](#)

Watch video: [Third check](#)



7. *Quarter and half bench row*

In preparation for the stroke, it is important to complete the stretching of the arms and the flexing of the torso early. By rowing the quarter bench, we shorten the raising of the knees. When rowing a quarter bench, the stretching of the arms and the flexing of the torso are the same as in normal rowing, only now we only raise the legs slightly. During this slight raising, keep an eye on your hands. When your hands come to the level of your feet, then you should start the stroke and apply a significant amount of force.

The half bench row is almost the same as the quarter bench row, but this time the legs are allowed to come up a little further, and the hands come up past the feet. The shins are angled, and the heels of the feet are still touching the footboard.

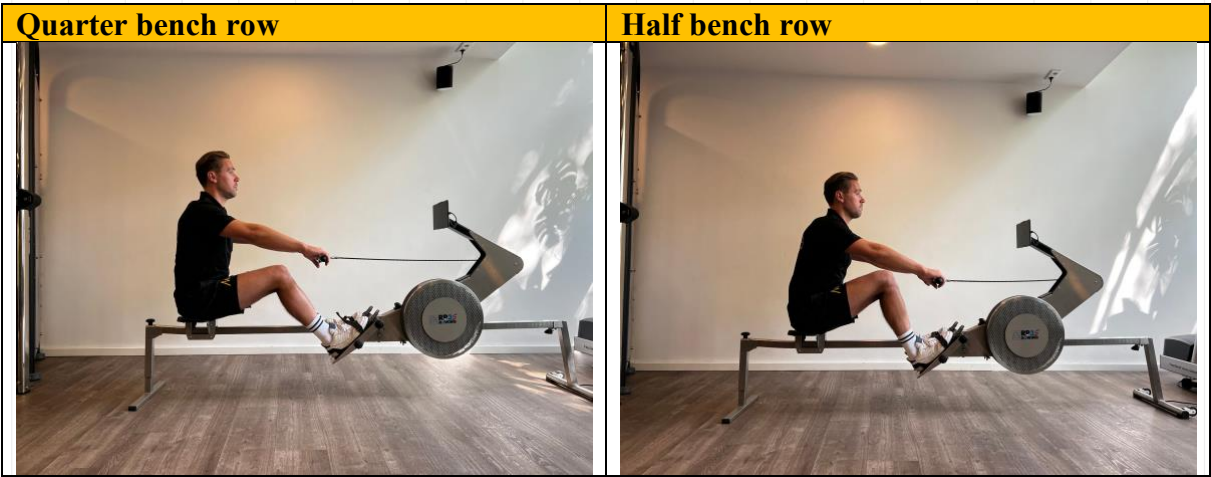


Figure 24: shorter bench row

Watch video: [Quarter bench row](#)

Watch video: [Half bench row](#)

Watch video: [Three-quarter bench row](#)

Why this exercise?
This exercise is designed to clearly improve and accelerate the preparation of the rowing motion. Furthermore, we also use this technique to increase the pace to quickly work towards a peak wattage. Try to perform the exercise as fluidly as possible where you, the trainer, initiate the movement as best you can.



8. *One-arm row*

In the one-arm row, we hold the handle with one hand. We bring one hand to the middle of the handle and place the other hand on our back. During this exercise, we apply a full rowing motion.

The rowing motion is the same, only now we focus primarily on the core. As you strongly push the legs down, you will notice that the arms will be under full tension and therefore remain naturally extended. As a trainer, you must instruct clients to activate their upper body by themselves and therefore be able to cope with the resistance that the legs build up and push through.

By tightening the core autonomously, there will be no twisting in the torso. The client will experience that everything around the core must be strong, otherwise no resistance can be built up, and the power will be low.



Figure 25: one arm row

Watch video: [One-arm row](#)



9. *Underhand grip pull*

Normally, we hold the hands-on top of the handle, but in this exercise, we turn the hands around and grasp the handle from underneath. This exercise is meant to emphasize bringing the shoulder blades together when we bring the hands to the diaphragm. By doing this, we also demonstrate the proper forward movement of the chest. An intimidating, proud and open posture is desired. Rowing with an underhand grip teaches the client to have a better posture and exerts an extra load on the bicep and triceps.



Figure 26: underhand grip pull

Watch video: <https://www.youtube.com/watch?v=pXxKxvKZLLs>

10. *Bicep curls*

Grasp the handle using an underhand grip, and put your elbows in your sides. Then, hinge at your elbows to bring the handle towards your throat. Pay close attention to your posture; it should be strong, with the chest intimidating, proud and open. The ab muscles should be tightened to prevent movement in the upper body.

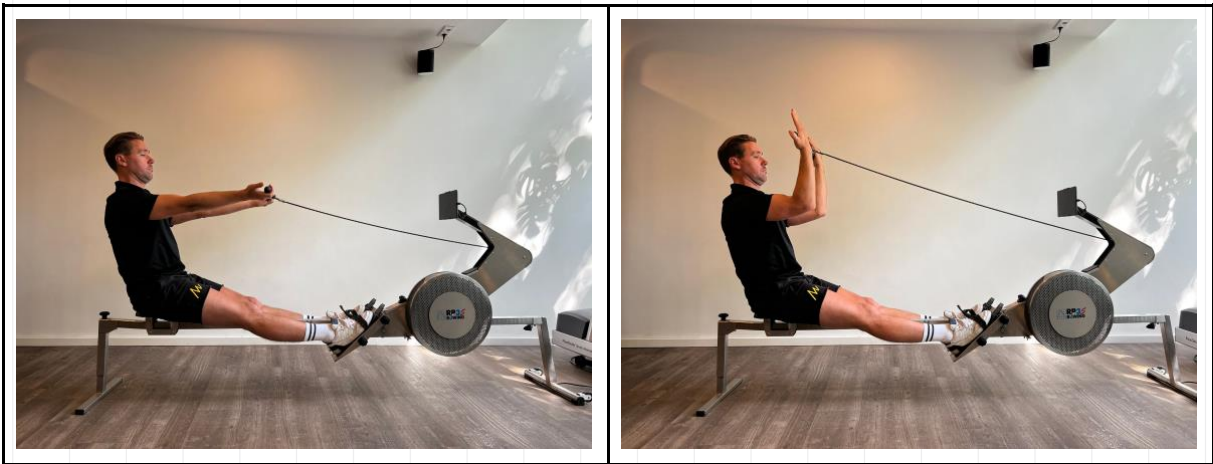


Figure 27: Bicep curls



Watch video: [Bicep curl pulse](https://www.youtube.com/watch?v=ptO2Wclx_el) https://www.youtube.com/watch?v=ptO2Wclx_el

11. Hinge

This exercise is intended to properly initiate the hinge movement of the torso. The arms and legs are extended, and we keep the handle at chest height at all times. The only thing moving now is the torso hinging up and down.

From the pelvis, we hinge forward and keep the torso strong and ready. It is important that the hands remain exactly at chest height because the moment the torso swings back, there must be immediate resistance.

To demonstrate the height at which the hands should be, you can make the client feel the difference by asking them to bring their hands to the shins when bending in. They will immediately experience that there is no resistance on the chain and therefore none in their body. Then, ask them to bring their hands to chest height and have them try the movement again; they will now experience resistance. By feeling a clear difference, the client will gain a better understanding of the motion. The hinge is mainly meant to keep the back straight; the tilt should occur from the pelvis, and the hands should be kept at the right height.

Watch video: [Hinge](#)

12. One-leg row

When performing one-leg rowing, we initially ensure that the client is rowing without straps. This is because we want to ensure that they not only keep pressure with the feet at all times but also can change legs quickly.

When performing the exercise, always start at the beginning of the preparation phase. Both legs are extended, and the leg that is off the machine should also be as far enough to the side as possible. Place the latter foot on the ground and stay in the same place at all times regardless of whether you are moving towards or away from the display.

What we focus on is maintaining a strong posture and that the core remains straight. Clients should avoid a twisting motion by tightening the shoulder blades, chest and core muscles. The client might feel like they are sitting out of alignment on the rowing machine, but if they maintain an active posture, this will not be the case; they will be sitting straight.

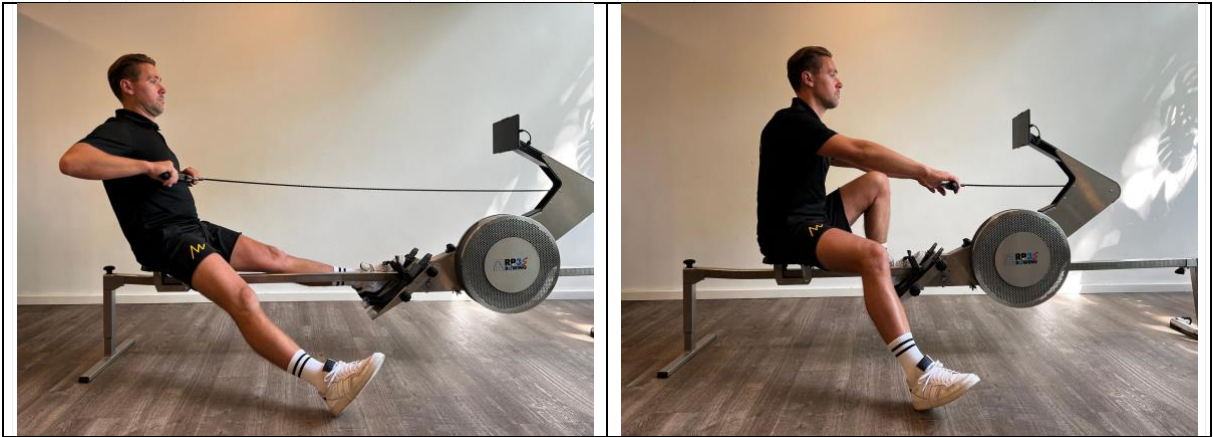


Figure 28: One leg row

Watch video: [One-leg row](#)

What do you feel?
Clients will feel a heavier load on the leg, buttock and hamstring muscles. It is important to instruct the client to maintain an active core and an upright posture.

13. Strapless row

Rowing with loose feet provides much information. You can combine this exercise with other technical exercises. The main reason for rowing with loose feet is to ensure that the client continues to feel resistance until the end.

Another reason is that the client continues to work within the range of motion and cannot fall too far back—when the client does this, there is a chance that they will fall off the machine. Therefore, ensure that they continue to push against the rowing machine with their toes at all times. Flexing the toes properly keeps active tension on the core, and the client will experience resistance until the end of the stroke, which keeps them on the machine.

The final reason for rowing with loose feet is that the client learns to apply a calm rhythm and understands that the steps of the rowing movement must be clearly followed. Performing the movement step by step allows the client to fully complete the preparation phase to make another stroke.

Watch video: <https://www.youtube.com/watch?v=QoxsmYHxLgs>

11 Row in balance

Technical movement is important to prevent injuries, increase training effectiveness and create focus to increase concentration. Technique includes posture, movement pattern and rhythmic movement. Now that you are familiar with posture and movement patterns, this

MudaGym® academy by Vincent Muda & Tycho Muda



chapter covers rhythm rowing, or how to row in balance. We discuss a number of aspects that influence rhythmic movement: baseline tempo, contrast rowing and breathing rhythm technique.

11.1 Baseline tempo

Compared to a bicycle pace, the RPM is 4 to 5 times higher than rowing. A complete rowing movement at a basic pace takes approximately 3 seconds. This involves moving for 2 seconds in the preparation phase to the display and using 1 second to make the stroke. This is a comfortable basic pace for most people, but it allows you as a trainer to give clear technical instructions and to demonstrate the rowing movement as well as possible.

Our basic pace will always be around 20 strokes per minute. We can only control our rhythm in the preparation phase. The moment that we start the stroke, we can push as hard as we like, but the time endurance of the stroke will always be the same.

| Type of sport | Low RPM | Normal RPM | High RPM |
|---------------|-----------|------------|----------|
| Racing bike | 60 rpm | 80 rpm | 90+ rpm |
| Rowing | 16–18 rpm | 20–22 rpm | 30+ rpm |

Figure 29: baseline table

When we are in a relaxing movement or focusing more on technical rowing, then we always return to 20 strokes a minute. In the warm-up, the rhythm will be low in the beginning, but it will increase as the warm-up becomes more intensive.

11.2 Contrast in rowing

You will start to notice that throughout the workout, we raise and lower the rhythm. This is often difficult for clients to follow, but it is useful to know what we mean by different contrasts.

We can build up the tempo, but we can also fully devote ourselves to a power explosion. With different contrasts, you can go through everything, and you will be able to apply it at all times in your training. When we talk about contrast, we refer to the client’s pace and power. There are three variants that recur in training: high, medium and low contrast.

| Rate | Power | Type of contrast |
|--------------------------|---------------|------------------|
| 16–24 (strokes a minute) | Maximum power | High contrast |
| 24–30 (strokes a minute) | Maximum power | Medium contrast |
| >30 (strokes a minute) | Maximum power | Low contrast |

Figure 30: Contrast



High contrast

When we talk about high contrast, we are actually talking about strength training. We want the client to deliver more power while they maintain a low rhythm. During the time that the client completes their preparation phase, the flywheel of the rowing machine has slowed down to the point where it takes extra power to get it going again. You will encounter this form of movement primarily during power rowing. The client will feel extreme pressure on their muscles and will require a great deal of strength.

Medium contrast

Medium contrast is particularly evident during conditional training. This involves continuing to do the same thing during a prolonged block. The tempo is slightly higher than the basic tempo, but it is still maintainable and can hence be kept up for a longer time. It is important that the client keeps moving constantly and does not lose strength halfway through the block.

Medium contrast can be found in speed ladders, in longer conditioning blocks and during the warm-up. In the warm-up, we want to load the muscles carefully, and it is hence best to focus on rhythm rather than strength.

Low contrast

Low contrast is when power and pace are both very high. This is particularly evident in sprints or short, explosive pieces where explosive power is the main concern.

The higher the pace, the easier it is to maintain a high wattage, since the flywheel has little time to slow down. An indication is that the client takes approximately 0.7 seconds over the stroke instead of 2 seconds.

11.3 Breathing rhythm

To maintain an optimal rhythm, we maintain a breathing rhythm. Unfortunately, music is not an ideal rhythm indicator, because the pace of music is much higher than that of rowing, which makes it too heavy.

Breathing is a pleasant working method for the trainer because the client can quickly get their breathing under control. The rhythm is as follows: during the preparation phase, we breathe in until the moment we start the stroke; during the stroke, we breathe out. This is an important rhythm because we always want to breathe in when the body is relaxed to avoid injuries.

We always try to maintain a breathing rhythm that aligns with our pace. If we are applying 22 strokes a minute, we will breathe in and out around 22 times. If the rhythm increases, the breathing rhythm should also increase. Thus, if we row 30 strokes a minute, then we will breathe in 30 times as well.