

PART 4 - VASA TRAINER FOR SWIMMERS

The following sections contains guidelines and tips for using your Vasa Trainer and designing your exercise plan.

4.1 - Tips for Swimmers - Key Points to Remember

4.2 - Stroke Illustration & Instruction - Basic strokes & complementary exercises

4.3 - Additional Exercises for Swim-Specific Training

4.4 - Pre-Competition Training for Swimmers - Training guidelines

4.5 - Training Secrets from Coach Richard Shoulberg - Sample workouts

4.6 - Training Secrets from Coach John Holohan - Coaching faster swimmers

4.1 - TIPS FOR SWIMMERS

The most beneficial uses of the Vasa Trainer for swimmers are:

- Increasing stroke-specific strength, power and speed
- Increasing swim-specific endurance
- Improving stroke technique
- Injury prevention and rehabilitation (physical therapy)

A. INCREASING STROKE-SPECIFIC STRENGTH, POWER AND SPEED

Swim-Specific Strength

The best way to increase swim-specific strength is to use the Vasa Trainer 2 to 3 sessions per week for strength training. See the sample workouts from Coach Shoulberg, Coach Holohan later in this section as well as conditioning circuits in PART 6.

Swim-Specific Power and Speed

The best way to train for power and speed is to build up the strength and power on dry-land and then transfer this into the stroke in the water with speed and intervals. An excellent way to increase efficient stroke speed and power is to do the Freestyle at race tempo. No matter what the sport, it is essential to progressively perform efficient technique at high tempo rates as you approach a competition season.

Faster starts and more powerful turns in swimming can make all the difference in a race. Plyometrics are a proven way to build explosive power and speed for the legs, trunk and the upper body. Leg exercises are illustrated in section 4.2.

B. INCREASING SWIM-SPECIFIC ENDURANCE

Freestyle swimming using the pulley cable system (PCS) at a moderate tempo for extended periods will build endurance. Use the PCS to do Freestyle in place for timed sets that simulate race times for specific event distances. So, after a 5 minute warm-up, do the race distance for the projected race time using race stroke

rate and tempo, and a incline setting and power cord that will give similar resistance to that of the event in the pool. This will take some experimentation, so start at a mid-height incline setting and a lite power cord. You can add resistance as needed. Work up to doing 3 - 5 race simulations per workout. Another endurance workout would be to build up to 30 minutes of continuous freestyle - see Coach John Holohan's workout later in this section for more ideas.

If you cannot get to the pool or if you have an ear infection, etc. that prevents you from getting in the water, the Vasa Trainer will be an excellent alternative to give you high quality swim-specific endurance workouts. If you are already in the pool 2 times per day, then do not use the Vasa Trainer for endurance.

C. IMPROVING STROKE TECHNIQUE

Many top swim coaches use the Vasa Trainer to correct dropped elbows and to teach proper arm position. There are many ways to do it. Here are some ideas:

1. The coaches and athletes at University of Southern California use the Freestyle technique using the pulley cable system to improve strength, power and technique. They typically do sets of 1 to 2 minutes of high tempo freestyle, 3 times per week. They really emphasize using proper technique and it has helped the swimmers learn to feel proper arm and elbow position in the catch and throughout the stroke. See the images in Section 4.2 for detailed instructions on doing Freestyle.
2. Place a mirror in front so you can see your stroke - or use video to self critique or share with a knowledgeable coach/friend. For Butterfly and Freestyle imagine the arms are over a big ball or barrel at the "catch" part of the stroke. Imagine that the bony part of the elbow is like an eye and it should be looking directly out to the side, perpendicular to the monorail, (as opposed to looking down toward the floor, which constitutes a "dropped elbow" and inefficient technique).
3. The coaches at Stanford University do an isometric exercise to teach technique and prevent injuries. The swimmer holds a mid-stroke position (Butterfly) with elbows high and arms shaped as if over a big ball or barrel. The idea is to do a stroke, lower slowly to this mid-stroke position (see START) and hold until the arms begin to shake (about 10 - 30 seconds), then finish the stroke (see FINISH) and pause for 2 seconds with arms fully extended in the finish position. Then lower back to the mid-stroke position (see START) and hold again. About 10 reps will do the trick. This one is great for strengthening the small muscles of the rotator cuff and upper back as well as improving technique. Make this set part of your strength and injury prevention program. See Section 4.2 for detailed instructions on technique.

D. INJURY PREVENTION AND REHABILITATION

The Vasa Trainer has a wide range of resistance options and exercises for Physical Therapy and Rehab. The pulley cable system (PCS) provides the mechanical advantage to safely exercise injured areas, including improving range of motion, strength and flexibility. The PCS allows you to reduce the resistance load in order to provide the appropriate challenge to the muscles and joints without straining. You can make systematic progressions to strengthen the area by gradually increasing the resistance in a variety of ways. Swimmers may want to focus on Internal Rotator Cuff and External Rotator Cuff to prevent injuries in the shoulder areas. These exercises can be done while sitting on the machine for strengthening (more resistance), or standing off the machine for rehabilitation (less resistance).

4.2 - STROKE ILLUSTRATION & INSTRUCTION

- General Principles
- Butterfly
- Butterfly - Mid Stroke Isometric
- Freestyle (Freestyle Endurance)
- Freestyle with Hip Rotation
- Breaststroke
- Breaststroke Kick
- Backstroke - Finish Segment
- Recovery Stroke - Both Arms at Once
- Recovery Stroke - Alternating Arms

GENERAL PRINCIPLES

Keep the following points in mind when performing swim strokes on the Vasa Trainer:

1. Your hand position in the paddles or handles should be comfortable and stable prior to starting the exercise.
2. During the basic swimming or paddling strokes, your arm, hand, and body position need to simulate proper stroke technique as closely as possible. Always concentrate on simulating perfect stroke technique. If you can not maintain proper technique due to fatigue, take a rest until you can.
3. Use a mirror or a video camera to self-critique your technique as you workout on your Vasa Trainer. Adjust your form as needed. Share your video with a coach or friend for added input.
4. Keep your feet apart to straddle the monorail - avoid bumping your feet on the rear stanchion as you move. Wear shoes.

WARNING

Never allow the bench to roll back rapidly. **Use your muscles to control the descent.**
Uncontrolled descent can result in injury.

BUTTERFLY USING PCS OR WEBBING STRAPS

- Build endurance, improve technique & injury rehabilitation.

1. ENTRY

- Your arms should be fully extended in the start position, with your hands & wrists at the catch phase of your stroke.
- Imagine your arms are extended over a big ball.

2. MID STROKE

- Start to scull inward toward and under the monorail, accelerating as you do this phase.
- Be sure to keep elbows high.

3. FINISH

- Complete the stroke by finishing with your hands by your hips, arms fully extended.
- Press the finish with the heels of your hands. (Don't flick your wrists, keep wrists flexed at 90 degrees).

4. RECOVERY

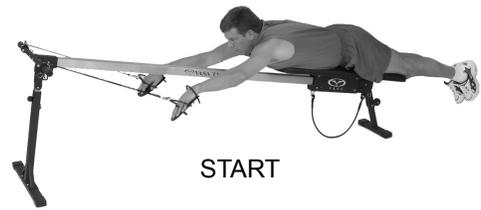
- Lower your body slowly and in control. This accentuates the eccentric or "negative" muscle contraction and builds strength faster.
- Do not let your body roll back down the monorail swiftly. This could result in injury. Instead, lower yourself slowly on a 3 count.

TIPS

1. To increase resistance for this exercise, increase the incline, use webbing straps instead of the PCS, or add power cords or weights.

CAUTION: The recovery phase of this stroke can be difficult. We recommend that you start conservatively and gradually increase the repetitions and resistance levels.

NOTE: You can use either the PCS or Webbing Straps for this exercise. If using the PCS for this exercise, do NOT use the freestyle extension.



BUTTERFLY - MID STROKE ISOMETRIC USING PCS OR WEBBING STRAPS

🎯 Technique training and injury prevention for the butterfly.

1. START

- Your arms should be fully extended in the start position, with your hands & wrists at the catch phase of your stroke.
- Pull yourself up the incline to mid-stroke, this is the start position (see START).
- Hold this position until your arms begin to shake (about 10-30 seconds).
- Concentrate on keeping your elbows high and arms shaped as if over a big ball or barrel.



2. FINISH

- Complete the stroke by extending the arms fully towards your hips.
- Hold finish position for 2 seconds with arms fully extended. Then lower back to mid stroke/start position. Hold again until arms begin to shake, then pull through to finish position
- Repeat for 10-15 repetitions.



VARIATION

- While holding the isometric position, move your hands back and forth, perpendicular to the monorail (closer to your chest, then out to the side).

FREESTYLE (FREESTYLE ENDURANCE) ALTERNATING ARMS WITH PCS

- Build endurance, improve technique & injury rehabilitation.

1. ENTRY (CATCH)

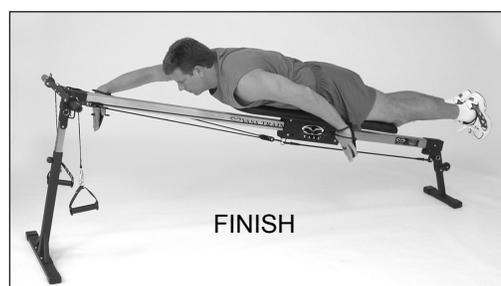
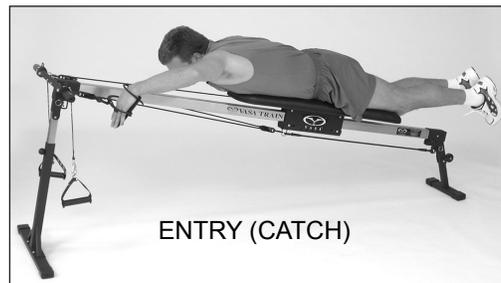
- Start with your right arm forward in the “catch” position, your left arm back in the “finish” position.
- Start the pull with your right arm, keeping your wrist and hand rigid. The left arm will move forward as the right arm moves backward.
- Keep your elbows in a high position. As you pull with the right arm, resist with the left.

2. MID STROKE (SWEEP)

- Sweep your right arm past your body, simulating the same motion used in the water. Your left arm will simultaneously be recovering forward, as in the freestyle.
- Concentrate on feeling the pressure distribution in your arms, shoulders and back.
- Keep your elbows in a high position. If there were an eye on your elbow, it would be looking to the side.

3. FINISH

- Accelerate as your arm sweeps under your body.
- Sweep your right hand past your hips, just brushing the side of your right hip.
- Finish strongly with a final push of the hand.
- Repeat sequence alternating arms.



TIPS

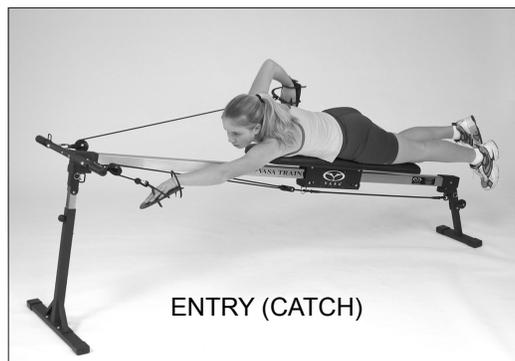
- You will not be moving up & down the monorail when doing continuous freestyle correctly. Your body will stay in one place. The resistance comes from keeping your body suspended partway up the monorail and/or from the power cord pulling the seat backwards.
- If it seems “too easy”, increase the slope angle or add a more heavier power cord.
- If the cord jumps off the pulley wheel while doing continuous freestyle check the following:
 - Be sure to use a smooth cadence during your stroke, keeping the cord tight throughout the range of motion.
 - Check to make sure the eyebolts on your strap bar are loose enough so the pulleys will swivel easily, but tight enough to be secure to the strap bar.
- If the handles/paddles hit the pulley wheels when you are fully extended, use the freestyle extension.

FREESTYLE ENDURANCE WITH HIP ROTATION ALTERNATING ARMS WITH PCS

🎯 Technique & timing, build core strength.

1. ENTRY (CATCH)

- Start with your left arm forward in the “catch” position, your right arm back in the “finish” position.
- Start the pull with your left arm, keeping your wrist and hand rigid. As you start the pull with your **left** arm, focus on pressing your **right** hip into the bench and using your abdominals to assist the pull.
- The right arm will move forward as the left arm moves backward.



2. MID STROKE (SWEEP)

- Sweep your left arm past your body, simulating the same motion used in the water. Your right arm will simultaneously be recovering forward, as in the freestyle.
- Concentrate on feeling the pressure distribution in your arms, shoulders and back.
- Keep your elbows in a high position. If there were an eye on your elbow, it would be looking to the side.



3. FINISH

- Accelerate the stroke as your left arm sweeps past your body.
- Sweep your left hand past your hips, just brushing the side of your left hip.
- Finish strongly with a final push of the hand.
- Repeat sequence alternating arms.



TIPS

1. When you pull with the right arm, press your left hip into the bench at the catch part of the stroke. Vice-versa for left arm pulls.
2. Concentrate on contracting the same abdominal muscles used in the hip rotation during freestyle swimming.

VARIATION: Place a soft 1-2” foam pad between the bench and your body. This decreases stability, so use caution.

BREASTSTROKE USING PCS OR WEBBING STRAPS

🎯 Technique for backstroke - full stroke.

GETTING INTO POSITION

- Cross the pulley cord or webbing straps under the monorail and put the left hand in the right paddle, and the right hand in the left paddle.

Entry (CATCH)

- Extend your arms forward, just as you do in the water.
- Start the stroke by pulling outward and away from the monorail with both hands simultaneously. Keep elbows in high position.

2. MID STROKE

- Scull outward and then back inward toward the monorail.
- Sweep under the monorail, accelerating as you scull.
- Concentrate on good form and on feeling the pressure distribution in the correct muscle groups.

3. FINISH

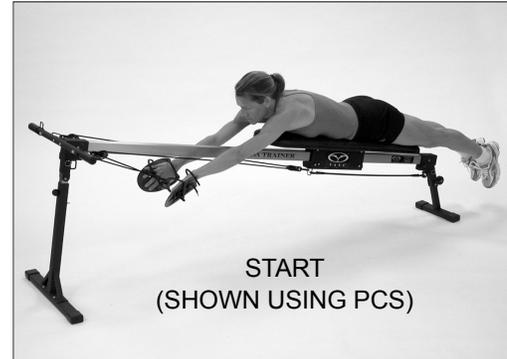
- End the pulling phase of the stroke so your hands are just under your stomach.
- Be sure to concentrate on using correct technique for the entire stroke.

4. RECOVERY

- Slowly let your body glide back down the monorail, taking care to avoid acceleration or jerky motion. Use a cadence to do complete strokes, such as up on a 1 count and down on 3 count. This allows your muscles to benefit from eccentric (or negative) contractions.

TIPS

1. To increase resistance for this exercise, increase the incline, use webbing straps instead of the PCS, or add power cords or weights.



NOTE: If using the PCS for this exercise, do NOT use the freestyle extension.

BREASTSTROKE KICK USING ANKLE STRAPS & PCS

- Improve breaststroke kick technique & strength.

GETTING INTO POSITION

- Set the front stanchion incline at its lowest setting.
- Connect the pulley cable system or lengthen the webbing straps as far as possible.
- Attach ankle straps to both legs with D-ring in back.
- Straddle the bench while facing forward. Attach the PCS clips to the ankle strap D-rings.
- Hold the front of the bench and lie down with your chest at the front edge of the bench. Hold onto sides of bench with hands and bend your knees (see START).

1. START

- Start with flexed legs (bent).

2. MID KICK

- Straighten legs by pushing heels toward rear and simulating breast stroke kicking motion.

2. FINISH

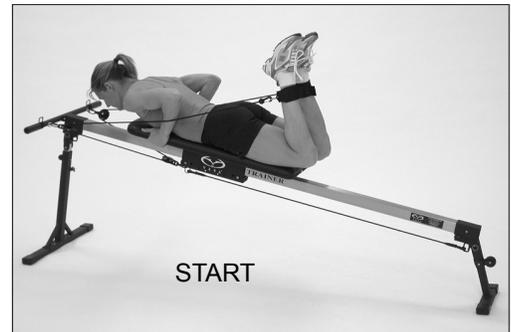
- Slowly return to start position in controlled manner.
- Raise slope for more resistance.

VARIATION

- Lie on your stomach, feet apart on the foot platform or wall. Hold on to the front of the padded bench for stability.
- Kick forward, either slowly or fast as a plyometric, simulating a breaststroke kick motion.
- Use care in returning to the start position.

TIP

During this exercise, you may position the pulley cable cord or webbing strap over your shoulder as shown in photos, or you may position the cord between your inner arm and side. Choose whichever position is more comfortable for you.



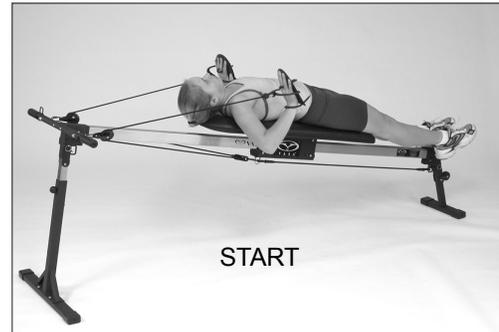
BACKSTROKE - FINISH SEGMENT USING PCS OR WEBBING STRAPS

🎯 Technique for backstroke - isolated portion of stroke.

SAFETY NOTE: Before you start this stroke, we recommend that you have someone assist you in getting into the starting position and that you start with very low resistance. Use the pcs and put the slope of the monorail at the lowest setting.

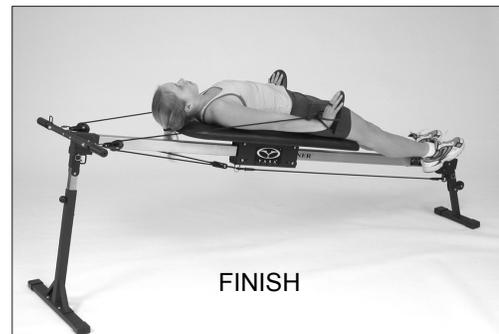
GETTING INTO POSITION

- Hold your hands at chest level with pulley cord or webbing straps on outside of arms. Lie back on the bench and extend your legs towards the rear. Start with arms bent, hands by chest, pulley cord on outside of arms (see START).



1. START

- Start the pull by pushing your hands towards hips, keeping your wrists and forearms strong and rigid.
- Concentrate on simulating the same motion used in the water for this segment of the stroke.



2. FINISH

- Complete the stroke by extending the arms fully towards your hips.

3. RECOVERY

- Slowly return to the start position, bending arms until your hands are back by your shoulders.

NOTE: Do NOT use the freestyle extension for this exercise.

RECOVERY STROKE - BOTH ARMS AT ONCE USING PCS OR WEBBING STRAPS

- Increase recovery strength for butterfly and freestyle training.

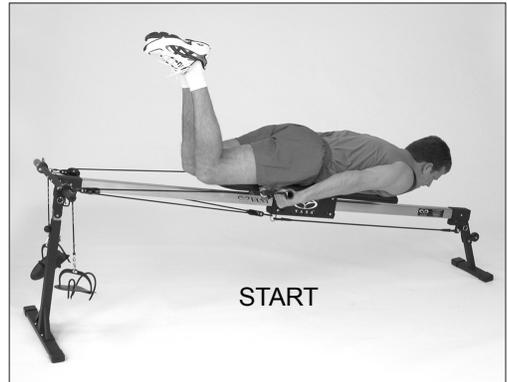
SAFETY NOTE: This is a very strenuous exercise. Using webbing straps provides greater resistance than the pulley cable system. Before starting this stroke, we recommend that you have someone assist you and that you start with low resistance. Consider decreasing the slope to level or very slight incline by placing an aerobic step under the rear stanchion.

GETTING INTO POSITION

- Set the front stanchion incline at its lowest setting.
- Hold onto the handles attached to the PCS or webbing straps & sit on the bench facing the rear of the machine.

1. START

- Simulate the recovery stroke for Butterfly & Freestyle by slowly pulling on the handles, moving yourself up the inclined monorail (backwards).
- Use care to start out slow and smooth, feeling the resistance so you don't overload your muscles.



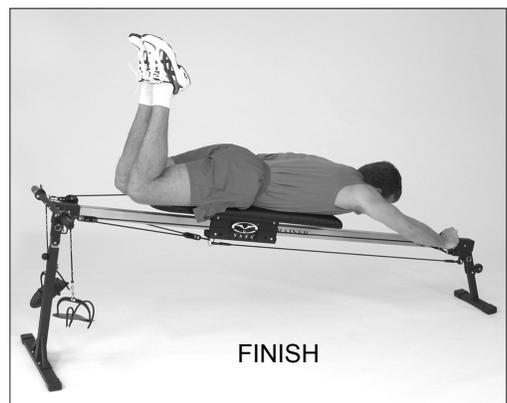
2. MID STROKE

- Concentrate on keeping your elbows and shoulders high during the recovery.
- Use a steady pace through this phase of the recovery. Accelerate only after you are comfortable doing this exercise.



3. FINISH

- Accelerate somewhat as your hands come past your head and toward the monorail.
- Finish strongly with a final push from the hands.



4. RETURN

- Hold the finish position then slowly let your body and bench glide back down the monorail, taking care to avoid acceleration or jerky motion.
- Use a cadence to do complete strokes, such as up on a 1 count and down on 3 count. This allows your muscles to benefit from eccentric (or negative) contractions, as well as the concentric (pull) phase of the stroke.

RECOVERY STROKE - ALTERNATING ARMS USING PCS

- Increase recovery strength for freestyle & surf paddle training.

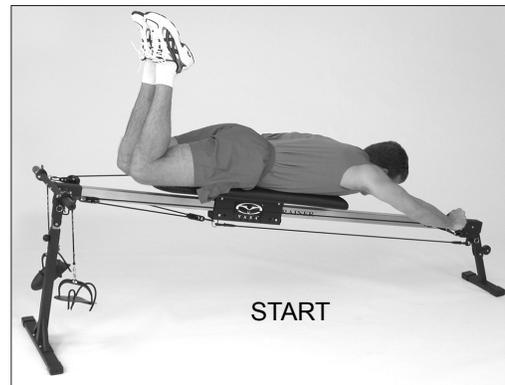
SAFETY NOTE: This is a very strenuous exercise. Before starting this stroke, we recommend that you have someone assist you and that you start with low resistance. Consider decreasing the slope to level or very slight incline by placing an aerobic step under the rear stanchion.

GETTING INTO POSITION

- Set the front stanchion incline at its lowest setting.
- Hold onto the handles attached to the PCS & sit on the bench facing the rear of the machine.

1. START

- Simulate the recovery stroke for Freestyle & Surfing by slowly pulling on the handles - alternating arms.
- Use care to start out slow and smooth, feeling the resistance so you don't overload your muscles.



2. MID STROKE

- Concentrate on keeping your elbows and shoulders high during the recovery.
- Use a steady pace through this phase of the recovery. Accelerate only after you are comfortable doing this exercise.

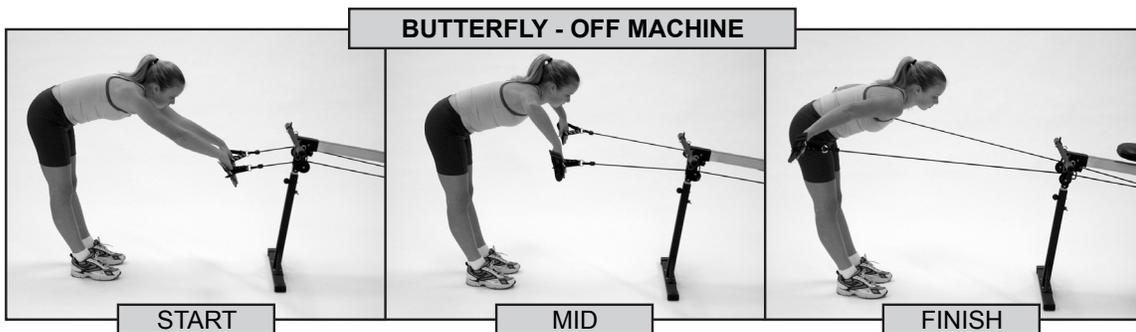


3. FINISH

- Accelerate somewhat as your hands come past your head and toward the monorail.
- Finish strongly with a final push from the hands.

NOTE: Taller athletes (over 6 feet) may need the freestyle extension for this exercise.

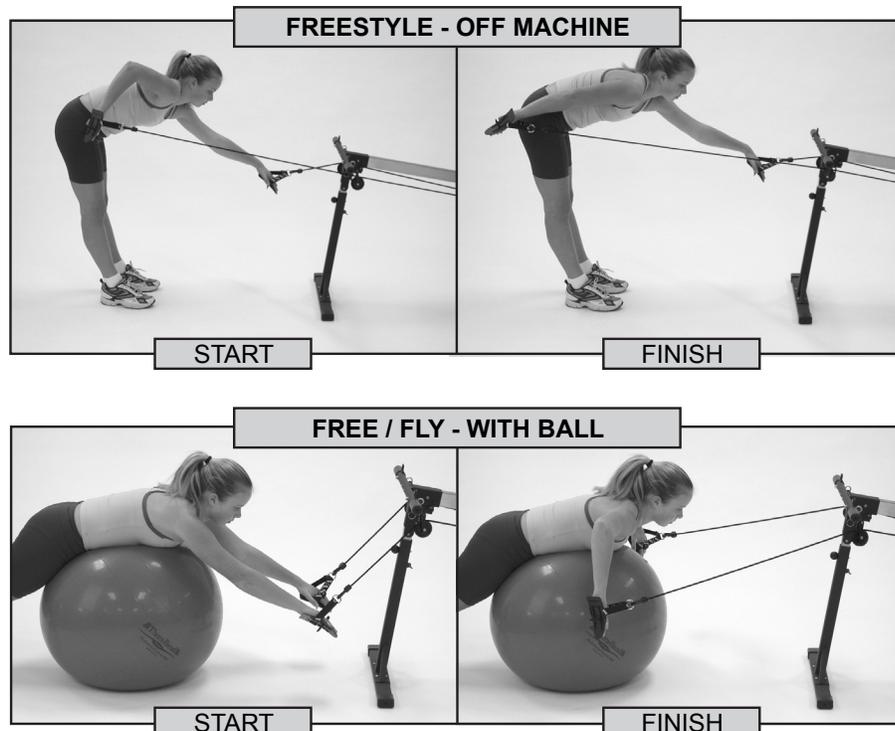
4.3 - ADDITIONAL EXERCISES FOR SWIM-SPECIFIC TRAINING



- Use the pulley cable system and paddles for this exercise. Increase resistance by increasing the angle of the front stanchion and by attaching stretch cords, power cords, or weights to the weight bracket.
- Position yourself just over arms length in front of the Vasa Trainer. Place your hands in the paddles, bend at the waist and fully extend your arms forward (see START).
- Simulate the freestyle or butterfly motion, for the entire stroke, including recovery. Focus on using proper technique by keeping elbows high and finishing the stroke.

NOTE: This is a great warm-up exercise to loosen and stretch your muscles before a workout.

VARIATION: Can be done lying on a stability or fitness ball (see below).



- Position the stability/fitness ball about 24-36 inches in front of the Vasa Trainer.
- Lie on the ball using your feet for stability.

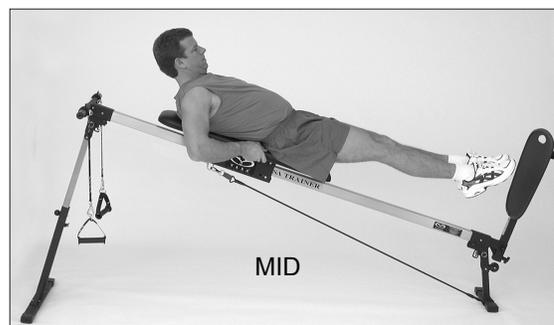
LEG PUSH-OFF / PLYOMETERIC SQUAT USING BOTH LEGS ON THE FOOT PLATFORM (ACCESSORY)

- Develop vertical leap, powerful starts & turns, and strong abdominals.

PLEASE NOTE: We recommend using a power cord and/or the weight bracket accessory for this exercise.

GETTING INTO POSITION

- Attach the foot platform, or move the Vasa Trainer so that the rear stanchion base is 6 to 15 inches away from a solid wall. Keep the rear stanchion parallel to the wall.
- Set your resistance - start conservatively! Adjust after testing.
- Position yourself so your hips are even with the rear edge of the bench. Bend knees to 90 degrees & your feet are shoulder width apart on the platform.
- Hold the sides of bench with hands for stability. Tuck chin to chest watching your feet at all times. Press your low back into bench to support your back and to work the abdominals.



1. START

- Using an explosive push, extend legs and point toes to streamline the lower body. Fully extend your legs and feet, making them as streamlined as possible.

2. RETURN

- The seat carriage will roll up & down the monorail. Continue to hold the sides of the bench.
- As your feet begin to touch back on the platform or wall, bend your knees and absorb the impact, taking the force in your legs as you slowly return the knees to a 90 degree angle.
- You'll get a greater benefit when you absorb the return forces slowly with your legs, thereby making this phase eccentric or "negative".

SAFETY REMINDERS:

1. Always wear exercise shoes;
2. Hold the sides of the bench at all times;
3. Watch your feet return to the platform.

CAUTION:

When you first perform this exercise:

1. Do a few easy "test" push-offs to get a feel for the speed at which you will travel up & down the monorail;
2. Perform 5-10 reps per set (max 3 sets) the first 2-4 times you do this exercise.

VARIATION

- Isolate legs: Right leg only, then left leg only.

SQUAT

USING BOTH LEGS ON THE FOOT PLATFORM (ACCESSORY)

- Increase strength in thighs, buttocks and trunk muscles.

PLEASE NOTE: We recommend using a power cord and/or the weight bracket accessory for this exercise.

GETTING INTO POSITION

- Attach the foot platform, or move the Vasa Trainer so that the rear stanchion base is 6 to 15 inches away from a solid wall. Keep the rear stanchion parallel to the wall.
- Set your resistance - start conservatively! Adjust after testing.
- Position yourself so your hips are even with the rear edge of the bench. Bend knees to 90 degrees & your feet are shoulder width apart on the platform.
- Hold the sides of bench with hands for stability. Tuck chin to chest watching your feet at all times. Press your low back into bench to support your back and to work the abdominals.

1. START

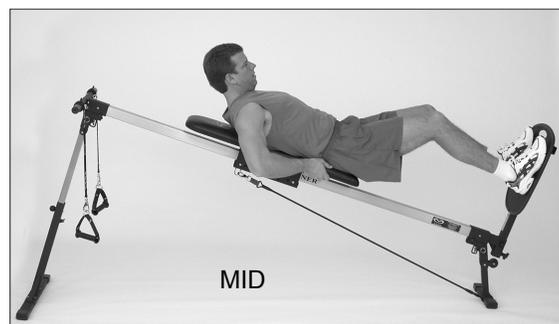
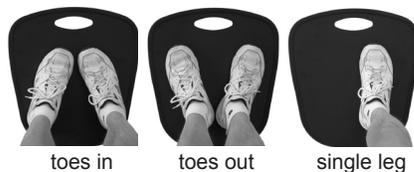
- Push against foot platform or wall and extend legs until slightly bent. Maintain contact between foot platform or wall and your feet.

2. FINISH

- Slowly bend the legs and return to start position.
- For more resistance add power cords and/or weights to the weight plate bracket accessory.

VARIATION

- Isolate various leg muscles by moving toes in/out/neutral.



SAFETY REMINDERS:

1. Always wear exercise shoes;
2. Hold the sides of the bench at all times;
3. Watch your feet return to the platform.

CAUTION:

- When you first perform this exercise:
1. Perform 5-10 reps per set (max 3 sets) the first 2-4 times you do this exercise.

LEG PUSH-OFF / PLYOMETERIC SQUAT WITH MED BALL USING BOTH LEGS ON THE FOOT PLATFORM (ACCESSORY)

- Increase strength in thighs, buttocks and core muscles.

PLEASE NOTE: We recommend using a power cord and/or the weight bracket accessory for this exercise.

GETTING INTO POSITION

- Attach the foot platform, or move the Vasa Trainer so that the rear stanchion base is 6 to 15 inches away from a solid wall. Keep the rear stanchion parallel to the wall.
- Set your resistance - start conservatively! Adjust after testing.
- Position yourself so your hips are even with the rear edge of the bench. Bend knees to 90 degrees & your feet are shoulder width apart on the platform.
- Hold a med ball between your hands, extending your arms above chest. Tuck chin to chest watching your feet at all times. Press your low back into bench to support your back and to work the abdominals.

1. START

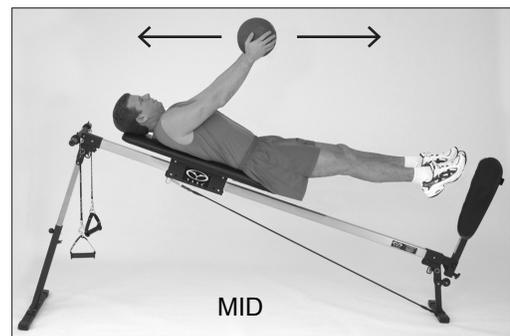
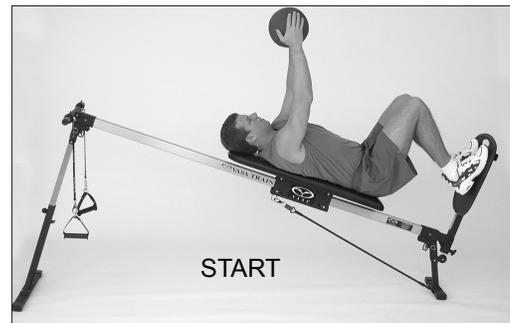
- Push forcefully off the foot platform, holding the medicine ball directly above your chest. Engage your abdominals by trying to keep the ball stable with arms extended at chest height.

2. FINISH

- Hold your arms and medicine ball straight above your chest throughout the exercise as best as possible. The ball will tend to move back and forth.
- Absorb the return with your legs, bend legs to 90 degrees and push off again.

VARIATION

- Use a dumbbell or weight in place of medicine ball.
- Perform the same exercise without the feet leaving the platform.
- Isolate various leg muscles by moving toes in/out/neutral.



SAFETY REMINDERS:

1. Always wear exercise shoes;
2. Watch your feet return to the platform.

CAUTION:

When you first perform this exercise:

1. Do a few easy "test" push-offs to get a feel for the speed at which you will travel up & down the monorail;
2. Perform 5-10 reps per set (max 3 sets) the first 2-4 times you do this exercise.

TRACK START

- 🎯 Develop powerful starts & turns, and increase flexibility.

PLEASE NOTE: We recommend using a power cord and/or the weight bracket accessory for this exercise.

GETTING INTO POSITION

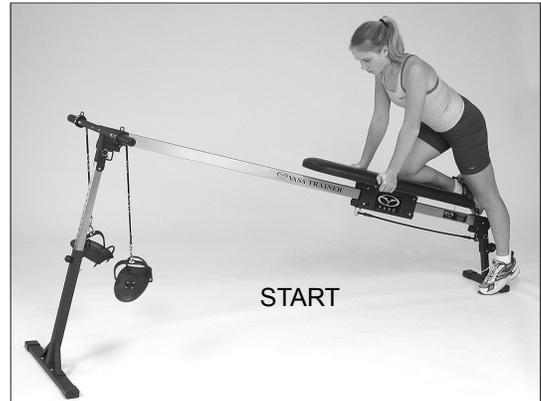
- Stand at the back of the Vasa Trainer and face forward. Place one knee on the bench, with your instep over the back of the bench.
- Place the foot of the other leg on the rear stanchion base bar.
- Hold the sides of the bench for stability (see START).

1. START

- Push the bench up the incline by pushing off of the base bar with your active leg until it is fully extended (see FINISH).
- Slowly return to starting position.
- Repeat equal repetitions for both legs.

VARIATION

- Increase incline, add stretch cords or power cords, or add weights to weight bracket to increase resistance.



4.4 - PRE-COMPETITION TRAINING FOR SWIMMERS

REMINDER: Use the correct resistance setting for your current fitness & training goal (strength/endurance).

STRENGTH TRAINING

UPPER BODY	SPRINTERS	MIDDLE DISTANCE AND DISTANCE
Frequency:	3 days per week.	3 days per week.
Duration:	3 - 10 sets of 10 - 15 reps.	3 - 10 sets of 25 reps.
Resistance:	Increase load each set.	Increase load each set.
Recovery:	Rest 60 seconds between sets or do another exercise such as leg push-offs, sit-ups, etc.	Rest 60 seconds between sets or do another exercise such as leg push-offs, sit-ups, etc.
Strokes:	Do half the sets in primary stroke & half in other strokes.	Do half the sets in primary stroke & half in other strokes.
Technique:	Pull up on 1 count, lower the body on 3 count for best results. Keep elbows high & finish to hips.	Pull up on 1 count, lower the body on 3 count for best results. Keep elbows high & finish to hips.
Options:	Do some sets of one arm at a time for freestyle. Also, do some segment drills, such as the finish part of the stroke for triceps.	Do some sets of one arm at a time for freestyle. Also, do some segment drills, such as the finish part of the stroke for triceps.

LEGS	SPRINTERS	MIDDLE DISTANCE AND DISTANCE
Frequency:	3 days per week.	3 days per week.
Duration:	3 - 5 sets of 10 - 20 reps.	3 - 10 sets of 25 - 50 reps.
Resistance:	Increase the load for each set.	Constant load for each set.
Technique:	Streamline your lower body as you push off. Tuck your chin into your chest to work your core.	Streamline your lower body as you push off. Tuck your chin into your chest to work your core.
Options:	Do some sets of one leg at a time.	Do some sets of one leg at a time.

ENDURANCE (AEROBIC) TRAINING:

UPPER BODY	SPRINTERS	MIDDLE DISTANCE AND DISTANCE
Frequency:	2 days per week, non-strength days.	2 - 3 days per week, non-strength days.
Duration:	5 sets of longest race time, + 15 secs.	1 - 3 sets of your longest race time, plus 30 - 60 secs.
Resistance:	Increase the load each set.	Increase the load each set.
Recovery:	Rest 60 seconds between sets or do another exercise such as leg push-offs, sit-ups, etc.	Rest 60 seconds between sets or do another exercise such as leg push-offs, sit-ups, etc.
Strokes:	Do half the sets in your primary stroke and half in other strokes.	Do half the sets in your primary stroke and half in other strokes.
Technique:	Pull up on 1 count, lower the body on a 3 count for best results. Keep your elbows high and finish to hips.	Pull up on 1 count, lower the body on a 3 count for best results. Keep your elbows high and finish to hips.

4.5 - TRAINING SECRETS FROM COACH RICHARD SHOULBERG

As Created by Richard Shoulberg, former Head Coach of Germantown Academy, U.S. National & U.S. Olympic Teams.

“In order to get the maximum benefits from the Vasa Trainer, one must use proper technique. I stress that one of the many real values of the Vasa Trainer is that one is able to get the hands underneath the body as he or she moves up the inclined monorail. I cannot do this on my home-made machines. I have the Vasa Trainers right on the pool deck so that while I am coaching swimmers I can still check for proper technique being used by those working on the Vasa Trainers. I often will use a pace clock for work on the Vasa Trainers, much like sets in the pool.

“Twenty percent of the training with the Vasa Trainer is done as negative resistance (this is resisting the return of the swim bench as you move back down the monorail) and this is done for Butterfly, Backstroke (using both arms at once), Breaststroke with pull straps criss-crossed under monorail, or recovery work. It is important when doing strength work on the Vasa Trainer that the swimmer return back down the monorail slowly. I recommend that my swimmers use a cadence - up on 1 count, return on 3 - 5 count.

“Some of my sprinters do thirty five percent of their Vasa Trainer work as recovery motions (see “PART 4.3 - Stroke Illustrations”). The rest of the training is done in the strokes of choice, as outlined below.”

EXAMPLE WORKOUTS

WARM-UP

Before we begin any strength training with the Vasa Trainer, we always warm up with light work using light medicine balls or 5 minutes of “mirror swimming”. (Mirror swimming is simulating the swim strokes while you look into a mirror, concentrating on executing perfect technique.)

MONDAY, WEDNESDAY, FRIDAY

Strokes: Butterfly, backstroke (both arms at one time), breaststroke (criss-cross the pull straps under the monorail), freestyle, or recovery stroke.

All swimmers: Start with monorail at lowest angle - call this a “1” setting.

- 1) Perform 12 pulls, with slow, negative returns (up on 1 count, back on 3-5 count). Rest 25 seconds.
- 2) Perform 12 pulls at the next incline level (1 hole up) to increase the resistance. Rest 25 seconds.
- 3) Repeat this sequence, increasing 1 incline level each set, until you cannot do 12 pulls.

Recovery Stroke: (works best for butterfly, but can be used effectively for all strokes)

Start with the monorail at lowest angle or “1” setting. Weaker swimmers may need to elevate the rear station until the monorail is level with the floor by placing kick boards or similar under the rear base.

Repeat the sequence above, doing 12 reps per set until you are fatigued.

TUESDAY, THURSDAY

Distance Swimmers:

Steady work for 16 minutes at one setting in chosen stroke. Increase incline setting for monorail by one setting every three weeks.

Middle Distance Swimmers:

Do 40 reps at an incline setting where you fatigue at 40 reps. Repeat for 5 sets.

Sprinters:

Adjust the monorail to the highest angle where you can still hold perfect technique. Perform 4-8 repetitions, rest and stretch for 2-3 minutes. Repeat for 4 - 10 sets.

CAUTION: Freestyle swimmers should use both arms at one time (Butterfly).



Vasa Founder Rob Sleamaker (l), and Coach Shoulberg (r) with another Olympic hopeful at Germantown Academy.

OTHER WORKOUT IDEAS

Segment strokes, double arm only:

The swimmer pulls through a segment of the stroke only. This is one way to concentrate on various parts of the stroke mechanics and improve efficiency or work on technical problems.

Do the following exercises for 8 - 12 repetitions per set.

- 1) Pull through the first 40 degrees only. Pause, return to starting point and repeat for the set.
- 2) Pull through 40 degree to 100 degree portion of range of motion. Pause, return to 40 degree mark and repeat.
- 3) Pull through 100 - 200 degree mark. Pause, return and repeat.

FINAL NOTE: We use the above workouts over a 24 week cycle. During a taper, we continue to use the Vasa Trainers, but we reduce work loads from 100% to 80% to 60% to 40% and so on for the weeks before the competition.

TECHNIQUE TIP: EMPHASIZE THE “ECCENTRIC PHASE” OF THE EXERCISE

Use a rhythm when doing strength training on your Vasa Trainer. U.S. Olympic Swim Coach Richard Shoulberg recommends that you use a fast and powerful stroke going up the inclined monorail and a slow, controlled return coming down the inclined monorail back to the start position. So, you might count like this: up on 1, down on 3 - 5 seconds. The slow return stresses the importance of eccentric muscle contractions, often referred to as “negatives”. Eccentric motion will maximize the benefit of each repetition compared to returning down the incline quickly without using your muscles to brake.

4.6 - TRAINING SECRETS FROM COACH JOHN HOLOHAN

Written by John Holohan, Swim Coach, Fayetteville, N.Y., November 1998.

VASA TRAINER PROGRAM YIELDS FASTER SWIMMERS

“I developed our Vasa Trainer training routine out of a desire to provide our athletes with the best possible training. Our existing program suffered from many limitations including summer only long course training, twelve hours per week of pool time, winter travel restrictions and no convenient or affordable way to strength train. These circumstances had been adequate to develop Junior National qualifiers. However, none of our swimmers had qualified for Senior Nationals and I sensed that our performances were leveling off. I knew strength training would help, yet I did not want to resort to traditional weight training. I wanted something that was stroke specific. I also felt that we needed more time in the water.

“I attempted to increase our water time by adding morning practices. The 6:00 AM start time and the 40-minute commute soon proved to be impractical. I reluctantly gave up on morning practices during the school year. These conditions set the stage for developing our Vasa Trainer program.

“The Vasa Trainer is convenient, affordable, and specific to swimming and fits almost anywhere. In fact most swimmers can fit one in their home. I believed that we could use the Vasa Trainers to complete our morning workout in the convenience of each swimmer’s home. I figured we could complete a morning Vasa Trainer workout in the same amount of time we spent in the car commuting to practice and school. I developed a routine which worked on strength, endurance and distance per stroke. It has worked well. Today we think of the Vasa Trainer as our portable pool and weight room.

“We began the Vasa Trainer routine with our top sprinter Kim Black. At that time, I had been coaching Kim for seven years. She had just made her first Junior Nationals cut and was highly motivated to make Seniors and the Olympic trial cuts. I purchased a Vasa Trainer and I put it in Kim’s house. The Vasa Trainer started out in the basement but was soon moved to the living room. Believe me, you know that you have a devoted swimming family when Mom lets you put the Vasa Trainer in the living room.

“My intention was to use the Vasa Trainer for strength training and as an endurance swimming workout. Therefore, we started with the monorail of the Vasa Trainer set at a low slope and using one stretch cord. This reduced the resistance and allowed Kim to train for longer bouts. Kim started with five minutes of butterfly / 2-arm freestyle stroking. Over a period of months she built up to 30-minutes of continuous stroking, 3x per week. Once she had adapted to this workload, we increased the slope, decreased the time, and again progressed so she could stroke continuously for 30-minutes. This process has been repeated many times and today Kim trains at a moderate slope with two stretch cords. I use the stretch cords rather than increasing the slope of the monorail because I want to better approximate the swimming position. This routine is the foundation of our Vasa Trainer program.

“As we approached the championships and the taper, I reduced the 30-minute sets from three times per week to once a week. I replaced the other two sets with one session per week of power training and one session of stroke count work. The power workout consists of 10 sets of 10 repetitions at the highest possible monorail slope setting that allow the athlete to maintain proper stroke. If the stroke technique deteriorates during the last part of this workout, reduce the resistance.

“The stroke count set is based on the number of strokes the swimmer takes in their primary event. They complete ten sets of the desired stroke count. As an alternative, I also have them complete as many strokes as possible within their goal time for their primary event. I alternate the stroke count session and goal time session every other week.

“As championships approach, I wean them from the Vasa Trainer. Four to six weeks from the championships, they stop using the Vasa Trainer. However, I should note that I individualize as much of our training as possible. This applies to Vasa Trainer workouts. I have had swimmers on Vasa Trainer routines as late as one week before championships.

“At the end of her first season on the Vasa Trainer, Kim Black went from 52.8 to 51.1 in the 100 yard freestyle and

from 24.7 to 23.78 in the 50 free. She finished second at Juniors East in the 100 and fifth in the 50 yard free. The following season she went 50.3 in the 100-yard and 22.78 in the 50. She qualified for the Olympic Trials in the 50 and went 26.45 and finished 17th at trials. I should note that Kim had no long course training the six months before the trials.

"I was impressed with these results and confident that the Vasa Trainer routine was a large part of why Kim had big drops in her times. I have no "scientific proof", but the addition of the Vasa Trainer routine to her training was the only major change we made. I decided I wanted all our athletes using the Vasa Trainer on a regular basis.

"The second swimmer with whom I used this method was a 17 year old high school senior who had been stuck at 55.5 in the 100 yard free and 25.7 in the 50 free. Her goal of making Juniors seemed almost unattainable. I started her on the Vasa Trainer program about 7 months before her high school championship. I used the same gradual progression that Kim had used. At the high school championship, she exceeded all our expectations. She went 52.89 in the 100 and 24.44 in the 50 and made Juniors. She also won the high school swimmer of the meet award and set a section record in the 100 free.

"Last year was her first college season. Her college program did not include Vasa Trainer training. Her 100 went back to 55 and her 50 to 24.9. Granted, in the first year of college there are many factors other than a change in strength training, which could effect performance. However, this summer we resumed her Vasa Trainer workouts. By the end of the summer, her times began to come back down. As a coach that's all the proof I need. This year she has continued her routine at school. So far the results are promising. She has already gone faster than last year's tapered and shaved college championship times.

"I have had similar results with all our swimmers that have consistently used the Vasa Trainer workout. The routine is mentally and physically difficult. In fact, one of the unintended benefits of this training program has been increased mental toughness and possibly increased tolerance to pain. These factors have also contributed to improvements in performance.

"The following is a summary of the results four of our swimmers have had using our Vasa Trainer routine. I have just started using the routine with male swimmers. These results are all with female athletes."

SHORT COURSE YARDS			PRE-Vasa Trainer Times			POST-Vasa Trainer Times		
Name	Age	Stroke	50	100	200	50	100	200
Black, K	17	Free	24.7	52.8	1:55.8	22.79	50.33	1:47.3*
Swimmer 2	17	Free	25.5	55.5	2:00.9	24.44	52.89	1:56.6
Swimmer 3	16	Back	29.8	60.9	2:12.5	27.7	57.3	2:03.7
Swimmer 4	14	Free	29.7	1:02.5	2:12.5	26.6	57.5	2:04.4
LONG COURSE YARDS			PRE-Vasa Trainer Times			POST-Vasa Trainer Times		
Name	Age	Stroke	50	100	200	50	100	200
Black, K	17	Free	27.77	60.9	2:10.5	26.45	57.33	2:01.78
Swimmer 3	16	Back	n/a	1:08.8	2:29.8	n/a	1:05.92	2:25.58

* Kim's 200 times were done after her first year of college.

** Swimmer 3 did her Vasa Trainer work half freestyle and half backstroke.

PART 5 – VASA TRAINER FOR SURFERS

5.1 - Tips for Surfers - Key Points to Remember

5.2 - Power Workout for Surfers - 15 Minute Power Workout

5.3 - Surf Paddling Exercises - Improve your strength & power

5.1 - TIPS FOR SURFERS

1. FOCUS ON PROPER BODY ALIGNMENT.

Keeping your body aligned on the bench to become a more efficient & powerful paddler. Proper positioning will strengthen your core muscles by engaging the correct muscles needed for paddling.

2. KEEP YOUR ELBOWS HIGH.

Keeping your elbows in the same position/axis, as you pull yourself up, engages the proper paddling muscles (triceps, biceps and deltoids).

3. PULL UP FAST, LET DOWN SLOW.

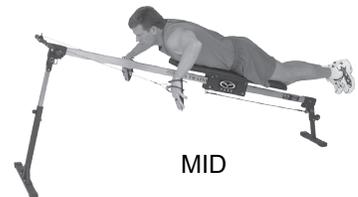
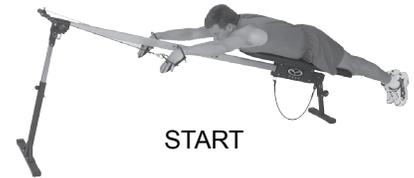
Focusing on the eccentric or “negative” part of the exercise (let yourself roll down the monorail slowly). Use a fast and powerful stroke going up the incline, and a slow, controlled return. Use a 1 count on the way up, and a 3 count on the way down. Eccentric motion will maximize the benefits of each repetition.

4. KEEP YOUR LEGS TIGHT.

Keeping your legs tight and your body in a streamlined position will make you a more efficient paddler (keep your feet about 6” apart, to clear the rear stanchion). It’s also OK to bend your knees, just continue to tighten your abs to strengthen your core muscles. Avoid relaxing your legs to let them “dangle”, as it will put stress on the lower back.

5. COMPLETE A FULL RANGE OF MOTION.

Be sure to complete the full range of motion in each stroke, from entry to finish. At the end of each stroke, push with your triceps and bring your hand all the way to your hips (imagine you are reaching into your back pocket).



5.2 - POWER WORKOUT FOR SURFERS

This workout focuses on building surf paddling strength so you can catch and ride more waves. Warm up for 5-10 minutes before starting this workout.

1. Start at incline level 1. Complete 10-15 reps of the Surf Paddle Stroke focusing on proper paddling technique. Remember to pull up fast and let down slow.
2. After completing your reps at level 1, raise the incline to level 2.
3. Repeat 10-15 reps at each incline level, from level 1 through level 10.
4. After completing your reps at level 10, adjust the incline back to level 9.
5. Repeat 10-15 reps at each incline level, from 9 back down to 1.

5.3 - SURF PADDLING EXERCISES

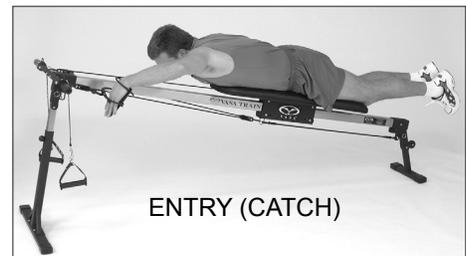
SINGLE ARM PADDLE ALTERNATING ARMS USING PCS



Building endurance, practicing technique & injury prevention.

1. ENTRY (CATCH)

- For best results, use a mid-high height setting with a power cord attached for more resistance.
- Start with your right arm forward in the “catch” position, your left arm back in the “finish” position.
- Start the pull with your right arm, keeping your wrist and hand rigid. The left arm will move forward as the right arm moves backward.
- Keep your elbows in a high position. As you pull with the right arm, resist with the left.



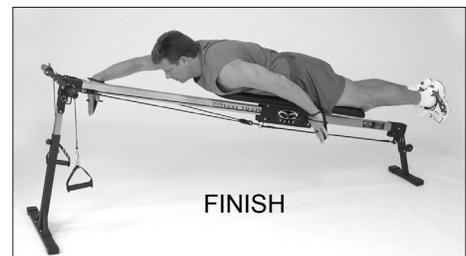
2. MID STROKE

- Sweep your right arm past your body, simulating the same motion used in the water. Your left arm will simultaneously be recovering forward.
- Concentrate on feeling the pressure distribution in your arms, shoulders and back.
- Keep your elbows in a high position. If there were an eye on your elbow, it would be looking to the side.



3. FINISH

- Accelerate as your arm sweeps under your body.
- Sweep your right hand past your hips, just brushing the side of your right hip.
- Finish strongly with a final push of the hand.
- Repeat sequence alternating arms.



TIPS

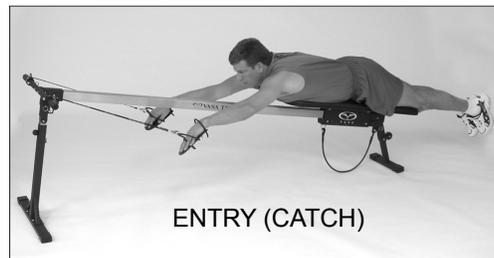
1. If it seems “too easy”, increase the slope angle or add a more resistant power cord. Remember, the resistance comes from holding your body weight against gravity for timed intervals.
2. If the handles hit the PCS when your are fully extended, use the freestyle extension.

DOUBLE ARM PADDLE USING WEBBING STRAPS

 Building strength.

1. ENTRY (CATCH)

- Extend both arms forward.
- Start the pull with both arms, keeping your wrists and hands rigid.



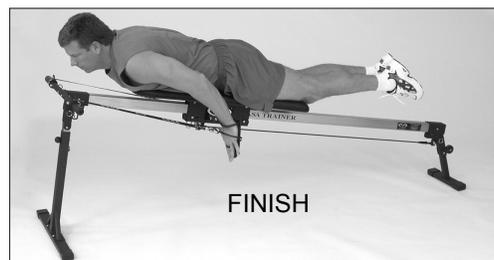
2. MID STROKE

- Keep your elbows in a high position as you pull with both arms.



3. FINISH

- Accelerate so that your hips move swiftly past your hands.
- Complete the stroke with a strong finish by extending your arms as your hands brush your hips.



4. RECOVERY

- Keep your arms in the finish position until you feel the seat carriage start to roll back down the monorail. Hold for 1 second.
- Slowly let yourself and the padded bench glide back down the monorail, taking care to avoid acceleration or jerky motion. Use a cadence to do complete strokes, such as up on a 1 count, and down on a 3 count. This allows your muscles to benefit from eccentric (or “negative”) contractions, as well as the concentric (forward or positive) phase of the stroke.



CAUTION:

The recovery phase of this stroke can be difficult. We recommend that you start conservatively and gradually increase the repetitions and resistance levels.

NOTE: Using webbing straps will provide greater resistance than using the pulley cable system. If this exercise seems too hard, try it with the pulley cable system.

RECOVERY STROKE - BOTH ARMS AT ONCE USING PCS OR WEBBING STRAPS

- Increase recovery strength for surf paddle training.

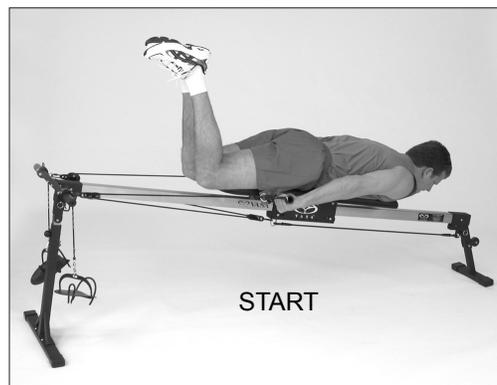
SAFETY NOTE: This is a very strenuous exercise. Using webbing straps provides greater resistance than the pulley cable system. Before starting this stroke, we recommend that you have someone assist you and that you start with low resistance. Consider decreasing the slope to level or very slight incline by placing an aerobic step under the rear stanchion.

GETTING INTO POSITION

- Set the front stanchion incline at its lowest setting.
- Hold onto the handles attached to the PCS or webbing straps & sit on the bench facing the rear of the machine.

1. START

- Simulate the recovery stroke by slowly pulling on the handles, moving yourself up the inclined monorail (backwards).
- Use care to start out slow and smooth, feeling the resistance so you don't overload your muscles.



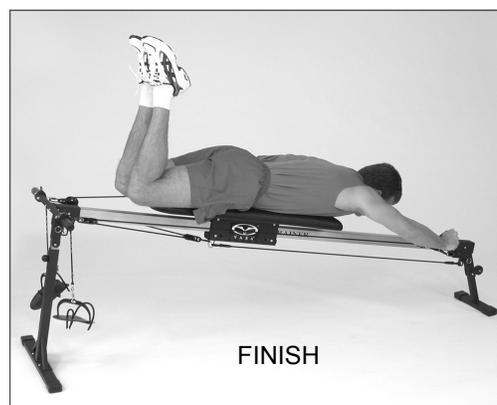
2. MID STROKE

- Concentrate on keeping your elbows and shoulders high during the recovery.
- Use a steady pace through this phase of the recovery. Accelerate only after you are comfortable doing this exercise.



3. FINISH

- Accelerate somewhat as your hands come past your head and toward the monorail.
- Finish strongly with a final push from the hands.



4. RETURN

- Hold the finish position then slowly let your body and bench glide back down the monorail, taking care to avoid acceleration or jerky motion.
- Use a cadence to do complete strokes, such as up on a 1 count, and down on a 3 count. This allows your muscles to benefit from eccentric (or “negative”) contractions, as well as the concentric (pull) phase of the stroke.

PART 6 – TRAINING & WORKOUTS

Please follow these general guidelines when using your Vasa Trainer:

PCS VS. WEBBING STRAPS

Which system you use will depend on the type and purpose of the exercise. The PCS provides a mechanical advantage, much like a winch or a block and tackle device. This makes exercises at any incline setting 50% less than using webbing straps at the same incline. The PCS also provides a wider range of motion, which makes it more suitable for most exercises in the following sections. If you find the exercise is too easy, you can switch to the webbing straps or adjust resistance by increasing the incline of the monorail, adding stretch cords or power cords, or adding weights to the weight bracket.

HANDLES VS. PADDLES

Most exercises will be more comfortable performed with the handles rather than the paddles. You may choose to use the paddles for exercises that simulate swim or surf padding strokes. Swim Coaches feel that using the paddles force the athlete to engage the many muscles of the hand that you use while swimming or paddling in the water, resulting in stronger hands and better technique.

ADDING RESISTANCE

If it becomes easy to do your pre-determined repetitions per set and the entire workout is too easy, it's time to increase the slope, add stretch cords, add power cords, or add weights on the weight plate bracket. See Section 2.6 - "Adjusting Resistance on the Vasa Trainer".

WARM UP AND STRETCHING

Always warm up with 10 - 20 minutes of light intensity aerobic activity before strength training with the Vasa Trainer. An excellent warm-up exercise is Freestyle or Surf Paddling. Do some stretching after warming up and after completing your workout. See PART 2, Section 2.4 - "Exercise Tips".

SAFETY

Always practice strict safety when using the Vasa Trainer. For full recommendations on safety considerations, see PART 2, Section 2.3 - "Safety and the Vasa Trainer".

PROPER BREATHING

- Always breath rhythmically during exercise. Holding your breath can be dangerous because it stops the blood flow to your brain and could make you light headed or faint.
- Breathe in and out through both your nose and your mouth in order to get enough oxygen during each breath.
- Exhale when the exercise is the hardest, and inhale when the exercise is the easiest.

PROPER FORM AND TECHNIQUE

Follow the directions in this manual for performing each exercise in a correct, safe manner. Always use your muscles to control lowering your body down the monorail to the start position. Never allow yourself to return down the monorail in an uncontrolled manner. For exercises you do while lying on your back, press your lower back into the padded bench and tuck your chin to your chest. This will prevent lower back strain and will also give your abdominal muscles a better workout. For any exercises that are labeled ADVANCED, start slowly until you feel comfortable with the motion and follow the tips for safety and stability.

CHART YOUR PROGRESS

Tracking your improvements on the Vasa Trainer, as in all training, will be a key in reaching your goals. One of the most effective methods for monitoring progress is to keep an accurate training log. A good log can serve to help you monitor the effects of each workout and the stresses associated with training. The sample Vasa training log in this section can serve as a guide for tracking these components in your training program. You are more likely to be satisfied with your exercise program if you keep an effective log.

STRENGTH TRAINING LOG



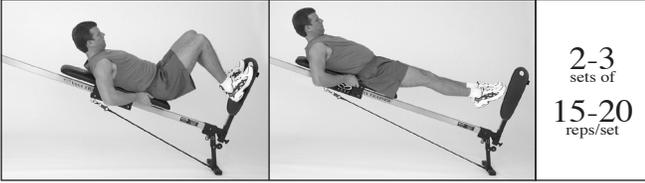
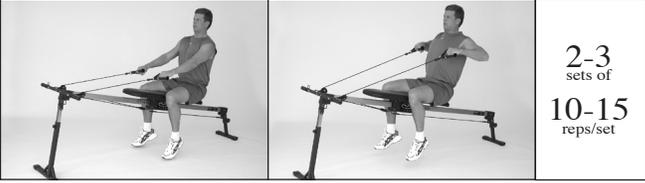
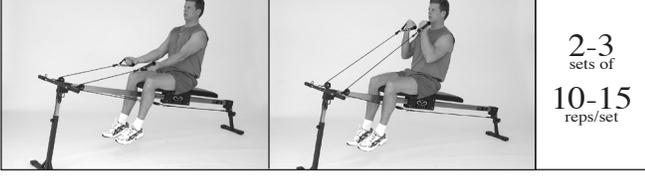
DAY/DATE	(1) _/_-			(2) _/_-			(3) _/_-			(4) _/_-			(5) _/_-			(6) _/_-			(7) _/_-				
	REPS	SETS	RES																				
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REPS = # OF REPETITIONS SETS = # OF SETS RES = RESISTANCE SETTING OR WEIGHTS

VASA TRAINER CONDITIONING CIRCUIT - for All-Around Athletes

This program is designed to build and maintain effective strength and power to prepare you for all activities. Here is a circuit of exercises you will be able to do with your Vasa Trainer. It's a routine that's simple and effective. Start with the following. Warm-up for 5-10 minutes with aerobic freestyle or surf paddling.

- Frequency: 3 days per week, every other day. Do aerobic training between strength workouts.
- Resistance: Start at lowest setting and increase by 1 increment for each additional set until 15 reps are difficult to complete using good form.
- Rest: Rest 1-2 minutes between exercises. Do a set of one exercise, rest, then do a set of the next exercise, rest and so on to complete the circuit. Repeat circuit for second and third sets.

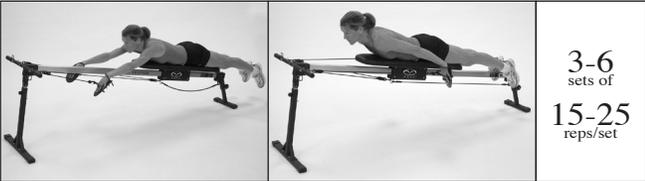
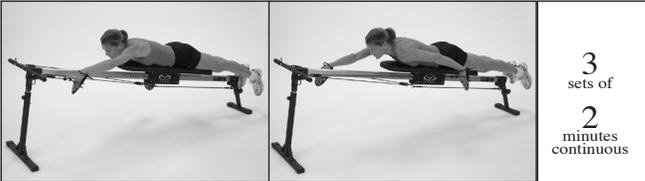
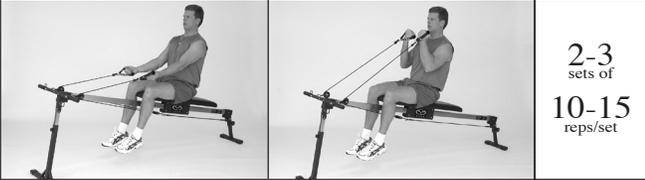
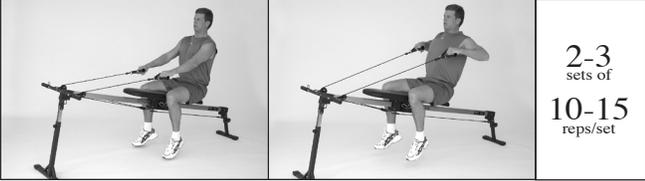
exercises	# of sets and reps	exercises	# of sets and reps
1. PLYOMETRIC SQUATS	 <p>2-3 sets of 15-20 reps/set</p>	6. SEATED ROWING	 <p>2-3 sets of 10-15 reps/set</p>
2. LUNGES	 <p>2-3 sets of 15-20 reps/set</p>	7. REVERSE FLYS	 <p>2-3 sets of 10-15 reps/set</p>
3. RESISTED AB CRUNCH	 <p>3 sets of 15-25 reps/set</p>	8. LAT PULLDOWN	 <p>2-3 sets of 15-25 reps/set</p>
4. CHEST PRESS	 <p>2-3 sets of 10-15 reps/set</p>	9. ASYMETRIC EXTENSION	 <p>2-3 sets of 15-25 reps/set</p>
5. BICEPS CURLS	 <p>2-3 sets of 10-15 reps/set</p>	10. TRICEPS EXTENSIONS	 <p>2-3 sets of 10-15 reps/set</p>

More details on each individual exercise at www.vasatrainer.com

VASA TRAINER CONDITIONING CIRCUIT- for Swimmers

This program is designed to build and maintain effective swim-specific strength and power to prepare you for competition. Here is a circuit of exercises you will be able to do with your Vasa Trainer. It's a routine that's simple and effective. Warm-up for 5-10 minutes with freestyle. Emphasize perfect swimming technique.

- Frequency: 3 days per week, every other day. Swim or do aerobic training between strength workouts.
- Resistance: Start at lowest setting and increase by 1 increment for each additional set until 15 reps are difficult to complete using good form.
- Rest: Rest 1-2 minutes between exercises. Do a set of one exercise, rest, then do a set of the next exercise, rest and so on to complete the circuit. Repeat circuit for second and third sets.

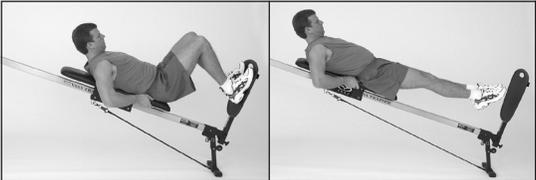
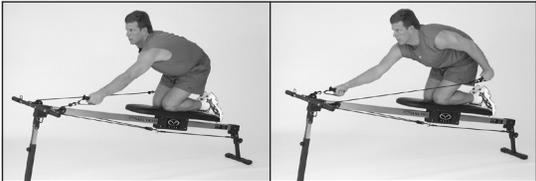
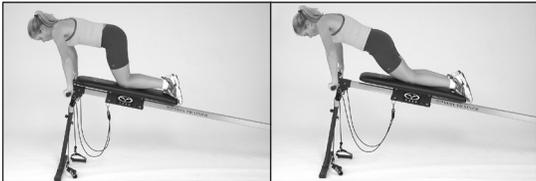
exercises	# of sets and reps	exercises	# of sets and reps
1. PLYOMETRIC SQUATS  <p>2-3 sets of 15-20 reps/set</p>		6. REVERSE FLYS  <p>2-3 sets of 10-15 reps/set</p>	
2. BUTTERFLY  <p>3-6 sets of 15-25 reps/set</p>		7. FREESTYLE ENDURANCE - alternating  <p>3 sets of 2 minutes continuous</p>	
3. SUPER AB CRUNCHES  <p>2-3 sets of 15-25 reps/set</p>		8. CHEST PRESS  <p>2-3 sets of 10-15 reps/set</p>	
4. BICEPS CURLS  <p>2-3 sets of 10-15 reps/set</p>		9. INTERNAL ROTATOR CUFF - seated  <p>2-3 sets of 10-15 reps/set</p>	
5. HIGH LAT ROW (SEATED ROW)  <p>2-3 sets of 10-15 reps/set</p>		10. EXTERNAL ROTATOR CUFF - seated  <p>2-3 sets of 10-15 reps/set</p>	

More details on each individual exercise at www.vasatrainer.com

VASA TRAINER CONDITIONING CIRCUIT- for Nordic Skiers

This program is designed to build and maintain effective ski strength and power to prepare you for competition. Here is a circuit of exercises you will be able to do with your Vasa Trainer. It's a routine that's simple and effective. Start with the following. Warm-up for 5-10 minutes with freestyle.

- Frequency: 3 days per week, every other day. Do aerobic training between strength workouts.
- Resistance: Start at lowest setting and increase by 1 increment for each additional set until 15 reps are difficult to complete using good form.
- Rest: Rest 1-2 minutes between exercises. Do a set of one exercise, rest, then do a set of the next exercise, rest and so on to complete the circuit. Repeat circuit for second and third sets.

exercises	# of sets and reps	exercises	# of sets and reps
1. PLYOMETRIC SQUATS	 <p>2-3 sets of 15-20 reps/set</p>	6. REVERSE FLYS	 <p>2-3 sets of 10-15 reps/set</p>
2. LUNGES	 <p>2-3 sets of 15-20 reps/set</p>	7. NORDIC SINGLE POLING - kneeling	 <p>3 sets of 2 minutes continuous</p>
3. SUPER AB CRUNCHES	 <p>2-3 sets of 15-25 reps/set</p>	8. SHOULDER RAISES (poling recovery)	 <p>2-3 sets of 10-15 reps/set</p>
4. NORDIC DOUBLE POLING - kneeling	 <p>3-6 sets of 15-25 reps/set</p>	9. CHEST PRESS	 <p>2-3 sets of 10-15 reps/set</p>
5. BICEPS CURLS	 <p>2-3 sets of 10-15 reps/set</p>	10. RESISTED AB CRUNCH	 <p>3 sets of 15-25 reps/set</p>

More details on each individual exercise at www.vasatrainer.com

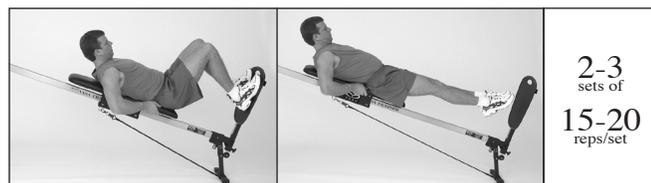
VASA TRAINER CONDITIONING CIRCUIT- for Surfers

This program is designed to build and maintain effective surfing-specific strength and power to prepare you to catch and ride more waves. Here is a circuit of exercises you will be able to do with your Vasa Trainer. It's a routine that's simple and effective. Warm-up for 5-10 minutes with continuous surf paddling.

- Frequency: 3 days per week, every other day. Swim or do aerobic training between strength workouts.
- Resistance: Start at lowest setting and increase by 1 increment for each additional set until 15 reps are difficult to complete using good form.
- Rest: Rest 1-2 minutes between exercises. Do a set of one exercise, rest, then do a set of the next exercise, rest and so on to complete the circuit. Repeat circuit for second and third sets.

exercises	# of sets and reps
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1. PLYOMETRIC SQUATS



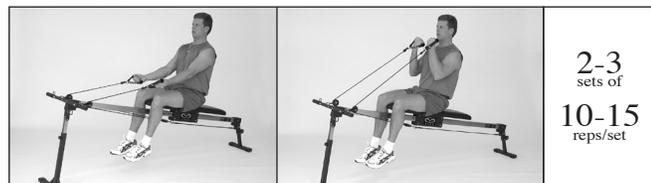
2. BUTTERFLY



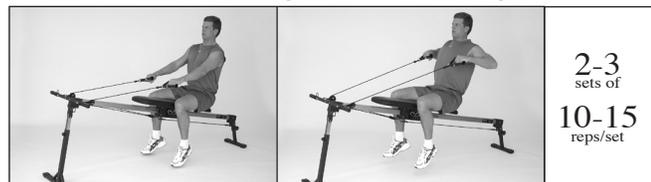
3. SUPER AB CRUNCHES



4. BICEPS CURLS



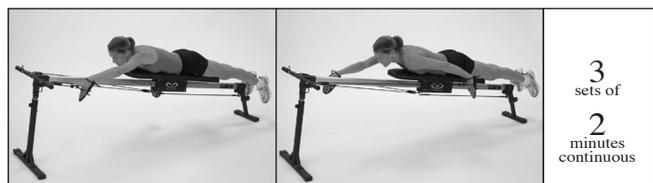
5. HIGH LAT ROW (SEATED ROW)



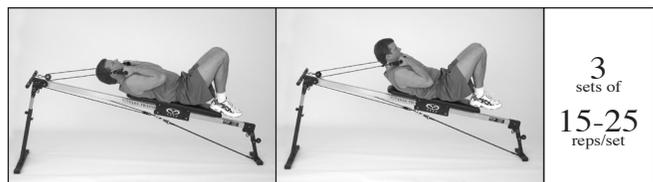
6. REVERSE FLYS



7. SURF PADDLING



8. RESISTED AB CRUNCH



9. CHEST PRESS



10. SHOULDER RAISES

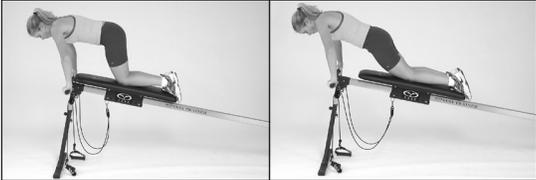
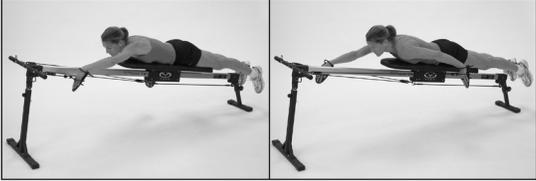


More details on each individual exercise at www.vasatrainer.com

VASA TRAINER CONDITIONING CIRCUIT- for Triathletes

This program is designed to build and maintain effective swim, bike and run strength and power to prepare you for competition. Here is a circuit of exercises you will be able to do with your Vasa Trainer. It's a routine that's simple and effective. Warm-up for 5-10 minutes with freestyle. Emphasize perfect swimming technique.

- Frequency: 3 days per week, every other day. Swim or do aerobic training between strength workouts.
- Resistance: Start at lowest setting and increase by 1 increment for each additional set until 15 reps are difficult to complete using good form.
- Rest: Rest 1-2 minutes between exercises. Do a set of one exercise, rest, then do a set of the next exercise, rest and so on to complete the circuit. Repeat circuit for second and third sets.

exercises	# of sets and reps	exercises	# of sets and reps
1. PLYOMETRIC SQUATS	 <p>2-3 sets of 15-20 reps/set</p>	6. BICEPS CURLS	 <p>2-3 sets of 10-15 reps/set</p>
2. LUNGES	 <p>2-3 sets of 15-20 reps/set</p>	7. REVERSE FLYS	 <p>2-3 sets of 10-15 reps/set</p>
3. BUTTERFLY	 <p>3-6 sets of 15-25 reps/set</p>	8. HIGH LAT ROW (SEATED ROW)	 <p>2-3 sets of 10-15 reps/set</p>
4. SUPER AB CRUNCHES	 <p>2-3 sets of 15-25 reps/set</p>	9. CHEST PRESS	 <p>2-3 sets of 10-15 reps/set</p>
5. FREESTYLE ENDURANCE - alternating	 <p>3 sets of 2 minutes continuous</p>	10. TRICEP DIPS	 <p>2-3 sets of 10-15 reps/set</p>

More details on each individual exercise at www.vasatrainer.com

PART 7 – RESOURCES

www.vasatrainer.com

WEBSITE RESOURCES

TRAINING & VIDEOS

- Workouts
- Circuits
- Technique
- Individual exercises

PRODUCTS

- Accessories
- Upgrades
- Replacement Parts

SUPPORT

- Frequently Asked Questions (FAQ's)
 - Maintenance
 - Warranty Information
-

CUSTOMER SUPPORT & SERVICE



Email: info@vasatrainer.com



Live Chat: www.vasatrainer.com



Phone: 1.802.872.7101 (Monday - Friday, 9am-5pm Eastern Time)