

STAYING FIT

THIS INSTALLMENT IS THE THIRD IN A MULTI-PART SERIES AND EXPLORES THE ROLE OF THE SWIM BENCH IN INJURY PREVENTION AND REHABILITATION.

BY MICHAEL J. STOTT

High on any coach's list is athletes who are durable and injury-resistant. That was a goal former coach and exercise scientist Rob Sleamaker had in mind when he founded Vasa Inc. in 1979. Today his line of swim benches, headlined by the Vasa Trainer and Vasa Ergometer, is a global market leader.

"Optimally, coaches with limited dryland training time need to include dynamic warm-up and injury prevention exercises as a part of the pre-swimming process," he says. "Whether conducted in a circuit or sequential fashion, such dryland—done right—hopefully leads to stronger, injury-free athletes who understand the connection between a long, taut bodyline and faster swimming."

He'll get no argument from certified strength and conditioning specialist Ross Gerry. A former coach with Stanford's women's team, Gerry's operating philosophy is: "Well begun is half done."

For starters, he says, "The connective tissue, specifically the tendons, should be strengthened first so as to handle the increased load/force development of the muscles. This is best done with lots of reps, (i.e., 30) at low intensity and with a full range of joint motion exercises." He suggests four weeks in this phase—perhaps 12 weeks for younger athletes—while especially addressing internal and external shoulder rotation with an eye toward long-term injury prevention.

"It is interesting to note," he says, "that synchro swimmers have relatively few shoulder injuries. That's because they scull equally outward and inwardly, essentially balancing the strength and range of motion on both sides of the shoulder. These types of exercises can be done on the Vasa Erg or any swim bench that can provide low levels of resistance."

Gerry cautions that body weight exercises constitute too much resistance. "Sitting upright and facing sideways are good options for the shoulder work. I always encourage coaches to be creative. The focus should be on adding reps, not resistance for these exercises," he says.

"The opposing muscle groups need to be balanced for range of motion and relative strength to prevent injury. There are simple tests to indicate if an athlete has problems in this area. One is to lie prone with the forehead touching the floor. An inability to raise straight arms above the ears is a likely indicator of tight major and minor pecs and weak serratus anterior muscles, middle traps and rhomboids. All of those muscles need development (primarily for strength endurance) to stabilize the scapulae during the pulling phase of the strokes," says Gerry.

"I recommend working to balance the hip flexors (psoas) and



the glutes as the hips get tight from so much flutter kicking and sitting during the day. Tight hip flexors contribute to low-back pain. They also prevent the swimmer from maintaining a good streamline during stroking and coming off walls. Strengthening the glutes and stretching the front of the hip through flexibility exercises helps here," he says.

SAGE ADVICE

When he began a dryland program at Germantown Academy, Richard Shoulberg made it a point to cultivate his parents, especially members of his medical community. "I always wanted input from better-trained people than I. So, I'd give them a T-shirt and invite to view our dryland.

"Include them in your program because you can't afford them," he advises. "All you have to do is reach out. I guarantee they will support you."

One outreach effort clearly validated his instincts. A favorite Shoulberg exercise involved an athlete lying prone on the swim bench while doing a two-arm fly stroke (see Fig. 1). The athlete would pull the body slowly up a steep incline and then lower it, retracing the stroke path. Often each movement would take up to six seconds. By contracting the eccentric muscle (and building strength), Shoulberg could see fatigue in the primary movers and recruitment of the smaller upper back and shoulder muscles. (For a video of this exercise, go to: <https://youtu.be/7hOzSPxE9Hw>. Remember to lower slowly.)

Upon viewing the exercise, one orthopedic surgeon told Shoulberg, "I won't be seeing any Germantown swimmers for shoulder injuries. That's the perfect exercise to strengthen the entire upper back and shoulder girdle," he said. While not originally utilizing the exercise for prehab reasons, Shoulberg noticed that his swimmers got very, very strong as a result.

REGAINING HEALTH

Tim Crowley is head strength and conditioning coach for all athletic programs at Florida's Montverde Academy. A 2008 U.S. Olympic triathlon coach, he has been a member of the USA Triathlon national team coaching staff from 2007-12. Among other tools at Montverde, he uses two Vasa Ergs, two Vasa Trainers and a one-time Vasa Space-Saver Erg to help athletes get back in the pool and on the playing fields.

When swimmers have had **ear infections**, he puts them on the erg and adapts that day's pool sessions to the bench. For hand injuries, he has used the erg focusing on race-specific intervals. In one instance, he had a swimmer record a best time after two weeks on the erg and no pool sessions!

Athletes in **boots and casts** can also benefit. "One of our swimmers suffered a dislocated patella. We had her do four-to-

five/30-to-40-minute Vasa sessions per week. Upon returning to the pool, she maintained two sessions per week in addition to her pool training. On the Vasa Trainer, she did double-arm pulls and functional isometrics as part of the specific strength phases to help her return to form,” says Crowley.

“We rarely have swimmers out of the pool because of **shoulder impingement injuries**,” he says. “For that, I credit our comprehensive strength and conditioning program that emphasizes mobility, muscle balance and scapula control. However, when something does happen, we move some or all of their swim sessions onto the erg. By drilling underwater recovery movements, we often eliminate the impingement area, allowing swimmers to recover while simultaneously working on specific power and endurance,” he says.

MAKING A SPLASH

Before he became a 14-time NCAA Division III national champion at Kenyon and later helping Michigan (four relay titles) to its 2013 national championship, Zach Turk sustained a major foot injury on a freshman training trip. As a result, the Kenyon staff, anxious for Turk to maintain strength and fitness, proscribed swim bench routines that mimicked swimming motions and allowed him to re-create workout sets from the pool.

Turk advanced his comeback via resistance training on a Vasa Swim Ergometer. Ultimately, he rejoined his lane mates. By conference time, he was no longer winning races with one-legged push-offs. At D-III NAAs, he became the first freshman ever to win a 50 yard free title (19.93), finished third in the 100 free (44.18) and swam on three NCAA record-setting relays.

AN ESSENTIAL TOOL

“When we have injuries and someone can’t get in the water, the Vasa is our go-to,” says multi-time Olympic and recently retired University of Florida head coach Gregg Troy. “It depends upon the injury. We’ve had broken arms, bad stitch situations, cuts and upper body injuries where athletes have been out of the water for extended periods. In that dynamic, we use the bench as a fill-in. We’ve always used it as an ‘extra’ for anyone who feels like it helps them.

“It is tremendously useful in that way. The nice thing is you can adjust the bench up and down and accomplish things for different people in different times of the season.”

Troy especially likes benches for sprinters for the feel and power that swimmers can develop while maintaining attributes that can be transferred to the water. “We actually put a bench right beside a lane and do repeats on the same time schedule as in-water swimmers. Athletes will repeat 100s. Where they’d normally hold a minute on 1:30, we’ll have them go x-number of strokes on 1:30. In addition to being a good physical tool, it is a great mental one because then the athlete doesn’t feel like he is missing anything,” he says.

Now that he is concentrating his coaching efforts on his professional swimmers, he anticipates using swim benches even more and as a regular part of his team’s dryland. ❖

FIG. 1 TWO-ARM BUTTERFLY STROKE WHILE LYING PRONE ON A SWIM BENCH

STEP 1 > PULL UP, USING CORRECT FORM ON A ONE-SECOND COUNT.



[PHOTOS PROVIDED BY VASA]

STEP 2 > START LOWERING VERY SLOWLY, USING CONTROL AND CORRECT FORM WITH A FIVE-SECOND COUNT (START TO FINISH).



STEP 3 > SLOWLY LOWER TO MID-STROKE POSITION.



STEP 4 > CONTINUE LOWERING SLOW AND CONTROLLED. FOCUS ON CORRECT FORM.



STEP 5 > FINISH AND REPEAT THE SEQUENCE UNTIL FORM DEGRADES DUE TO FATIGUE.



SW **TOTAL ACCESS MEMBERS CLICK HERE**
 TO VIEW A VIDEO FROM TIM CROWLEY OF FLORIDA'S MONTVERDE ACADEMY
 ON STRENGTH AND CONDITIONING.
NOT A TOTAL ACCESS MEMBER? YOU'RE JUST A CLICK AWAY:
SWIMMINGWORLD.MAGAZINE.COM/NEWS/SWIMMING-WORLD-MAGAZINE-SUBSCRIPTION/