

33 EPIC SWIMMING WORKOUTS

HIGH PERFORMANCE PRACTICES



HEYO.

Over the past few years of putting together articles for SwimSwam, USA Swimming, and my own website YourSwimBook.com I have come across all manner of sets and workouts for swimmers.

Some of them were posted on SwimSwam in the Coach's Intel column, while some of the other [swimming workouts were published on my site](#).

This little eBook represents the best-of-the-best. There are workouts in here from Michael Phelps, Ryan Lochte, Josh Schneider, Mike Alexandrov, and various top-level coaches from across North America. There are sets for improving your kick, building a more powerful breakout, supercharging your underwater dolphin kick, increasing DPS and stroke rate, and so much more.

My favorite?

The Auburn sprint set (the first workout in this little PDF) is one that I tried on myself. I included a breakdown of the set as well as how I did. (It hurt.)

If you have any questions about the workouts, simply send me an email [via the newsletter](#).

Enjoy!

Olivier

The Legal Stuff

The information provided within this eBook is for general informational purposes only. Any use of this information is at your own risk. Always consult a physician before undergoing any strenuous exercise. And always go at least 5 seconds behind the swimmer in front of you.

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1. THE OTHER AUBURN SPRINT SET

As someone who trains exclusively on their own, there are times where I will freely admit that I could be pushing myself a little harder.

Not having a coach, or someone next to me to push me when hitting peak levels of mental and physical exhaustion is a bit of a downer on occasion, but for the most part, I love the solo aspect of training.

That being said, when crafting together workouts I have been pretty stagnant recently, leaning on the same handful of sets over and over again.

Deciding it was time to punch my routine in the face with some fresh hotness, I hopped onto the old set of interconnected tubes in order to find inspiration for today's workout.

The set I landed on was designed by Brett Hawke and the Auburn Tigers. Hawke is the head coach at Auburn, who have long been one of the dominant sprint programs on the planet.

(Hawke himself repped Australia at the Olympics twice in 2000 and 2004.)

As for the workout, it is no joke, featuring 2,500 yards to be swum at 100 race pace.

Sure, why not!

*(In case you are wondering what the *other" in the title refers to, it is a set that was done with Coach Hawke and several Auburn athletes, including Cesar Cielo, that involved 100's all out and crushing Gatorades.)*

Unfortunately, I had to make a couple alterations to the set:

- The pool I swam in today was meters, not yards.
- Because of this (and mainly because I didn't notice that there were two rounds of 25's at :60) I did 9 rounds instead of 10.

As I progressed through the set, I had to take less rest between the last few rounds. This was because there was an aqua fit class coming in at 6:00pm, giving me *only* 2:15 to do the full workout.

My goals for the workout weren't necessarily time based, although I would be happy holding 13's all the way through:

Maintain deadly streamlines and breakouts throughout, with a minimum of 4 dolphin kicks on each push-off.



To keep awesome technique for absolutely as long as possible. In other words, to delay FTD (Full Technical Disintegration).

So with my workout in tow, I skipped on down (not really) to the local YMCA pool to torment the local lap swimmers.

AUBURN SPRINT SET

WARM UP

400 easy

3x50 @:45

2x75 @1:15 as kick/swim/head up kick by 25

100 build the 25's

MAIN SET

100 x 25 {The goal being to maintain 100 race pace throughout}

10 @:60 – 50 easy

10 @:60 – 100 easy

10 @:55 – 150

10 @:50 – 200 easy

10 @:45 – 250 easy

10 @:40 – 300 easy

10 @:35 – 350 easy

10 @:30 – 400 easy

10 @:25 – 450 easy

10 @:20 – 500 easy

WARM DOWN

300 easy



Here is how the workout went down:

Round 1: 10 x 25 @:60

Feeling pretty glorious! Was able to average 13 flats without having to go fully all out.

The public swimmer I was sharing the lane with didn't look overly impressed as I went through the reps. All the waiting at the walls and then the suddenly violent swimming was causing some confusion apparently.

Note: swimmers in moderate lane not overly pleased. Waves are washing over the lane rope into their lane, making head up breaststroke challenging.

Round 2: 10 x 25 @:55

Still rollin', crushing the 13 flats. The streamline and breakout felt tight, and relatively drag free.

Clearly frustrated, the public swimmer gets out, stares at me, then stomps off to the change room. Apparently not a fan of the waves.

Round 3: 10 x 25 @:50

Starting to get a little sweaty. You can tell that you are doing work when you feel the sweat rolling off your forehead at the walls.

On rep 5 a blur of a body and what appeared to be XXL swimming trunks pass through my vision. More critically, the blur's foot crosses the black line and I nearly head-punch it with my face. By the time I get to the wall they have moved over to the "moderate lane."

Round 4: 10 x 25 @:45

Mostly :13's, but was fairly winded by the end of the round. At this point I realize that I have had Rihanna's "We Found Love" in my head for the better part of ten minutes on repeat in my head.

Racking my brain to figure out where I heard it earlier...

New public swimmer gets into the lane. We split it, giving me the wall side. Left hand and pool-side ladder become acquainted on two occasions, and somehow manage to straight arm one of the lights on the wall. Still not sure how.

Round 5: 10 x 25 @:40

The reality of the set is beginning to set in. I manage a 13 sec rep on the first one, and then steadily slow to a series of 14's.



In crunching the numbers I am realizing that there is no way I am going to have time to finish the set with how much time I have left. Accept that I will have to cut the rest between rounds down to a couple minutes of wall-hugging at the end of each round.

Also, if they “found love” did they lose it in the first place? Why would you go and lose it, RiRi?

Round 6: 10 x 25 @:35

Starting to slow down a bit. The speed isn’t quite as peppy as it in previous rounds.

Nevertheless, I am convinced that the water jug I’ve packed full of enough BCAA’s to clone a dinosaur will help me get through it.

Too tired to take goggles off my eyes at the end of the round.

Round 7: 10 x 25 @:30

The struggle has become real struggley. Form is starting to deteriorate, fast. A few of the push-offs include a slightly longer glide than in previous rounds.

Shoulders are starting to seize up, and the heels of my feet are beginning to cramp up. Getting the feeling that my stroke is starting to T-Rex a little bit.

More notably, “We Found Love” has suddenly been supplanted by Lou Bega’s “Mambo No. 5.”

I have officially entered my nightmare.

Round 8: 10 x 25 @:25

On the first two reps I am able to keep some semblance of technique. On the remainder I contracted a serious case of FTD.

Breathing to my off-side in order to give dominant shoulder a break. Doesn’t seem to be helping much. The streamlines are still pretty legit, but am now breathing every two strokes, and hand entry is starting to slip.

Manage to swim an ugly 15 flat on the last rep. Hang onto the side of the pool for 4 and ½ minutes before the final round...

Round 9: 10 x25 @:20

Sweet molasses this got ugly. Debated strapping on the fins, but figured I had come this far, might as well finish it off with a bang, even if it was more of a whimper.

The first and last reps were 15 flats. The remainder of the reps were completed in around 16 to 17 seconds, just enough to take 1-2 haggard breaths at the wall before setting off.



In terms of technical proficiency, I wouldn't say it was very impressive. Both shoulders were essentially numb and locked up for after the first rep, with my stroke count sky rocketing as I fully engaged my little T-Rex arms.

The last couple were...well, agonizing.

As the aqua fit class seized the pool, I beached myself onto the deck of the pool and lay there like a dying whale for somewhere between 2 and 15 minutes. I am not totally sure how long for certain. Had a bit of a fatigue blackout.

In Summary

I learned and remembered a few things today:

Rihanna found some love.

No wonder Auburn has a world class sprint program doing sets like that.

Public lap swimmers generally don't like people sprinting up and down the pool. (Sorry I'm not sorry?)

Limits are meant to be punched in the face. Before today the most meters of high quality work I had done in one session was 1,100m. Doubled it and change.

I'm going to sleep like a baby tonight.

And yes, Coach Hawke, the hunger pangs were out of this world when I finally managed to scrap my life together and walk off the pool deck.

2. Superpower Breakouts: A Devastating Set to Help You Build Explosive Breakouts

Your breakouts form a critical foundation of your race whether you are a sprint or distance swimmer. Here is a speed and power set designed to supercharge your breakouts.

You don't even have to be a short course fast-twitch specialist to know how much of a difference your turns and breakouts can make. Whether you are swimming the mile or the 50, your breakout, and the speed you carry out of it determines your baseline velocity for the rest of the lap.

Think about just how critical that is: at the moment that you push off of the wall or launch yourself off the blocks it's *the fastest* you will ever be going while you are swimming.

Your objective, then, is to maintain as much of that speed over the course of the length.

Below is a set I tried out recently that was designed with one purpose and one purpose only—to develop the kind of thunderous breakouts that will have you laying waste to the competition off the walls.

It includes one of my favorite kick drills, vertical kicking, it incorporates DragSox, and some really, really high-speed swimming.

Training Notes

Before you launch yourself into improving your breakouts, here are some things to remember while you are performing this set.

- **Tight streamlines are mandatory.** Keep your chin tucked and hands flat while locked into your streamline. Tight streamlines mean less resistance, and less resistance means more speed.
- **Keep your core braced.** One of the reasons I love vertical kicking is that you can really focus on keeping your core nice and tight. Extend that core tightness to your breakouts. Not only will a braced core help you kick stronger, you will also maintain better body position.
- **Explode out of the breakout.** That first stroke is key. Keep your head tucked and streamlined for the first couple strokes, and explode to the surface.



- **Keep a kick count for the vertical kick work.** Count your kicks over the course of the first minute and then stick to it for the remainder of the 5 minutes.
- **You'll feel like you are being shot out of a cannon.** If you've checked out some of the other swim workouts on this site you know I'm a fan of DragSox. They are great as a resistance tool for power and endurance work, but they also have the curious effect of improving your foot's feel for the water. Which means on that first breakout you will feel amazing screaming through the water.
- **It is short, but mega high quality.** The full workout was 2,000m, including warm-up and warm-down. But over a quarter of that is done at 100%, full-blast effort. The whole thing took 1:15 to complete.

The Breakouts Set

Warm Up:

- 300 swim mix + 300 free kick quiet (no bubbles)

Pre-Set:

- 6x25 swim best stroke build 1-3 to 90% effort, all with fast breakouts.

Main Set (Go Time!):

4 rounds through--

5 minutes of vertical kicking while wearing DragSox, doing :30 seconds dolphin kick, :30 seconds freestyle kick.

Extra :30 seconds rest

10 x 25 swim @:40

- 100% absolute sprint to the 15m mark.
- Pick a number of dolphin kicks and stick to it for each 25 (I did 6 off of the deep end walls, 4 off of the shallow end walls).
- The key is blistering speed. If you are getting too gassed take extra rest. It's all about having race-quality breakouts.
- No breathing to the 15m mark.



- Swim easy to the wall.

10 deep water bobs + :30 sec rest and start over.

Warm-Down:

250 swim free/back by 25 [Perfect technique: super slow swimming.]

- *Total meters: 1,750m*
- *Race pace meters: 600m*
- *Time required: 1:15*

3. The Kansas IM Set: Take It Out Fast and Bring It Home

Clark Campbell, head coach of the University of Kansas Swimming & Diving program stopped by to share a versatile set that is designed to encourage speed across the beginning, middle and the end of races.

Coach Campbell was recognized as 2014 Big 12 Coach of the Year, has sent 18 swimmers to NCAA champs, and his swimmers have placed among the top 5 at the Big 12 Championships the past 13 seasons he has been there.

On the front end of the set you will be wearing fins, with the goal of swimming a second below 100 pace per 25. From there it becomes about holding on and finishing with authority.

Coach Campbell:

This is a great set for learning taking the race out fast, holding strong in the middle and then bringing it home. IMers will do one round of each stroke. It's also a very good team set for bringing all the different groups together.

4 rounds of:

4×25 on :30 @100 pace-1 with fins

Extra :15 rest (take off fins)

3×50 on 1:00 @200 pace

2×25 on :25 @100 pace

100 ez

4. A Custom Breaststroke Set by Lindenwood University's Jonathan Lau

Jonathan Lau, assistant coach of Lindenwood University's Men's & Women's Swimming & Diving program shares a set that was created specifically for one of the breaststrokers.

Here is the breaststroke set:

This set was designed for our school record holder in the 200 breast, Alysa Coleman, who recently finished her freshman year at Lindenwood. Alysa went personal best times in the 100/200 breaststroke this year after being in a plateau for the last four years. We worked extremely hard at reinforcing proper breaststroke technique with her while trying to enhance her training capacity and aerobic endurance.

A huge aspect of her stroke that needed to improve was her catch phase during breaststroke. She tended to take an early breath that caused her catch to collapse early and prevent her hands from effectively moving to the outside corners of her stroke. Alysa also had issues with the timing of her pull and kick. This set was one that allowed her to work on both of these components.

3 Rounds—

400 Free Swim @ 5:20

4x 50 Breast Swim + Parachute @ 1:10

200 Breast Pull, Fly Kick + Fins @ 2:45

1:00 Stationary Breast Swim on Elastic Cord

100 Breast Race from Blocks

50 EZ

I love using resistance training especially with breaststrokers, because it allows the swimmer to notice changes in their technique and timing more quickly than during plain swimming.

The 400 free in this set was meant to add a more aerobic component to the workout. We use homemade parachutes made from several foam strips zip-tied together with a rope tether connected to a belt on the swimmer.

The 4x 50's were meant to emphasize a strong wide catch and hold on the water. I instructed Alysa to remember this catch sensation and try to build upon it with a 200 breast with a fly kick and fins. This



200 will add another component to the stroke where the swimmer tries to add connection with the muscles in her core.

We followed this up with a swim on an elastic cord where Alysa swam in place for one minute continuing to work on her catch and holding water with her lower body (shins/feet).

Finally, Alysa raced a 100 breast trying to focus on not taking a lot of strokes, but making sure she was racing strong and efficiently. Between rounds a 50 easy was used to recover from all of this work on resistance and racing.

5. Crush Your Next 100m Freestyle With this Race Pace Set from Coach Mark Johnston

Mark Johnston of the Colorado-based Swim Dogs submitted this simple, yet supremely challenging set that is designed to help swimmers help learn the speed of their goal 100 freestyle time.

Here is Mark with more:

The athlete must determine what their split should be for the 3rd length of their 100-yard goal time. Let's make it simple by saying that they want to split :15-seconds.

After a warm-up and speed transition, here's the main set:

30 x 25s on :35 at goal pace.

If you miss your goal pace (:15-seconds), you sit the next one out. At the end, you count total up the number (out of 30) that you missed and try to improve over time.

We do a set like this every two weeks, or so. If the athlete makes all 30 efforts at the race pace split, the next time, they must hold :14.5.

It's a very simple, specific set, and it's fun when you have people going fast in both directions.

The key for the lane logistics is that swimmers must stay in their respective send off spot: The first person ALWAYS goes first, and second person ALWAYS goes second (etc.), regardless of the end of the pool they are on. Remember, as athletes sit out different 25s, they will be scattered on both ends of each lane.

6. Build a Faster Underwater Dolphin Kick in 10ish Minutes a Day

With the critical importance of the [underwater dolphin kick](#) from the 50 to the 1500m every swimmer who is serious about maxing out their performance in the pool needs to be paying attention to what can make up as much as 60% of their race.

Today I want to share with you a set that I have been guinea-pigging myself with over the past couple weeks and have experienced fairly hysterical results.

Before we get into the set, here is what you will need to perform it:

- A pool.
- A bathing suit.
- About 10 minutes of your day.
- Two weeks of consistent application.
- A hearty attitude for hilariously powerful underwater kicking.
- A pair of DragSox, or two ratty t-shirts will do if you don't feel like throwing down \$30 for the DragSox.
- Zoomers or short fins.

The set is simple, and can be done at the end of your workout, before the main set, after warm-up, or whatever. It can be done as a bonus set in addition to the workout your coach prescribes.

My suggestion? Do it as a pre-main set so that your underwater fly kick game is on point for the main set.

(The whole point of improving the UDK is to apply it to the high paced, quality work in your swimming so that it is relevant to competition speeds. Having a beautiful UDK is nice, but if it's not hauling you from one end of the pool to the other faster than your swimming speed then there isn't much use to it.)

After doing this set 7 times over the course of two weeks here is what I noticed:

It was much easier to kick out further with my underwaters.

Developed a much greater feel for the water with my feet.



Combined with consistent ankle-loosening work before practice I was soon getting a fuller feeling range of motion. (Fuller is just about the only word I can find to describe it. You'll know what I mean after doing the set even just once or twice.)

The power in my kick improved noticeably. The snap of the toes is snappier, the whip motion from the hips markedly stronger.

My streamline feels extra gangster. The extra resistance that comes with the DragSox forces you to really really tighten up your arms into your head.

With the set, feel free to play around with the specifics. The interval or number of reps isn't set in stone. The interval was designed to get :15 seconds of rest after each 25, but if you feel like that isn't enough, take more.

Remember, the main focus during the set is to explode off the walls and hammer those dolphin kicks and get to the 15m/y mark as fast as possible.

Here is the set:

20×25 @:35

- FAST underwater dolphin kick to 15m (12.5m okay for when not wearing fins)
- Wearing DragSox for all of them.
- Wear fins for the last 10.
- Alternate on front and on back by 25.
- Streamline must be tight and legit.
- Aggressive break-out; swim easy to wall.

And that's it.

Simple, really.

If you have never used DragSox before I couldn't recommend them enough. The drag they add to your legs force them to work overtime in a form of resistance that is extremely swim-specific and hard to duplicate otherwise.

And more importantly, when you take them off and swim a lap at even moderately high speed you will feel like someone strapped a jetpack to your back.

Win!



7. OU'S SHAWN KORNOELJE SHARES A MID-SUMMER DISTANCE SET

This is a workout from Shawn Kornoelje, associate head coach with the Oakland University Golden Grizzlies. OU's Grizzlies are most recently coming off of another Horizon League championship in women's swimming and diving, making their run of consecutive conference titles now 20 in a row.

Coach Kornoelje's workout is a distance set that he does with his athletes in the summer time.

Here are his notes and the workout:

- Sometimes (with this set) we will have them try to break American Records, to give them something to shoot for in the set.
- They get really fired up for high rest and they are able to get more rest as they go thru the set.
- 2mins between is a guideline.
- I may stretch it, may bring it down depending on mood, motivation, etc. do the kicking sets since it is middle of summer, June probably.
- I actually learned this set from Rich Suhs when coaching Ann Arbor Swim Club way back in 1991. He would NOT have used so much rest and way more repeats!!!

Warm Up

900 alt. 100 back – 100 IM @13:00

6×150 kick @3:00 Easy/Med/Hard by 50

Pre 1

6×150 Pull @1:45 (Even w. paddles) breath every 5

3×300 Pull @3:00 Breath 5-7 by 50 (no paddles)

Pre 2

2×100 Kick Build Choice @2:00

4×50 Kick Desc @1:00

Main (Goal time for each 150 is faster than lifetime best 200 free times!)



2×150 @2:00

2 minute break

4×150 @2:30

2 minute break

6×150 @3:00

Warm Down

500 Backstroke w. perfect technique

Total: 7,500 yards

8. Brent Bergstedt's Workout for Developing a Monster Base

Brent Bergstedt of Rocky Mountain Thunder Swimming. The workout he submitted is designed to help swimmers build a good solid base for the season ahead.

Here is the workout:

Warmup Set (800y)

2 x [4 x 75 @ 1:15]

200 kick

Main Set #1 (2000y)

13 x 150 @ 2:10 (even repeats easy effort, odd repeats mod-hard effort)

50 drill

Main Set #2 (1200y) Heart Rate (HR +18 for 6secs)

3 x [4 x 100 @ 1:45, descend pace over each set of 4]

Warmdown Set (500y)

5 x 100 (50 moderate/25 easy-moderate/25 easy) @ 0:15 rest

Notes:

- The goal of this set is to build a swimming base.
- The set is 4500yards and the ultimate time goal for swimmers swimming this set is 6:00min 500 yards
- Swimmers can modify times to best fit their abilities

9. Grant Holicky on Training Open Water Swimmers

In this set Grant Holicky submits a swimming workout that he uses with open water athletes and his triathletes. He coaches the club team at RallySport Aquatic Club in Boulder, Colorado, and most notably Christine Jennings, US national champ in the 10k in 2013.

Here is his workout:

- *Here is a set we do with Christine Jennings and the other open water swimmers/triathletes.*
- *The goal is to work the traditional distance swimming system, but also include bursts of speed.*
- *This set forces the swimmer to recover from those bursts at a solid effort level.*
- *Intervals are for short course yards.*

400 easy warmup

Two times through—

- 2 x 150 k/d/s by 50 2:25
- 3 x 100 perfect swim 1:25
- 4 x 50 perfect, build, perfect, mile pace :50

100 easy

Main set

1 x 500 smooth and strong. toys ok 7:30 any 5 x 50's must be faster than the rest of the 500

8 x 100 d 1-4, 5-8 1:20 get to mile pace on 4 and 8

2 x 400 toys and pull ok on 6:15 any 4 x 50 must be faster than the rest of the 400

6 x 100 d 1-3, 4-6 1:15 get to mile pace on 3 and 6

3 x 300 toys and pull ok any 3 50's faster 5:00

4 x 100 2 and 4 at mile pace 1:10

4 x 200 toys and pull ok 3:45 any 2 x 50's faster



3 x 100 on 1:05 1 and 3 at mile pace
200 easy

10. Erik Wiken from Heartland Aquatics

Erik Wiken from Nebraska's Heartland Aquatics shares a set that he loves using with his swimmers.

Here are Erik's notes on the set:

We have a small staff so there is an overlap of coaches going back to back practices. On Tuesday's & Thursday's, there is a break in the action so my assistants can talk to parents from one group/get ready for the next practice.

This gives me space to do sets where this group can spread out and we stay spread out while our other groups warm-up and do drills that don't require as much space (30-45 minutes of 2-3 per lane).

The expectation is :10 a part to get as straight a path through the turn as possible. Not recommended with less than :10 a part or 6+ per lane.

This set was done this past week, our 5th week of practice.

This is a small group of 12-14 year olds. We spent the first two weeks of the season working solely on technique and kick. Third and 4th week was increasing the workload in swimming, kick intensity while still setting time aside for turns.

I built this short set as a means to continue on with our increasing intensity/duration of sets with a technique and turn focus. This came after a 25 minute warm-up and short, 25 minute aerobic free set:

3 Times Through...

4 x 25 @ :35 Fly Swim

#1- Build #2-4- Fast

3 x 50 @ 1:00 Strong Swim (progress to 200IM Pace)

#1- Back



#2- 25BK / 25BR (*crossover turn!*)

#3- BR

4 x 25 @ :35 FR Swim

#1- Fast (100Pace) #2- All Out #3&4- DPS

Round 2: 6 x 50s, 2 of each 1-2: BK 3-4: BK / BR 5-6: BR

Round 3: 9 x 50s, 3 of each 1-3: BK 4-6: BK / BR 7-9: BR

At this point, “strong swim” is approximately 200pace of stroke +:02 sec. Progressing into October the set will move to goal 200IM pace of the stroke and intervals would get tighter if they get to the point of :25 rest per 50 on the 3rd Round.

The distances/intervals are such where they can give their focus to swimming well and the room allowing them for clear turns. Intervals should be such to give :10-:15 rest on the 25s and :20 on the 50s. I don't increase the fly because I just want the exposure to be there, not negatively influence the focus of the set which is BK / BR work or turning into garbage fly.

The intervals are conservative now to allow quality at the given stage of the season. I would not go beyond :25 for the fast fly or free intervals for age groupers (keeping the DPS FR at :30-:40 seconds for active recovery).

If I were to expand this set to 400IM, it would be after the swimmer has completed the 9 x 50s @ 200IM pace successfully. Adjusting the intervals according to your group (approx. :10 rest on 25s, :15-:20 on 50s, :20 rest on the 100s) and only advance in # of 100s per round when a swimmer shows they have gotten through 3 Rounds of 3 x 100s. Then moving to Rd 2 & 3 @ 6 x 100s and finally up to the progression below:

3 Times Through...

2 x 25 @ :30 Fly Swim

#1- Build #2-Fast (200 Fly Pace)

1 x 50 @ :50 Fly Swim, 400IM Pace



3 x 100 @ #1&2- 1:40 #3-1:50, 400IM Pace

#1- Back, Negative Split!

#2- BK/BR, 50Fast/25Build/25Fast

#3- BR, Negative Split!

2 x 25 @ :25 FR Swim

#1- Quick Build #2- Fast

1 x 100 @ 2:30 FR Swim

50 ALL OUT + 50 Mod

Round 2: 6 x 100s, 2 of each 1-2: BK 3-4: BK/BR 5-6: BR

Round 3: 9 x 100s, 3 of each 1-3: BK 4-6: BK/BR 7-9: BR

11. Cal Bentz of Greater Nebraska Swim Team

The following workout was submitted by Cal Bentz of the Greater Nebraska Swim Team. He has been a fixture of the Nebraska swim scene for over 50 years, starting coaching the summer after his sophomore year. He spent 24 years at the University of Nebraska at the helm of the swimming & diving program, where he had over 180 All-Americans, 21 conference titles, and over 20 Olympians from across the globe swimming for the Huskers under him.

Here is his workout, which includes a number of notes and comments from Coach Bentz:

The workout below is two days out from our first competition of the 2013-14 short course season in the U.S.

My group involves 14 females and males who range in age 13 to 17 years. They work out Monday through Friday 4:30 - 7:00 p.m. and we do Test Sets on Saturdays from 8:00 - 10:00 a.m. The beginning of our workouts are somewhat muddled as the swimmers come to the pool from across a city of some 250,000+ and from both public and private schools. We usually manage to get them started in about fifteen minutes. The pool we use is an 8 lane 25 yard pool. We share the pool beginning each day made up with another group of high school swimmers who are in the pool when we arrive which takes up one of our lanes for the first half an hour. During the rest of our time the pool is shared with a variety of other swimmers of varying ages and skill levels.

Prior to the formal beginning of the workout I encourage those who arrive early to participate in some strength exercises and various skill work...some days this works well and other days I have to put my foot down and get after them. By in large, the work does get done.

40x [Pull Ups, Pull Outs + Breast Starts, Turns, Pull Outs and Break Outs + other assigned work. Focus on personal skills for the meet.]

Kick Set (1600y)



This kicking set is primarily focused on Skill, Power & Speed in preparation for the competition of the coming weekend. We do pretty good kicking each day with good high intensity work and usually from 1500 to 2000 total.

300 Kick Increase the effort as you go and include more than one kick!

12x50 Kick (1:10) Sets of 3x Kicks in I.M. order [1x increase 85% + 2x FAST!]

8x25 Kick (:30)...SUPER SPEED KICK! + 2x Stand Up!

150 Kick loosen 1 or 2 kicks of choice.

8x25 Kick Fins! (:30)...SUPER SPEED KICK! + 2x Stand Up!

150 Swim - Your choice.

I like to do at least some high intensity, speed and power work each day, even if it isn't too many yards...I believe these developing swimmers need to understand that in the end, if they can't generate speed and power in the water, they are not going to swim as fast as they would like!

1600

FOCUS: SUPER ACCELERATION + HIGH INTENSITY + SPEED & POWER TO THE WALL

300 as

1st 100: PB-snorkel-fins at moderate speed focus on contact with the water, high elbow, FEEL, Distance Per Stroke, head and body alignment and how easily you move through the water.

Final 200: Gear OFF. Add the kick & Swim full stroke to finish. FOCUS ON YOUR STROKE & FEEL!

12x25 Swim (heats) No Push 25s SUPER ACCELERATION!!!

4x of each Fly/Bk/Br snorkel (?) HIGH INTENSITY to far flags

6x50 note: 2x each Fly/Bk/Br TIMED! SPEED & POWER TO THE WALL!



8x25 Swim (stand up) Free (heats) TIMED! SPEED & POWER TO SWIM FAST!!!

[Ed. Note: Heats = means the repeats are swum as heats in a competition, with one set of swimmers going at a time. Stand-up = from a dive.]

I also believe in body and head alignment so much of the work we do is done using a snorkel whenever we can to stabilize the head and maintain "the line". We often do this in our sprint and speed work and at slower paces when working on a variety of skills.

8x50 Swim (1:00) Odds at 85-90%...Skills and Speed!

150 Swim loosen with focus on Skills!

16x25 Pull/Swim/With Gear! SPEED – INTENSITY – POWER!!!

150 Swim loose choice

8x50 Swim (:50) AT PACE!!!

200 Swim loosen and warm down!

I am an advocate of relaxed visualization. I often ask the swimmers in my group from to relax and float in the pool for several minutes as they visualize their upcoming workout set or the coming meet or competition.

CONSIDER...DEEP WATER PERSONAL FOCUS!!!



12. Bucknell's Dan Schinnerer Drops a Sprint/Mid-Distance Set

In this workout Dan Schinnerer of Bucknell University shares a sprint/middle distance set. He has been the head coach at Bucknell since 2006. Before that he was a part of the program at Michigan, where he apprenticed under Bob Bowman and Jon Urbanchek.

Here is the swim workout:

We focus on quality/race pace swimming on Wednesday practices and below is a set we have done on multiple occasions both with our sprinters and our middle distance type swimmers. This set usually would come after about 2500 yards of general warm-up that would include swimming, drilling, kicking, and pulling.

We would also do some sort of "pre-set" in order to get heart rates elevated and muscles firing.

The set is:

4x25@1:00 Dive fast.

Focusing on relaxed speed. These could be done to hand finish or foot finish with a turn. Whichever we wanted to emphasize for the day. Sometimes we would time the 25s but more often focus on giving feedback about stroke rate, break-outs, turns, finishes.

From the 25s, we go right into:

4x50@2:00 Fast from push. Swimmers should try for at very least 2nd 50 of 100 goal time or even better 1/2 100 goal time. Often swimmers will really get rolling on these coming out of the 25s.

From the 50s, we go right into:

4x75@4:00 Dive fast. Again coming out of the 50s the swimmers are usually really ready to crank the first 75. The goal then is to sustain the efforts throughout. If the swimmer has



done everything correctly up until the 75s it should really be difficult to sustain the times and turns into a great lactate set.

Following the set, we would typically do 1500-2000 yards of lower level aerobic swimming.



13. UCONN's Bob Goldberg's Pyramid Set for a Powerhouse Backhalf

Bob Goldberg of the University of Connecticut Swimming & Diving team keeps things simple with this pyramid set.

The instructions are basic:

- Fast repeats are as fast as possible.
- Intervals will depend on yards vs. meters and skill level of team.
- Ez are recovery.

1 x 100 fast

1 x 100 ez 2:00

1 x 200 fast

1 x 100 ez 2:00

1 x 300 fast

1 x 100 ez 2:00

1 x 400 fast

1 x 100 ex 2:00

1 x 500 fast

1 x 100 ez 2:00

5 x 100 fast

1 x 100 ex 2:00

2 x 200 fast



1 x 100 ez 2:00

3 x 100 fast

1 x 100 ez 2:00

4 x 50 fast

1 x 100 ex 2:00

1 x 100 fast

1 x 100 ez 2:00

14. Thomas Groden of Boston College's 8x800 Set

Thomas Groden, head coach of Boston College Swimming drops a 7400 yard set for swimmers to help distance athletes manage speeds:

This is a workout referred to by the kids as 8-800's. It is a demonstration of how I approach distance swimming – not for just the yardage but by “learning” how to swim distance.

1 x 800 @11:00 Alternate breathing

2 x 400 @5:20 Even pace

4 x 200 @2:40 Change your hard 50

8 x 100 @1:20 Desc. 1-2, x4

1 x 150 kick @5:00

1 x 800 @10:40 Descend 200's, 1-4

2 x 400 @4:50 Build 100's

1 x 150 kick @3:00

4 x 200 @2:30 Even split

8 x 100 @1:15 Desc. 1-4, 5-8

:60 sec rest

1 x 100 social kick

1 x 300 warm down -- stretch -- alternate breath -- few strokes



8 x 25 Fly from a dive. Perfect breathing from start to finish. Start over on mistake; coaches' discretion.

100 warm down

* total: 7400y

15. A Sprint Workout with Coach Brad Thornton of SIT

Brad Thornton, head coach of men's and women's swimming at the Stevens Institute of Technology. They are a Div III program from Hoboken, New Jersey, that this past season placed 6th and 7th at NCAA's for their men's, and women's programs respectfully.

Here it is:

This is a practice for our Sprint group 18 days prior to NCAA's. This particular version of the practice was for **Simas Jarasunas** and **Brittany Geyer**. Brittany was starting her NCAA taper, and Simas was two weeks off a short taper for conference, and carrying that taper into NCAA's.

Simas' Times:

54.57/1:59.86 Breaststroke

Brittany's Times:

1:03.09/2:15.09 Breaststroke

2:04.74/4:24.02 IM

*Brittany won a D.III national title in the 200 Breast in 2012, and Simas won the 100 Breaststroke in 2013.

Championship Season Warm Up = ~1,500 Yards

Pre Set:

8 x 50 @ 50 –

-25 Breaststroke “drill” = Double Pullout, 1 Up/2 extra kicks, 1 Up/1 extra kick if not at other end

-25 Build – Odd rounds = Full stroke breaststroke, Even = Breast pull, flutter kick

8 x 25 @ 30 – ‘Breakouts’ – Mix up strokes

*Breakouts = short push off wall, 2 max effort stroke cycles



Main Set:

4 Rounds:

8 x 25 FAST – 200 Tempo (@ 45, 40, 35, 30 by round)

75 EZ

50 Off Block Max Effort

125 EZ

Warm Down:

At least 400; get out when feeling good

The goal during the main set was to hold the same stroke count/time for the 25's and then simply race on the 50's. With the extra rest on the 25's in the earlier rounds, it forces you to establish your tempo and pay attention to what you're doing (what else are you going to do when resting for 25-30 seconds?).

In the later rounds, you should be locked into your tempo/effort and be able to maintain without thinking about it. Recovery swims at this point in the season aren't on intervals. When the heart rate comes back down, start the next round.



16. Fine Tuning an Elite NCAA Backstroker with MSU Tigers

Both of these sets were used for the preparation of Paul Le -- NCAA Division 1 All-American -- during the months leading up to the NCAA Division 1 Men's Swimming and Diving Championships.

SET 1

3x

3 x 100 Stroke @ 1:30 Descend 1-3

4 x 75 Kick @ 1:30 Descend 1-4 (build underwater kick by 25s)

3 x 50 Stroke 200 Pace @ 1:00

4 x 75 Moderate Free @ 1:15

SET 2

10x

1 x 100 @ 1:30 Stroke Strong Build (working good turns & breakouts)

2 x 50 @ :50 200 Pace (range: 200 Pace +1, 200 Pace, 200 Pace -1)

1 x 100 @ 2:00 EZ

From Head Coach Dave Collins:

With our stroke group at Missouri State, we use the term “easy speed” quite frequently; especially in the months leading up to the Conference and National Championship meets. We define “easy speed” as the ability to swim at a range of 200 Pace + 1 to -1 while maintaining a level of comfort and good technique. Ultimately the goal is to know that you have the ability to pick up the stroke rate as you move through the race.



From Assistant Coach Chelsea Dirks-Ham:

One of Paul's biggest challenges has been to stay at pace and duplicate the feeling of easy speed. It has been important for him to not only find what the correct pace feels like, but to have the ability to duplicate this feeling, and therefore hit goal pace, multiple times during a workout.

Below you can see Paul's 3 year progression from High school through his sophomore year. I have also included his splits from the NCAA Division 1 Championships.

2013 NCAA Prelims - 200 Backstroke

23.99/25.53/26.02/26.16 1:41.69

| | 100 Back | 200 Back | 200 IM |
|------------------|----------|----------|---------|
| Sophomore | 47.07 | 1:41.69 | 1:45.76 |
| Freshman | 47.91 | 1:44.59 | 1:48.44 |
| HS Senior | 49.53 | 1:49.54 | 1:54.54 |

17. Team Building with GSU's Nate Kellogg

This team-building set was submitted by Nate Kellogg, head coach of the Georgia Southern University swim program. Since taking the reins of the program in 2005, Kellogg has led GSU to a winning dual meet record (84-49-1), and last year they placed 3rd at the Coastal Collegiate Swimming Association Championships.

Here is the workout he shared:

Below is a SCY set we use fairly often in the middle of the season, which target's the swimmer's 200 goal time and incorporates a significant team building aspect as well:

10 x 200 Best Stroke @ 4:00

The first 175 is from the blocks, trying to hit their actual 200 goal time with the last 25 being easy recovery. For instance, if a swimmer's goal time in the 200 Fly is 2:00, then they will swim a 175 Fly trying to hit 2:00 or faster.

Very simple, easy to calculate, and keep track of each swimmer's times.

Here's where the team building aspect comes into play: for each goal time achieved by the entire group, one repeat is subtracted from the 10. For example, if everyone achieves their goal time on the first five repeats the set would last only 5 x 200. If one or more swimmers miss their goal time on each of the first five repeats, the set would last 10 x 200. This can be a huge motivator for the team and keeps everyone accountable. Everyone has to step up on this set for the good of the group.

We have every group (sprinters, middle distance, and distance) do this set multiple times during mid-season and can serve as a huge boost for a swimmer's confidence level as they adapt to repeatedly swimming 175 yards at or under their goal time.



18. Sprint Master Jake Shellenberger of Liberty University on Tolerating Lactate

This was submitted by Jake Shellenberger, head coach at Liberty University. It was done by the sprint group at LU on Saturday, June 22, 2013--

Goal for the day was dive lactate tolerance, with specific attention to the 2nd 50 of the 100.

Main set, after 2,500 of general and specific warm-up:

3 times through, with a 200 EZ between rounds –

1 x 25 Dive Max Kick, under water @:30

Put Fins + Power Tower with HEAVY Bucket:

4 x 12.5 Max Blast on the Power Tower, Odd = kick, Even = swim @:25

Extra :10, Power Tower off, Fins, OFF

1 x 50 Push Max

We saw some great efforts here, with the freestylers pushing 25's and 26lows, breaststrokers going 31's and 32's. Our top flyer was 26.1 on her fastest 50 fly.



19. Tide's Josh Fulton's Mid-Season Long Course Workouts for All Strokes

This workout was submitted by Josh Fulton, the head coach of Virginia's Tide Swimming:

This was a Mid Long Course Season Workout, about 8 weeks out from our Champ Meet. A couple times a week we will pull out different groups based on needs of the athletes. (Ex. Mid Fr, Sprint Fr, Breast, IM, etc.) In this workout we had two groups; the IM/Free/Stroke Swimmers and then we pulled out breaststrokes.

Breaststrokes are certainly a different breed and we tend to pull out those guys more and more especially pure breaststrokes that don't tend to swim the IM. (We had a male breaststroker, Austin Temple, go 1:01.99 in the 100 Br LC this summer)

400 sw

Pre Set all w/ :10 rest

4 x 25 tip into stroke--Fly

3 x 50 Fly pull free k brth every 3--keep low and forward

4 x 25 L drill

3 x 50 bk sw light hands

4 x 25 inchworm

3 x 50 2 strokes uw/ 1 @ surf

4 x 25 double touch

3 x 50 free sw 4 brths

(1300m)

IM/Fr



4x

250 IM--last 50 Fr!! bld through hammer last 50! @3:10

4 x 75 Rd of ea stroke hold HR 16/strong effort @1:15

50 EZ @1

100 IM race @1:45

20 x 25 @:35 12.5 UW Fly k !!!

900 pull 25!/25 ez--50!/50 ez--75!/75ez

18 x 75 w/p and f @1:15

3 fast--1 ez

2 fast--1 ez

1 fast- 1 ez

200 WD

(6500m)

Breaststrokers

8 x 100 Breast Pull @ 2 max effort

2x

12 x 25 @:45

Breast pull fly k uw with fins----working fast hands coming off Br Pull

3 x 50 breast sw max speed least strokes @1

4 x 100 Free @1:25/1:30



1-pos split

2-neg split

3-ez

4-last 35!

8 x 50 breast k @1:05 max speed work dpk

900 pull w/pads 25!/25ez--50!/50ez--75!/75ez

2x

2 x 50 @200! @1:10

4 x 25 1 pull 3 kick ride into line @:35

2 x 25 max effort

50 EZ

(6200m)

Coach's Notes:

- The IM Set is a general aerobic IM set bringing in a few race components. We do a lot of fast back end 50s on any aerobic swims we do, trying to finish races hard and have ability to change gears at the end of races. Then at the end we are working a fast 100 IM, I really like 100 IMs because I think they are a bit easier to maintain race speed and gives athletes a great chance to work transitions within the IM at race speed.
- When working with breaststroke we try to work the pieces separately and any full stroke we are swimming we are trying to hit race speeds. More and more I am allowing breaststrokers to decide when to stop swimming that stroke based on breakdown. Certainly a power stroke that shouldn't be swum much after breakdown.

20. Mike Spring of Crimson Aquatics & How to Make Racing a Learned Response

This set was submitted by Mike Spring, head coach of Crimson Aquatics (Andover) and the Men's and Women's Swim Team at Merrimack College just outside of Boston:

We start these workouts 4 days a week (Mon, Tues, Thur, Fri), 8 weeks out for a rested meet.

SCY - We do not have access to LC pool, except on Sundays.

4-4-4 (400fr, 4 x 100 IM @ 1:30, 4x 50 @ 45

8 x 50 drill @ 50 (same stroke as doing for main set)

5 x 100 @ 1:30 (@ threshold pace)

8x

16 x 25 @ 25 (Fr) @ 30 (stroke)

90 sec rest between sets

(hold tempo (from stroke Frequency graph, and matching time))

6 x 50 ez @ 45

8 x 50 Kick @ 50

16 x 50 Pull @ 45 (at+6)

Use these workouts to make racing a learned response.



21. Oakville Aquatics' Sean Baker Shares a Set for You 200m Butterflies

The following workout was submitted by Sean Baker, head coach of Oakville Aquatics. Baker was named 2012 Canadian Club Coach of the Year, and in 2013 Oakville Aquatics also won the team standings at Canadian Summer Nationals.

X rounds of: (depends on if in cycle or taper)

100 Free Moderate @1:20-1:30 at 1:10-1:20

100 Fly or Breast at back half race pace *Hold SC=/50 and hold SR=/25

100-300 EZ CH

* Must replicate the underwaters that you want in the race & then add 2 UW kicks...they have to be able to do this to get to the goal under race pressure.

* In taper, look for lower stroke counts and also go turn into the 100 rather than start from a push.

* Also in taper, reduce the rounds - keep the free at the same pace and improve the back half portion with regards to HR/SC/UW etc.

22. How to Dominate Your Next 100m Butterfly

“You gotta go out fast, and come back faster!” is one of those lines swim coaches love to use to explain racing strategy.

There are fewer swimmers who practiced this embodiment more consistently and more dramatically than the greatest swimmer of all time, North Baltimore’s Michael Phelps.

Time and time again, especially in the shorter races, Phelps has used his monster back-half to surge further ahead, or in the most dramatic and nail-biting of occasions, taking the lead on the final possible stroke as he did in 2008 at the Olympics against Mike Cavic of Serbia.

The following swimming workouts were created by Bob Bowman (with inspiration coming from the late legendary Stanford/Auburn coach Richard Quick for the second set), and are found in the Swim Coaching Bible (Volume 2), who used the sets with Michael Phelps to help develop that legendary back-half.

Here are the butterfly sets to help you build a Phelpsonian second 50:

SET ONE

30 x 50 @ 1:30 (or 1:15 for short course)

- Alternate through swim (all-out), drill, kick. Cycle through 10 times.
- The swim should be full effort, with the drill and kick being done with excellent technique and with a focus towards efficiency.

The set is designed to build overall speed and endurance over the second 50m of your 100m race. As you should be doing anytime you are in the pool, keep your technique together whether you are swimming at full effort or doing drill.



SET TWO

10 x 50 at max velocity

- Interval: The first 4 are to be done @1:30, and then one repeat each at the following intervals: 1:20, 1:10, 1:00, :50, :40 and :30.

This is the set that was based off of legendary Coach Quick's work, and is designed to help simulate those awful final 20m of your 100m race where your stroke rate, technique and overall will to live begin to collapse. The set will skyrocket the levels of lactic acid in your body, and then teach you to adapt to it.

Bowman liked to have his athletes follow this set with 10×100's of freestyle @1:30 (avg a pace that would guarantee about :20 of rest) to act as a "buffering set" to better train the body to metabolize lactic acid.

23. 3 Sprint Sets with World Champ Nick Brunelli

Nick Brunelli is an American sprinter who was a regular on the national scene during the 2000's. At the Olympic Trials in 2004 he came up just short of qualifying for the team in the 50m freestyle.

Despite being one of the fastest swimmers in the world, he had the misfortune of competing for an Olympic berth for a country that regularly fields a deep roster of talent.

In 2008, he would again come one place away from making the team, placing 7th in the 100m freestyle and just missing making the relay team that would later go on to swim in infamy in Beijing.

He would make another run at making the 2012 team but would come up short, putting an end to a long run of top tier swimming that included over half a dozen world championship medals.

Nick started a blog in the year prior to his Olympic Trials run in 2012, frequently posting his thoughts and swim workouts. Even though he hasn't updated it since June of 2012 his workouts are still there for us to try out and enjoy.

Here are three of my favorite swimming sets from his training log:

SET ONE

Done in short course yards, this sprint set is high rest, low yards, and high speed. Passive rest between the reps is encouraged.

5 rounds of—

1×50 all-out @3:00 (Nick did these from a push, and averaged 21.5's.)

1×75 all-out @6:00 (He averaged 35.5's)

For a total of 625 total yards at 100% intensity.

SET TWO

This set was originally done in short course yards alternating with long course meters. Although it can be adapted easily enough depending on your pool set-up. It'll test your lactate threshold while also pushing the top end of your speed.



3×200 swim in short course yards, descending 1-3 @ 7:00 (Nick's results: 1:50, 1:47, 1:42)

3x50m swim all-out in long course meters from a dive @ 6:00 (Nick did these in 23.5, 23.6, 23.8)

3x20m swim all-out from a dive @ 4:00 (:09, :08.8, :08.88)

While this set only totals 900 meters (or 750 if you walk back on the final dive 50's), it's high quality yardage.

SET THREE

This one is my favorite, and I have done it on a couple different occasions. The first time left me pretty winded, but I am looking forward to giving it another go soon.

Take your 100 best time and add :15 seconds. We are going to try and hold that speed for the duration of the set. It starts out somewhat easily with the 25's, but progressively gets more challenging to hold on to the target times.

So let's say your best 100 time is :55. The target pace is **1:10**.

3 rounds of—

- 6×25 swim @ :30 (target: :17.5's)
- 4×50 swim @ :60 (target: :35's)
- 2×75 swim @ 1:40 (target: :52.5's)
- 1×100 swim @ 2:10 (target: 1:10)
- 200 easy @ 4:00

Nick originally did this set in long course meters, with his target pace being 1:03. The set totals 2,400 meters.

24. Olympian Mike Alexandrov's Favorite Set for a Faster and More Powerful Breaststroke

The breaststroke is something swimmers either seem to have or don't, and Mike Alexandrov certainly has it.

The two time Olympian (2004 & 2008) broke the 100-yard breaststroke US Open record in 2007 in a time of 51.56 while swimming for Northwestern at the NCAA Div 1 championships. He won his first US national championship in 2010, and was a member of the gold medal winning relay team at the 2010 FINA World Championships.

Take it away, Mike:

My favorite sets in Breaststroke cover a mix of pulling, just paddle work, and ending up with swimming: all in several super-sets.

Just like in the weight-room, I like to start with a heavier (or to translate in the water, a longer pulling set for example), and as the set progresses, I decrease the distance and increase the intensity/speed (& as in the weight room, during the super-set I decrease the weight and increase the intensity/speed).

Here is a sample set:

- 300 pull (buoy and paddles) 25 choice, 50 breast @ :20 seconds rest (4th gear breaststroke)
- 2 x 150 1st and last 50 breast, middle 50 choice @ :20 seconds rest (4th gear breaststroke)
- 3 x 100 breast with paddles descend 1-3 @ 30 seconds rest (build each one and 5th gear on the 3rd one)
- 4 x 75 swim (no gear) @ 40 seconds rest (1st 75 = last 25 5th gear, 2nd = last 50 5th gear, 3rd 75 all fast, 4th = find way to go faster)
- 6 x 50 paddles descend 1-3 @ 30 seconds rest
- 8 x 25 no gear 1 easy, 2 fast @ 30 seconds rest

Instructions:

3 rounds through:

- 1st round, do the 300, 2 x 150s, 3 x 100's and then JUST the 4 x 75's.



- 2nd round, do the 300, 2 x 1 50s, 3 x 100's and then JUST the 6 x 50's.
- 3rd round, do the 300, 2 x 150s, 3 x 100's and then JUST the 8 x 25s.

25. NCAA and World Champion Josh Schneider's Favorite Sprint Set

Josh, who started swimming at the age of 14 is one of the quickest men on the planet, winning the 50 yard freestyle at the 2010 NCAA Championships as a senior with the University of Cincinnati. Last summer he won gold in the 50m free at the Pan American Games, and has racked up a few short course world championship relay medals as well.

But for today he dropped by to share one of his favorite sets for sprint awesomeness.

The swim workout is designed primarily to help improve the back-half of your 100m race, and features between 750-950 of what is essentially flat-out, pedal-to-the-floor swimming with plenty of rest to insure a high level of quality.

“We’ll do this on a Saturday usually,” says Schneider.

The workout was designed and given to him by Mandy Commons-DiSalle, who has been head coach of the Cincinnati Bearcats swimming and diving program since 2014.

Here is the week-ending sprint session Schneider shared with us:

THE WARM-UP

The not-so-secret secret to swimming fast is training the way you want to race so that when it comes to racing all you have to do is swim like you train.

Simulating competition includes the way Schneider warms up for this workout.

“We’ll start with everyone doing their individual meet warm-up routine,” he says.

At which point, they will go to the blocks for the following:

THE MAIN SET

6-8 rounds of—

2×50 @1 All-Out

- 50 #1 is from a dive.
- Second 50 is from a push. “The goal is trying to get as close as possible to the time you swam on the first 50,” notes Josh.



- 3 minutes rest between rounds.

And then...

3 x 50 All-Out from a Dive.

“The goal is to beat the results of the dive 50’s from the previous set,” says Schneider.

Long rest; 3 minutes between 50’s.

WARM-DOWN

At least 400-700 easy, mixing in kick to flush out legs.

26. A Mid-Season Workout with Former 1500m World Record Holder Grant Hackett

Anyways, the following workout was crafted by his long-time coach Denis Cotterell as a mid-season set. (As an interesting aside, Cotterell would also go on to train the man who would ultimately break Hackett's world mark—China's Sun Yang.)

The swimming workout is a long one, running around two hours, and a sum of 7,400 meters, all done long course.

Have fun!

WARM-UP

- 800 swim as 4 times through (150 freestyle, 50 stroke)

PRE-SETS

8 x 150 Swim @2:15 as—

- 2 – Freestyle breathing 3/5/7 by 50.
- 2 – Freestyle/Head-up/Freestyle
- 2 – Freestyle/Fly/Freestyle
- 2 – Freestyle/Back/Freestyle

8 x 50 @1:00

- 2 – Drill
- 2 – Stroke count
- 2 – Drill
- 2 – Build to FAST.

THE MAIN SET

30 x 100 Freestyle swim @1:40

- 10 – Max heart rate -30 (So if max heart rate = 180, target is 150)
- 10 – Max heart rate -20.
- 10 – Max heart rate -10.

RECOVERY



2 rounds through—

- 3×100 Freestyle swim @1:30
- 4×50 Freestyle swim @:45

DRILL WORK

(With fins.)

- 3×200 (Kick/scull/drill/swim by 50)
- 4×50 Swim w. fins [25m BLAST, 25m easy] @1:00

WARM-DOWN

- 200m loose

27. Cam McEvoy: The Hardest Sets I Have Ever Done

In 2014 prior to the Commonwealth Games in Glasgow, Scotland, McEvoy did a Reddit-style AMA on Ask.fm where he discussed some of the hardest sets that he had ever done. The 21-year-old was perhaps better known for his 200 freestyle at the time of the interview, although now it seems like the 50 and the 100 are truly his bread and butter events.

If you like long sets these 4 swim workouts will be right up your alley.

SET 1

18×400 on 5 minutes as:

- 6 freestyle
- 6 freestyle/backstroke
- 6 freestyle/butterfly

SET 2

3 rounds—

- 500 swim @1:10 base
- 5×100 @1:10 max effort

SET 3

12×200 every 2nd max and then 40×50 backstroke best effort @:45

SET 4



8×50 all-out from a dive to build up lactic acid @2

...followed by:

36×150 – 12@1:55, 12@1:50, 12@1:45

Have fun!

28. Ryan Lochte's "Brutal" IM Set

Before Ryan Lochte moved to North Carolina to swim at SwimMAC under coach David Marsh he trained under Gregg Troy at the University of Florida, where weeks of 70,000m in the pool were not uncommon.

A protocol of high yardage has helped Lochte build the insane conditioning that allows him to race multiple events at high level meets, not the least of which is the punishing 400m individual medley, a race he also holds the world record in.

During the run-up to the 2012 London Olympics, Lochte's work at Florida was its zenith.

In an afternoon workout in March a couple months before US Olympic Trials he did the following swim workout, which he would later characterize as "brutal", which is saying something given Lochte's capacity for work.

Here is the workout:

4 rounds through—

- 2×100 butterfly from a dive all-out @1:30
- 2×50 backstroke, 1 all-out, 1 cruise @:50
- 100 freestyle @1:20
- 400 IM all-out @5

Notes:

- The workout was done in long course meters.
- Just the set was 3,200 meters.
- Lochte's times on the 400 individual medleys were as follows: 4:29, 4:29, 4:28, and 4:27.

- If you weren't hungry before this set, you will most certainly will be afterward.

29. A Set to Help Freestylers Master Their Stroke Rate

Swimming fast freestyle is a bit tricky: turn your arms over too fast, your hands slip through the water and you end up spinning your wheels. Turn them over too slow, and well, you go slow, no matter how much water you are grasping in the catch.

It's finding that balance between a high stroke rate and a high distance per stroke that can be difficult for swimmers, with many seemingly only good at one or the other.

This set is **designed to help freestylers gain greater awareness of how to gear up or gear down their stroke rate.**

The set requires you to do a fair amount of stroke counting (see: [benefits of counting your stroke during practice](#)). Just as important as counting your strokes is maintaining proper technique throughout (no over-gliding just to get a lower stroke count).

The set will hit a few different areas:

- **It will challenge you to work at different speeds and stroke rates.** The set is designed to help you ramp up and ramp down your stroke rate. It's a set for teaching you how to effectively switch between gears. You will go from the highest stroke turn over you've got to some DPS pull work to super slow swimming.
- **It will keep you focused and engaged.** This is a thinking swimmer's set. It requires you to be paying attention to your stroke from beginning to end. Even the "easy" swimming isn't all that easy as it requires you to focus.

Some notes:

- Your stroke will feel pretty awesome by the end of the set, which runs a sizable 3,000 meters/yards.
- The [super slow swimming](#) portion of the set is to be done without an interval. Just because it's slow doesn't mean that it's supposed to be easy; SSS requires you to maintain a braced core and exceptional body coordination to keep your technique intact. The SSS will help big time in [increasing your overall feel for the water](#).
- The intervals on the 100's are designed to give you no more than :10 sec rest. The goal with each one of them is to match the stroke count from the first 50 on the second 50.



- The 25's are all high quality and fast. If you are getting too gassed, and your stroke rate is dipping below your 50 freestyle SR add :10 to the interval. The goal is quality and hitting those stroke rate targets.

A Freestyle Set for Mastering Your Stroke Rate

After performing a warm-up of your choice, do the following three rounds. At the end of each 300 go on the next :60.

Round 1:

- 8×25 freestyle arms + dolphin kick w. fins @:35 (High stroke rate, fast breakouts!)
- 5×100 pull freestyle/backstroke by 25 @1:30 (Distance per stroke; count strokes on first 50 and maintain on 2nd 50)
- 300 freestyle super slow swimming.
- Go on the next :60.

Round 2:

- 8×25 freestyle w band @:45 (High stroke rate, explode out of breakouts!)
- 5×100 pull freestyle/backstroke by 25 @1:25 (Distance per stroke; count strokes on first 50 and maintain on 2nd 50)
- 300 freestyle super slow swimming.
- Go on the next :60.

Round 3:

- 8×25 freestyle swim BLAST @:55 (Target: Stroke rate you would use in the 50)
- 5×100 pull freestyle/backstroke by 25 @1:20 (Distance per stroke; count strokes on first 50 and maintain on 2nd 50)
- 300 freestyle super slow swimming.

30. Superpower Breakouts: A Devastating Set to Help You Build Explosive Breakouts

You don't even have to be a short course fast-twitch specialist to know how much of a difference your turns and breakouts can make. Whether you are swimming the mile or the 50, your breakout, and the speed you carry out of it determines your baseline velocity for the rest of the lap.

Think about just how critical that is: at the moment that you push off of the wall or launch yourself off the blocks it's *the fastest* you will ever be going while you are swimming.

Your objective, then, is to maintain as much of that speed over the course of the length. Below is a set I tried out recently that was designed with one purpose and one purpose only—to develop the kind of thunderous breakouts that will have you laying waste to the competition off the walls.

It includes one of my favorite kick drills, vertical kicking, it incorporates DragSox, and some really, really high-speed swimming.

Training Notes

Before you launch yourself into improving your breakouts, here are some things to remember while you are performing this set.

- **Tight streamlines are mandatory.** Keep your chin tucked and hands flat while locked into your streamline. Tight streamlines mean less resistance, and less resistance means more speed.
- **Keep your core braced.** One of the reasons I love vertical kicking is that you can really focus on keeping your core nice and tight. Extend that core tightness to your breakouts. Not only will a braced core help you kick stronger, you will also maintain better body position.
- **Explode out of the breakout.** That first stroke is key. Keep your head tucked and streamlined for the first couple strokes, and explode to the surface.
- **Keep a kick count for the vertical kick work.** Count your kicks over the course of the first minute and then stick to it for the remainder of the 5 minutes.
- **You'll feel like you are being shot out of a cannon.** If you've checked out some of the other swim workouts on this site you know I'm a fan of DragSox. They are great as a resistance tool for power and endurance work, but they also have the



curious effect of improving your foot's feel for the water. Which means on that first breakout you will feel amazing screaming through the water.

- **It is short, but mega high quality.** The full workout was 2,000m, including warm-up and warm-down. But over a quarter of that is done at 100%, full-blast effort. The whole thing took 1:15 to complete.

The Breakouts Set

Warm Up:

- 300 swim mix + 300 free kick quiet (no bubbles)

Pre-Set:

- 6×25 swim best stroke build 1-3 to 90% effort, all with fast breakouts.

Main Set (Go Time!):

4 rounds through—

1. 5 minutes of vertical kicking while wearing DragSox, doing :30 seconds dolphin kick, :30 seconds freestyle kick.

Extra :30 seconds rest

2. 10 x 25 swim @:40

- 100% absolute all-out sprint to the 15m mark.
- Pick a number of dolphin kicks and stick to it for each 25 (I did 6 off of the deep end walls, 4 off of the shallow end walls).
- The key is blistering speed. If you are getting too gassed take extra rest. It's all about having race-quality breakouts.
- No breathing to the 15m mark.
- Swim easy to the wall.

3. 10 deep water bobs + :30 sec rest and start over.

Warm-Down:

250 swim free/back by 25 [Perfect technique: super slow swimming.]

- *Total meters: 1,750m*
- *Race pace meters: 600m*
- *Time required: 1:15*



31. Phelps vs. Hackett: Two All-Time Greats Go At It In Practice

In 2003, while both were dominating their respective events on the international level, the two swimmers got together for a 5-day freestyle training battle royale. Here's what happened.

Most swimmers who grew up in Canada remember the lucky day that the SwimNews magazine showed up to their doorstep.

This was in the days before the wi-fi, the interweb, and the Insta-Face-Googa-Twit-Chat, and the only way us young swimmers got our news, rankings and gossip was courtesy of Nick Theirry and his magazine.

Every two months swimmers across the country would sit with baited breath waiting for it to show up.

This is probably why so many years after it ceased publication that I cannot part ways with my tattered, sometimes cover-less collection. Names of faster swimmers were underlined and targeted, and my own name was highlighted whenever it popped up (top ranked NAG'er both as a 12 and 14 year old—woopwoop!).

Flipping through some of them recently I stumbled upon an issue from 2003.

What stopped me immediately was the youthfulness of Phelps.

Like many, I would suspect, I have grown accustomed to seeing an older, tanned and slightly bearded Phelps, particularly if you've seen his recent Under Armour commercial.

Inside the mag was a feature put together by coach Justin Finney, who in May of 2003 was invited to give a talk at the Australian Swimming Coaches and Teachers Association meeting held in the Gold Coast.

Bob Bowman, Phelps' coach, was also invited to speak, and brought his young charge along. As a result, two titans of the sport, Grant Hackett and Michael Phelps, were able to spend 5 days going head to head at the Miami Swim Club (where Hackett was training under coach Dennis Cotterell).

At the time both were absolutely killing it internationally.



Hackett had taken over the reigns of distance king from Kieren Perkins at the 2000 Sydney Olympics, and Phelps was gearing up for his first attempt at winning 8 gold medals at the Athens Games the following year.

For 5 days the two swimmers, who both held the world record in the 200m freestyle at different points, went head-to-head in a freestyle-centric battle royale.

Here are three of the workouts, as well as the results that the respective swimmers each put down in the process:

Round #1 – Friday, May 2

[6000m total, long course meters, main focus on walls and breakouts]

Warm Up:

1500m as—

- 500 Swim
- 400 Pull
- 300 Kick
- 200 Drill
- 100 Swim (fast off the walls)

Pre-set:

6 x 200 freestyle pull with paddles

- 2 @ 2:30
- 2 @ 2:25
- 2 @ 2:20

Main Set

200 easy

8×50 @ 1:10

- 2 – Under water sprints
- 2 – 20 m Explosions

200 easy

8×50 @ 1:10

- All – 20 m Explosions

200 easy

8×50 @ 1:10

- 2 – Power Drill/Head up Fly
- 2 – 20 m Explosions



200 easy w/fins
2 x (50 underwater kick with fins)
100 swim easy
3×50 Power drill w/sponge belt – 20 m Explosions
150 easy
50 all-out freestyle with fins

- **Phelps = 21.1**
- **Hackett = 21.2**

300 easy swim

Round #2 – Saturday May 3 (AM)

[6000m total, long course meters]

Warm-up:

- 800 swim choice with every 4th 50 kick
- 600 pull Free/Free/Free/Back/Free/Breast by 50
- 400 IM – 50 Drill/50 stroke count
- 4×50 Explosions

Main Set:

5 rounds of–

- 6×50 m Free pace work @:50 (push)
- 3x100m easy choice @ 1:30
- :30 seconds rest after 100's

Hackett & Phelps averaged 25.5's throughout.

Warm Down:

- 3 x 100m choice @ 1:30
- 300m Pull
- 400m choice w. fins

Round #3: Monday, May 5

[6,000m, long course meters]

Warm Up:

800 Swim as — 4 times through [150m free swim, 50m drill]

Pre-set:

- 4 x 150 as kick/drill/stroke count by 50
- 4 x 50 [20m explosions]



Main Set:

- A. 800 Pull + 4 x 200 Descend 1-4 @ 2:45
- B. 600 Swim tempo + 4 x 150 Descend 1-4 @ 2:00
- C. 400 Swim tempo + 4 x 100 Descend 1-4 @ 1:30
- D. 200 Swim tempo + 4 x 50 Descend 1-4 @ 0:50

Results:

A. 800 Pull

- Hackett: 8:48
- Phelps: 8:55

4 x 200 Descend 1-4 @ 2:45

- Hackett: 2:16.2/2:12.0/2:06.3/1:56.6
- Phelps: 2:16.2/2:12.0/2:06.5/1:56.8

B. 600 Swim Tempo

- Hackett: 6:41.0
- Phelps: 6:59.6

4 x 150 Descend 1-4 @ 2:00

- Hackett: 1:43.6/1:38.5/1:36.5/1:24.3
- Phelps: 1:43.6/1:38.5/1:36.4/1:26.3

C. 400 Swim Tempo

- Hackett: 4:28.1
- Phelps: 4:41.9

4×100 Descend 1-4 @ 1:30

- Hackett: 1:08.0/1:04.8/1:01.2/55.2
- Phelps: 1:08.0/1:04.4/1:01.9/55.9

D. 200 Swim Tempo

- Hackett: 2:10.8
- Phelps: 2:15.4

4×50 Descend 1-4 @ 0:50 (both swimmers did butterfly for the 50's)

- Hackett: 31.5/30.2/28.4/26.9
- Phelps: 31.5/30.2/28.4/25.7

Warm-down:

400m swim choice

In Summary

It's pretty insane to see how fast these type of caliber athletes can go in practice.



When asked about similarities between the two athletes at the time, Phelps' coach Bob Bowman had this to say...

They both enjoy training, it's not an ordeal for them. They are both really aware of what's going on in practice in relation to their times, speed, where everyone is, and, most importantly, where they are in training compared to their goals.

While most of us will never swim close to as fast as these superstars of the sport, the lessons are still there: train with focus, take pride in the process, and enjoy yo'self.



32. The Pop and Lock Sprint Set

In terms of intensity, focus and flat-out speed the Pop-and-Lock set has got you covered. Here is a sprint set for building serious speed in the water.

The inspiration of this sprint set has two origins. Both from the track world.

One is a conversation between James Magnussen's former coach Brant Best and Australian track coach Mike Hurst in 2011.

In the interview Hurst described 400m track athletes who perform 3-4x 60m sprints on a minute, followed by an additional :30 seconds of rest and then sprinting a 200m flat-out.

The runners admitted that the 200m felt exactly like the last half of a 400m race, as the phosphate stores had been depleted from the short-burst efforts, robbing them of the "nitro" that usually comes with a fully rested effort.

Adapting this set from runners to the pool, particularly to 100m swimmers (who swim their race in roughly the same amount of time that a 400m runner performs theirs), Best noted:

Physically it's very specific to the back-end of the race when they haven't got anything even neuro-muscularly as they haven't got any phosphate system running. Neuro-muscularly they've been stuffed. The aerobic system has been screwed because we put them on about :10 seconds of rest before the last 50m.

The Squat and Sprint

The second is the story of a disgraced Canadian track star named Ben Johnson who used to perform a set of heavy squats (4-5 reps at reportedly 500ish pounds), and then immediately launched himself into a 60m all-out sprint.

This was during the late 1980's, when the prevailing wisdom was that in order to get stronger you had to sets of 10ish reps at steadily increasing weight.

He was working the fast-twitch fibers with high-force, low-speed contractions in the back squat, and then immediately hitting them with high-force, high-speed contractions in sprinting. It was two mechanically different activities requiring a high degree of neural activity to produce maximal force in a sort of bipolar manner.



Creating a Monster Sprint Set

So how can we adapt these to our purposes of building a stronger and faster performance in the water?

Below is one version I tried earlier this week. I won't lie—it's a fun set. That first sprint efforts make you feel like you have a jetpack strapped to your back.

I had the benefit of being able to do the sprints in a 17.5m long lane as well, which allowed me to maintain a high level of intensity and speed during the sprint efforts.

Here is my little Franken-set:

6x

4 x :10 seconds on, :10 seconds off vertical free kick

- With DragSox & fins. Progress up to a weight belt.
- Feet should be snapping back and forth very, very fast.
The goal is high tempo!

Drop the gear and immediately...

2 x 17.5m swim *BLAST* from a push. :10 seconds between.
:90 seconds rest



As far as swimming workouts go this one is pretty short, it is intense, it requires focus on the tight intervals, but more importantly it's fun! The first time you dive into the water or push off it will feel like you got shot out of a cannon, and who doesn't appreciate that?

There are countless variations of this set that you can try out according to the goals you have for each particular athlete.



For instance, if you were looking to develop more powerful starts you could do sets of weighted squat jumps before doing a dive effort. Or if you are lacking in the upper body strength department to series of explosive, clapping push-ups before sprinting off.

And so on!

The options are nearly limitless, so try out the *Pop-and-Lock* the next time you hop in the water to feed your desire for more speed and power in the pool.



33. My Favorite Sets for Developing a Thunderous Freestyle Kick

I perform variations of the following two sets on a nearly daily basis, with the goal being of working down towards being able to kick a :30 second 50m kick.

(Last time I did a 50 blast for time I posted a :33, so I am working my way there.)

SET #1

This is probably my favorite set to do. (Except for the world-famous and universally appreciated 2 x 5min hot tub.)

It's great especially at the beginning of a training cycle when you are laying a nice, thick aerobic base, and also in the midst of hard training when you give your shoulders a break from the intense stuff.

30×50 free kick w. flutter board @:55 as—

- 25m fast, 25m cruise. Target: 45 seconds or faster.
- Every 5th one all out. Target: 37 seconds or faster.

The variations you can do on this set are endless. Take a little more rest to get even more speed on those 25's fast, strap some fins on for the last couple rounds, and play around with the intervals.

SET #2

To really build up the power in your legs, while also helping improve your ankle flexibility, strap on some fins and a corner in the deep end.

The best part about this set?

No matter how busy the pool is you can always grab yourself a corner of the lane. This is a favorite of mine to do when the “fast” lane at the local Y is overflowing with swimmers and I need to kill some time while also getting some work in.



Although it only takes about 5 minutes at the intervals listed below, it can be taxing (for me, at least). Feel free to play around with the reps and intervals while also adding resistance and the awesomest of form.

With fins:

10x:30 as— :15 seconds as fast as possible, :15 seconds off.

- Focus on generating power in both directions.
- Maintain a straight body line, while kicking in front of you.
- Start with your wrists out of the water. Graduate up to having your body in a perfect streamline. (And no, having your arms looking like you are holding a beach ball over your head is *not* a streamline.)
- 20lb brick optional when available. (Lifeguards always be misplacing it!)

For more information and workouts hit up YourSwimBook.com regularly for updates, motivational articles, and much more.

To learn more about YourSwimBook, the ultimate goal setting guide and log book for competitive swimmers who are [serious about kicking butt at the pool, simply click here](#).

