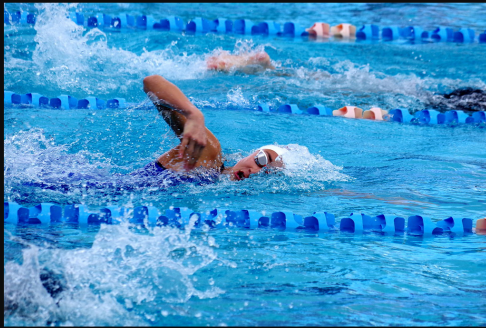


Developing Underwater Discipline and Success in Age-Group Swimmers



Don Heidary
WSCA Board of Directors
Head Coach Orinda Aquatics





Don Heidary

Bio/History (a lot)

- Summer-League
 - 20 years (4-18) intense LTS and youth development - technique and wall focus
 - Highly competitive
- High School
 - 35 years
 - Nationally competitive at the senior level
- USA Swimming – Orinda Aquatics (130 swimmers)
 - 30 years
 - Highest scoring team in Virtually Club Championship (clubs under 200 ~ 2,000 teams)
 - High metrics - Sectional (50), Jr National (10-12), Olympic Trial (30 over history) development
 - Don - responsible for age-group development to the national-level (and collegiate pathways)
- Other
 - Watch everything – what works

Macro or Micro Perspective

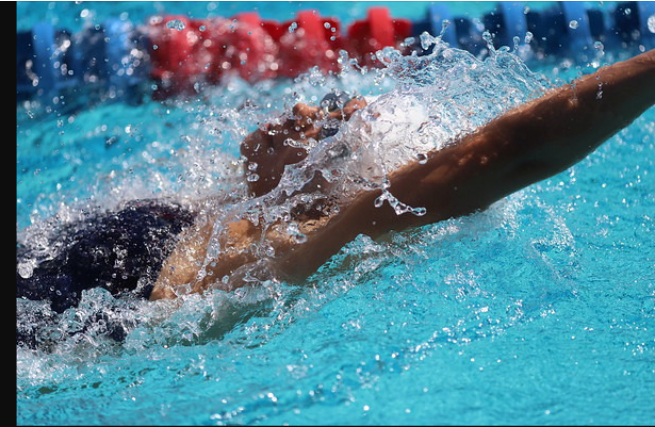
A wet side perspective



Cultural or
ankle flexion?

Determination
or natural
ability?

Individual or
collective?



It is not knowing. It is manufacturing.

It is preparing **age-group** swimmers to have a competitive advantage at the senior level.

Reality?

“How is your underwater ability?” ... “bad” – coach to new club swimmer

“Did you work underwater at your previous team?” ... “no” – coach to new club swimmer

“They work very hard, but not underwater.” – swimmer visiting a LARGE top-20 team

“I watched a workout, and no one streamlined.” – parent observing potential team

What do you see at the age-group (11-14) level in competition?

- Ability*
 - Technique*
 - Discipline*
 - Strategy*
-



Philosophical View

- A philosophical approach
- A team pursuit
- A methodology – bottom to top
- Built into every workout/set/lap
 - *Never leave the wall without....*
- A “win the walls/UW” mentality
- Visual best race (underwater) and train to that



A Few Examples

- Miranda – summer league, no underwater ability to injury (8 months) to 25.8/56 – 50/100yd back (dominant UW)
- Theo – 15 – 1:03 100 yd breast – angry, not interested in swimming. At 18 – 54.7 summer junior qualifier (incredible speed/distance UW – see video)
- Ann – transfer – no underwater ability – 1 year later 2:01 200yd back (great UW)



A few more examples from our Age-Group program

- Adriana – 52.8 100yd back
- Maddie – 22.9 50yd – free relay split
- Jasmine – 54.4 100yd fly
- Emilia – 1:59 – 200yd IM
- Lily – 1:01 100mtr fly
- George – 47+ 100yd fly

All came from efficiency and underwater focus (11-13, now 16-17)



Current

- 13-14 girls 400 Free Relay – 7th in USA
- 11-12 girls 400 Free relay – 11th in USA
- Stella (13) 51.6 100 free (14th)
- Calei (13) 200 breast (top 25)
- Bella (12) 2:28 200m back (11th in USA)



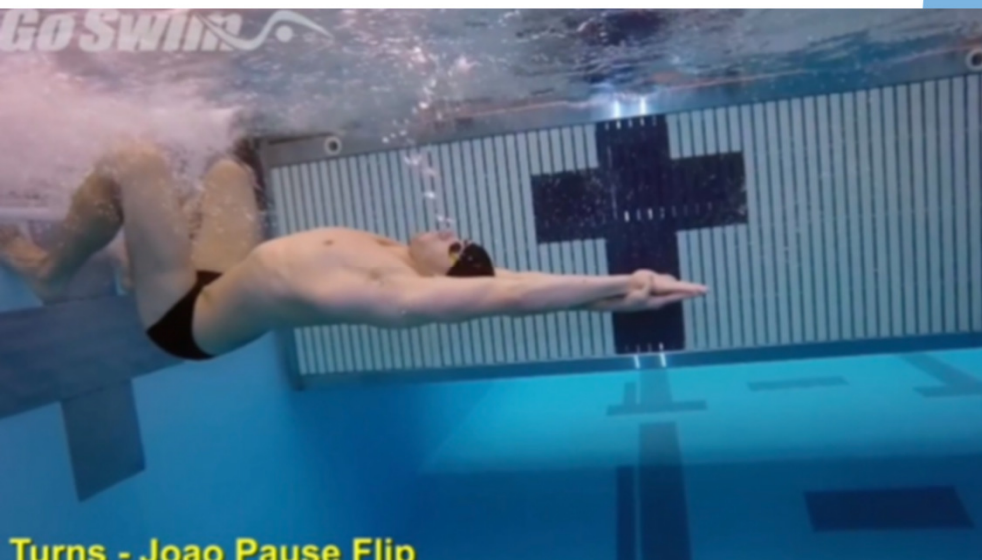
Technically - generally

- Body line
- Rigidity – push SL on deck
- Streamline
- Below rib cage (not head/hands)
- Knee bend (angle)
- Amplitude (stay in tube)
- Kick rate (tempo trainer)
- Up kick/down kick (two kicks)
- **Partner watch**





The importance of technique in generating and maintaining underwater speed.



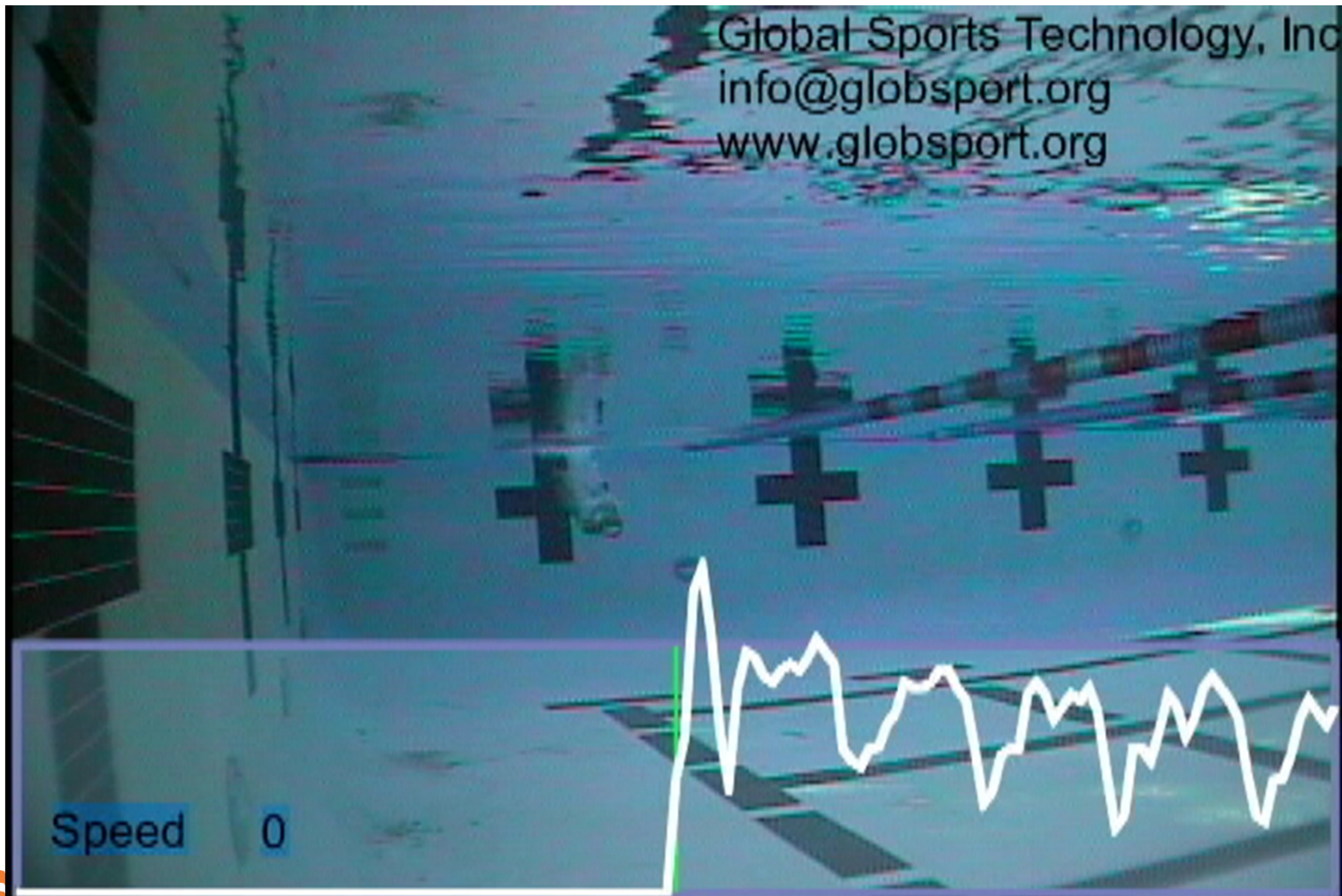


Setting up the exit – to carry speed

Velocity is Key

- Off wall (set up)
- First kick - when
- Amplitude
- Distance to breakout
- Up kick
- Down Kick
- Pull down hold time





Using a velocity meter (from Dr. G) – watching down kick, up kick, and body line

Methodology

Underwater speed begins long before the “underwater speed”

- Turn technique sets up the foot position or “landing”
- Teach wall exit
- Test glide distance
- Set kick counts for each group or ability (including warm-up)
- Allocate technique time to underwater as you do to strokes
- Build a mindset and discipline in young swimmers





No underwater prior to joining the team

Training

- Weight belt
- Two parachutes
- One parachute
- No parachute
- Fins
- Tempo trainer .60/.50/.40 (sec per cycle) – see Chloe
- Turn Master (see slide)
- Vertical kicking – kick out (video)
- Test/track UW speed – 25/50/100



Balance Point
between
endurance and
safety



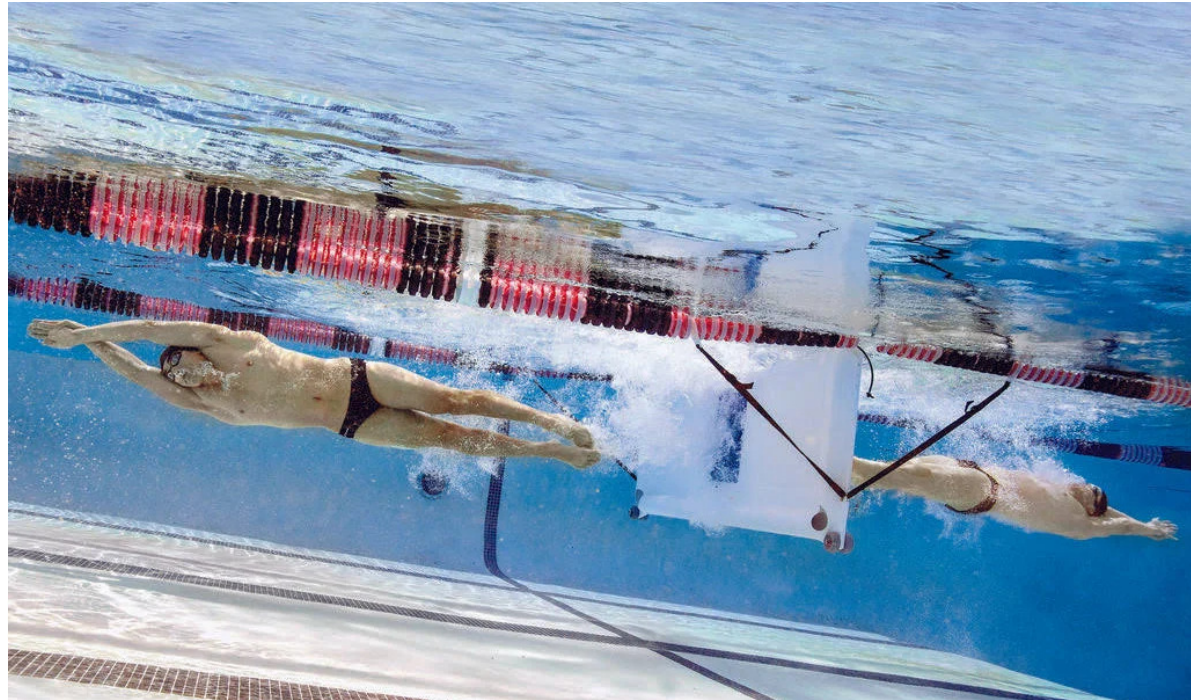
13 years old – tempo at .50 – first third below, second third at tempo, last third below tempo



12-year-old working underwater with resistance

Finis Turnmaster

- At mid-way point, sets up perfectly for training age-group and senior swimmers
- Breaststroke must hit wall on first stroke (very challenging)
- Backstroke – only one cross stroke
- Fly – one entry stroke
- Design timed sets with intervals – VERY HARD



Training

- Match up by stroke
- Race all walls
- Focus on when fatigued
- Emphasize up kick in fly and down kick in back
- Teach the crossover IM (back to breast turn) to younger swimmers so they are adept at the senior level





Helps feel kick both ways (fly or back) and forces work from the core.



Teach the cross-over turn as early as possible.



Distance per pull-down & speed underwater



Pull-down speed - can do with fins for speed, a parachute for resistance, or with a Tempo Trainer for rate.

Workout Construction

- Build into all sets
- Focus on back end of swims and sets
- Use the half-way point (25yd/mtr) as threshold of improvement, including pull downs
- Lean to **efficiency and UW** over endurance and fatigue



Set Construction

- 10x75 back or fly @ RI: 20
 - 8, 10, 12 KUW (kick UW) by lap
 - Increase kick rate by lap
- 10x75 Breast (fins) @ RI:10-15
 - Work pull down at three speed
- 1x500 back or fly – race turn and half-way UW, or 12 kicks (or with parachute and 8 kicks)
- Breast Cycle
 - 200 dive UW – 1 PD
 - 200 breast 3SPL (PD ½ way) - video
 - 8x25 @ 20 – fins, flutter kick, power/speed pulls
 - 1x100 breast timed, with PD to ½ way and a min SC



Set Construction: KC + SC

kick counts PLUS stroke counts

-
- Back – 20x25 @ 20 or 25
 - 8KUW + 11SPL – attack turn
 - If you lose the UW you lose the set
 - ***This is critical to race efficiency***
 - Fly – 20x25 fly @ 25
 - 8KUW + 7SPL – hit wall
 - Same
 - Same
 - Breast – 20x25 @ 25 – 3 to 4SPL at pace
 - Same
 - Same

**The stroke count (and pace)
forces UW speed and distance**



Competition

- Give up some early to gain advantage later in race
- Be clear with every race (by lap)
 - 100 back – 8/8/10/12
 - 200 back – 6/6/6/6/6/7/8/10
 - 100 fly 10/8/8/12
 - Pull downs – hold time, checkpoints (and check stroke count)
- 200 back – give up time – work to halfway point (race last lap)
- Work mod UW first half – focus on last half and last wall at max effort





Summary



1. Develop a philosophy and a mindset
2. Begin as soon as swimmers are competitive
3. Work on the technical components of UW speed
4. Build out a methodology
5. Train with resistance and speed – **train to race UW**
6. Build into all sets
7. Develop a race strategy for every race/every wall – look for the competitive advantage

The goal is to prepare age-group swimmers to compete underwater at the highest level.

Questions?



Thank you for joining and thank you for all you do for age-group swimming.