

# SWIMMING



**TEACHING, COACHING, EDUCATION AND  
COMMUNICATION**

**BY**

**COACH MAGDY SHOKRY**

**2020**

# SWIMMING

## Teaching, Coaching, Education, and Communication

Currently, I was asked -as a head swim coach- by my center director, to write some examples for work-out in swimming. He thought that it could be as references that our aquatic department can have it to educate new swim coaches and the department can use it when the team has no head swim coach for any reason. I totally agreed and understood the needs for such a reference that can have enough information for work-out in water.

I also noticed that in every Learn to Swim program I ever seen, or heard that some instructors are way better than other instructors at the same center or club or swim school, why? and how can swim instructors and coaches be more educated, and get -easier to find- recourses? ether in our Center or at any other learn to swim programs and swim team coaching carrier.

As an expert in swimming with 41 years of coaching for clubs and colleges in three different countries, swam 4 years for my undergraduate college, head and instructor lifeguard, aquatic director, pool operator, owner of a NCAC swim club since 2011 and my swimmers had over 60 records in Metropolitan NY, meet director, Head National Swim Coach for Saudi Arabia and went to Barcelona Olympic Games 1992 as KSA head coach, and host of swim meets for USA Swimming since 2009 to current. Also, host of the Bronze Championships for Metropolitan Swimming last three years. Plus, I had over 14 years teaching swimming and athletic training in two universities in Egypt. I am also author of three swim books by Arabic and one in English. I found myself have a lot to give to my center, more than just writing some work-out in swimming. And by Following the well said in (Mohammed Prophetic Hadith) that;

**“GOD LOVES ONE OF YOU, IF THAT ONE DOES A PERFECT JOB”**

So, let me try to give you my best in a very simple way with tons of examples, explanations, tips, and many easy and possible alternative ways to get the job done, plus many references that will be very helpful for everyone.

I believe that each great swim coach has great knowledges of  
**TEACHING+ COACHING+ EDUCATION+ COMMUNICATION**

# Table of Contents

Title Page and Copyright Page

Introduction and dedication page

CHAPTER 1 – Teaching

Teaching how to swim

NCAC Learn to Swim Program

Level 1, Level 2 and Level 3

Instructors' Tips

CHAPTER 2 – Coaching

Coaching meaning

Physical Fitness elements in swimming

Muscular Strength, Flexibility, Endurance, and Speed

Home dry-land work-out

Flexibility

Endurance and speed

Level of swimmers and competitions

Major physiological principals in sports training

Methods of training in competitive swimming

Percentages of intensity in swimming

Major swimming training plans

Swim sets and How to write the work out in swimming (units)

How swimmers in all levels organize their speed during the race

**10 Work-outs for team prep**

**20 Work-outs for beginners**

**10 Work-outs for intermediates**

**10 work-outs combined dry-land then swimming, or together.**

**10 work-outs for 200 IM swimmers**

**10 work-outs for sprinters**

**10 work-outs for Olympian swimmers**

**Swimming Drills**

**Coaches Tips**

**Chapter 3 Education**

**Studying**

**Reading**

**DVD**

**Swim clinics**

**Internet and online publications**

**Requirements for new swim coaches in NY – MR**

**Requirements for new swim clubs in NY – MR**

**Education Tips**

**Chapter 4 Communication**

**Communication Tips**

**About the Author**

# Swimming

## Teaching, Coaching, Education, and Communication



# **Chapter 1.**

## CHAPTER 1.

# Teaching How to Swim

A lot of organizations and individuals who have swim teams, swim clubs, owner of swim business, or have or renting swimming pools, they run “Learn to Swim Programs”. Mostly, they do this business for making money, and/or helping community in many different ways, but some of them have learn to swim programs also for feeding their swim teams with new swimmers frequently.

Water Safety Instructor (**WSI**), is a great way to be a swim instructor in USA, mostly these classes built on some videos you see for lessons plans, and discussing what to do in different circumstances and situations plus giving students some questions to answer and to pass the course. It is a great way to help new instructors to start their carrier in swimming world. It is your turn as new instructors to get your experience after you graduate from these courses. But, after they graduated, you will meet, hear about, and see that some instructors are very good and some of them just doing the job to get their paychecks. Safety First, is the big concern in WSI curriculums. WSI instructors are doing great jobs. We all knew that Safety always will be first and WSI students have to get other recourses in order to be better teachers in practical life.

Many other details that I would love to add it here in each level of Learn to swim Classes that can help those new swim instructors to learn better, then to work better and teach better. So, those instructors can help swim coaches and swim clubs by supplying them frequently with well graduated students from learn to swim classes to join and feed the swim teams.

For example, In level one; I would prefer to give the instructors enough details for how to teach these skills? what drills you can use? what games you can do for your students to learn and to let them have fun at same time? what are the steps or the order of skills you teach in that level? The importance of the instructor’s demonstrations for teaching each skill? What the best time to demonstrate? What are the ways that instructors can use to teach a new skill? partly? Or

completely? Or mixing? Are all those skills we have to teach in water or some skills are better to be learned out of water first?

I will try in next few pages to answers those questions that can help new swim instructors to be better swim teachers and more productive.

Also, we are facing another issue for all learn to swim programs in general! Which is the number of levels that some learn to swim schools are adopted for teaching how to swim, for example some great organization as YMCA swim classes have many levels of teaching from beginning until graduate like PIKE, EAL, RAY, STARFISH, BOLLIWOG, GUPPY, MINNOW, FISH, and Stroke School, other organizations have 6 or 7 levels for learn to swim then have Team Prep in one or two extra levels.

Here, also what levels and skills in each level that big organization like American Red Cross (**ARC**) teaching in each class;

### **Level 1-Introduction to Water Skills**

**Objective:** To help students feel comfortable in the water and to enjoy the water safely

**Requirements:** None

**Skills Covered:** Entering and exiting the water safely, learning to submerge mouth, nose and eyes and breath control, front and back float and recovering to a stand, changing direction in the water, swimming 5 feet on front and back.

### **Level 2-Fundamental Aquatic Skills**

**Objective:** To give students success with fundamental skills

**Requirements:** Students entering this level must possess a Level 1 certificate or demonstrate all the Level 1 skills

**Skills Covered:** Entering water by stepping or jumping in from the side, submerging entire head, blowing bubbles, open eyes underwater, front and back glide, swim 15 feet on front and 10 feet on back, swim on side, life jacket use

### **Level 3-Stroke Development**

**Objective:** To build on skills in Level 2 through additional guided practice

**Requirements:** Students entering this level must possess a Level 2 certificate or demonstrate all the Level 2 skills



**Skills Covered:** Jump into deep water, head first entry from sitting or kneeling, submerging and retrieving an object, bobbing, survival float for 30 seconds, treading water for 30 seconds, front crawl 15 yards, butterfly 15 feet, back crawl 15 yards, elementary rescues, safe diving, check-call-care

#### **Level 4-Stroke Improvement**

**Objective:** To develop confidence in the strokes learned thus far and to improve other aquatic skills by increasing endurance through swimming greater distances

**Requirements:** Students entering this level must possess a Level 3 certificate or demonstrate all the Level 3 skills

**Skills Covered:** diving, underwater swimming, feet-first surface dive, 1 minute of survival floating, treading and back floating, 25 yards of front crawl, breaststroke and back crawl, 15 yards of butterfly and elementary backstroke and sidestroke, compact jump from height in a lifejacket, throwing assists and caring for conscious choking victim

#### **Level 5-Stroke Refinement**

**Objective:** Coordination and refinement of strokes

**Requirements:** Students entering this level must possess a Level 4 certificate or demonstrate all the Level 4 skills

**Skills Covered:** Shallow dive, tuck and pike surface dives, 2 minutes of survival floating, back float and treading water, flip turns on front and back, 50 yards front and back crawl, 25 yards butterfly, breaststroke, elementary backstroke and sidestroke, 2 minutes of survival swimming, rescue breathing

#### **Level 6-Swimming and Skill Proficiency**

**Objective:** Refine strokes so students swim them with more ease, efficiency, power and smoothness over greater distances; includes "menu options" - Personal Water Safety, Fitness Swimmer and Fundamentals of Diving

**Requirements:** Students entering this level must possess a Level 5 certificate or demonstrate all the Level 5 skills

**Skills Covered:** 500 yards continuous swim using 100 yards each of front & back crawl, 50 yards each of breaststroke, elementary backstroke, sidestroke & butterfly

and 100 yards choice of any of those strokes, survival floating and back floating 5 minutes each, feet first surface dive & retrieve an object from 7 feet, Cooper 12-minute swim test

As you see here, they write perfectly all objectives, all requirements, all skills to be covered, and our jobs as experienced coaches and swim teachers or supervisors are to help new instructors to write their lesson plans or steps for how to teach and how to demonstrate these skills in each class.

We will give you here what instructors can do in each step, and what drills and games they can use too.

So, my job here is to make Learn to Swim Classes much easier. I will put a lot of fun into classes, to give instructors more ideas, more games, more things to let them act better, and to help more graduate students to join the swim teams in fast ways.

I will use most skills that great **WSI, ARC**, and other School are use it but with different order, and with offering more Drills, Games, Steps, demonstrations, and reduce the number of Levels, plus more directions to help students to graduate from each level faster and more percentage of them can join the swim teams. It is Just another way for offering more details and in less times.

Teachers, clubs, swim schools can Take it, or ignore it. It is just extra practically ways to create better learn to swim instructors, fast feeding and joining to the swim teams, and fast way for learning how to swim in deep water. I had already over 500 elder persons learned how to swim laps in my classes, and most of them told me that my Learn to Swim School have changed their lifestyle already, They started to swim laps almost every day, and make more friends through swimming. And over 200 students joined my team and other swim teams in my area. Some of those students from my classes who I taught them by myself, joined my swim team and then in one or two years later, they brook records for our Local Swimming Committee (Metropolitan Swimming) since 2008 to 2019.

It works with me perfectly; I hope that it might help others too.

The first day I work as swim instructor was in April 15<sup>th</sup>, 1979, when my professor in PE college asked many of the good swimmers to join his club as instructors for learn to swim program, he chose 15 students, I was one of them. Most of those

swimmers are away better swimmers than me, and we all worked for this club as swim instructors, in August of the same year, 6 of my graduated students in my classes in that program joined their first swim meet in Egypt and get in first three places over all Egyptian clubs as 9 years old and under. The parents of those students in my classes made a big party for me. It was first time in my life to feel the recognition, and first time in my life to feel how good you could be if you put all your patients and hard working in the thing you love most, five of those students are now very successful swim coaches in Egypt, and one of them was holding Egyptian and African records, many of my swimmers in Egypt went to Olympics.

And every team I ever coached, I put my finger print on them and broke a lot of swim records, or helped that team to get one of the first three places in that age group in the country.

I always use my principals for learn to swim program in each team or country I ever work.

That is what happened in Cairo Sporting Club, Shooting Sporting Club, Gezira Sporting club, and Saudi Arabia National team, then at Abbe swim team in NY 2007-2011, then my own club NCAC 2011 -2019, and here we are in 2020 just made a new USA swim team NSCC, with few promising swimmers in just couple of months hard work. My theory and my believe is;

**“LOVE WHAT YOU DO, DO WHAT YOU LOVE, BE YOURSELF AND BE STRONG”.**

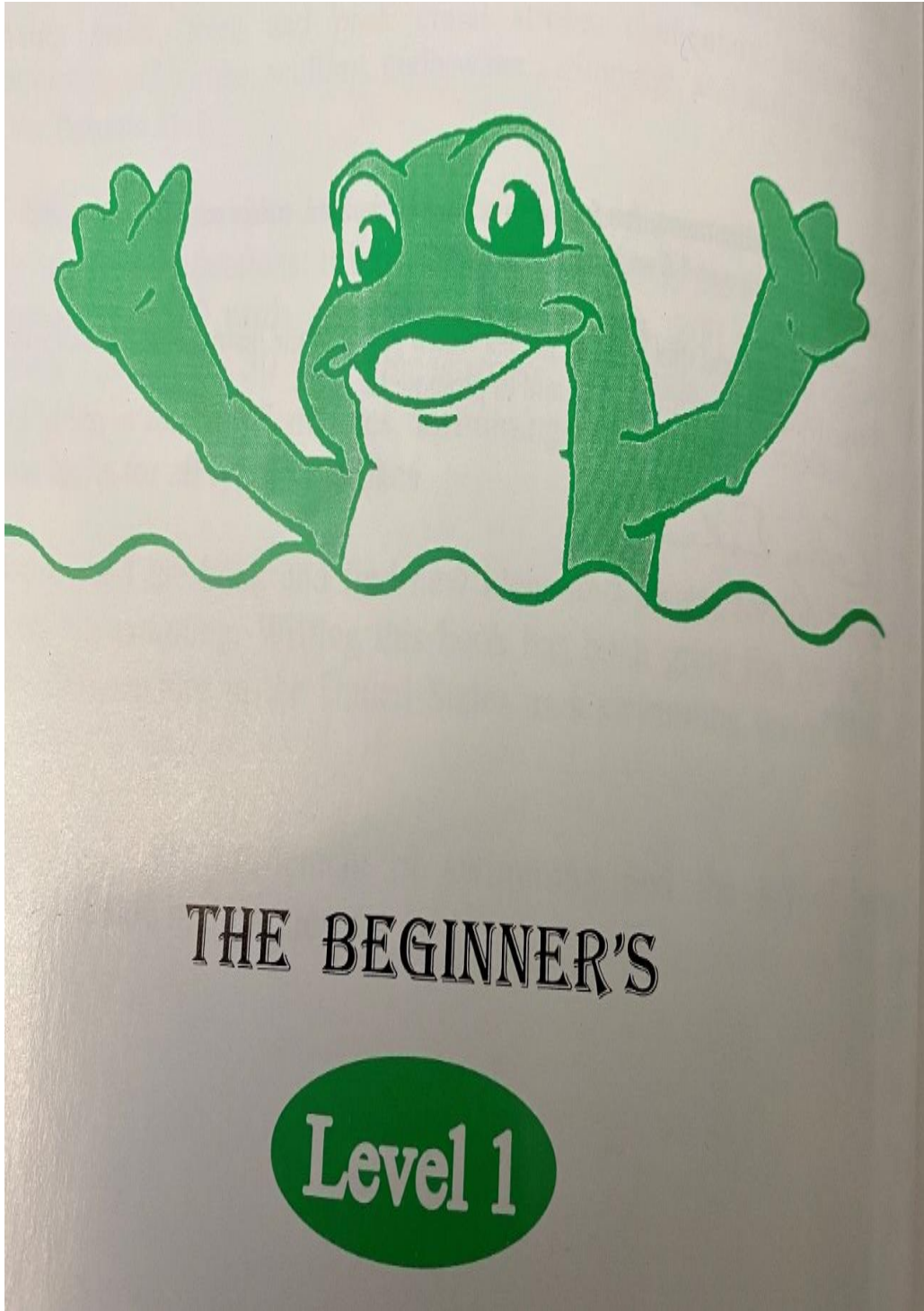
In 2008, I established Family Swimming Center, Inc. for Learn to Swim Program, Later on in 2011, I renamed my Program into Nile Crocodile Aquatic Club" NCAC"

## **NCAC Learn to Swim Program**

### **"FAST AND FUN"**

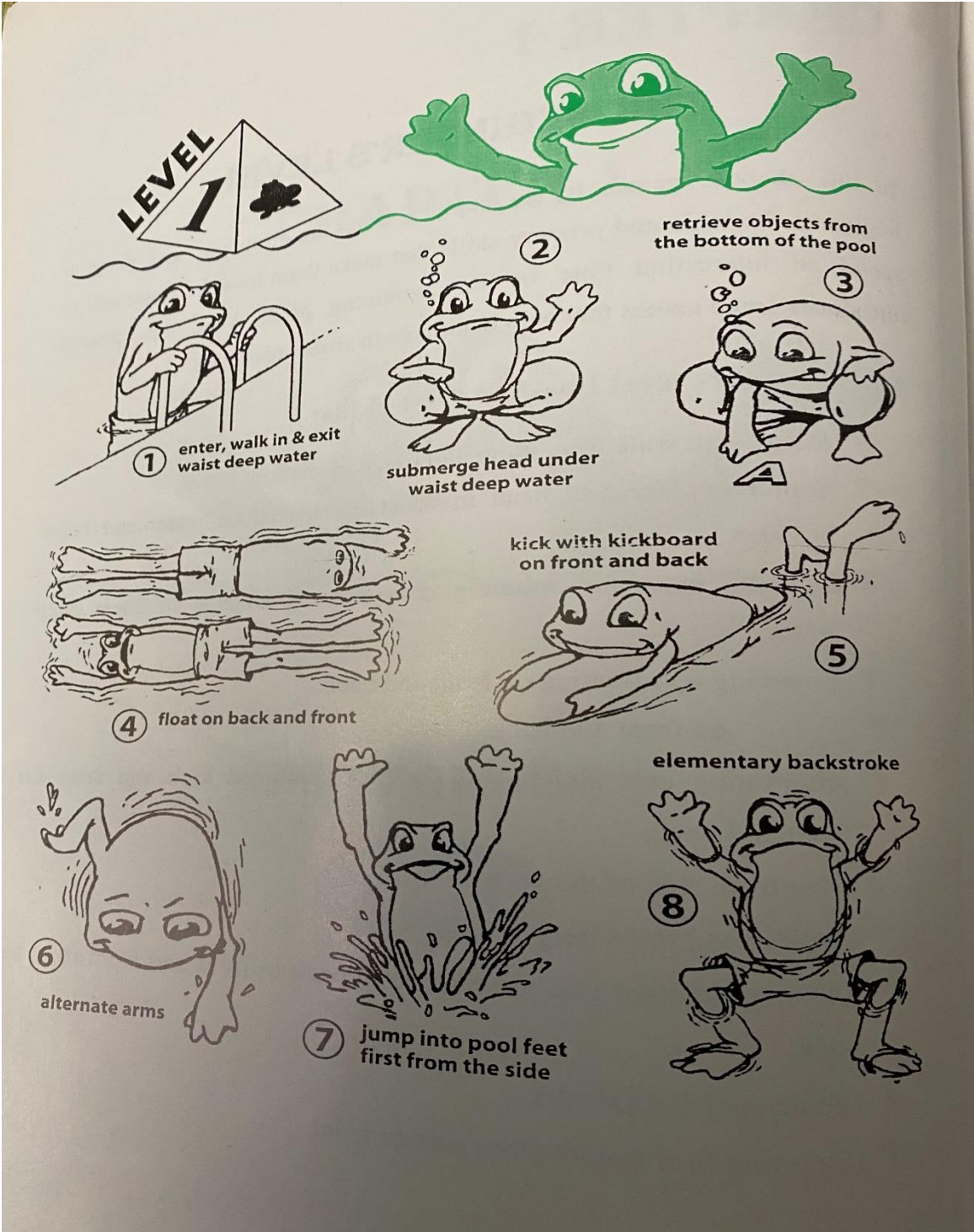
- Each class is 60 minutes not 30 or 45 minutes.
- Each class has maximum 6 students for 1 instructor
- All students in one class are in the same level, don't have to be same age.
- We don't follow that each instructor has same students in each class.
- All instructors knew what to do with each level.
- We usually do sessions for level one and slow learners only, but for fast learner and talented students, we upgrade them always to next levels.
- We accept new students every class after 2-3 minutes evaluation by me, then we put them in the right class whenever they show up. Then when some classes get over 6 students another instructor help teaching that class.
- We prefer teaching all levels in deep side and all skills that need shallow side we always can teach them in deep side by using noodles and more outside fixing and more caution and supervision.
- We usually reviewing and refining previous skills that they learned before in first 10 minutes. And then we teach the new skills according to the speed of learning process.

# THE BEGINNERS



THE BEGINNER'S

Level 1



## Important Skills for Level One

According to lengths of the classes, how many times a week, how fast students can learn the new skills, and move on to next skills, and how good instructors can perform, the classes will be adjusted. (it's crazy combination- but works for me and my instructors too)

- From setting on pool edge in shallow side, instructor introduce him/herself, ask students for their name with smile face, then start the first class
- students kick their feet, instructor show them how to kick, point toes, straight knees, up-beat and down beat, instructor get in water fix all kicks.
- (Game1). Splashing. Who can-do splashing like me? correct and fast way.
- Instructor, get in water in safe entry from the ladder and students follow and do the same. Students get in water in shallow side and walk behind the instructor and copy him/her (Game2.) Duck and its ducklings.
- Instructor can do (Game3.) Walk or run do some fun, Then, they get out of water and set on edge.
- Instructor get back to water and demonstrates how to float on back by using noodles under the head and lay on back with relaxing legs and doing little backstroke kicking and holding the ends of the noodles, left the chain up, then instructor helps one by one to float on back using the noodles to let them overcome their fear of being in water, instructor take one student at a time and holding the head from behind and help them to float on back, chest up, belly up, relax your arms and legs, do some kicking, relax all muscles while other students set on edge and watching until all get their turns. One by one, and when all of them can float without assistant, then instructor can let them all float on back and ask them to do some kicking for few minutes for fun. so, they can feel the moving in water in nice way.
- Instructors show them how to push wall and float on back with some kicking from the wall to 5-10 yards, then get out and repeat again, with fixing and making some fun.
- Instructor show them how to put mouth underwater and close the mouth and ask all students to repeat for 5 counts.
- Instructors then put mouth and nose underwater and hold breath for 5 seconds, explaining to all students don't inhale or swallow water while submerging, then students repeat and instructor fixing.

- Instructors show students submerging all face underwater and open eyes for 5-7 seconds then for 10 seconds, they repeat and instructor keep fixing. Instructors be sure all students not drinking or inhaling underwater, then instructors show them how to blow bubbles by holding their breath for few seconds then slowly going up with blowing bubbles, students repeat with fixing. (Game4.) Talking to the fish, Bubbling with or without sounds holding edges or noodles then without, another (Game5.) Pass the ball; each two students facing each other one has a small ball or Pull-Buoy then submerging arms and face underwater few seconds and bubbling, then jump up and pass the ball or the buoy to your partner, then switch. (Game6.) Switching each two students together holding hands standing in shallow side one goes down and blow bubbles for few seconds, the other student is head up then switch. Instructor asks them to move (Game7.) Against the signal, so he points to the left, they walk to the right side, instructor points up, students submerge head under water, when he points forward, they move backward. Etc.
- Instructor ask them to do (Game8.) Face under water open eyes, use goggles tell me how many fingers? what is this letter or/and (Game9.) crazy moving under water or (Game10) Swinging when Each two students hold hands and one student submerging head underwater while other one standing for 5 -10 seconds then switch?
- Students (Game11.) Retrieve sinking objects from the bottom of shallow water.
- Instructor then, show students how to float on front and put face down for 5 seconds by holding wall, then by holding instructor hands, then holding a noodle, then without anything, repeats and fixing, instructor then hold hands of students one by one, while student floating on front and pull them for few seconds to feel the moving on front by assistances. But all students have to be sure no drinking or swallowing water.
- (Game12.) Statues, each student pretending they are statues and just float without any moving for few seconds. (Game13.) Push my feet, with instructor pushing or each cobbles together one float on front face down, and other pushes the feet, to see how far and how long they can float face down.



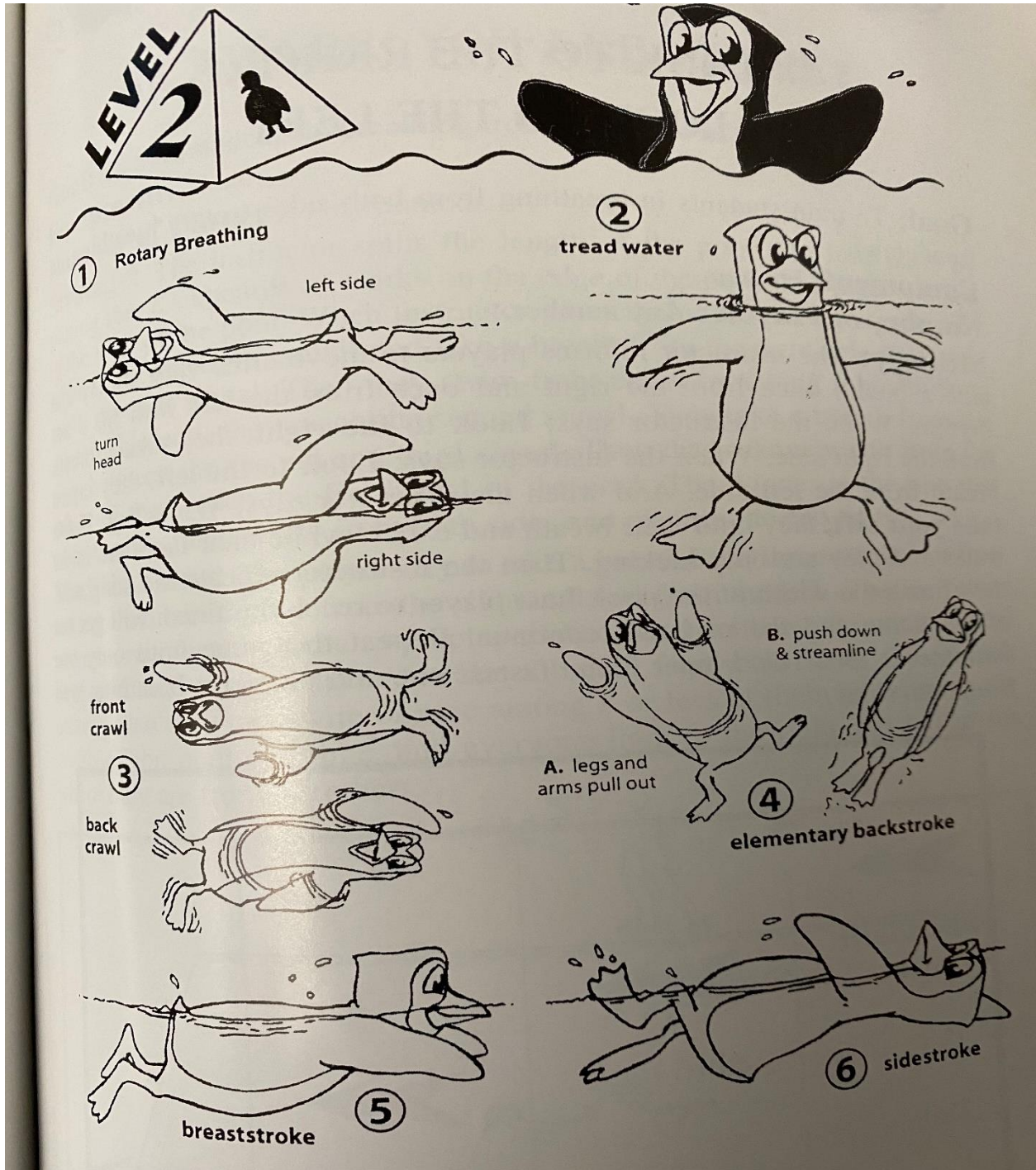
- Instructor shows them how to push the floor or the wall to float and gliding for 5-10 seconds, students repeat, instructor fixing. (Game14. Superman)
- (Game15.) the farther distance, each student holds a kick board and pushes the wall face down and hold or doing bubbles for farther distance.
- Instructor teaches students how to kick hard on front with kick boards (Game16.) Kicking Race, who can come to me first. Or from side to side in shallow side. Student left their head up for breathing then submerging.
- Instructor practice kicking on back with then without instructor' assistant then with noodles, then by themselves. Instructor fixing and keep repeating
- (Game 17.) Back kicking – race. (Game 18.) Kicking relay.
- Instructor teaching arm action in front crawl (freestyle stroke) out of the water first, they don't have to teach students bending the elbow or S shape of the arm action under water, they just show them the alternative action like the bicycle paddles one up one down, keep away from catch up and slow motion arm action.( That is my way- Building Sprinters)
- Instructor keep fixing out then in water, from standing, then walking, then from holding wall and kicking, then from push off and holding breath with kicking and arm action for 10 seconds or 6-10 strokes. Keep fixing.
- (Game19.) Who is faster? (Game 20.) Freestyle relays. (Game21.).
- Instructor demonstrate backstroke arm action, in and out of water, focus on 11 o'clock for right arm, and 1 o'clock for left arm entry to the water. Student repeat with fixing, instructor focus on thump up when you exit and little finger down when you enter water. (Game22.) Best performing for 10 yards. (Game23.) Combination relays, go free come back. (Games 24/25.) Combination relays, go free kicking, come free swimming, and /or go back kicking come back swimming, etc.
- Instructor teaching Elementary back stroke as a first step to learn breast stroke in next level, arms take three positions soldiers arm, chicken arms, airplane arms, instructor can say bend elbows and knees together at same time and straight arms and legs in same times then glide....
- Also, before we move to level 2, instructors take students last 10 minutes of each class to deep end to show them and teaching them how to jump in deep water, feet first, then basics treading deep water, how the arm action do (thumbs up until hands get out of the water, then palms down to push

water down then squeeze hands in front of your stomach or chest to start another arm action, while legs doing like walking, or running, or teaching student breast stroke kicking or any other kicking to show students how to tread deep water, student repeats one by one close to the gutter (wall) with continuing fixing and demonstrations from the instructors.

- In deep side also, instructor start teaching students the kneeling diving, repeats, fix, demonstrates until they got the skills.
- Instructors then teaching them the racing diving from the gutter, first the both feet together bending knees -like when you want try to touch water by both hands while head down and ears between your arms.
- Then teaching diving with one foot forward and one foot backward. Keep repeat with fixing with more demonstrations.
- Also, instructors show students how to push the wall in deep side on the back as basic starts for backstroke while arms can be close to the body or through them backward like real backstroke starts. Repeats and fix, with continuing demonstrations.
- Last part of level one skills is to swim from deep side to shallow side 10-15 yards or without breath or by lifting head up to take a breath if you need then keep swimming without breath from deep side to shallow side with repeats and fixing. Same thing but swim back strokes for 10-15 yards.
- (Games 26) Who can jump farther?
- (Game 27) Who can do most crazy jumping?
- (Game 28) Freestyle Race without breath.
- (Game 29) Backstroke race.
- (Game 30) Who can tread deep water more?
- (Game 31) Jump and catch the ball in the air. Etc.

Instructors: please make your own lesson plan for each class, put the goal or objective, the requirement or equipment, and the skills you will teach. Put in your lesson plan the games or drills you will use it and the approximately timing for each part. Do more effort to be better instructor. Good luck.

# THE INTERMEDIATES



Important Skills for Level Two (the Intermediates)

\* In level 2, instructors teaching students how to take breath from one side, then teaching them later taking breath from the other side then rotating, they can do this skill from outside the water, and in water from standing, slow motions arm action with moving the head to the side, be sure no lift chain up, be sure to keep ear and check in water, with demonstrations and continuing fixing, then from walking in shallow side, then from holding the edge, then from holding kickboards, and then from real swim short distances and through many repeats with fixing and demonstrations. It will be better teaching students taking breath in fourth stroke, that means face down first three strokes then take breath as soon as moving the arm in each fourth stroke.

\* Also, in level 2, instructors refining the backstroke arm action; thumb up to exit from the water close to your body, straight arms in the air, 11 o'clock for right arm to enter the water, and 1 o'clock for left arm to enter the water, enter arms deep enough then bend your elbows, then push water like throwing things from backwards to forwards, then balm close to and facing your thigh, then exit by thumbs up, be sure to roll the shoulders in each stroke, repeat, fix, arm by arm, student by students, one by one, provide more demonstration for each part until all students look like they doing real backstrokes, while fixing the leg actions- up beat/ down beat, point your toes, let your knees underwater, don't open legs or close them too much, make the kicking short and fast, etc.

\* In level 2 also, instructor teaching and fixing breast stroke kicking action, out and in the water, from setting on the edge, or by using noodles under their arms, some of my instructors are taking videos for their students and showing them their mistakes with more demonstrations, fixing, and repeats. And of course, instructor can do some fun like giving student nick names, do some games for tread deep water while clapping their own hands, or other students hands, or treading deep water while throwing balls to each other, or changing direction for treading water 10 second face instructor, then 10 second switch to right side, then 10 second their backs to instructor, etc.

\* In this level also, instructors work on refining the breast stroke kicking, arm action, the timing between arms and breathing, the timing between arms and legs, the importance of gliding after kicking, to teach them the importance of

stream line in swimming. Then co-ordination with all arm, kicks and breathing, more details, more repeats, more fixing, more repeat, and for longer distances.

\* It is all depending on how the instructors doing? What is inside their lesson plans? What games they will use for each particular skill? How the supervisors advise and deal with the instructors if they are not doing good job, are they going to blame them, or give them more ideas, and more references? Etc.

\* Finally, how the instructors and supervisors are doing in many different situations. That could happen like when one or some of students are very far away (behind) from this group in same class, or when one or more students learned very fast (advanced) and they have to move to higher level class, etc.

\* In our NCAC learn to swim school, I am really supporting the idea of moving the talented students to upper classes or to higher level classes according to the level not the age! According to what they can do not to finish all the 8-12 classes for that level. At the same time we put the struggling students with the one of our instructors who can help those slower learning ones and knew how to deal with them, Like the one of your instructors that have more patient or more kind, and likes to work with those special students! more than other instructors.

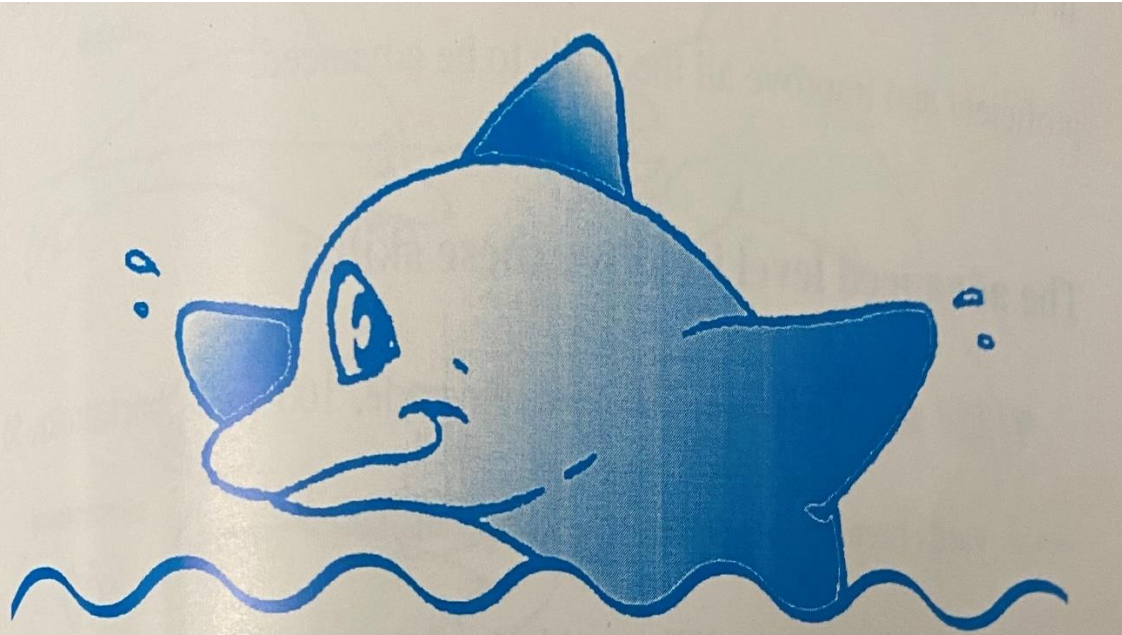
=====

Before, moving to the next level or to the advanced and team prep, it is important that in level 2 students have to be able to swim more distances freestyle and backstroke, able to tread deep water for 20-30 seconds, able to jump and dive head first in deep water, and able to perform basic breaststroke and elementary backstrokes.

**Selection,** meaning here is to put an eye on those students that have one or more of those things bellow, as indication for join the swim teams in future soon;

- Learn skills fast.
- Like the challenges.
- Tall boys, big feet, big hands.
- Love being in the water.
- They can hold breath more. Or they have great kicking.
- And their parents are more involving.

**THE ADVANCED.**



**THE ADVANCED**

**Level 3**

**Level 3**

- In level 3, or the advanced, we are preparing all students to be able to swim comfortably in deep water, able to swim more laps of freestyle, backstroke, elementary backstroke, and breaststroke and learning butterfly and all racing starts or diving from the block start.
  - Instructors in each class of this level have to review and refine the freestyle, backstroke and breaststroke for 10 to 20 minutes.
  - Instructor then for another 10-20 minutes teaching students the butterfly arms, then dolphin kicks, then breathing in butterfly, then put together all skills and coordinate the butterfly stroke.
  - It is important for teaching butterfly to teach them the arm action out of water then in water, in water let students do arms slow and straight all the way forward and backward without breathing for 4-5 strokes slow motion with freestyle kick first.
  - When start teaching breath in butterfly ask them to left chain up as soon as they open the hands to start the pulling.
  - One arm action with breath and one without.
  - Let them press down the head and chest each time before they enter their arms in water to feel the undulation
  - Then teach them the dolphin kick or butterfly coordination.
  - Demonstrate each part of the skill, in and out the water with continuing fixing and more repeats.
  - Last 10 -15 minutes in each class we teach and practice a lot of starts, and sprints in the deep side (Games; retrieve sinking objects from the bottom)
  - We always open the door for many of our students in level 3, to join our swim practice in one or two swim practices each week, by giving them last lane and adjust our regular swim practice ( today's unit) to manage their level of skills and speed, and have to be supervised or performed by one of assistant coaches or senior instructors all times. So, those advanced learn to swim students know how is the swim team practice looks like and I think it is one good step for joining our swim team.
-

## **Tips, For Swimming Instructors:**

**Coach Magdy Shokry, NCAC Owner, Olympic Coach, University Teacher, USA  
Swim meet host, Swim Books Author.**

- My tips for instructors; demonstrate more, let your students in action most time of your class, focus on how to teach them fast and right way, use games. They need it, make them happy.
- 

- During learning to swim classes; create an emotional relationship between the little kids and the water, then provide them the basic skills that can help them improving their styles and this classes have to taught by best instructors or coaches. It is the time that attracting new swimmers to involving in swim team routine later.
- 

**Edward Perez, Assistant Coach, NSCC swim team, NY**

- One tip I would say to make someone a better instructor is being very detailed about every stroke. In my experience people love knowing why a specific movement with their arm or kick will make them better.
-



# **Chapter 2.**

## CHAPTER 2.

# Coaching Swimming



# Coaching

Yes, Coaching is a big word and meaning a lot.

Let's look at the English Dictionary for the meaning of word Coaching;

- The definition of word coaching in sport is a form of development in which an experienced person, called a coach, supports a learner or client in achieving a specific personal or professional goal by providing training and guidance.
- The definition of experienced persons, mean that they have been doing a particular job or activity for a long time, and therefore know a lot about it or are very skillful at it.

The Swimming Expert book said: Six Secrets to be a Great Swimming Coach;

1. **Teach and Reinforce Correct Body Position**
2. **Continual Development of Technique**
3. **Coach at the Level of Swimmer you are Coaching**
4. **Be Coachable Yourself**
5. **Excellent Communication**
6. **Praise and Encourage**

Swimming World Magazine, BY Annie Grevers: 8 Traits of An Excellent Swim Coach:

1. **Astute Observers**
2. **Focused**
3. **Empathic, not Sympathetic**
4. **Character-Minded**
5. **communicative**
6. **Lifelong Students**
7. **Confident**
8. **Humorous**

**How to be a Great Swimming Coach; BY <https://www.insure4sport.co.uk/>**

Here's are a few key characteristics that separate the best from the rest...

1. Great communicator
2. First-class motivator
3. People-person
4. Organized and meticulous
5. Knowledgeable and willing to improve
6. Not afraid to fail

=====

**Let's put together those main characteristics and reveal that secret about great swimming coach! So, you as a coach can to get whatever you missing to meet that great coaches' requirements.**

- **Observer, Focused**
- **Continual Development of Technique**
- Organized and meticulous, **Character-Minded**
- Not afraid to fail, **Confident**
- Knowledgeable, **Lifelong Students, Be Coachable Yourself**
- Communicative, Great communicator, **Excellent Communication**
- First-class motivator, **Praise and Encourage**
- **Humorous, Empathic, not Sympathetic**
- **Coach at the Level of Swimmer you are Coaching**

**Now we all got an idea for what ingredients to make a great coach, and what characters and skills you need to have, In this particular chapter we will go through what kinds of knowledge that you need to know for coaching a swim team and elevate your swim team achievements to meet the goals that your team and the individuals in your team are looking for.**

# The most important elements of physical fitness in swimming and how to Develop

In my opinion- to make it very easy and simple to everyone- Special to new coaches. Most references agreed that there are 4 basic elements of physical fitness in sport of swimming, and they are:

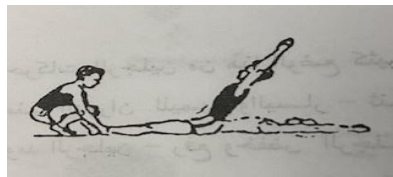
1. Muscular Strength
2. Flexibility
3. Endurance
4. Speed

## Muscular Strength

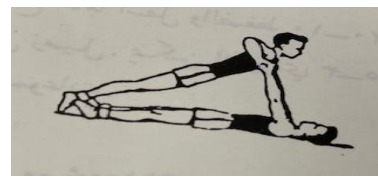
- Muscular Strength is better to be developing in many ways out of the water more than in swim practices. Out of the water, coaches can also add gradually more resistances and keep evaluate and measure the muscular strength and flexibility more than in water. Dry-land exercises or work-out could have thousands practices that coaches can chose of and mix some of them to make their unique sets to use it for building strength for their swimmers, such as **Body weight resistance** like all kinds of **Running, Jumping, Squat, Set-Ups, Push-Ups, Climb Stairs, Pull-ups, Bar depth**, etc. **individually or with a partner**, and using equipment such as **Cord Bands** or **Surgical Tubing**, using the **Towels**, using **Medicine Balls, Wall Bars, Step-Ups**, etc. Or using many different kinds of **Machines in Gym** or the one that they can have it at home like **Dumbbells, bars, treadmill, Ergometer, elliptic**, etc. Here are some pictures I borrough from other books just to show you those different types of Dry-Land work out for developing the strength out of the water



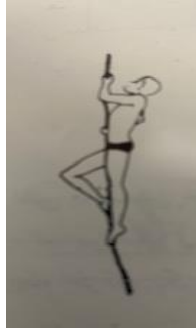
Muscular Resistance



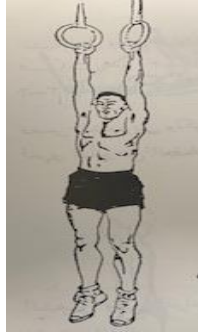
Set-Ups and Push-Ups



individually, or with partner



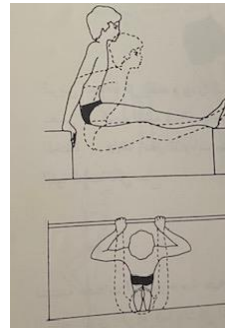
Rope climbing



Rings work-out



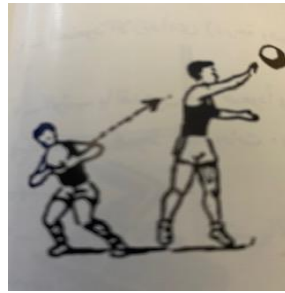
Parallel work-out, Pull-Ups and Bar Depth



Arm Strength



Cord Bands



Medicine Balls



Boxes with or without weights



Weight lifting



legs strength



Back Strength



Pull Machines



Step=Ups



Gym Machine



Work-out in the Gym has to be under supervision and specific personal trainer

=====

All swimmers are really need to have appropriate muscular strength in order to overcome and / or resist their body weights so they can move in water much easier and faster, and when they resist outside weights like at the Gym, weight lifting or partner resistance, and other resistance like water resistances.

Muscular Strength also has different kinds of strength such as:

- Maximum strength (in swimming there is no need for that strength).
- Power, (swimmers need it in starts, turns).
- Strength of endurance to resist fatigue while long periods of swimming during long distances, or among a lot of repeats that use short rests interval and, in each practice, and race.

Different strokes use different muscles or groups of muscles.

In general, all swimmers need to improve these muscles or group of muscles:

Deltoid, Pectoralis Major, Triceps, Biceps, Rectus Abdominis, Latissimus Dorsi, Gluteus Maximum-Medius, Quadriceps Femoris, sartorius, Calf or Gastrocnemius, Ankle and Toe Flexors Muscles.

In next few pages, I will give you easy ways to improve muscles strength with simple equipment or without at all.

# Work-Out you can do it at Home

## The Cord Bands

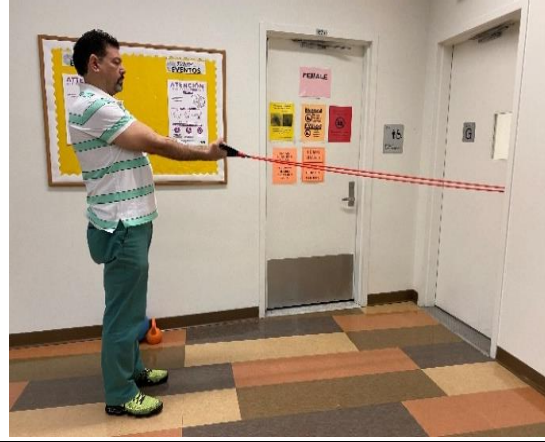
Here are many demonstrations for how to use the cord band, which muscles, what directions for the work out, how many repeats, how hard or easy and how long for repeats and rests.

### IMPORTANT:

1. warm up before you start, by doing some stretches and or arms swing left and right, up and down, and some backstroke, freestyle, butterfly arm actions. Then you can also warm up with the cord band by doing some not hard pulls like freestyle or butterfly strokes.
2. You can make the resist band tight by going back more, or lose by moving toward the cord band, choose what is good for you.
3. Please don't make it very tight or very loose, or challenging yourself.
4. Try to do 10 sets of 20 times pull back, take 30 seconds rest between the sets. During the rest you can do some stretches or flexibility.







5. Try to do 10 x 20 freestyle arm action, (one count for both hands)  
30 seconds rest between sets.



6. Try to do 10 x 20 Breaststrokes arm action, 30 seconds rest after each set.

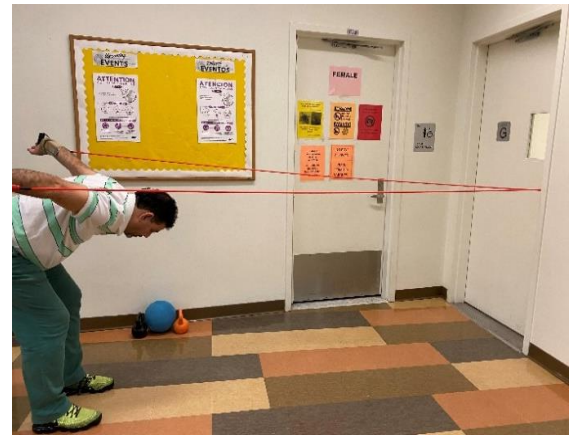




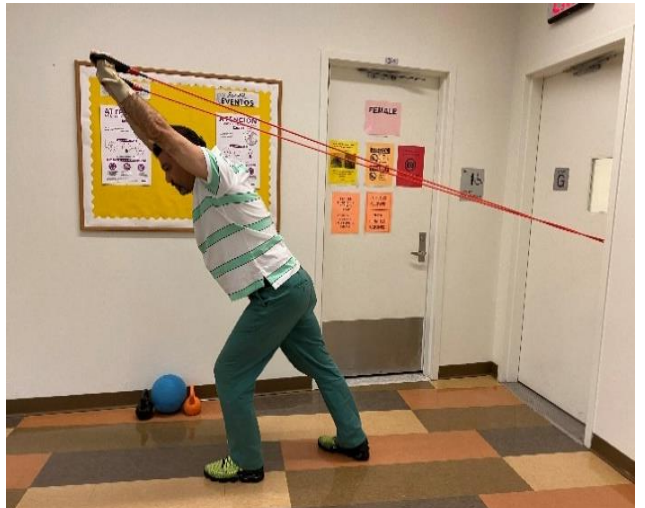
7. Try to do 10 x 20 Backstroke arm action, (one count for both arms)  
30 seconds rest after each sets.



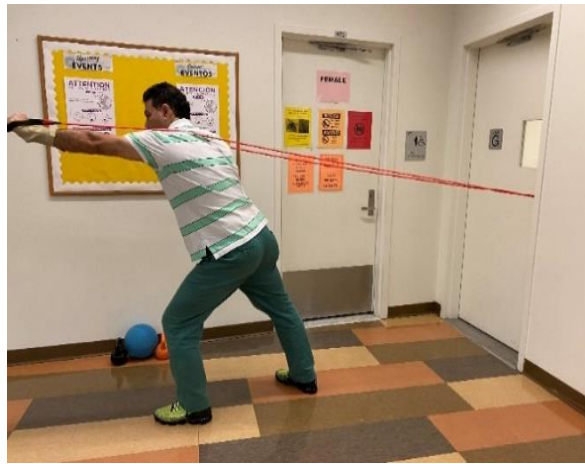
8. Try to do 10 x 20 Butterfly stroke arm action, 30 seconds rest after each set.



9. You can give your back to the band and pull over your head for triceps, 10 sets of 20 times, 30 seconds rest after each set.



**10.** You can do like lunging, 4-5 sets of 20 right arm and 20 left arm (pushing forward).



---

## 2. The Medicine Balls

If you have a medicine ball at home, or dumbbells or even any available thing that you can handle it and use it as weight lifting so you can do some of these exercises using the same warm ups for your muscles and arms in general.

Medicine Ball Exercises:

1. Through and catch the balls, easy or higher, small or big balls all depend on your strength, age, and reason for use it. 20-40 times



2. Over your head, for the triceps, bend and straight your arms 20-40 times.



---

3. Lift the Ball by feet 10 – 20 times



---

4. Make 20-40 set ups while holding the ball.



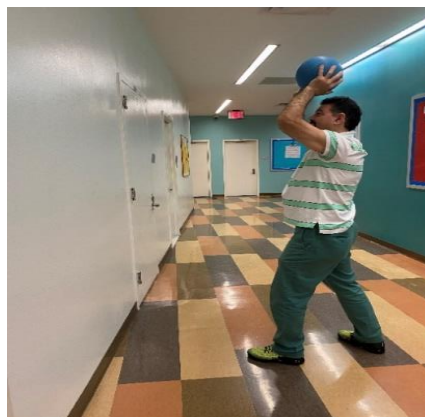
5. Put the ball between your knees and do set ups knees toward your chest.



6. Hold the ball on one hand, lift both arms up, hold ball by other hand, bring this arm down, switch 5-10 times.



7. Against the wall, through and catch the ball repeat 10-20 times, you can be close or far from the wall.



8. Lay on your back hold the ball in your hands over your head, make set ups and through the ball against the wall, or a partner



9. If you have a re-bounce medicine ball, you can dribble by one hand from bending your knees, 20 times right hand, then 20 times left hand, then 20 times both hands.



10. If you have a re-bounce medicine ball you can stand on a bench or any stable object then through the ball down very hard and catch it again, repeat 20 times.



---

### 3. Dumbbells Exercises

1. From standing one or both hands, elbow close to the body, up and down.
2. From standing, hold weight close to your shoulder, lift arm all the way up, so, bicep close to your ears, up and down, right and left.
3. From standing, hold weight close to your thigh, move your arm straight to the side to your shoulder level.
4. Same practice but to front.



5. punching forward with right arm 10 times, then left arm 10 times.
6. Bend your upper body down, bend knees, pull your arm toward your hip.
7. From laying on your back, bunching up and down, one or both hands.
8. Curling toward the center of your chest, one or both hands.
9. Triceps over your head.
10. Lunging with weight close to your tight, walking forward and backward.



---

#### **4. Body Weight Resistances**

The safest and most popular body weight exercises that are using most group of muscles in swimming are:

**Pushups, Set-Ups, Pull-Ups, Squat and Running.**

# Pish-Ups

## 1. Regular Push Ups:

5 SETS OF 10 PUSH UPS, 30 SECONDS REST.



## 2. Decline Push-Ups

5 SETS OF 5 DECLINE PUSH UPS, 45 SECOND REST.



## 3. Incline Push Ups 10 SETS OF 10 INCLINE PUSH UPS, 30 SECONDS REST

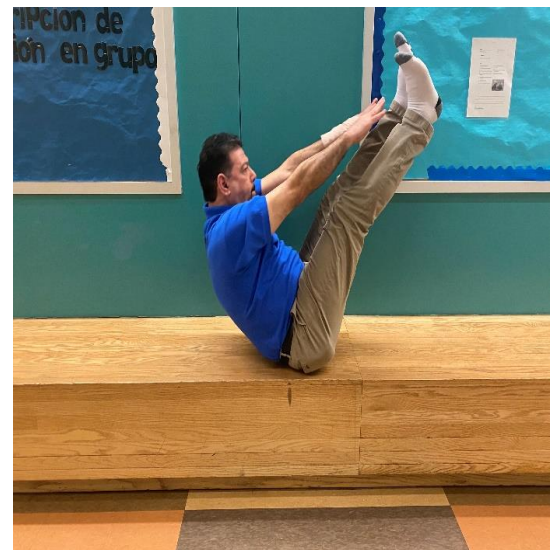


## Set-Ups

5 sets of 20 setups, 30 seconds rest, you can do some or all of those exercises:









## Squat and Core Exercises

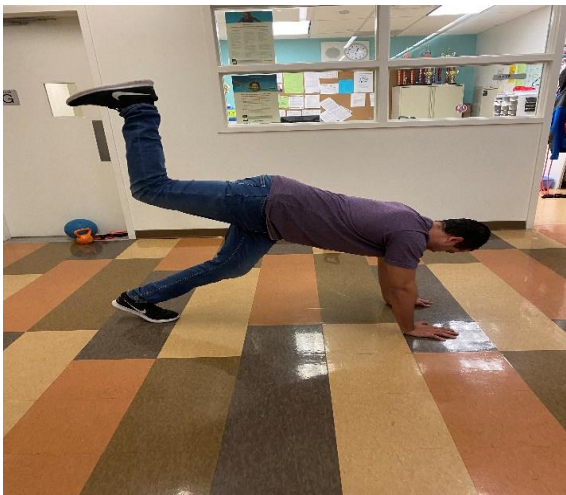
You can repeat each one of those practices 10-20 times.

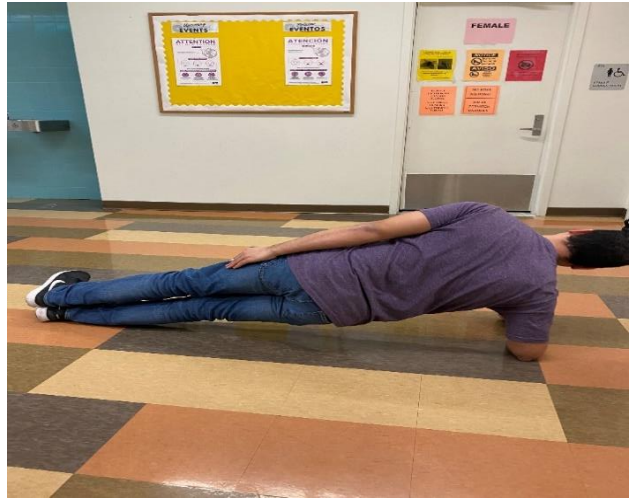
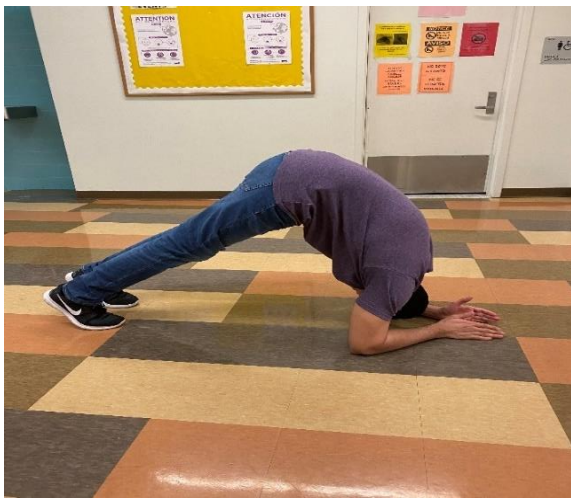
Get 30 second rest in between.











## Pull-Ups Exercises

It is a little difficult for young swimmers boys and girls to do pull ups and also, most of you don't have a pull up equipment at home.

So, you are excuse from the pull ups exercises, except if you have access and you able to do it. Hopfully under adult supervision!

## Running Exercises

In general, for running exercises, you can use 30 second work- and-30 second rest as an example during repeat some or all of those exercises. You can repeat each practice 5-10 minutes (5-10 times).

1. Regular Running in place,
2. Running in place with lift knees up,
3. Running in place and jump each 5 second to touch your short by the heels,
4. Speed play Running in place, speed up running each 10 second.
5. Hop on one leg in place: 15 second on the right leg then switch 15 second for the left.
6. Jump in both legs in place, fast and small jumping,
7. Run forward and back ward in any available area, 10 to 20 yards that you can run in, repeat for 30 seconds,
8. Zigzag Running in 10 to 20 yards, repeat for 30 seconds
9. Side run to 10-20 yard: go on your right, come back on your left, repeat for 30 seconds,
- 10 Rabbit jump, or Mixing running for 30 second work-30 second rest.



You Can also do the **Jump Rope** if you have one.

---

## Using Exercise Machines

You can use the Ergometer or Treadmill if you have access to. Or joining a Gym under supervising



**Ergometer**



**Treadmill**

## Mixing Running with other Body Resistance Exercises:

You can also make your own mixed exercise using your most favorite work-out to make your signature work-out!

For example; run in place for a minute then do 5 push-ups, run in place for a minute then do 10 set ups, run in place for a minute then do 30 times freestyle arm action with cord band, run again for a minute the do 30 times breaststroke arm action, ....etc.

You can do that for 15 minutes, and see how many cycles you can do in that time.

Or, chose few mixed exercises and try to do continues three cycles and see how many minutes you finish that 3 sets, then try to repeat and finish it in less times, etc.

It is your time, your place, your equipment your willing, and your Goal.

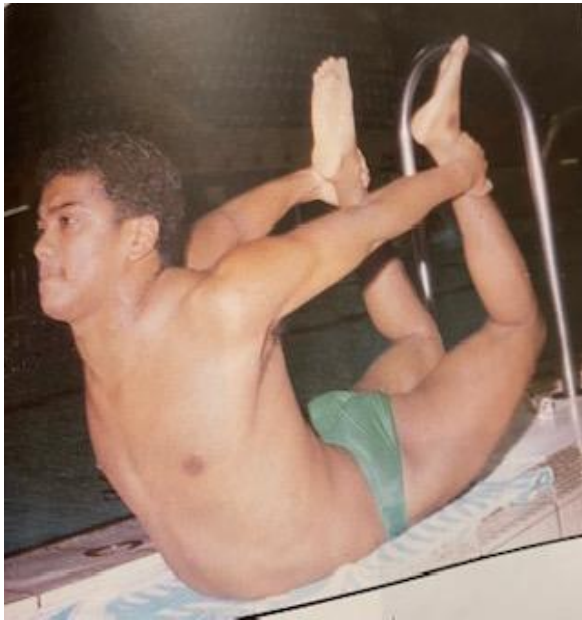
**We are always here for you!**

## Flexibility

In Swimming, in order to have correct style or great performance in any stroke, you need to have good flexibility. Flexibility in swimming means the ability to perform a wide range of moves and with easy movements in all your body joints.

There is:

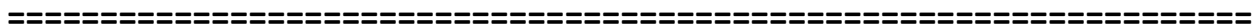
- General flexibility, means that swimmer has high level of movement abilities in all the joints.
- Special Flexibility, means that swimmer needs specific flexibility for specific joints in specific event.
- Also, there is Positive Flexibility (naturally) and Negative Flexibility (with assistances).
- There are thousands of Flexibility Exercises such as: All arm swings, all arm circles, all stretching, leg swinging, neck flexibility, torso, back, etc.



**Positive Flexibility**

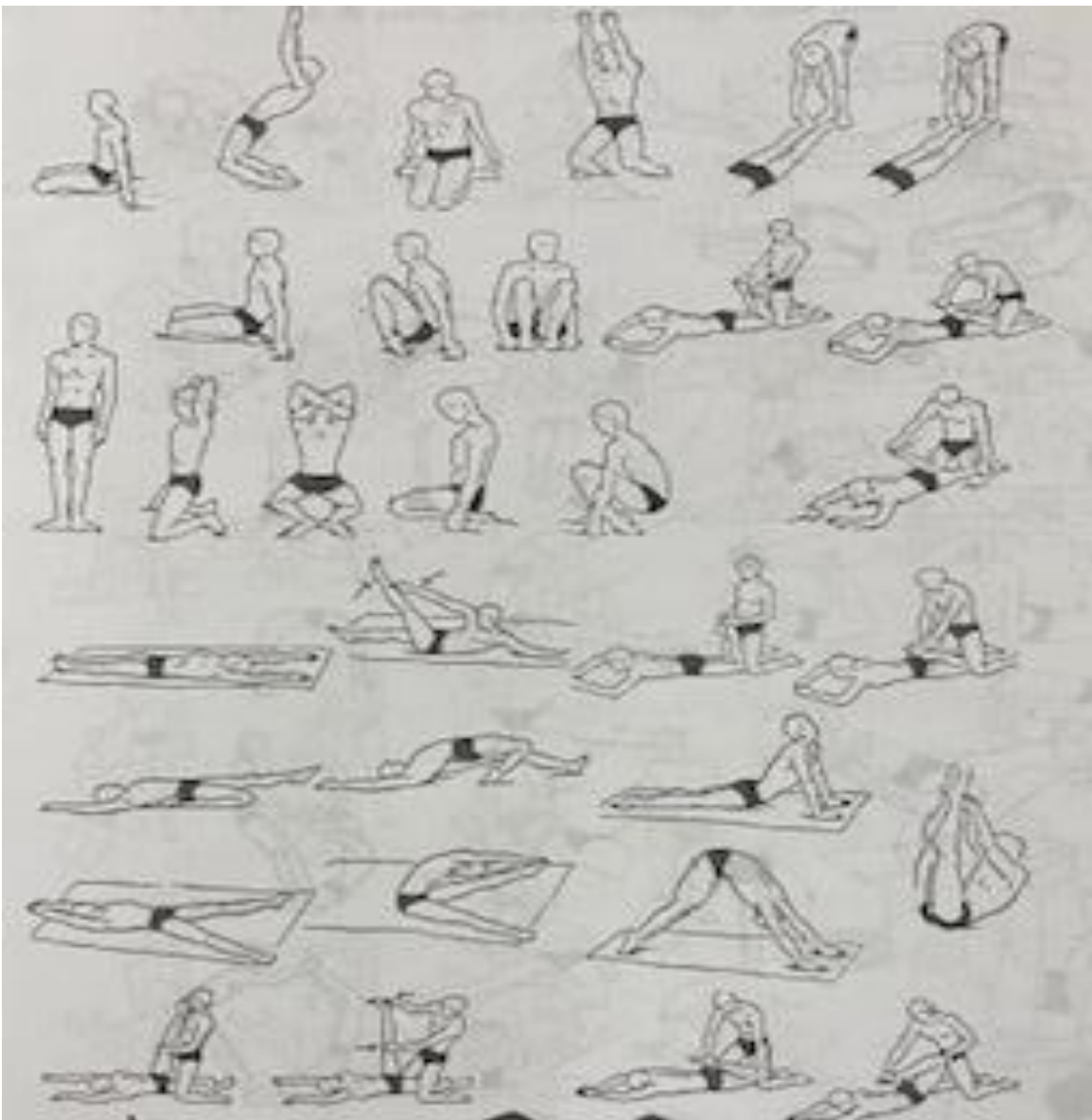


**Negative Flexibility**





**HEAD AND NECK FLEXIBILITY**



**ALL BODY FLEXIBILITY**

## **Endurance and Speed in water practices**

- Endurance and speed are two things that always working together in each swim practice.
- Speed is depending on the endurance, if swimmers have endurance, they can improve their speed.
- Swimming is one of the Endurance Sports, like Running, and Rowing.

Swimming built on A few movements and keep repeating, in fact, it is the same arm action in 25 yards sprint or in swimming the mile! Still repeating same moves from the start to the end. Same kicking from the start to the end. Same head movement to take breath. So, it is better to perform these few skills perfectly in order to be perfect swimmer, of course, with different speed from swimmer to other swimmer, from level to level, and from event to event. Most swimmers practice few hours each day, 3-12 times a week, 3000-10000 yards a day for few months then you might swim only one or two events like 50 and 100 free in just 20/25 seconds for the 50, and under a minute for the 100! So, why we practice all year round? Because you need to have endurance to build up your speed in each part of the race.

- What makes the differences? among tons, hundreds, or even thousands of swimmers to find that only one of them can win the race and get first? while all other swimmers practice hard, maybe practice more, but they didn't make it? What make different is the coach!
- Here are why all coaches have to understand and be aware of everything that they can think, read, see, study, experiment, apply, do, and can use it in their plans, practice, work-out, communicate... Everything will make this different.
- Nowadays, many higher-level coaches are working closely with Psychiatric, Personal Trainers, Nutritionists, even race Analyses, to help them to make these levels of champions. So, those coaches have main job to do, which is doing the work in water to their swimmers, building all kinds of Endurance and speed, side to side with refining and perfect the styles or techniques.

- Coaches analyzing what their swimmers done at the races to figure out any weakness in any part of the race, then working hard to fix it.
- And because there is not an ideal stroke technique that all swimmers have to follow, and there are many different styles used by top swimmers in the world in each event, boys/girls/men/women/younger/older/sprinters, distances, etc.
- So, Let's get more deeper in water practice not the style. And that is the reason for writing this book, to educate young coaches for what makes your practice good and help your swimmers to achieve what they are looking for?
- Experiences and successful coaches have the knowledge of the science of sporting training and aware of all the training basics that involving and are parts of the training process.
- Let's put together in next pages all important and basics principals of swim training with some easy explanations for each part.
  
- At the end of this chapter, we are offering over a hundred of water work-outs as references to everyone.



## Level of Swimmers

Simply, there are three main levels of swimmers, Beginners, intermediates, and advanced. In next few pages I suggest some charts that explain those three levels of swimmers, as in open ages not in each single age group. And each of those three levels for sure has many degrees under that level as will.

But also, before going to those charts, logically, you can consider age group swimmers are in level 1 if they make AAAA in an event, and level 2 for swimmers who basically made AAA / AA, and A, and then level 3 for those who didn't yet reach level 2, or we can say the swimmers in level BB / B / and Slower than B. as of 2017-2020 National Age Group Motivational Times.

**Chart 1) SUGGESTED SWIM LEVEL IN 50 METERS POOL FOR BOYS (open age)**

Events (meter)	Advanced LEVEL 1)	Intermediates LEVEL 2)	Beginners LEVEL 3)
50 FREE	Under 26.00	26.00-35.00	Over 35.00
100 FREE	Under 57.00	57.00-1:12.00	Over 1:12.00
200 FREE	Under 2:05.00	2:05.00-2:30.00	Over 2:30.00
400 FREE	Under 4:30.00	4:30.00-6:00.00	Over 6:00.00
800 FREE	Under 9:30.00	9:30.00-11:00.00	Over 11:00.00
1500 FREE	Under 19:00.00	19:00.00-22:00.00	Over 22:00.00
100 BACK	Under 1:02.00	1:02.00-1:15.00	Over 1:15.00
200 BACK	Under 2:14.00	2:14.00-2:45.00	Over 2:45.00
100 BREAST	Under 1:11.00	1:12.00-1:22.00	Over 1:22.00
200 BREAST	Under 2:25.00	2:25.00-2:50.00	Over 2:50.00
100 BUTTERFLY	Under 1:00.00	1:00.00-1:12.00	Over 1:12.00
200 BUTTERFLY	Under 2:12.00	2:12.00-2:40.00	Over 2:40.00
200 IM	Under 2:15.00	2:15.00-2:45.00	Over 2:45.00
400 IM	Under 4:50.00	4:50.00-5:45.00	Over 5:45.00



**CHART 2) SUGGESTED SWIM LEVEL IN 50 METER POOL FOR GIRLS**

EVENT (meter)	LEVEL 1)	LEVEL 2)	LEVEL 3)
50 FREE	Under 29.00	29.00-37.00	Over 37.00
100 FREE	Under 1:02.00	1:02.00-1:24.00	Over 1:24.00
200 FREE	Under 2:10.00	2:10.00-2:40.00	Over 2:40.00
400 FREE	Under 4:40.00	4:40.00-6:30.00	Over 6:30.00
800 FREE	Under 10:00.00	10:00.00-12:00.00	Over 12:00.00
1500 FREE	Under 20:00.00	20:00.00-24:00.00	Over 24:00.00
100 BACK	Under 1:08.00	1:08.00-1:20.00	Over 1:24.00
200 BACK	Under 2:25.00	2:25.00-3:00.00	Over 3:00.00
100 BREAST	Under 1:18.00	1:18.00-1:30.00	Over 1:30.00
200 BREAST	Under 2:45.00	2:45.00-3:00.00	Over 3:00.00
100 BUTTERFLY	Under 1:07.00	1:07.00-1:17.00	Over 1:17.00
200 BUTTERFLY	Under 2:20.00	2:20.00-2:50.00	Over 2:50.00
200 IM	Under 2:25.00	2:25.00-3:00.00	Over 3:00.00
400 IM	Under 5:10.00	5:10.00-6:00.00	Over 6:00.00

**CHART 3) SUGGESTED SWIM LEVEL IN 25 YARD POOL FOR BOYS (open age)**

EVENT (meter)	LEVEL 1)	LEVEL 2)	LEVEL 3)
50 FREE	Under 23.00	23.00-30.00	Over 30.00
100 FREE	Under 48.00	48.00-56.00	Over 56.00
200 FREE	Under 1:48.00	1:48.00-2:10.00	Over 2:10.00
500 FREE	Under 5:00.00	5:00.00-6:00.00	Over 6:00.00
800 FREE	Under 9:00.00	9:00.00-10:00.00	Over 10:00.00
1500 FREE	Under 16:20.00	16:20.00-18:30.00	Over 18:30.00
100 BACK	Under 53.00	53.00-1:00.00	Over 1:00.00
200 BACK	Under 2:00.00	2:00.00-2:20.00	Over 2:20.00
100 BREAST	Under 59.00	59.00-1:08.00	Over 1:08.00
200 BREAST	Under 2:08.00	2:08.00-2:20.00	Over 2:20.00
100 BUTTERFLY	Under 52.00	52.00-58.00	Over 58.00
200 BUTTERFLY	Under 1:56.00	1:56.00-2:15.00	Over 2:15.00
200 IM	Under 2:00.00	2:00.00-2:20.00	Over 2:20.00
400 IM	Under 4:15.00	4:15.00-5:00.00	Over 5:00.00

#### CHART 4) SUGGESTED SWIM LEVEL IN 25 YARD POOL FOR GIRLS

EVENT (meter)	LEVEL 1)	LEVEL 2)	LEVEL 3)
50 FREE	Under 25.00	25.00-32.00	Over 32.00
100 FREE	Under 54.00	54.00-1:00.00	Over 1:00.00
200 FREE	Under 1:57.00	1:57.00-2:18.00	Over 2:18.00
500 FREE	Under 5:20.00	5:20.00-6:20.00	Over 6:20.00
800 FREE	Under 9:30.00	9:30.00-10:30.00	Over 10:30.00
1500 FREE	Under 16:50.00	16:50.00-19:10.00	Over 19:10.00
100 BACK	Under 56.00	56.00-1:03.00	Over 1:03.00
200 BACK	Under 2:10.00	2:10.00-2:25.00	Over 2:25.00
100 BREAST	Under 1:04.00	1:04.00-1:12.00	Over 1:12.00
200 BREAST	Under 2:22.00	2:22.00-2:32.00	Over 2:32.00
100 BUTTERFLY	Under 56.00	55.00-1:01.00	Over 1:01.00
200 BUTTERFLY	Under 2:04.00	2:04.00-2:20.00	Over 2:20.00
200 IM	Under 2:10.00	2:10.00-2:20.00	Over 2:20.00
400 IM	Under 4:35.00	4:35.00-5:10.00	Over 5:10.00

Those charts are just my suggestion to divide swimmers into three levels. So, later when I put work-out for specific level of swimmers, you can understand the principals of writing the in-water work out for that level.

I think that all of you by now got an idea about the level of swimmers, which can obviously indicate to the level of competition!

## **Level of Competitions:**

For the age group swimmers, there are: 3 levels of competition: 1) Silver and Bronze Championships, are ranging between BB and Slower than B. 2) J.O or Junior Olympics and Zone Championships, which include swimmers between level AAA and A. 3) AAAA, Sectional, Junior National, or even some swimmers 13-18 years old can reach National level in some events and usually those swimmers are top 10 in the whole country or age group record holders in their Local Swimming Committee or for all USA swimming. And for the older swimmers, there are a lot of local LSC open swim meets and championships all year round, in different level, different times, and different locations such as; Senior Zone, Sectional, Junior and Senior National, US Open, Arena series Championships, College meets and NCAA, Pan Pacific, Olympic Trial, World Championships and Olympic Games.

**Olympic Trials**

**US Open**

**Summer National**

**Summer Junior National**

**Winter National**

**Junior Winter National**

**NCSA**

**AAAA**

**AAA**

**AA**

**A**

**BB**

**B**

**Slower Than B**

## Physiological Principals in Sports Training

During any physical activities and exertion, human muscles need fuel which provides them with the ability to continue to exert this effort.

As happens for vehicles whose movement depend on combustion of certain chemicals or a specific chemic fuel, this combustion results in exhaust or residues that differ according to the type of energy used, as well as speed or effort. Also, the swimmer depends in his progress inside the water on the main types of fuel or energy, which also differ according to the effort exerted.

Swimming short distances with a very large effort or sprinting, depends on a quick source to generate this type of energy. This source is located inside the muscles of the body and is called Adenosine Tri Phosphate and Phosphate Creatine. Or ATP/CP. Also, this arduous effort that occurs on the muscles results in rapid muscle fatigue as a result of the accumulate of specific substance called lactic acid. As in 50 yard or meter race, where the speed reaches 95-100 % of the effort.

And because it does not depend on the external oxygen derived from the air while breathing in swimming, this system is called anaerobic training.

The more distance in swimming races, the more depending on oxygen, and less effort swimmers can do.

Experience swim coaches knew that there are 4 main physiological principals that they all followed and understood it while planning and putting their swim practices which are:

1. **Quality of training**, in terms of race distance, swimming time, and the same movements involved in this swimming, in order to focus on the training working muscles and participating in this swimming.
2. **Increase training load**, the efficiency of the swimmer's muscles and the body system increase when training with a maximum of only a certain period of time. Then to keep this improving going, you have to challenge these muscles with increasing the load of training gradually, through increases the intense, or decrease the rest interval, or increase the repeats, or the length of practice or combined two or more things together with

very caution and enough times to allowed the muscles to adopt these changing without any injuries.

3. **Comprehensive development**, or balanced developing in all physical fitness and all other group of muscles not only the one you use it most.
4. **Individual differences**, ages, gender, levels, body anthropology, ability of endurance, power, muscular strength, flexibility, talent, etc.

=====

Endurance in swim practice in few words means the ability to swim for long periods of times or and for big number of repeats, or both of them. Endurance in swimming races means the ability to start and finish your race with high level of speed during all distance of the race.

- There is general Endurance, swimmers need it every day in each practice, and before the set that needs special endurance.
- And there is a special endurance for specific group of muscles, special time of the season, specific strokes, specific distance for specific race. And for each level of swimmers.

## Training Methods in Competitive Swimming

I will put here most methods of training and what they are improve?

Classical Methods	Modern Methods	Percentages	Developing
<p><b>*Continuous training:</b> (1500 free or 20 min swim</p> <p><b>*Slow interval Training:</b> (20 x50) 10-20 seconds rest)</p>	<p><b>*Aerobic Training Threshold (AT)</b></p> <p><b>*Speed Play Training:</b> 25fast/25 slower /50/50/100/100 etc.</p> <p><b>*VO2 Max Training</b></p>	<p>60-75% from the maximum speed</p> <p>60% then/ 75%</p>	<p>*General Endurance</p> <p>*Cardiorespiratory Endurance</p> <p>*Muscular Endurance</p> <p>*Speed Endurance</p>
<p><b>*Repetition Training</b></p> <p><b>*Fast interval Training</b></p>	<p><b>*Lactic training</b></p> <p><b>*Sprint Training</b></p> <p><b>*VO2 Max Training</b></p> <p><b>*Anaerobic Training</b></p>	<p>70-85%</p> <p>Less Breathing</p>	<p>*Special Endurance</p>
<p><b>*Fast interval Training</b></p> <p><b>*Repetition Training</b></p>	<p><b>*Race-Pace training</b></p> <p><b>*Lactic training</b></p> <p><b>*VO2 Max Training</b></p> <p><b>*Anaerobic Training</b></p>	<p>*Same speed as the race for each part</p> <p>*75-90%</p> <p>*75%</p> <p>Less Breathing</p>	<p>*Speed</p>
<p><b>*Sprint Training</b> From push off or starts, 15-25 yards very fast, less breathing.</p>	<p><b>*Sprint Training</b> <b>Fast starts, turns and finishes</b></p> <p><b>ATP-CP</b></p> <p><b>*USRPT (Ultra Short Race Pace Training)</b></p>	<p>90 -95-100%</p> <p>Simulator speed As in races</p>	<p>*Maximum Speed</p>

**(Ultra-Short Race Pace Training; USRPT)** Which involves very low volume, all at race pace. For example: if 100 free swimmers' time is 48, that means each 25 in 12 second, so USRPT is 16 x 25 on 15 seconds rest only, the swimmer tries repeat each 25 in time of 15, or maybe 15.50 but not more. It is very hard but by the time swimmers can do it.

I already use similar aspect with my unique swimmers each Saturday sprint practice, but as soon as they can't hold the splitting time, that I put for each swimmer, I have to stop. Or better do as 2 (8 x 25), or 3 (6 x 25) or 4 (4x25) so they can get some rest between sets first because they are not that high level as Michael Andrew, and second, because most of them usually under 14 years old.



## **Suggestion for time of the swim season with the volume of daily practice for each level of swimmers**

I put here just an example for the volume of the weekly practice that matching with the level of the swimmers and the time of the seasonal or yearly plan to insure not exceeding or hurting the young swimmers. Just to in lighting how coaches managing their water workout with each swimmer and the goal of practice.

<b>Season periods</b>	<b>Levels</b>	<b>Advanced</b>	<b>Intermediate</b>	<b>Beginners</b>
General Preparation period	Daily Volume	3000-5000 y.	2000-3000	1500-2500
	Total# of swim practices	7-9 times A week	4-6 times A week	3-5 times A week
Especial Preparation period	Daily Volume	3500-6000 y.	2500-3500	2000-3000
	Total# of swim practice	8-11 times A week	6-8 times A week	5-7 times A week
Hard Training Period	Daily Volume	4000-over 6000 y.	3000-4000	2500-3500
	Total# of swim practice	9-12 times A week	6-9 times A week	6-9 times A week
Tapering period	Daily Volume	2000-3000 y.	1500-2500	1200-2500
	Total# of swim practice	Not less than 9 times a week	6-9 times A week	6-9 times A week
Competition period	Daily Volume	1500-3000	800-1500	800-1200
	Total# of swim practice	1-2 times A day	Once a day	Once a day

There are always many ways to manage the Volume, Time of the season, Period of each practice, Level of swimmers, Number of the team members, and the Space that you have at the pool for your swim practice.

## Suggestions of Principals of levels of Intensity with the Volume of training, and the Rest Interval among repeats

It is time now to know -before you write the work out -the levels of intensity and its relationship with the volume of practice and the rest interval between repeats. To avoid any injuries to your swimmers I will give you some examples her in this chart

<b>Level of intensity</b>	<b>Volume of training</b>	<b>Rest interval periods And examples</b>
95-100%	1 time to 3 times only Or 4 times for short distances.	“Long rest, complete recovery” 5 or more minutes for short distances (like timing 25 yard then timing 50 with diving) or 10 minutes if you repeat 75 or 100 2 – 3 times or 15 minutes rest if you timing 200 any stroke for 2 times.
90-95%	3-5 times	“Less rest but complete recovery” 4 x 100 on 5 min. or 5 x 200 on 7 min or 2 (2x100) on 4 min, with 5 min between sets.
85-90%	6-10 times	“short rest 45 sec-3 min” 5 times 2x100 on 2min, and 2 min rest after each set. 5x200 on 4 min.
80-85%	10-15 times	“Short rest not complete recovery”30-90 sec” 10x50 on 1 min. or 12 x 100 on 2 min 200 IM on 3 min then 100 free on 90 second then 4x25 on 40 seconds (Repeat this sets 3-5 times 2 min rest in between)
70-80%	20 times or more in short or not very long sets	<ul style="list-style-type: none"> <li>- 30x50 free on 1 min.</li> <li>- 3 (4x200 on 3:15) 1 min rest in between</li> <li>- 20 x100 {75 free 70%/25 fly fast (80%)}</li> <li>- 4 (25/50/100/50/25) all strokes</li> <li>- 8X50 FR on 50 sec/ 8x50 choice on 60 sec/ 8x50 IM on 1 min.</li> </ul>

## The Percentage of intensity in swimming

If your best time in 100 free is 60 seconds or 1:00.00, So, 100% is equal to your best time = 60 sec, or 1:00.00. Each 10% is = 6 seconds and each 5%= 3 seconds

So, if you swim 90% that mean slower 6 seconds than your 1:00.00 = 1:06.00

80% = 60+6+6= 1:12.00, 70%= 60+6+6+6= 1:18.00, 60, 60%= 1:24.00

95%=60+3=63sec or 1:03.00, 85% 69 sec, or 1:09.00, 75%=60+15=75" or 1:15.00

### Percentage of Intensity

We will not put here in this percentage chart all the times from one second to one hour! But will put the average for beginners and intermediate in yard and meter in most distances that most coaches use it in their swim practices;

### Percentage of Times for 25 Yards or Meter Swim (chart 1).

Best time	100%	95%	90%	85%	80%	75%	70%
9 seconds	9.00	9.45	9.90	10.35	10.80	11.25	11.70
10.00 sec.	10.00	10.50	11.00	11.50	12.00	12.50	13.00
11.00	11.00	11.55	12.10	12.65	13.20	13.75	14.30
12.00	12.00	12.60	13.20	13.80	14.40	15.00	15.60
13.00	13.00	13.65	14.30	14.95	15.60	16.25	16.90
14.00	14.00	14.70	15.40	16.10	16.80	17.50	18.20
15.00	15.00	15.75	16.50	17.25	18.00	18.75	19.50
16.00	16.00	16.80	17.60	18.40	19.20	20.00	20.80
17.00	17.00	17.85	18.70	19.55	20.40	21.25	22.10
18.00	18.00	18.90	19.80	20.70	21.60	22.50	23.40
19.00	19.00	19.95	20.90	21.85	22.80	23.75	24.70
20.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00
21.00	21.00	22.05	23.10	24.15	25.20	26.25	27.30
22.00	22.00	23.10	24.20	25.30	26.40	27.50	28.60

## Percentage of Times for 50 Yards or Meter Swim (Chart 2)

Best time	100%	95%	90%	85%	80%	75%	70%
23.00	23.00	24.15	25.30	26.45	27.60	28.75	29.90
24.00	24.00	25.20	26.40	27.60	28.80	30.00	31.20
25.00	25.00	26.25	27.50	28.75	30.00	31.25	32.50
26.00	26.00	27.30	28.60	29.90	31.20	32.50	33.80
27.00	27.00	28.35	29.70	31.05	32.40	33.75	35.10
28.00	28.00	29.40	30.80	32.20	33.60	35.00	36.40
29.00	29.00	30.45	31.90	33.35	34.80	36.25	37.70
30.00	30.00	31.50	33.00	34.50	36.00	37.50	39.00
31.00	31.00	32.55	34.10	35.65	37.20	38.75	40.30
32.00	32.00	33.60	35.20	36.80	38.40	40.00	41.60
33.00	33.00	34.65	36.30	37.95	39.60	41.25	42.90
34.00	34.00	35.70	37.40	39.10	40.80	42.50	44.20
35.00	35.00	36.75	38.50	40.25	42.00	43.75	45.50
36.00	36.00	37.80	39.60	41.40	43.20	45.00	46.80
37.00	37.00	38.85	40.70	42.55	44.40	46.25	48.10
38.00	38.00	39.90	41.80	43.70	45.60	47.50	49.40
39.00	39.00	40.95	42.90	44.85	46.80	48.75	50.70
40.00	40.00	42.00	44.00	46.00	48.00	50.00	52.00
41.00	41.00	43.05	45.10	47.15	49.20	51.25	53.30
42.00	42.00	44.10	46.20	48.30	50.40	52.50	54.60
43.00	43.00	45.15	47.30	49.45	51.60	53.75	55.90
44.00	44.00	46.20	48.40	50.60	52.80	55.00	57.20
45.00	45.00	47.25	49.50	51.75	54.00	56.25	58.50
46.00	46.00	48.30	50.60	52.90	55.20	57.50	59.80
47.00	47.00	49.35	51.70	54.05	56.40	58.75	1:01.10

## Percentage for 100 Yards or Meter Swim Chart (3)

<b>Best time</b>	<b>100%</b>	<b>95%</b>	<b>90%</b>	<b>85%</b>	<b>80%</b>	<b>75%</b>	<b>70%</b>
48.00	48.00	50.40	52.80	55.20	57.60	1:00.00	1:02.40
49.00	49.00	51.45	53.90	56.35	58.80	1:01.25	1:03.70
50.00	50.00	52.50	55.00	57.50	1:00.00	1:02.50	1:05.00
51.00	51.00	53.55	56.10	58.65	1:01.20	1:03.75	1:06.30
52.00	52.00	54.60	57.20	59.80	1:02.40	1:05.00	1:07.60
53.00	53.00	55.65	58.30	1:00.95	1:03.60	1:06.25	1:08.90
54.00	54.00	56.70	59.40	1:02.10	1:04.80	1:07.50	1:10.20
55.00	55.00	57.75	1:00.50	1:03.25	1:06.00	1:08.75	1:11.50
56.00	56.00	58.80	1:01.60	1:04.40	1:07.20	1:10.00	1:12.80
57.00	57.00	59.85	1:02.70	1:05.55	1:08.40	1:11.25	1:14.10
58.00	58.00	1:00.90	1:03.80	1:06.70	1:09.60	1:12.50	1:15.40
59.00	59.00	1:01.95	1:04.90	1:07.85	1:10.80	1:13.75	1:16.70
1:00.00	1:00.00	1:03.00	1:06.00	1:09.00	1:12.00	1:15.00	1:18.00
1:02.00	1:02.00	1:05.10	1:08.20	1:11.30	1:14.40	1:17.50	1:20.60
1:04.00	1:04.00	1:07.20	1:10.40	1:13.60	1:16.80	1:20.00	1:23.20
1:06.00	1:06.00	1:09.30	1:12.60	1:15.90	1:19.20	1:22.50	1:25.80
1:08.00	1:08.00	1:11.40	1:14.80	1:18.20	1:21.50	1:25.00	1:28.40
1:10.00	1:10.00	1:13.50	1:17.00	1:20.50	1:24.00	1:27.50	1:31.00
1:12.00	1:12.00	1:15.60	1:19.20	1:22.80	1:26.40	1:30.00	1:33.60
1:14.00	1:14.00	1:17.70	1:21.40	1:25.10	1:28.80	1:32.50	1:36.20
1:16.00	1:16.00	1:19.80	1:23.60	1:27.40	1:31.20	1:35.00	1:38.80
1:18.00	1:18.00	1:21.90	1:25.80	1:29.70	1:33.60	1:37.50	1:41.40
1:20.00	1:20.00	1:24.00	1:28.00	1:32.00	1:36.00	1:40.00	1:44.00
1:22.00	1:22.00	1:26.10	1:30.20	1:34.30	1:38.40	1:42.50	1:46.60
1:25.00	1:25.00	1:29.25	1:33.50	1:37.75	1:42.00	1:46.25	1:50.50
1:28.00	1:28.00	1:32.40	1:36.80	1:41.20	1:45.60	1:50.00	1:54.40
1:30.00	1:30.00	1:34.50	1:39.00	1:43.50	1:48.00	1:52.50	1:57.00
1:33.00	1:33.00	1:37.65	1:42.30	1:46.95	1:51.60	1:56.25	2:00.90
1:36.00	1:36.00	1:40.80	1:45.60	1:50.40	1:55.20	2:00.00	2:04.80
1:38.00	1:38.00	1:42.90	1:47.80	1:52.70	1:57.60	2:02.50	2:07.40
1:40.00	1:40.00	1:45.00	1:50.00	1:55.00	2:00.00	2:05.00	2:10.00
1:44.00	1:44.00	1:49.20	1:54.40	1:59.60	2:04.80	2:10.00	2:15.20
1:48.00	1:48.00	1:53.40	1:58.80	2:04.20	2:09.60	2:15.00	2:20.40

## **Swimming Training Plans**

### **The Swimming Seasons in the United states of America:**

As you might know that usually we have Short Course Yard swim season which starts from September to March and Summer Long Course Meter swim season from May to August each year. All USA Swim Clubs allowed to participate in those two seasons, and the club administration or the head coach deciding what and when the swim team participate. Also, all Championships have its cut or qualified times that swimmers have to reached in previous swim meets, usually in last year from this Championship dates, in order to enter (get qualified) to those meets.

We can also mention here the Girls High School Season from September to November, and the Boys High School Season from November to February.

And College Season All Divisions (I, II and III), they all start from last week of August or first week of September to the end of February or beginning of March for the Zones Conferences, and if some swimmers get qualified by making the cut, they can go to the National as known as NCAA Championships.

Depending on the level and the goals, coaches have many different training plans to achieve those goals, between long and short term plans (coaching preparing some swimmers to Olympic Games each 4 years, or World Championships each 2 years, or Summer National each 1 year, or Arena Serie 5 times a year, or few weeks to one week plan then the daily plans or each day practice.

But we are here will put the spot light on the normal yearly or seasonal plans and for the beginners and the intermediated level, which they are the majority swimmers in all over the world. Plus, you can easily find on the internet or in CDs or even in many books a lot of different plans and huge work-out for world class swimmers especially after they quit swimming and have times to share their stories of successful.

## **The Contents of Major Yearly Plans in Swimming:**

1. **General Preparation period;** which usually takes few months and includes fixing all strokes, improving the technique, building general endurance, take care of the starts and turns, more IM swimming, increase the times of swim practice gradually, repeat more middle and long distances in practice, or uploading gradually the volume of yardage, the intense of percentage, and decrease gradually the time of the rest among repeats and many other aspects that have to follow the principles of methods of training.
2. **Specific Preparation period;** which including more focus on the swimming strokes (free, back, breast, fly, or IM) the distant of competition for each swimmer (1500m, 800m, 400m, 200m, 100 or 50 yard or meter free, 50/100/200 BK, BR, FLY, or IM)
3. **Hard Training period;** which is usually takes one to two months, simply for loading the swimmers with more mileage, highly intensive, more hard work, more challenging swim sets, more repeats, less rests...to elevate the maximum capacity for those swimmers to let them very will preparing and ready for the same situations in real races that are coming soon.
4. **Tapering period;** which usually one to three weeks prior to the main championships, which direct to less volumes, might be reducing also the number of practices per week, and uses more rest intervals.
5. **The competition days,** which usually warm ups and warm down before and after the races.

That was the classical scenario for the seasonal plans, but nowadays, coaches are more creative and more knowledge so, they always find different ways to help their swimmers reaching their higher levels, and keep them in best shape for upcoming important meets or championships.

I am, one of those coaches who believe that each swimmer is different, each swimmer needs their own plans that can work better for them according to their levels, goals, talented, ages, events, participating in meets and championships, experiences, attendances, time and space in the pool, ...etc.

So, my seasonal plans are completely different than classical season plans.

My Training Plan, is just different, it is building on three major aspects:

- The amount of time that I have in the pool, and the number of practice each swimmer usually comes in each week.
- The talent, readiness, and the willing that some swimmers in my team have.
- The time and level of the upcoming championships that I plan for my best swimmers to participate in.

With my experience and my assistant coaches, and with my 30-50 swimmers each practice, we can manage the way we coach all our swimmers every time. I always write each part of my daily practice with three different level of (distances, efforts, time to rest, and even what strokes for each group).

Each practice, we put all the beginners in one or two lanes, to concentrate on technique in each stroke, teaching diving, teaching turns, and touching, etc. While one or two other lanes for the intermediate swimmers, with adjusting the work out to be much easier than group one the advanced.

Then, according to my general plan for the team, to prepare all swimmers to the upcoming Championships, I put the main two sets each practice to improve the main 2-3 events for each swimmer.

I usually use Race-pace sets in each practice with many different ways for example, if I need to work in improving the 100 free, I can put many sets then I chose which one or two I will use for today's practice, such as:

- 5 times (2 x 50) on 1.00 and ask all swimmers try to swim each 50 as your second 50 in the race (usually I ask them try to swim 3-4 second slower than their best 50. With concentrate for each turn, the number of breathing each lap, the straight arms better than bending elbows too much, the speed of the arms, and kicking hard special after each push off.
- 8 x50 with start (two groups) if the lane has 5 swimmers, and I have only 2 lanes for advanced swimmers, I can let fast two swimmers go group one, then after 5- or 10-seconds group two, then group three. Also, I divided the advanced swimmers into 2 or 3 waves or groups, group one swimming while groups 2 and 3 are out of the water waiting for their turn.

The main goal for each swimmer is to try to maintain the speed of 3-4 seconds slower than their best times each repeat.



When I have less swimmers or I can do many groups, I can take one or two swimmers only and swim 4x100 on 30 second rest, first 50, in 6-10 second from best time then do turn and swim second 50, in 3-4 seconds from the best time. (Negative split).

Or, 3 x 200 free, first and third 50 easy, and second and last 50 very fast whether we timed them or not.

Or, 4x50 on 1 minute, each one fast, then get out and dive and swim 100 as fast as you can.

Or, 4 times (4x25 on 40 sec) with turn, try to swim 1-2 seconds slower than their best time in 25. Each swimmer has to finish each 25 by doing turns not finishing by the hand.

Or, 4x75 with diving, groups, faster or same best time in the first 75 in your best 100 in the race. Try to beat your best time in 75.

Or, (25-50-25) 10 sec rest (put the times together for those three parts) and try to beat your best 100, taking the 10 seconds rest could be by looking to the base-clock on wall or pool deck or count one/one hundred, two one hundred, three one hundred, etc. I can Repeat this set (2-5 times).

Or, swim 1x 100 slower 10 seconds from your best time, take 10 seconds rest then, swim 2x50 (try to swim 2-4 second slower than your best time) take 10 second rest then, 4x25 (try to swim 1-2 seconds slower than your best time) take 10 seconds rest then swim 2x50 again, and then swim 100 again! It is a hard set.

Or, swim 16x25 go fly, come back free with turn 95-100% from your best, on 35-45 seconds. Depending on the level.

# The Swim Sets

## Or How to Design the Unit (Swim Practice)

Coaches using many groups of repeats, distances, intensive, and rest interval periods to design their water work-out. In swimming, we call it

## The Training Sets in Swimming

SETS	EXAMPLES	MORE EXPLAINS
Straight Sets	12 x 50 free on 45 sec or 8 x 100 Br, or 16x25 IM etc.	Using Same Distances, some time for same stroke, same speed, same rest between repeats.
Descending Time set	4x100 on 2 min swim 1:30 then 1:25, then 1:20 then under 1:20.00	Repeat each one faster than the one before.
Decreasing Rest Interval set	8 x 75 #1 & 2 on 1 min #3 & 4 on 55 sec #5 & 6 on 50 sec Then #7 & 8 on 45 seconds	Decrease the rest interval each single or group of repeats And swimmers try manage to keep doing same speed or time each repeat.
Increase Rest Interval set	6 x 100 Add 5 second more rest after each repeat	Adding more rest after each repeat while swimmers try to maintain their speed each repeat
Out Slow-Back Hard set	4x200, 25 with 80% speed and 25 with 85-90% speed	Each 200 they go 80 % in first 100 and 90% second 100 or each 50 or 25
Varying Distances Set	400 free (time the 300) Then 300 faster than first one, & time the 200, Then 200 faster than one before, time the 100. then a 100 faster than one before, take time for the 50 then, 50 faster than one before.	In Each next and shorter part, swimmers have to challenge themselves to swim faster than the same distant inside previous Part since the distant each time getting shorter.
Broken Swim Set	50/100/50 or 8x25/4x50/2x100/1x200 with 10second rest	Break the race distance to some pieces then try to Repeat these parts with total times faster than real race time with short rest and for different distances
Simulator	4 (4x50) or 8x25	Break the distant into simulator parts
Pyramids Swim Set	25/50/100/200/100/50/25	Upload then downloads start small then go to bigger then go back to smaller pieces
Upside -down Pyramids Sets	200/150/100/50/100/150/200	Start big then go to smaller then come back to big pieces

## **“Suggestion”**

### **My Swim Practice (Daily Unit)**

Here is my own way to manage each swim practice in my last 30 years according to all these challenges and changings that we face it in the daily bases! And it works very well for me, many breaking records in Egypt, Saudi Arabia, and then in USA.

I am very proud of my famous sprint ways to manage those challenges.

Simply ask your swimmers to do their repeat according to the percentage of intense and their best times in this distant, I will put the percentages for most times in the upcoming chart after this example of how I put my swim practice for my teams

### **Simple Example;**

- Make your first 20-30 minutes regular warm up (face 1) like:  
(200-400 Freestyle + 200-400 Drills (usually IM) + 8-16 x 25 Kick fast With 10 sec rest) Do second Warm up more specific (face 2) like:

(16 x 25 on 40 sec. (25Fly/25 free) or (25 first choice/25 free) which is each swimmer has their own first choice events.

- Put your first main set as Rase -Pace for the main event for each swimmer, for example if you working on the 100 choice (each swimmer has their choices and best times) like:

2 times 4 X 100 choice on 2 minutes, (85%) that means each swimmer tries to repeat each 100 as 5-12 seconds slower than their best time.

Or swim 8 x 50 on 1:00.00 (85-90%) that means each swimmer tries to repeat each 50 as 3-6 second slower than their own best 50.

Or swim 8 x100 choice and try to swim the second 50 harder than first 50 to overcome the tiredness in real event at the race.

- Or in simple explanation, ask all swimmers to do second 50 as 4-5 seconds slower than my best time (if my best time in 50 is 26 second, and my best time in 100 is 59. So, If I try to swim in practice second 50 in each 100, in

30-31 seconds, I could be able 90% to swim in my race first 50 in 26-27 second and swim my second 50 in 30-31 second, so I can improve my time in a 100 to be 56 or 57. ( this is just to explain)

- Or swim 4 x 50 on a minute, and try to repeat each 50 in speed of 30 second, or repeat for 3 times the 4x50 on a minute but try to swim in 30 second each 50, So your body will be adopted in few weeks to swim the second 50 in 30 seconds.
- Put Some Distant for Drills, kicking or Arms like 200 or 400 or 8x50 or In fact, I love to do 25 from the middle of the pool in both side (group swim toward shallow side, and at same time in same lane other group swim toward the deep died) 25s with turns to improve all their turns all year round not only before the competitions!
- Put your second Main set for same or second event like 200 IM for example; 3 times {4 x 50 IM} try to swim 4-5 second slower than your best 50 in each stroke. Make it on 1 minute

- Put another 200-400 Drills, Kick, or Arms.

Usually in my most practices I like to do in -and- out set of;

4-8 x50 kicking with turns (with or without kick boards) full swimming after push-off, then kick, then turn fast, then kick, then finish fast and get some short rest.

- Do some Sprints with Diving like, 8 x 25 IM  
25 swim very fast from diving, then walk back to the block starts.

- Total = 1000+800+400+600+400+200 = about 3400 yards.

- 
- One of my many other ways to write work-out is to make one or two main sets to cover all strokes and all distances during the week- special in the beginning of each season- like;
    - Monday: Put a set or two of 1 x 1500 or 1000, or 2x 800 or 1000 on 14:00.00 then 800 on 11:00.00.
    - Tuesday: Put a set to repeats the 400 free or 400 IM like: 4x 400 on 7:00.00

- Wednesday: Put a set of 5-8 times 200 free or choice, or IM like: 8x 200 or
- Thursday: 8x 100, then 4x 100, then 2x 100 then 100 fast.
- Friday: Sprint day.

Or Same idea but for the strokes this time like;

Monday for freestyle long distances, Tuesday for IM long distances, Wednesday for first choice, Thursday for freestyle 100s and 50s, Friday for Mixed Sprints. Like 50s and 25s with diving.

=====

According to the goal of your practice, time of the season, level of your swimmer, you can put the work-out that can help swimmer (s) to achieve their goals.

In next few pages I will try here to simply explain the percentages of speed that many coaches use it to adjust their intensive of the repeats according to the goals of each part of work-out and according to the different kind of training methods

## How Swimmers Get Their Times After Each Repeat?

It will be easy if you are coaching only one swimmer at a time! And both of you knew his/her best times in each distance or each event! But usually you have your age group team, and your practice in 1 to 6 lanes, and each lane has 2-8 swimmers and they are usually in different levels, and more often in different ages, and in some cases some of them just came late while you are running the first or second main set?

Anyway, most coaches use one or more of these tools to time the swimmers during each practice:

- The Big wall clock on one or two ends of the pool.
  - The portable pace-clock on the deck on one or both pool sides.
  - Digital pace – clock on one side
  - And some of those digital clocks are adjustable so, coaches can change the time of repeats as they want to be for each set in the practice.
  - And many coaches including myself are using the Stop Watches in all parts of practice that need to be timed.
- 

According to the number of swimmers, the way coaches use it to time their swimmers, the timing system that you have at your pool, and the experience of the coach to use those time systems whenever they want to swimmers usually know their times each repeat.

- Usually, swimmers in same lane push the wall one by one each 5 seconds
- The first swimmer in the lane goes on the coach mark or the starting signal (Ready...Go, whistle, Hob) then following swimmers go after each 5 seconds. For example, 8 x 50 on one minute;
- First swimmer finished in 31.00, and second swimmer came in 35:00, so his/her time is 30.00 because he/she subtracts 5 seconds, and third swimmer came on 42.00 that mean his/her time is 32.00 because he/she subtracts 10 second, and so on...
- All swimmers can know their times each repeat by listening to the coach voice or by looking at the pace clock, wall clock or the digital watch.

## How Swimmers Organize their Speed During the Race

- How is the race distance? What is the typical rate of average speed during each section, or part of this distance? If you knew your swimmer's best 50 or 100 so, what do you expect from this swimmer in each 50, or 100 during swim the 200 or 400 events in a race? Is there an ideal form or rules that every swimmer has to follow in order to improve their times?
  - I answered all these questions and I put over a hundred examples in one of my book was written by Arabic in 2000 in Egypt, just before I immigrate to USA, for how swimmers from all levels and ages -in all over the world- swim their races according to their best times in 50, 100, or 200/300 and 500 yards or meters.
  - There are no any ideal ways to organize speed in any race, but there are many guides and examples for the range or average of speed that most swimmers can swim each part of their race according to their best times in small parts of this event.
  - Usually the best way to break your event distant is to divide your event into 2-5 parts, then try to swim each part in this race with range of speed that can you do it and will improve your time too?
  - **Let's get to more explanations:**
    - 100** yards or meter event: the best way to divide this distance into 2-4 equal parts like (4x25, or 2x50) 2-4 parts
    - 200** (4x 50, or 2 x100) 2-4 parts
    - 400** (4x100, or 2x200) 2-4 parts
    - 500** (5x100) 5 parts
    - 800** (4x200 or 2x400) 2-4 parts
    - 1500** (5x300, or 3x500) 3-5 parts
    - 50** (2x25) 2 parts
- 
- 

Examples for how different level, and ages swimmers swim the race according to their best times in divided parts of these events.

I will put in a chart for each example

How many Parts of the race, the Average of speed according to, swimmer's Best time in that part, and the Percentages of speed showing you how many seconds different than the best, and its percentage.

## The 100 Freestyle Event

### 1. Andy Duarte, 12 years old NSCC, Best 50 yard 27.22 Best 100 59.74

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	27.84 sec	0.62 sec.	97.77 %
Second 50	31.90 sec	4.68 sec.	85.33 %

---

### 2. One of my former swimmers in Saudi Arabia:

His Best 50 is 25.50, and Best 100 is 55.90 100 m. Freestyle

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	26.50 sec	1.00 second	96.27 %
Second 50	29.40 sec	3.90 seconds	86.73 %

---

### 3. Brian McKenna, NCAC in 2011: Best 50 m 23.83, Best 100 m 53.10

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	24.41 sec	1.31 sec.	97.62 %
Second 50	28.69 sec	4.86 sec.	83.06 %

---

### 4. Egyptian Record Holder in 2000: Best 50 m 23.40, Best 100 m 51.52

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	24.10 sec	0.7 sec	97.10 %
Second 50	27.42 sec	4.08 sec	85.34 %

### 5. Caeleb Dressel USA Record Holder: Best 50 21.04 Best 100 46.96

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	22.29 sec	1.25 sec	94.39 %
Second 50	24.67 sec	3.63 sec	85.28 %



## 6. Cesar Cielo World Record Holder Best50 21.30, Best 100 46.91

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	22.17 sec	0.87 sec	96.07 %
Second 50	24.74 sec	3.44 sec	86.09 %

### Analyzing the 100 Free Swimming:

In those 6 examples from intermediate swimmers into world record holder We find that most swimmers swim first 50 in speed of 94-97 % from their maximum speed or 0.50 to 1.50 seconds slower than their best 50 ever. while they swim the second 50 in average of 85-89 % from their best 50, which mean 2.50-4.50 seconds slower than their best 50.

#### Advices to swim coaches to improve the 100 for their swimmers:

- Let your swimmers try to do set of 4-8x50 and swim 3-5 second slower than each one' best time in the 50 during short rest interval.
- Swim a lot of 50 from push-off the wall or from the turn with 10-20 sec rest trying to do 4 seconds from the best 50.
- Swim set of 4(2x50) short rest 10-20 sec first 50 with diving 1-2 second slower than best time, then second 50 from push-off try to swim 4 sec from the best 50.
- If you can manage, do negative split set like 8x100 first 50 7 second from the best, second 50 3-4 sec from the best on 1:30-2:00min.
- Divide your team into 2 groups, do 8x50 free, first group swim 50 free from push off try to swim as fast as they can, then as soon as all finish, group 2 go, ask all swimmers try to swim 2-4 second from their best.
- For beginners' swimmers, work on improve the turns, less breathing, arm faster, more kicking, and they will surprise you each few day for how fast they could get. Then when they faster you can ask them to try swim the 50s 5-7 seconds from the best, keep going coach, more fixing style, take care of all turns, kicking, fast arms, less breathing, they all will improve.
- Take care of the starts, turns, and finishes for all swimmers.

## Advanced Things to Know about Race Analysis

- **Swim Swam**, 2020 put together not only first and second 50, the different between best time and first and second 50, but also, they add: Stroke Count, Speed, Stroke Rate, DPS or Distance per stroke, Turn Speed, Time UW, and Stroke Index:
- here is Analyzing the Final 100 free Women in RIO, Olympic Game
- in first 50; Cate Campbell AUS, first with 24.77 sec, and 30 stroke count, and her Stroke Index was 5.36, Bronte Campbell AUS, was second, right after her sister, but what happened second 50? Simone Manuel USA, and Penny Oleksiak Canada, and Sarah Sjostrom SWE, three of them swam second 50 with better strategy, and won the race here is there second 50;

**Simone Manuel USA: get first place in 100 m with 52.70;**

Simone Split Time	Stroke Count	Speed	Stroke Rate	DPS	Turn Time	Time UW	Stroke Index
27.46	37	1.82 Meter per stroke	1.26 Second per cycle	1.15 m	0.55 second	00:02.63	4.67

**Penny Oleksiak Share same first place with 52.70;**

Penny Split Time	Stroke Count	Speed	Stroke Rate	DPS	Turn Time	Time UW	Stroke Index
27.00	39	1.85 MPS	1.26 SPC	1.15 m		00:02.13	4.28

**Sarah Sjostrom got third place with 52.99;**

Sarah Split Time	Stroke Count	Speed	Stroke Rate	DPS	Turn Time	Time UW	Stroke Index
27.54	42	1.82 MPS	1.20 SPC	1.08m		00:01.99	3.93

So, to win the 100 free, not only have a great first 50 but also, your second 50 has to be very close to first 50, your turn has to be very fast, your distance per stroke be longer, your arm strokes be fast, and your stroke index has to be high. A lot of job from swimmers and coaches

---

## The 200 Freestyle Event

- We will break the 200 into 2 and 4 pieces (4x50, and 2x100)
  1. **An Egyptian 11 years old boy** in 1999, Best 200 in 2:17.20  
Best 100 in 1:05.39, Best 50 in 30.80

### According to best 50 (4pieces)

Parts of the 200	Real time in the race	Different from the best	Percentage of speed
First 50	33.00 sec.	2.20 sec	93.30 %
Second 50	35.00 sec	4.20 sec	88.00 %
Third 50	35.12 sec	4.32 sec	87.70 %
Fourth 50	34.08 sec	3.28 sec	90.40 %

### According to best 100 (2pieces)

First 100	1:08.00	2.61 sec	96.16 %
Second 100	1:09.20	3.81.sec	94.49 %

In this example this swimmer had perfect pace between first and second 100, and all his 50 was in a very good base too.

---

## 2. Egyptian 200 M former record holder

in 200 m free in 1:55.57, his Best 100 in 54.40, and best 50 in 24.90

### According to best 50 (4pieces)

Parts of the 200	Real time in the race	Different from the best	Percentage of speed
First 50	26.75 sec	1.85 sec	93.08 %
Second 50	29.80 sec	4.90 sec	83.55 %
Third 50	30.82 sec	5.92 sec	80.79 %
Fourth 50	28.38 sec	3.48 sec	87.73 %

**According to best 100 (2pieces)**

First 100	56.55 sec	2.15 sec	96.19 %
Second 100	59.20 sec	4.80 sec	91.89 %

In this example, this swimmer catches up for the last 50 so his second 100 percentage went up to 91% by doing nice finish.

---

**3. One of my former swimmers**

his 200 yards free in 1:51.91,  
his Best 100 in 52.99 and best 50 in 24.19

**According to best 50 (4pieces)**

Parts of the 200	Real time in the race	Different from the best	Percentage of speed
First 50	25.19 sec	1.0 sec	96.03 %
Second 50	29.50 sec	5.31 sec	82.00 %
Third 50	29.20 sec	4.99 sec	82.84 %
Fourth 50	28.10 sec	3.91 sec	86.09 %

**According to best 100 (2pieces)**

First 100	54.69 sec	1.7 sec	96.89 %
Second 100	57.30 sec	4.31 sec	92.48 %

In this example, this swimmer dropped 5 second in this event by maintaining his middle 100 and by sprinting last 50, good job.

=====

**4. Caeleb Dressel USA Fastest swimmer on earth. (in 50/100 yards):**

His Best 200 m in 1:47.31, his best 100m in 47.17, Best 50 in 21.15

**According to best 50 (4pieces)**

Parts of the 200	Real time in the race	Different from the best	Percentage of speed
First 50	24.72 sec	3.57 sec	85.56 %
Second 50	27.19 sec	6.04 sec	77.79 %
Third 50	27.64 sec	6.49 sec	76.52 %

Fourth 50	27.76 sec	6.61 sec	76.19 %
-----------	-----------	----------	---------

**According to best 100 (2pieces)**

First 100	51.91 sec	4.74 sec	90.87%
Second 100	55.40 sec	8.23 sec	85.14%

## Analyzing the 200 Free Swimming Race:

In those 4 examples from young swimmers to world class swimmers:

- According to their best 50; We find that most swimmers swim first 50 in speed of 88 – 98 % from their maximum speed or 1.0 to 3.0 seconds slower than their best 50 ever.
- While they next three 50s, are 2 – 6 seconds slower than best times, or 2-4 second slower than first 50 that means around 75-85% from their fast time.
- If the first 50 is too fast, swimmers will absolutely get tired at the third and or last 50, and they will be having bad finishing.
- According to their best 100; We find that most swimmers swim first 100 between 2 and 4 seconds from the best 100. Which is equal to 90-95% from their best time. And they swim the second 100 in 4-6 sec slower than the best, and most of them swim second 100 slower about 3 seconds from first 100. Which mean the percentage of second 100 around 80 – 90 % from the best.

### **Advices to swim coaches to improve the 200 free' swimmers:**

- In your coaching, try to put sets that force swimmers to do 5-7 seconds from their best when they repeat the 100s, and 3-4 seconds when they repeat the 50s.
- The more the race distances get longer, coaches have to improve turns for their swimmers, and how many strokes per each lap. Balanced is speed or

steady speed is the keys for finishing the middle and longer distances in good shape.

- Make one of your main swimming sets every practice for building the combination of endurance and speed or the Stamina for your swimmers by doing repeats of 50s, 75, 100s ,125 fast with 75-85% with very short rest intervals like 10 second rest after each repeat.
  - Improve your swimmers' underwater kicking, the turns, the fast breathing.
- 

## The 100 Backstroke Event

**1. My 9 years old swimmer Gilian Siguencia**, in February 2020,  
Her best time in 100 Back is 1:21.20, and her best time in 50 Back is 37.22

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	38.40 sec	1.18 sec	96.93 %
Second 50	42.80 sec	5.58 sec	86.96 %

**2. My 16 years old swimmer landra Diaz**, in November 2019,  
Her best time in 100 Back is 1:12.30, and her best time in 50 Back is 34.90

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	35.71 sec	0.81 sec	97.73 %
Second 50	36.59 sec	1.69 sec.	95.38 %

**3. My former swimmers, (14 years old)** in February 2020  
His best 100 Back is 54.60, and his best 50 Back IS 26.71

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	26.91 sec	0.20 sec.	99.26 %
Second 50	27.69 sec	0.98 sec.	96.46 %

### 1. World record holder in 100 m Backstroke in 2000

His best 100 m in 53.60 sec, and his best 50 m in 24.99 sec

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	25.97 sec	0.98 sec.	96.86 %
Second 50	27.63 sec	2.64sec.	90.45 %

### 2. Rhyan White, American record holder in 50- and 100-yard Backstroke

Her best time in 100 Back in 50.02 and her best time in 50 back in 23.81

Parts of the 100	Real time he swam in that race	Different from the best	Percentage of speed
First 50	23.95 sec	0.14 sec	99.42 %
Second 50	26.07 sec	2.26 sec	91.33

---

---