Unplanned Training Effects on Age Group Swimmers

By C. Moemen Arafa

First, I would like to highlight the problem of unplanned training (UPT) because it is increasingly becoming more prevalent on a global basis in many sports besides swimming. Many people, parents and coaches are confused when we talk about it. But, analysis is showing that it is having more negative effects on our athletes, young children who are age group swimmers.

As I have studied this more and more, researching and analyzing the issue, I realized that it's a universal case in many sports, all over the world.

The issue is this: **unplanned training has more negative effects than positive effects.**

**Definition:** Unplanned training is training conducted with or without the knowledge of a local swim club coach (or other sport coach) when parents take children, young age group children to additional training in the evenings or weekends, in addition too, what their local swim club program is already planning and doing.

The parents are adding very intensive training in the pool and dryland training, without the supervision or approval of the local swim club coaches that is not balanced by adequate periods of recovery. This has a detrimental effects, causing muscle tissue damage and failing adaptation.

**Case 1**
This issue can be demonstrated two ways. First, coaches make a mistake, in a hurry to make fast results with young swimmers, when they often do not put in the necessary time to properly plan the young athletes training in a step-by-step progression which is adapted and changed as the young age group swimmers progress.

The second way unplanned training is harmful is when the parents rush to see results from their children. The parents place more pressure on their children, taking them to another coach to give their young kids extra workouts with private coaches that are many times without the knowledge or approval of the local swim club coach.

In the Middle East and Eastern Europe this known as **Private Training.** I have seen cases like these in many counties. I have nothing against private training. There are many great coaches out there who have valuable and good insights.

**However, I strongly recommend that the training is planned and coordinated with the primary coach.**

By doing so, both coaches will make sure there is the right amount of work (yardage/meters per week) the right amount of dryland training and the right amount of time for the young athletes to recover.

**Problems Associated with Unplanned/Additional Training**
The reasons parents seek out additional training or additional coaches is due to a number of issues.

**One main problem is that parents are sometimes impatient, wanting to see their children become champions at a very young age. They want quick and immediate results. They believe better performance from their son or daughter can be bought by hiring additional coaches or big name coaches to conduct additional workout programs, in addition or opposition too, the well planned and well supervised local swim program. It can’t.**

Second. Sometimes club management is at fault. Club management wants to see better results, so they encourage or recommend additional programs.
Third. Parents placing children in additional dryland/weight training harms the children. They believe they are getting “additional benefits” from driving their children harder and harder. However, it doesn’t happen. The opposite is usually the case.

Fourth. Coaches themselves recommend additional training with other coaches in the area.

The consequences of UPT has the following effects on children’s bodies in three ways:

1) The effect on muscles.
2) The effect on bones structure
3) The effect on mentality.

The Effect on Muscles
The body needs approximately 24 hours to 48 hours to recover from the normal training cycles and workout program. That is the time necessary for the body to repair and enhance any damaged tissues and for energy replacement,

Unplanned training and additional workouts that not planned with the primary coach program, consequently, don’t give enough time for the body of an athlete to recover from hard training. This will result in the bodies of young athletes producing a large amount of acidosis and free radicals and the additional training may cause muscle and tissue damage, along with failing adaptation (McArdle and Katch, 1996).

Free radicals: Waste products of oxidation that not combined with hydrogen to form water in electron transporter chain. Most of oxygen that is consumed combines with hydrogen to form water in the electron transporter chain. However, some of that oxygen, about 2% to 5%, leaks out of the electron transporter chain in the form of free radicals.

The way to decrease the amount of the free radicals is to increase the antioxidant vitamins E and C. In the Middle East, we recommend and prefer to do this directly by natural foods, such as grape fruits, mangoes, oranges, strawberries and not through artificial supplements.

When the planned training has a balance between intensity and the period of recovery, this will increase antioxidant enzymes so that additional free radicals can be removed before they do any damage (Alessio, 1993, Higuchi, et al. 1985, Quintanilha, 1984).

The Effect on Bones
There is a risk of bones becoming injured, increases more out of the water on the dry land training or at the gym. It is OK to do weight training for age group swimmers, but, with good supervision, combined with proper technique and proper programs for the specific age.

Many parents wrongly believe that the more weight and resistance training they expose their children too, the more their kids will be stronger and faster. That is completely false.

Heavy resistance training may cause premature closer of their growth plates and in so doing "arrest their growth."

That can happen when an age grouper takes on more heavy resistance and hard training at the gym early in his or her life than they should.

Another concern is that the potential for bones injuries is greater in children than adults, because the bones of children have not completely hardened. (Training Age Group and Masters Swimming, E.W. Maglischo. ASCA)
The growth plates in children are located at the ends of the bones and are soft where the bones have not completely hardened. These are the areas where bones continue to grow in length during the maturation process.

There are several research articles and reports that have documented the injuries in children sustained from weight training that involved measuring the damage to their growth plates (Benton, 1983 Brady, Cahill and Bodner, 1982; Grumbs, et al., 1982; Ryan and Salciccioli, 1976) and with pre-adolescents nine to 14-years-old (Sewall and Michelli, 1984, Weltman, et al., 1986).

And there is an excellent article from American Academy of Pediatrics, Vol. 106, No. 1, July 2000. "Intensive Training and Sports Specialization in Young Athletes" discusses the effect of physical fractures can result in growth arrest or deformity of long bones.

The effects on mentality:
When there is too much physical stress in a child's life and/or an age grouper's life, it causes mental “dullness, listlessness, confusion, oversleeping and boredom,” all a result of overtraining.

Parent's Wrong Beliefs
Let us discuss some of the parent's beliefs in unplanned private training. The private training that is stressed “only” for technique.

This unplanned private training causes mental confusion for the age group swimmer because every coach has different philosophies especially in technique development, consequently, when the swimmer is working on technique with two different coaches without any coordination and planning between them, the child will listen to two different ideas making a child confused as to who he should listen to the most?

Then the competing coaches will put more pressure on the kid to listen to them as a priority, so consequently, what happens then between coaches and the kid? Nothing but, conflict, confusion, doubts and boredom. The child is divided. It's not a good situation for the child.

Technique Training
When we want a young swimmer to develop a new technique in their stroke, we train him/her first in a short distance on a very slow speed to make sure they get in 100% right. Then we work on this technique on a higher speed with long rest. Then after this phase, we try to make him hold the new technique by giving him a short or medium distance goal with short rest at 80% to 95% capacity speed. This is the best way to make the swimmer to hold the new technique in race.

This also will use more muscle glycogen and consequently, with this type of quality workout, there is no time to recover from the session properly, unless it is within the confines of a known, scheduled, supervised local swim club program.

Over Tapering
There is also a habit we have observed, for some swimmers to take some random private workouts on technique before a competition in the taper phase with a private coach without planning with the primary coach of the swimmer.

I saw this type of UPT increase more and more in the Middle East, so we need to know and understand what the effect is from this.

- When these private workouts occur during the taper phase of a program, it will reduce the muscle glycogen amount, at the exact time we need it to be restored and to give the body more time to rest
- If this workout done at a slow speed with more time to recover, only then it will give the swimmer time to rest
It's a Universal Case
I have asked many successful coaches around the world regarding UPT and what I found that it was a universal case.

Success at younger age does not guarantee success later in an athletes’ career.

And in fact, there may be indication that the reverse is true because the swimmers are not brought along slowly and because coaches didn’t teach them good technique, but, instead they simply worked them harder than other coaches at younger age.

The goal is not maximal performance but maximal development at each stage of the biological age of the athlete.

Short-term success usually results in long-term disappointments.

Approximately 80% of age group (10 - 14 years old) champions are not successful as senior or national swimmers. More success was achieved by those who take a longer term approach.

It is far more important to bring swimmers along gradually so they don’t burn out mentally and so they can improve relative to their peers as they get older. This is what I call, Long Term Athlete Development or LTAD.

WHAT IS LTAD?
Long Term Athlete Development is about achieving optimal training, competition and recovery throughout an athlete’s career, particularly in relation to the important growth and development years of young children, adolescents, age group swimmers.

Scientific research has identified that it takes at least 10 years, or 10,000 hours for talented athletes to achieve sporting excellence. There are no short cuts!

This LTAD programs was produced and applied in many countries around the world. They have been adopted and grown in programs and countries like the USA, Canada, UK, Australia, Scotland, Hungary and Italy and many other countries and associations, like the ASA Technical Swimming Committee "ASA."

In the Middle East and the Arabian Gulf we try to educate and develop coaches, parents and even sports federations to put these ideas and programs into our systems so coaches and administrators will take a long term approach to help develop better athletes.

There are many types of LTAD frameworks. Some programs are split into six categories, sometimes into seven, but the common arrangement is five categories.

This graphic shows the ASA framework for the STAGES OF OPTIMAL TRAINABILITY (Balyi and Hamilton, 1999).
ABCs: Agility, Balance, Coordination, Speed
PHV: Peak Height Velocity
PSV: Peak Strength development Velocity

And below in this graph it shows the LTAD in female swimmers (Feige 1973).

The graph illustrates the average performance development in female swimmers. It compares the difference between early specialization and late specialization.

The study shows that the peak performance in early specializations age is 18-year-olds and it drops down at 19-year-olds. And by the time an athlete is 20-year-olds, the athlete has retired.

The late specialization data shows a higher peak performance point at 20-year-olds and then
I believe the main cause of this problem with young swimmers dropping out of the sport is a long term conflict between the parents, coaches and/or clubs philosophies. So consequently, we need to educate our parents more, to get them involved earlier, in order to give them a long term view first, that is in the best interest of their children and their individual growth as people first, then athletes.
So as you can see, I have tried to highlight the causes of UPT (unplanned training) not only focusing on the symptoms, but also the root causes to help other coaches to deal with these scenarios.

So in closing I would like to leave you with a few comments:

- The swimmer that achieves early success through poor coaching (that is, very heavy performance based training) will probably quit before they get to the senior ranks, or have a short senior career.

- Coaches have a responsibility to think about the future of athletes, despite pressures and desires from parents and age-group swimmers to take short cuts and achieve early results.

- Good results at a young age are fine if the swimmer is developing through the improvement of those things that matter most at each age.

- Equally, good early results should be interpreted, in and of themselves, as nice reward. However, the coach, parent, swimmer and club should avoid making it too "big of a deal" and keep it into perspective.

- Reward progress in the training pool should be about overall development including things such as technique, lifestyle, and commitment, rather than medals and records.

- The swimmer who continues to improve relative to their peers, will more likely remain motivated and stay in the sport until they can reach their peak performance as a senior swimmer.

- No one can be successfully coached by multiple coaches, in multiple programs that are not coordinated or planned out from the top down. It doesn't work.

Finally, as all top Olympic, World Championship and national coaches will tell you- there is no shortcut on the road to success.

“Thank you for your time. I hope some of this can help you in your program. All the best.”

-C. Moemen Arafa