The Pathway

**The aquatic pathway explained:** The aquatic pathway as shown below has been based around Long Term Athlete Development principles (LTAD). The LTAD principles focus on an individual’s suitable physical training and education, competition and recovery stages that is relevant to the individual’s development and growth, specifically in the younger years. These principles have been supported by scientific research. The pathway is as follows:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Age Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqua Babies</td>
<td>Males and Females 0-6 years</td>
<td>Encourage active and fun play both in and out of the water. This will encourage the very young to learn fundamental movements and start to link them together into play.</td>
</tr>
<tr>
<td>Fundamentals</td>
<td>Males 6-9 years and Females 5-8 years</td>
<td>Children should learn all fundamental movement skills and build overall motor skills. Skill development in the FUNdamentals stage should be well structured, positive, and FUN</td>
</tr>
<tr>
<td>Swim Skills</td>
<td>Males 9-12 years and Females 8-11 years</td>
<td>This the stage where children should be encouraged in the overall learning of sport skills due to being at the most important periods of motor development.</td>
</tr>
<tr>
<td>Training to Train</td>
<td>Males 12-15 years and Females 11-14 years</td>
<td>This stage is about building an aerobic base, develop speed and strength towards the end of the stage, and further develop and consolidate sport specific skills.</td>
</tr>
<tr>
<td>Training to Compete</td>
<td>Males 15-18 years and Females 14-16 years</td>
<td>This stage is about optimising the engine and learning to compete. There is more emphasis now on anaerobic development. Optimise fitness preparation and specific sport skills/performance.</td>
</tr>
<tr>
<td>Training to Win</td>
<td>Males 18+ years and Females 16+ years</td>
<td>This stage is about maximising the preparation for podium performances. This is the final stage where all other stages must be complete before success at this level.</td>
</tr>
<tr>
<td>Retention</td>
<td>(at any age)</td>
<td>We are all responsible for ensuring that there is smooth transition from an individual’s competitive career to using the aquatics as a lifelong physical activity and also encourage participation in sport as officials, teachers or coaches or volunteers in some capacity.</td>
</tr>
</tbody>
</table>
Swim Ireland lead in building on the aquatic pathway in Ireland using LTAD principles

“...The Aquatic pathway is about planning for swimming excellence and the well-being of the Irish population (Director of Education and Development, Swim Ireland, 2007)

Swim Ireland is responsible for providing a framework to all performers to be whatever they want to be in our sport. Long Term Athlete Development (LTAD) principles have been incorporated into the pathway and subsequent framework. It is important that Swim Ireland leads and directs and that they provide recommendations for clubs, committees, facilities and teachers/coaches to work together under a structure to ensure there is a “cultural change”, and that finally Ireland leads the way in building an effective aquatic system.

The vision for the education and development plan is “to foster an environment where all can access clear developmental pathways and quality support from learn to swim through to elite success and lifelong participation in the aquatics”. Through the strategic approach to the education and development systems, the Director of Education and Development has identified that the LTAD concept and principles will underpin all work in the future. LTAD is a concept and a framework that you can work with which is a training, competition and recovery programme based upon developmental age – the maturation level of an individual, rather than chronological age. It is performer centred and the concept should be coach driven, and administration, sport science, and sponsor supported. LTAD is a vehicle for change and it is a recommendation that the Swim Ireland board fully understands the concept, principles and implications of LTAD and fully supports the decision to tailor our programmes and structures around this concept for future development for the performers and recreational participants within Ireland.

LTAD Concept
Scientific research has identified that it takes at least 10 years, or 10,000 hours for talented athletic individuals to achieve sporting excellence. It is frequently documented that there are two ways in which our young performers can improve their performance 1. Training, which can be broken down into the development of skills and physiological development 2. Growth and Development

If a long term approach to training is not adopted there is likely to be a plateau in performance, when growth and development slows significantly and for some their performance may get considerably worse. At this point the short term training approach cannot be reversed and this often leads to drop out before a performer has achieved close to their potential. The LTAD framework is viewed as the basis to progress from young novice to senior international performer, by clearly identifying a pathway starting with basic skills and aerobic work and building right through to elite performance. However rather than view the model as an elite athlete model it is suggested that the model should be viewed as a retention model.

The philosophy behind the thinking of an LTAD based framework/pathway has been implemented by good and successful coaches in some way, shape or form over the years; however this has been completed on an ad hoc basis dependant on the experience and understanding of the coach or teacher and the principles may not always have been applied in every situation. In recent years however, there has been a modern drive, to re-educate the complete sporting community and to focus all of their efforts on adhering to the LTAD framework/pathway when designing programmes, competitions and strategies for their athletes.

LTAD as previously mentioned 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 people. Thus a core aim of the LTAD concept is to ensure that the desire and talent of the swimmer is matched to an appropriate training environment. If this can be achieved in Ireland, then the likelihood of our swimmers, players, divers and staying in the sport and achieving personal success should be increased significantly.
Aquatic Development in Ireland Currently

The following are some general observations of sporting systems from around the world that have been observed recently (including Ireland):

- Young athletes under train, over compete;
- Low training to competition ratios in early years
- Adult competition superimposed on young athletes
- Adult training and programmes super imposed on young athletes
- Male programmes superimposed on females
- Training in early years focuses on outcomes (winning) rather than the processes (optimal training for skill and fitness development)
- Chronological age influences coaching as opposed to biological age
- The “critical” periods of accelerated adaptation are not fully utilised or understood
- Poor training between 6-16 years of age cannot be fully corrected (athletes will never reach genetic potential)
- The best coaches are encouraged to work at elite level
- Coach education tends to skim the growth, development and maturation of young people
- Coaches, performers and parents need to be educated in LTAD principles
- Administrators and officials need to be educated in LTAD principles

The implications or resultant consequences of the issues from the current systems presented are summarised as:

A failure to reach optimal performance levels in international competitions; poor movement abilities; a lack of fitness; poor skill development; the development of bad habits from over competing and under training; female athlete potential not fulfilled; children not having fun as they are involved in adult-based programs; no systematic development of the next generation of successful international athletes; athletes pulled in different directions by school, club and provincial teams because of the structure of competition programmes; fluctuating national performance due to a lack of talent ID and a developmental pathway; athletes failing to reach their genetic potential and optimal performance level and quick fix programmes implemented by regional and national team coaches, to counteract the shortcomings of athlete preparation.

Moving Forwards

Basic Principles introduced through LTAD and the Aquatic Pathway

The LTAD sports development framework attempts to help governing bodies and sporting communities start to resolve these issues. These principles feature in the Swim Ireland Aquatic Pathway and in short attempts to focus the minds of all in the aquatics about adopting a performer centred approach to development.

All young people follow the same patterns of growth from infancy through to adolescence, but there are significant individual differences in both the timing and magnitude of the changes that take place. It is important to stress that human growth and development happens without training, but that training can enhance all of the changes that take place. A number of scientists have reported that there are critical periods in the life of a young person in which the effects of training can be maximised. This has led to the notion that young people should be exposed to specific types of training during periods of rapid growth. These have been used by Dr. Istvan Balyi to devise a LTAD frame work. These follow the principles below:

<table>
<thead>
<tr>
<th>FUNdamentals /Aqua Babies</th>
<th>Basic movement literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>SwimSkills</td>
<td>Building technique</td>
</tr>
<tr>
<td></td>
<td>(Sports specific)</td>
</tr>
<tr>
<td>Training to Train</td>
<td>Building the engine</td>
</tr>
<tr>
<td></td>
<td>(Sports specific)</td>
</tr>
<tr>
<td>Training to Compete</td>
<td>Optimising the engine</td>
</tr>
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<td></td>
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</tbody>
</table>
**Teacher/ Coach:**
For any experienced teacher or coach that has been operating on poolside in their relevant roles, you will find that this particular pathway will help support and compliment the work you are more than likely already doing with young aquatic athletes at the relevant age(s) within your club or swimming programmes.

For less experienced teachers and coaches that are just starting in our sport it is hoped that this pathway will provide you with some guidelines with regards to teaching young athletes the relevant skills and movement patterns that are required at the identified stages of development of young people. Similarly the information linked with the pathway will help you progressively structure your training programmes and sessions in a suitable manner that is recommended by scientific experts with regards to the many facets of growth and development and the development of sports specifics relating to motor, aerobic and strength development as well as helping you educate your young athletes in a progressive manner.

The technical and developmental knowledge that is provided should enable you to teach/coach those young individuals to reach their potential within sport and the aquatics.

**Swimmer:**
These are some guidelines that your swimming teacher/coach and support staff should be working to implement for you, into your swimming programme regardless of your age or development. Some of these changes will be very slow but worthwhile. Listen to your coach and trust their judgement as they design your swimming programmes in a structured and progressive manner. To gain full benefits from your swimming programme please ensure that you are 100% committed to your teacher or coach and the programme they have designed for you.

It is hoped that this pathway will hopefully paint a picture for you as to all that is needed and required of you and for you to achieve whatever you would like in the world of the aquatics.

**Parent:**
This information should help you understand how your child should develop within the aquatics. Please note that this information is for guidance and remember that one size does not fit all, and that these recommendations are for guidance only. A teacher/coach is trained to deal with individuals and amendments may need to be made by the teacher or coach to suit the needs of your child. Please support your child’s teacher/coach in working towards implementing the changes that are required to suit the needs of your child in line with this pathway.

**Support Staff:**
It is hoped that you will use your knowledge and areas of expertise to support the coach and the swimmer in delivering your expertise across the many facets of sports science or additional support to suit the needs of the developing swimmer in line with this pathway.

**Swim Ireland Club Committee’s**
This pathway will in no doubt cause many interesting topics of conversation around your Swim Ireland registered club. This type of pathway should help you as a club to work with the club teachers and coaches to elicit change for the benefit of the swimmer. This provides a Governing Body template for the club to re-structure themselves around, and clearly provides an identification of the relevant stages in line with a child’s development. This would be an extremely useful tool for new and young clubs that wish to offer the aquatics for the benefit of the growing in the community.

**Leisure Facility Managers**
This pathway should educate all those involved in the aquatics on how the sport of swimming should be developed. It is hoped that this pathway will help to bridge the gap between the leisure agenda and the sports agenda within Ireland and that it will broaden the outlook of how swimming should be developed within Ireland. It is important to note that you as leisure centre and facility providers for our sport play a vital role in ensuring that the aquatics and all those involved in the aquatics can reach their potential and remain involved in our sport.